

ENSIGN

Directional

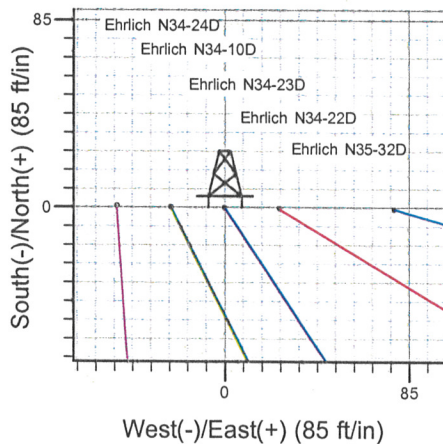
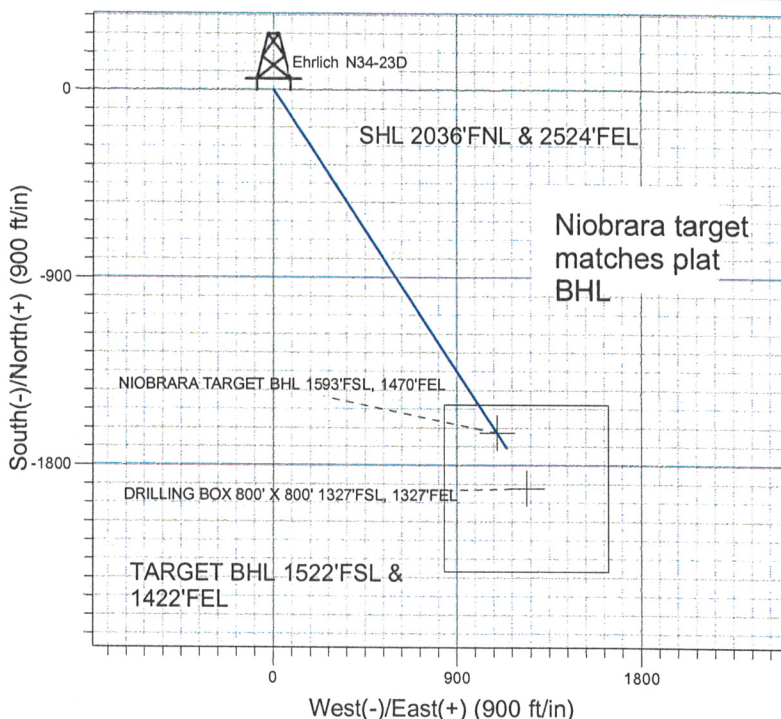
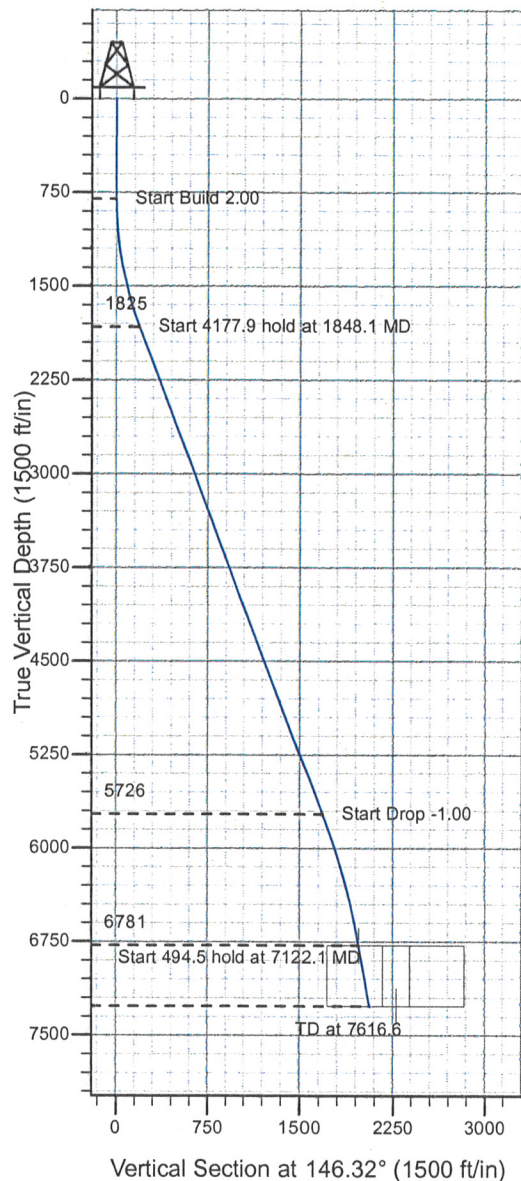
Well Name: Ehrlich N34-23D

Surface Location: Ehrlich N34-24D Pad Sec.34-T5N-R67W
North American Datum 1983 , US State Plane 1983 , Colorado Northern Zone

Ground Elevation: 4865.0

+N/-S+E/-W Northing Easting Latitude Longitude Slot
0.0 0.0 1373805.44 3173105.40 40° 21' 28.199 N 104° 52' 43.828 W
Original Well Elev WELL @ 4878.0ft (Original Well Elev)

NOBLE ENERGY INC WELD COUNTY CO



Ehrlich N34-24D Pad Sec.34-T5N-R67W
Ehrlich N34-23D
Plan #1 (06-11-09)
10:54, June 30 2009



Azimuths to True North
Magnetic North: 9.16°

Magnetic Field
Strength: 53326.8nT
Dip Angle: 67.07°
Date: 6/11/2009
Model: IGRF200510

WELLBORE TARGET DETAILS (LAT/LONG)

Name	TVD	+N/-S	+E/-W	Latitude	Longitude	Shape
NIORARA TARGET BHL 1593'FSL, 1470'FEL	6781.0	-1644.6	1096.0	40° 21' 11.947 N	104° 52' 29.672 W	Point
DRILLING BOX 800' X 800' 1327'FSL, 1327'FEL	7268.0	-1910.6	1239.0	40° 21' 9.318 N	104° 52' 27.824 W	Rectangle (Sides: L800.0 W800.0)

SECTION DETAILS

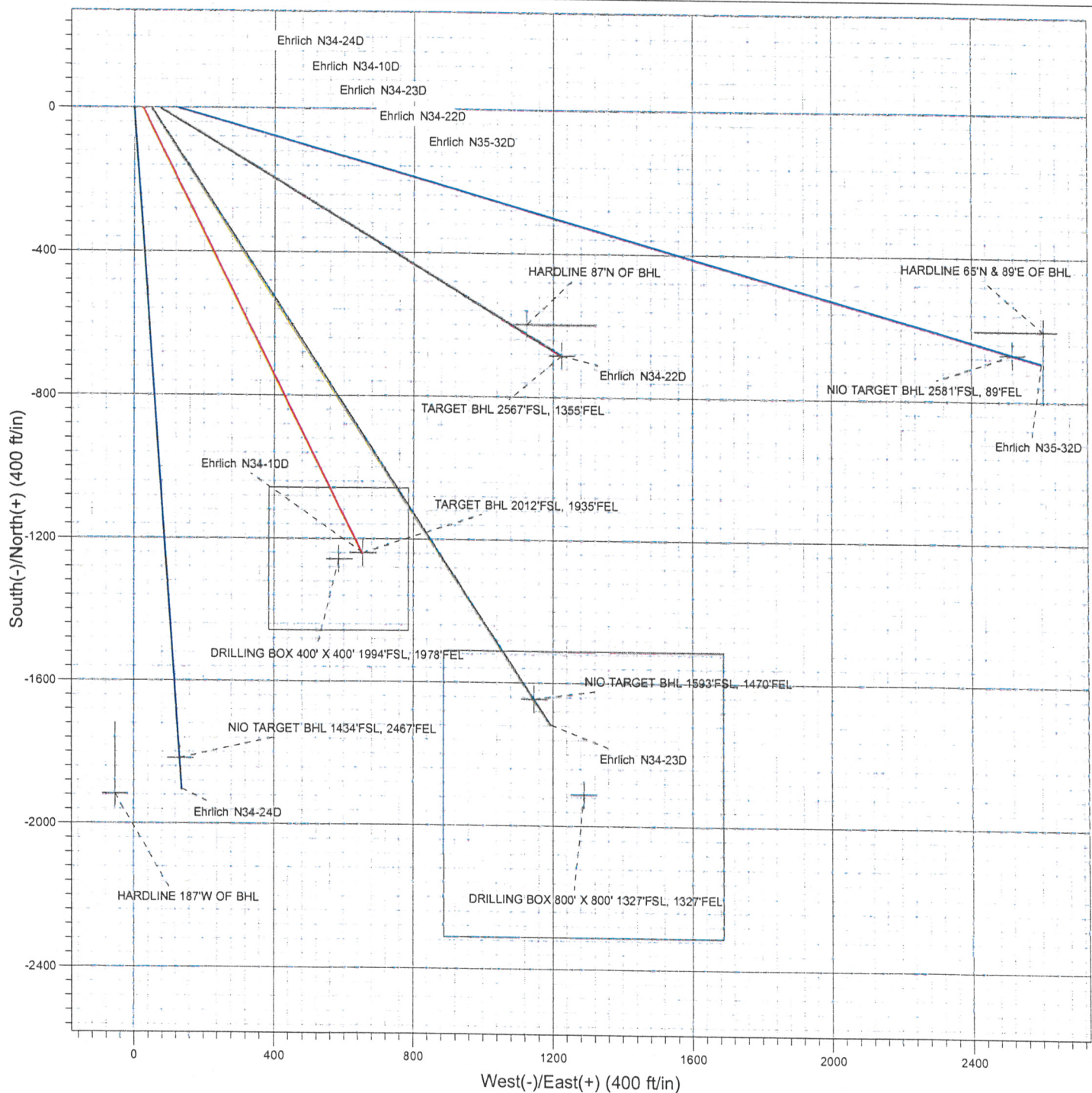
Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	DLeg	TFace	VSec	Target
1	0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0	
2	800.0	0.00	0.00	800.0	0.0	0.0	0.00	0.00	0.0	
3	1848.1	20.96	146.32	1824.8	-157.8	105.1	2.00	146.32	189.6	
4	6026.0	20.96	146.32	5726.3	-1401.5	934.0	0.00	0.00	1684.2	
5	7122.1	10.00	146.32	6781.0	-1644.6	1096.0	1.00	180.00	1976.3	NIORARA TARGET BHL 1593'FSL, 1470'FEL
6	7616.6	10.00	146.32	7268.0	-1716.0	1143.6	0.00	0.00	2062.2	

Surface Location: Ehrlich N34-24D Pad Sec.34-T5N-R67W

North American Datum 1983 , US State Plane 1983 , Colorado Northern Zone

Ground Elevation: 4866.0

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.0	0.0	1373805.82	3173055.51	40° 21' 28.206 N	104° 52' 44.472 W	





Directional

NOBLE ENERGY INC WELD COUNTY CO

SEC.34-T5N-R67W

Ehrlich N34-24D Pad Sec.34-T5N-R67W

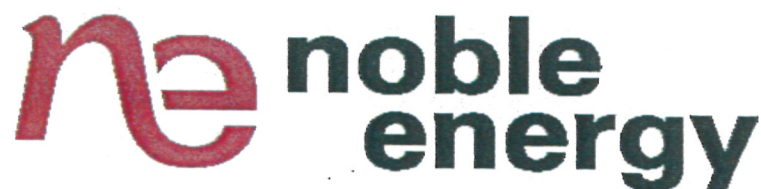
Ehrlich N34-23D

Wellbore #1

Plan: Plan #1 (06-11-09)

Standard Planning Report

30 June, 2009



Database: EDM den0-adp01 Server Data
Company: NOBLE ENERGY INC WELD COUNTY CO
Project: SEC.34-T5N-R67W
Site: Ehrlich N34-24D Pad Sec.34-T5N-R67W
Well: Ehrlich N34-23D
Wellbore: Wellbore #1
Design: Plan #1 (06-11-09)

Local Co-ordinate Reference: Well Ehrlich N34-23D
TVD Reference: WELL @ 4878.0ft (Original Well Elev)
MD Reference: WELL @ 4878.0ft (Original Well Elev)
North Reference: True
Survey Calculation Method: Minimum Curvature

Project SEC.34-T5N-R67W, Weld County, Colorado

Map System: US State Plane 1983
Geo Datum: North American Datum 1983
Map Zone: Colorado Northern Zone

System Datum: Mean Sea Level
 Using geodetic scale factor

Site Ehrlich N34-24D Pad Sec.34-T5N-R67W

Site Position:		Northing:	1,373,805.83 ft	Latitude:	40° 21' 28.206 N
From:	Lat/Long	Easting:	3,173,055.51 ft	Longitude:	104° 52' 44.472 W
Position Uncertainty:	0.0 ft	Slot Radius:	"	Grid Convergence:	0.40 °

Well Ehrlich N34-23D

Well Position	+N/-S	-0.7 ft	Northing:	1,373,805.44 ft	Latitude:	40° 21' 28.199 N
	+E/-W	49.9 ft	Easting:	3,173,105.40 ft	Longitude:	104° 52' 43.828 W
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	4,865.0 ft

Wellbore Wellbore #1

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF200510	6/11/2009	9.16	67.07	53,327

Design Plan #1 (06-11-09)

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	146.32

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	
1,848.1	20.96	146.32	1,824.8	-157.8	105.1	2.00	2.00	0.00	146.32	
6,026.0	20.96	146.32	5,726.3	-1,401.5	934.0	0.00	0.00	0.00	0.00	
7,122.1	10.00	146.32	6,781.0	-1,644.6	1,096.0	1.00	-1.00	0.00	180.00	NIOBRARA TARGE
7,616.6	10.00	146.32	7,268.0	-1,716.0	1,143.6	0.00	0.00	0.00	0.00	

Database:	EDM den0-adp01 Server Data	Local Co-ordinate Reference:	Well Ehrlich N34-23D
Company:	NOBLE ENERGY INC WELD COUNTY CO	TVD Reference:	WELL @ 4878.0ft (Original Well Elev)
Project:	SEC.34-T5N-R67W	MD Reference:	WELL @ 4878.0ft (Original Well Elev)
Site:	Ehrlich N34-24D Pad Sec.34-T5N-R67W	North Reference:	True
Well:	Ehrlich N34-23D	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1 (06-11-09)		

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	
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	146.32	840.0	-0.2	0.2	0.3	2.00	2.00	0.00	
880.0	1.60	146.32	880.0	-0.9	0.6	1.1	2.00	2.00	0.00	
920.0	2.40	146.32	920.0	-2.1	1.4	2.5	2.00	2.00	0.00	
960.0	3.20	146.32	959.9	-3.7	2.5	4.5	2.00	2.00	0.00	
1,000.0	4.00	146.32	999.8	-5.8	3.9	7.0	2.00	2.00	0.00	
1,040.0	4.80	146.32	1,039.7	-8.4	5.6	10.0	2.00	2.00	0.00	
1,080.0	5.60	146.32	1,079.6	-11.4	7.6	13.7	2.00	2.00	0.00	
1,120.0	6.40	146.32	1,119.3	-14.9	9.9	17.9	2.00	2.00	0.00	
1,160.0	7.20	146.32	1,159.1	-18.8	12.5	22.6	2.00	2.00	0.00	
1,200.0	8.00	146.32	1,198.7	-23.2	15.5	27.9	2.00	2.00	0.00	
1,240.0	8.80	146.32	1,238.3	-28.1	18.7	33.7	2.00	2.00	0.00	
1,280.0	9.60	146.32	1,277.8	-33.4	22.2	40.1	2.00	2.00	0.00	
1,320.0	10.40	146.32	1,317.1	-39.2	26.1	47.1	2.00	2.00	0.00	
1,360.0	11.20	146.32	1,356.4	-45.4	30.3	54.6	2.00	2.00	0.00	
1,400.0	12.00	146.32	1,395.6	-52.1	34.7	62.6	2.00	2.00	0.00	
1,440.0	12.80	146.32	1,434.7	-59.2	39.5	71.2	2.00	2.00	0.00	
1,480.0	13.60	146.32	1,473.6	-66.8	44.5	80.3	2.00	2.00	0.00	
1,520.0	14.40	146.32	1,512.4	-74.9	49.9	90.0	2.00	2.00	0.00	
1,560.0	15.20	146.32	1,551.1	-83.4	55.6	100.2	2.00	2.00	0.00	
1,600.0	16.00	146.32	1,589.6	-92.3	61.5	111.0	2.00	2.00	0.00	
1,640.0	16.80	146.32	1,628.0	-101.7	67.8	122.3	2.00	2.00	0.00	
1,680.0	17.60	146.32	1,666.2	-111.6	74.4	134.1	2.00	2.00	0.00	
1,720.0	18.40	146.32	1,704.3	-121.9	81.2	146.5	2.00	2.00	0.00	
1,760.0	19.20	146.32	1,742.1	-132.6	88.4	159.3	2.00	2.00	0.00	
1,800.0	20.00	146.32	1,779.8	-143.8	95.8	172.8	2.00	2.00	0.00	
1,840.0	20.80	146.32	1,817.3	-155.4	103.5	186.7	2.00	2.00	0.00	
1,848.1	20.96	146.32	1,824.8	-157.8	105.1	189.6	2.00	2.00	0.00	
1,880.0	20.96	146.32	1,854.7	-167.3	111.5	201.0	0.00	0.00	0.00	
1,920.0	20.96	146.32	1,892.0	-179.2	119.4	215.3	0.00	0.00	0.00	
1,960.0	20.96	146.32	1,929.4	-191.1	127.3	229.6	0.00	0.00	0.00	
2,000.0	20.96	146.32	1,966.7	-203.0	135.3	243.9	0.00	0.00	0.00	
2,040.0	20.96	146.32	2,004.1	-214.9	143.2	258.2	0.00	0.00	0.00	
2,080.0	20.96	146.32	2,041.4	-226.8	151.1	272.6	0.00	0.00	0.00	

Database:	EDM den0-adp01 Server Data	Local Co-ordinate Reference:	Well Ehrlich N34-23D
Company:	NOBLE ENERGY INC WELD COUNTY CO	TVD Reference:	WELL @ 4878.0ft (Original Well Elev)
Project:	SEC.34-T5N-R67W	MD Reference:	WELL @ 4878.0ft (Original Well Elev)
Site:	Ehrlich N34-24D Pad Sec.34-T5N-R67W	North Reference:	True
Well:	Ehrlich N34-23D	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1 (06-11-09)		

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	20.96	146.32	2,078.8	-238.7	159.1	286.9	0.00	0.00	0.00
2,160.0	20.96	146.32	2,116.1	-250.6	167.0	301.2	0.00	0.00	0.00
2,200.0	20.96	146.32	2,153.5	-262.5	175.0	315.5	0.00	0.00	0.00
2,240.0	20.96	146.32	2,190.8	-274.4	182.9	329.8	0.00	0.00	0.00
2,280.0	20.96	146.32	2,228.2	-286.3	190.8	344.1	0.00	0.00	0.00
2,320.0	20.96	146.32	2,265.5	-298.3	198.8	358.4	0.00	0.00	0.00
2,360.0	20.96	146.32	2,302.9	-310.2	206.7	372.7	0.00	0.00	0.00
2,400.0	20.96	146.32	2,340.3	-322.1	214.6	387.0	0.00	0.00	0.00
2,440.0	20.96	146.32	2,377.6	-334.0	222.6	401.3	0.00	0.00	0.00
2,480.0	20.96	146.32	2,415.0	-345.9	230.5	415.7	0.00	0.00	0.00
2,520.0	20.96	146.32	2,452.3	-357.8	238.4	430.0	0.00	0.00	0.00
2,560.0	20.96	146.32	2,489.7	-369.7	246.4	444.3	0.00	0.00	0.00
2,600.0	20.96	146.32	2,527.0	-381.6	254.3	458.6	0.00	0.00	0.00
2,640.0	20.96	146.32	2,564.4	-393.5	262.2	472.9	0.00	0.00	0.00
2,680.0	20.96	146.32	2,601.7	-405.4	270.2	487.2	0.00	0.00	0.00
2,720.0	20.96	146.32	2,639.1	-417.3	278.1	501.5	0.00	0.00	0.00
2,760.0	20.96	146.32	2,676.4	-429.2	286.0	515.8	0.00	0.00	0.00
2,800.0	20.96	146.32	2,713.8	-441.1	294.0	530.1	0.00	0.00	0.00
2,840.0	20.96	146.32	2,751.1	-453.1	301.9	544.4	0.00	0.00	0.00
2,880.0	20.96	146.32	2,788.5	-465.0	309.9	558.7	0.00	0.00	0.00
2,920.0	20.96	146.32	2,825.8	-476.9	317.8	573.1	0.00	0.00	0.00
2,960.0	20.96	146.32	2,863.2	-488.8	325.7	587.4	0.00	0.00	0.00
3,000.0	20.96	146.32	2,900.5	-500.7	333.7	601.7	0.00	0.00	0.00
3,040.0	20.96	146.32	2,937.9	-512.6	341.6	616.0	0.00	0.00	0.00
3,080.0	20.96	146.32	2,975.3	-524.5	349.5	630.3	0.00	0.00	0.00
3,120.0	20.96	146.32	3,012.6	-536.4	357.5	644.6	0.00	0.00	0.00
3,160.0	20.96	146.32	3,050.0	-548.3	365.4	658.9	0.00	0.00	0.00
3,200.0	20.96	146.32	3,087.3	-560.2	373.3	673.2	0.00	0.00	0.00
3,240.0	20.96	146.32	3,124.7	-572.1	381.3	687.5	0.00	0.00	0.00
3,280.0	20.96	146.32	3,162.0	-584.0	389.2	701.8	0.00	0.00	0.00
3,320.0	20.96	146.32	3,199.4	-595.9	397.1	716.1	0.00	0.00	0.00
3,360.0	20.96	146.32	3,236.7	-607.8	405.1	730.5	0.00	0.00	0.00
3,400.0	20.96	146.32	3,274.1	-619.8	413.0	744.8	0.00	0.00	0.00
3,440.0	20.96	146.32	3,311.4	-631.7	420.9	759.1	0.00	0.00	0.00
3,480.0	20.96	146.32	3,348.8	-643.6	428.9	773.4	0.00	0.00	0.00
3,520.0	20.96	146.32	3,386.1	-655.5	436.8	787.7	0.00	0.00	0.00
3,560.0	20.96	146.32	3,423.5	-667.4	444.8	802.0	0.00	0.00	0.00
3,600.0	20.96	146.32	3,460.8	-679.3	452.7	816.3	0.00	0.00	0.00
3,640.0	20.96	146.32	3,498.2	-691.2	460.6	830.6	0.00	0.00	0.00
3,680.0	20.96	146.32	3,535.5	-703.1	468.6	844.9	0.00	0.00	0.00
3,720.0	20.96	146.32	3,572.9	-715.0	476.5	859.2	0.00	0.00	0.00
3,760.0	20.96	146.32	3,610.3	-726.9	484.4	873.6	0.00	0.00	0.00
3,800.0	20.96	146.32	3,647.6	-738.8	492.4	887.9	0.00	0.00	0.00
3,840.0	20.96	146.32	3,685.0	-750.7	500.3	902.2	0.00	0.00	0.00
3,880.0	20.96	146.32	3,722.3	-762.6	508.2	916.5	0.00	0.00	0.00
3,920.0	20.96	146.32	3,759.7	-774.6	516.2	930.8	0.00	0.00	0.00
3,960.0	20.96	146.32	3,797.0	-786.5	524.1	945.1	0.00	0.00	0.00
4,000.0	20.96	146.32	3,834.4	-798.4	532.0	959.4	0.00	0.00	0.00
4,040.0	20.96	146.32	3,871.7	-810.3	540.0	973.7	0.00	0.00	0.00
4,080.0	20.96	146.32	3,909.1	-822.2	547.9	988.0	0.00	0.00	0.00
4,120.0	20.96	146.32	3,946.4	-834.1	555.9	1,002.3	0.00	0.00	0.00
4,160.0	20.96	146.32	3,983.8	-846.0	563.8	1,016.6	0.00	0.00	0.00
4,200.0	20.96	146.32	4,021.1	-857.9	571.7	1,031.0	0.00	0.00	0.00
4,240.0	20.96	146.32	4,058.5	-869.8	579.7	1,045.3	0.00	0.00	0.00

Database:	EDM den0-adp01 Server Data	Local Co-ordinate Reference:	Well Ehrlich N34-23D
Company:	NOBLE ENERGY INC WELD COUNTY CO	TVD Reference:	WELL @ 4878.0ft (Original Well Elev)
Project:	SEC.34-T5N-R67W	MD Reference:	WELL @ 4878.0ft (Original Well Elev)
Site:	Ehrlich N34-24D Pad Sec.34-T5N-R67W	North Reference:	True
Well:	Ehrlich N34-23D	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1 (06-11-09)		

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)
4,280.0	20.96	146.32	4,095.8	-881.7	587.6	1,059.6	0.00	0.00	0.00
4,320.0	20.96	146.32	4,133.2	-893.6	595.5	1,073.9	0.00	0.00	0.00
4,360.0	20.96	146.32	4,170.5	-905.5	603.5	1,088.2	0.00	0.00	0.00
4,400.0	20.96	146.32	4,207.9	-917.4	611.4	1,102.5	0.00	0.00	0.00
4,440.0	20.96	146.32	4,245.2	-929.4	619.3	1,116.8	0.00	0.00	0.00
4,480.0	20.96	146.32	4,282.6	-941.3	627.3	1,131.1	0.00	0.00	0.00
4,520.0	20.96	146.32	4,320.0	-953.2	635.2	1,145.4	0.00	0.00	0.00
4,560.0	20.96	146.32	4,357.3	-965.1	643.1	1,159.7	0.00	0.00	0.00
4,600.0	20.96	146.32	4,394.7	-977.0	651.1	1,174.1	0.00	0.00	0.00
4,640.0	20.96	146.32	4,432.0	-988.9	659.0	1,188.4	0.00	0.00	0.00
4,680.0	20.96	146.32	4,469.4	-1,000.8	666.9	1,202.7	0.00	0.00	0.00
4,720.0	20.96	146.32	4,506.7	-1,012.7	674.9	1,217.0	0.00	0.00	0.00
4,760.0	20.96	146.32	4,544.1	-1,024.6	682.8	1,231.3	0.00	0.00	0.00
4,800.0	20.96	146.32	4,581.4	-1,036.5	690.8	1,245.6	0.00	0.00	0.00
4,840.0	20.96	146.32	4,618.8	-1,048.4	698.7	1,259.9	0.00	0.00	0.00
4,880.0	20.96	146.32	4,656.1	-1,060.3	706.6	1,274.2	0.00	0.00	0.00
4,920.0	20.96	146.32	4,693.5	-1,072.2	714.6	1,288.5	0.00	0.00	0.00
4,960.0	20.96	146.32	4,730.8	-1,084.2	722.5	1,302.8	0.00	0.00	0.00
5,000.0	20.96	146.32	4,768.2	-1,096.1	730.4	1,317.1	0.00	0.00	0.00
5,040.0	20.96	146.32	4,805.5	-1,108.0	738.4	1,331.5	0.00	0.00	0.00
5,080.0	20.96	146.32	4,842.9	-1,119.9	746.3	1,345.8	0.00	0.00	0.00
5,120.0	20.96	146.32	4,880.2	-1,131.8	754.2	1,360.1	0.00	0.00	0.00
5,160.0	20.96	146.32	4,917.6	-1,143.7	762.2	1,374.4	0.00	0.00	0.00
5,200.0	20.96	146.32	4,955.0	-1,155.6	770.1	1,388.7	0.00	0.00	0.00
5,240.0	20.96	146.32	4,992.3	-1,167.5	778.0	1,403.0	0.00	0.00	0.00
5,280.0	20.96	146.32	5,029.7	-1,179.4	786.0	1,417.3	0.00	0.00	0.00
5,320.0	20.96	146.32	5,067.0	-1,191.3	793.9	1,431.6	0.00	0.00	0.00
5,360.0	20.96	146.32	5,104.4	-1,203.2	801.8	1,445.9	0.00	0.00	0.00
5,400.0	20.96	146.32	5,141.7	-1,215.1	809.8	1,460.2	0.00	0.00	0.00
5,440.0	20.96	146.32	5,179.1	-1,227.0	817.7	1,474.5	0.00	0.00	0.00
5,480.0	20.96	146.32	5,216.4	-1,239.0	825.7	1,488.9	0.00	0.00	0.00
5,520.0	20.96	146.32	5,253.8	-1,250.9	833.6	1,503.2	0.00	0.00	0.00
5,560.0	20.96	146.32	5,291.1	-1,262.8	841.5	1,517.5	0.00	0.00	0.00
5,600.0	20.96	146.32	5,328.5	-1,274.7	849.5	1,531.8	0.00	0.00	0.00
5,640.0	20.96	146.32	5,365.8	-1,286.6	857.4	1,546.1	0.00	0.00	0.00
5,680.0	20.96	146.32	5,403.2	-1,298.5	865.3	1,560.4	0.00	0.00	0.00
5,720.0	20.96	146.32	5,440.5	-1,310.4	873.3	1,574.7	0.00	0.00	0.00
5,760.0	20.96	146.32	5,477.9	-1,322.3	881.2	1,589.0	0.00	0.00	0.00
5,800.0	20.96	146.32	5,515.2	-1,334.2	889.1	1,603.3	0.00	0.00	0.00
5,840.0	20.96	146.32	5,552.6	-1,346.1	897.1	1,617.6	0.00	0.00	0.00
5,880.0	20.96	146.32	5,590.0	-1,358.0	905.0	1,632.0	0.00	0.00	0.00
5,920.0	20.96	146.32	5,627.3	-1,369.9	912.9	1,646.3	0.00	0.00	0.00
5,960.0	20.96	146.32	5,664.7	-1,381.8	920.9	1,660.6	0.00	0.00	0.00
6,000.0	20.96	146.32	5,702.0	-1,393.7	928.8	1,674.9	0.00	0.00	0.00
6,026.0	20.96	146.32	5,726.3	-1,401.5	934.0	1,684.2	0.00	0.00	0.00
6,040.0	20.82	146.32	5,739.4	-1,405.6	936.7	1,689.2	1.00	-1.00	0.00
6,080.0	20.42	146.32	5,776.8	-1,417.4	944.6	1,703.3	1.00	-1.00	0.00
6,120.0	20.02	146.32	5,814.3	-1,428.9	952.2	1,717.1	1.00	-1.00	0.00
6,160.0	19.62	146.32	5,852.0	-1,440.2	959.7	1,730.7	1.00	-1.00	0.00
6,200.0	19.22	146.32	5,889.7	-1,451.2	967.1	1,744.0	1.00	-1.00	0.00
6,240.0	18.82	146.32	5,927.5	-1,462.1	974.3	1,757.0	1.00	-1.00	0.00
6,280.0	18.42	146.32	5,965.4	-1,472.7	981.4	1,769.8	1.00	-1.00	0.00
6,320.0	18.02	146.32	6,003.4	-1,483.1	988.4	1,782.3	1.00	-1.00	0.00
6,360.0	17.62	146.32	6,041.5	-1,493.3	995.2	1,794.5	1.00	-1.00	0.00

Database:	EDM den0-adp01 Server Data	Local Co-ordinate Reference:	Well Ehrlich N34-23D
Company:	NOBLE ENERGY INC WELD COUNTY CO	TVD Reference:	WELL @ 4878.0ft (Original Well Elev)
Project:	SEC.34-T5N-R67W	MD Reference:	WELL @ 4878.0ft (Original Well Elev)
Site:	Ehrlich N34-24D Pad Sec.34-T5N-R67W	North Reference:	True
Well:	Ehrlich N34-23D	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1 (06-11-09)		

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)
6,400.0	17.22	146.32	6,079.7	-1,503.3	1,001.8	1,806.5	1.00	-1.00	0.00
6,440.0	16.82	146.32	6,117.9	-1,513.0	1,008.3	1,818.2	1.00	-1.00	0.00
6,480.0	16.42	146.32	6,156.2	-1,522.5	1,014.6	1,829.6	1.00	-1.00	0.00
6,520.0	16.02	146.32	6,194.6	-1,531.8	1,020.8	1,840.8	1.00	-1.00	0.00
6,560.0	15.62	146.32	6,233.1	-1,540.9	1,026.9	1,851.7	1.00	-1.00	0.00
6,600.0	15.22	146.32	6,271.7	-1,549.7	1,032.8	1,862.3	1.00	-1.00	0.00
6,640.0	14.82	146.32	6,310.3	-1,558.4	1,038.5	1,872.7	1.00	-1.00	0.00
6,680.0	14.42	146.32	6,349.0	-1,566.8	1,044.1	1,882.8	1.00	-1.00	0.00
6,720.0	14.02	146.32	6,387.8	-1,575.0	1,049.6	1,892.6	1.00	-1.00	0.00
6,760.0	13.62	146.32	6,426.6	-1,582.9	1,054.9	1,902.2	1.00	-1.00	0.00
6,800.0	13.22	146.32	6,465.6	-1,590.6	1,060.0	1,911.5	1.00	-1.00	0.00
6,840.0	12.82	146.32	6,504.5	-1,598.1	1,065.0	1,920.5	1.00	-1.00	0.00
6,880.0	12.42	146.32	6,543.6	-1,605.4	1,069.9	1,929.2	1.00	-1.00	0.00
6,920.0	12.02	146.32	6,582.6	-1,612.5	1,074.6	1,937.7	1.00	-1.00	0.00
6,960.0	11.62	146.32	6,621.8	-1,619.3	1,079.1	1,945.9	1.00	-1.00	0.00
7,000.0	11.22	146.32	6,661.0	-1,625.9	1,083.5	1,953.8	1.00	-1.00	0.00
7,040.0	10.82	146.32	6,700.3	-1,632.2	1,087.7	1,961.5	1.00	-1.00	0.00
7,080.0	10.42	146.32	6,739.6	-1,638.4	1,091.8	1,968.8	1.00	-1.00	0.00
7,120.0	10.02	146.32	6,779.0	-1,644.3	1,095.8	1,975.9	1.00	-1.00	0.00
7,122.1	10.00	146.32	6,781.0	-1,644.6	1,096.0	1,976.3	1.00	-1.00	0.00
NIOBRARA TARGET BHL 1593'FSL, 1470'FEL									
7,160.0	10.00	146.32	6,818.3	-1,650.0	1,099.6	1,982.9	0.00	0.00	0.00
7,200.0	10.00	146.32	6,857.7	-1,655.8	1,103.5	1,989.8	0.00	0.00	0.00
7,240.0	10.00	146.32	6,897.1	-1,661.6	1,107.3	1,996.8	0.00	0.00	0.00
7,280.0	10.00	146.32	6,936.5	-1,667.4	1,111.2	2,003.7	0.00	0.00	0.00
7,320.0	10.00	146.32	6,975.9	-1,673.2	1,115.0	2,010.7	0.00	0.00	0.00
7,360.0	10.00	146.32	7,015.3	-1,678.9	1,118.9	2,017.6	0.00	0.00	0.00
7,400.0	10.00	146.32	7,054.7	-1,684.7	1,122.7	2,024.6	0.00	0.00	0.00
7,440.0	10.00	146.32	7,094.1	-1,690.5	1,126.6	2,031.5	0.00	0.00	0.00
7,480.0	10.00	146.32	7,133.5	-1,696.3	1,130.4	2,038.4	0.00	0.00	0.00
7,520.0	10.00	146.32	7,172.9	-1,702.1	1,134.3	2,045.4	0.00	0.00	0.00
7,560.0	10.00	146.32	7,212.3	-1,707.8	1,138.1	2,052.3	0.00	0.00	0.00
7,600.0	10.00	146.32	7,251.7	-1,713.6	1,142.0	2,059.3	0.00	0.00	0.00
7,616.6	10.00	146.32	7,268.0	-1,716.0	1,143.6	2,062.2	0.00	0.00	0.00
DRILLING BOX 800' X 800' 1327'FSL, 1327'FEL									

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									
NIOBRARA TARGET	0.00	0.00	6,781.0	-1,644.6	1,096.0	1,372,168.67	3,174,212.81	40° 21' 11.947 N	104° 52' 29.672 W
- plan hits target center									
- Point									
DRILLING BOX 800' X 800'	0.00	0.00	7,268.0	-1,910.6	1,239.0	1,371,903.65	3,174,357.70	40° 21' 9.318 N	104° 52' 27.824 W
- plan misses target center by 216.7ft at 7616.6ft MD (7268.0 TVD, -1716.0 N, 1143.6 E)									
- Rectangle (sides W800.0 H800.0 D0.0)									