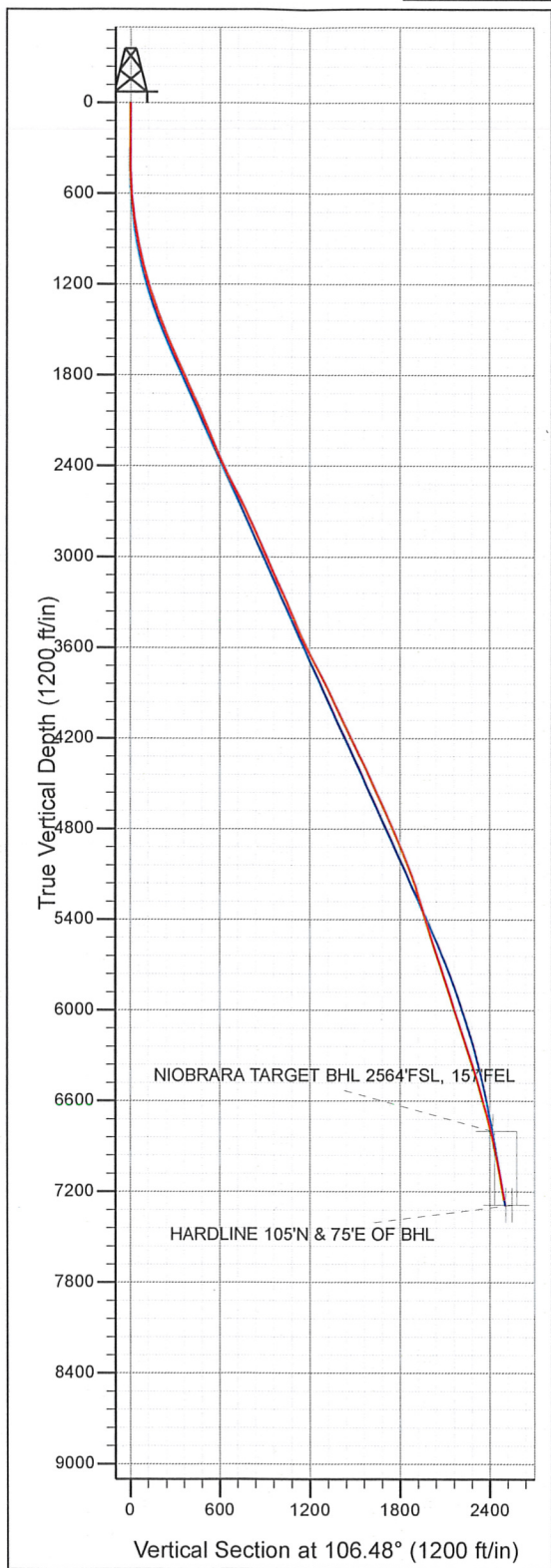
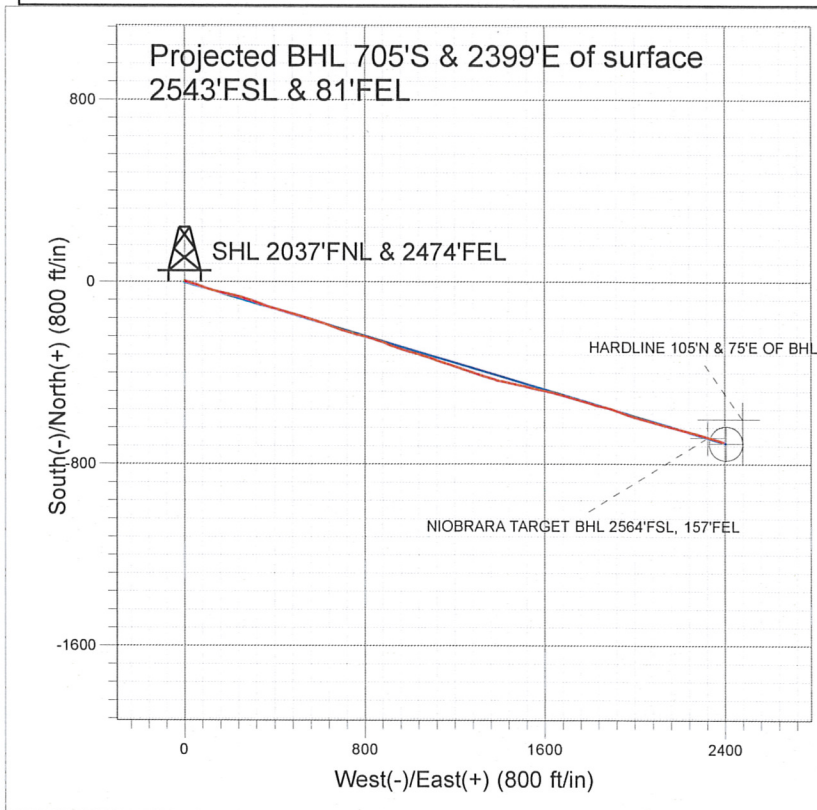




Well Name: Ehrlich N35-32D					
Surface Location: Ehrlich N34-24D Pad Sec.34-T5N-R67W					
North American Datum 1983 , US State Plane 1983 , Colorado Northern Zone					
Ground Elevation: 4863.0					
+N/-S+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.0	0.0	1373805.26	3173183.44	40° 21' 28.191 N	104° 52' 42.820 W
Original Well Elev WELL @ 4876.0ft (Original Well Elev)					



NOBLE ENERGY INC WELD COUNTY CO



LEGEND

- ✕ Ehrlich N35-32D, Wellbore #1, Plan #2 (07-23-09) V0
- Wellbore #1
- Survey #1

Final Survey Plot

Projected Final Survey -
7733'MD & 7250'TVD @ 2500' VS
9.9 deg Inc 108.6 deg AZ

Project: SEC.34-T5N-R67W
Site: Ehrlich N34-24D Pad Sec.34-T5N-R67W
Well: Ehrlich N35-32D
Plan: Wellbore #1

Company: NOBLE ENERGY INC WELD COUNTY CO
Project: SEC.34-T5N-R67W
Site: Ehrlich N34-24D Pad Sec.34-T5N-R67W
Well: Ehrlich N35-32D
Wellbore: Wellbore #1
Design: Wellbore #1

Local Co-ordinate Reference: Well Ehrlich N35-32D
TVD Reference: WELL @ 4876.0ft (Original Well Elev)
MD Reference: WELL @ 4876.0ft (Original Well Elev)
North Reference: True
Survey Calculation Method: Minimum Curvature
Database: EDM den0-adp01 Server Data

Project	SEC.34-T5N-R67W, Weld County, Colorado		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	Colorado Northern Zone		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 N35-32D					
Well Position	+N/-S	0.0 ft	Northing:	1,373,805.26 ft	Latitude:	40° 21' 28.191 N
	+E/-W	0.0 ft	Easting:	3,173,183.44 ft	Longitude:	104° 52' 42.820 W
Position Uncertainty	0.0 ft	Wellhead Elevation:	ft	Ground Level:	4,863.0 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
	IGRF200510	12/31/2009	9.08	67.06	53,269

Design	Wellbore #1				
Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	0.0
Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)	
	0.0	0.0	0.0	106.48	

Survey Program	Date 3/30/2010				
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
332.0	7,733.0	Survey #1 (Wellbore #1)	MWD	MWD - Standard	

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	
332.0	0.40	58.80	332.0	0.6	1.0	0.8	0.12	0.12	0.00	
417.0	0.90	78.20	417.0	0.9	1.9	1.6	0.63	0.59	22.82	
502.0	2.40	95.00	502.0	0.9	4.3	3.9	1.84	1.76	19.76	
580.0	4.00	102.70	579.8	0.1	8.6	8.2	2.12	2.05	9.87	
685.0	6.50	105.90	684.4	-2.3	17.9	17.8	2.40	2.38	3.05	
771.0	8.10	107.20	769.7	-5.4	28.4	28.7	1.87	1.86	1.51	
856.0	9.90	107.20	853.6	-9.4	41.1	42.0	2.12	2.12	0.00	
942.0	12.10	109.20	938.0	-14.5	56.6	58.4	2.60	2.56	2.33	
1,027.0	13.80	110.10	1,020.9	-20.9	74.6	77.5	2.01	2.00	1.06	
1,113.0	15.50	111.70	1,104.1	-28.7	94.9	99.1	2.03	1.98	1.86	
1,198.0	17.10	107.60	1,185.7	-36.7	117.4	122.9	2.32	1.88	-4.82	

Company: NOBLE ENERGY INC WELD COUNTY CO
Project: SEC.34-T5N-R67W
Site: Ehrlich N34-24D Pad Sec.34-T5N-R67W
Well: Ehrlich N35-32D
Wellbore: Wellbore #1
Design: Wellbore #1

Local Co-ordinate Reference: Well Ehrlich N35-32D
TVD Reference: WELL @ 4876.0ft (Original Well Elev)
MD Reference: WELL @ 4876.0ft (Original Well Elev)
North Reference: True
Survey Calculation Method: Minimum Curvature
Database: EDM den0-adp01 Server Data

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)
1,284.0	18.40	102.10	1,267.6	-43.3	142.7	149.1	2.47	1.51	-6.40
1,369.0	19.10	99.40	1,348.1	-48.4	169.5	176.3	1.31	0.82	-3.18
1,455.0	21.40	102.90	1,428.7	-54.2	198.7	205.9	3.02	2.67	4.07
1,540.0	22.90	105.30	1,507.5	-62.1	229.8	237.9	2.06	1.76	2.82
1,626.0	23.70	105.10	1,586.5	-71.0	262.6	271.9	0.93	0.93	-0.23
1,711.0	24.80	110.20	1,664.0	-81.6	295.8	306.8	2.78	1.29	6.00
1,797.0	25.20	109.90	1,741.9	-94.0	330.0	343.1	0.49	0.47	-0.35
1,882.0	24.30	108.90	1,819.1	-105.9	363.5	378.6	1.17	-1.06	-1.18
1,968.0	25.30	107.30	1,897.2	-117.1	397.8	414.7	1.40	1.16	-1.86
2,053.0	24.40	105.30	1,974.3	-127.1	432.1	450.4	1.45	-1.06	-2.35
2,138.0	23.10	105.80	2,052.1	-136.3	465.1	484.6	1.55	-1.53	0.59
2,224.0	22.10	105.20	2,131.5	-145.1	496.9	517.7	1.19	-1.16	-0.70
2,309.0	23.10	105.10	2,210.0	-153.6	528.5	550.3	1.18	1.18	-0.12
2,395.0	23.00	108.20	2,289.1	-163.3	560.7	584.0	1.42	-0.12	3.60
2,480.0	23.80	109.40	2,367.1	-174.2	592.7	617.7	1.10	0.94	1.41
2,566.0	26.50	109.90	2,445.0	-186.5	627.1	654.2	3.15	3.14	0.58
2,652.0	27.00	109.10	2,521.8	-199.4	663.6	692.9	0.72	0.58	-0.93
2,737.0	27.60	107.10	2,597.3	-211.5	700.6	731.8	1.29	0.71	-2.35
2,823.0	24.50	107.50	2,674.5	-222.7	736.7	769.6	3.61	-3.60	0.47
2,908.0	25.60	104.50	2,751.5	-232.6	771.3	805.6	1.98	1.29	-3.53
2,994.0	24.60	104.80	2,829.4	-241.8	806.6	842.0	1.17	-1.16	0.35
3,079.0	23.30	107.20	2,907.1	-251.3	839.7	876.5	1.91	-1.53	2.82
3,165.0	23.20	108.60	2,986.1	-261.8	872.0	910.5	0.65	-0.12	1.63
3,250.0	24.40	111.60	3,063.9	-273.6	904.2	944.7	2.01	1.41	3.53
3,336.0	24.90	109.40	3,142.1	-286.1	937.8	980.4	1.21	0.58	-2.56
3,421.0	24.40	110.10	3,219.3	-298.1	971.2	1,015.8	0.68	-0.59	0.82
3,507.0	23.40	103.30	3,298.0	-308.1	1,004.5	1,050.6	3.41	-1.16	-7.91
3,592.0	23.50	105.60	3,375.9	-316.6	1,037.2	1,084.4	1.08	0.12	2.71
3,678.0	23.20	109.50	3,454.9	-326.8	1,069.7	1,118.5	1.83	-0.35	4.53
3,763.0	25.50	109.10	3,532.3	-338.4	1,102.8	1,153.5	2.71	2.71	-0.47
3,848.0	26.00	108.00	3,608.9	-350.2	1,137.8	1,190.4	0.81	0.59	-1.29
3,934.0	27.40	108.60	3,685.7	-362.3	1,174.5	1,229.0	1.66	1.63	0.70
4,019.0	27.50	108.60	3,761.1	-374.8	1,211.6	1,268.2	0.12	0.12	0.00
4,105.0	27.60	108.40	3,837.4	-387.4	1,249.3	1,307.9	0.16	0.12	-0.23
4,190.0	24.90	108.30	3,913.6	-399.3	1,285.0	1,345.5	3.18	-3.18	-0.12
4,276.0	24.40	107.50	3,991.8	-410.3	1,319.2	1,381.3	0.70	-0.58	-0.93
4,361.0	25.30	107.90	4,068.9	-421.1	1,353.2	1,417.1	1.08	1.06	0.47
4,447.0	25.80	104.40	4,146.5	-431.4	1,388.8	1,454.1	1.85	0.58	-4.07
4,532.0	25.80	102.60	4,223.0	-440.1	1,424.8	1,491.1	0.92	0.00	-2.12
4,618.0	26.20	100.00	4,300.3	-447.5	1,461.7	1,528.6	1.40	0.47	-3.02
4,703.0	26.10	102.80	4,376.6	-454.9	1,498.4	1,565.9	1.46	-0.12	3.29
4,789.0	25.00	104.80	4,454.2	-463.7	1,534.5	1,603.0	1.63	-1.28	2.33
4,874.0	23.60	101.50	4,531.7	-471.7	1,568.5	1,637.9	2.29	-1.65	-3.88
4,960.0	24.20	101.80	4,610.3	-478.7	1,602.6	1,672.6	0.71	0.70	0.35
5,045.0	24.60	103.50	4,687.7	-486.4	1,636.9	1,707.6	0.95	0.47	2.00
5,131.0	24.50	106.30	4,766.0	-495.6	1,671.4	1,743.3	1.36	-0.12	3.26
5,216.0	23.60	106.60	4,843.6	-505.4	1,704.6	1,778.0	1.07	-1.06	0.35
5,302.0	21.00	105.20	4,923.1	-514.4	1,736.0	1,810.6	3.09	-3.02	-1.63
5,387.0	22.50	106.90	5,002.1	-523.1	1,766.3	1,842.1	1.91	1.76	2.00
5,473.0	21.20	105.40	5,081.9	-532.0	1,797.0	1,874.1	1.65	-1.51	-1.74
5,558.0	19.50	108.60	5,161.6	-540.6	1,825.3	1,903.6	2.39	-2.00	3.76
5,644.0	17.10	99.00	5,243.3	-547.2	1,851.4	1,930.5	4.47	-2.79	-11.16
5,729.0	16.90	103.20	5,324.6	-551.9	1,875.7	1,955.3	1.46	-0.24	4.94
5,815.0	15.00	109.20	5,407.3	-558.4	1,898.4	1,978.9	2.92	-2.21	6.98

Company: NOBLE ENERGY INC WELD COUNTY CO
Project: SEC.34-T5N-R67W
Site: Ehrlich N34-24D Pad Sec.34-T5N-R67W
Well: Ehrlich N35-32D
Wellbore: Wellbore #1
Design: Wellbore #1

Local Co-ordinate Reference: Well Ehrlich N35-32D
TVD Reference: WELL @ 4876.0ft (Original Well Elev)
MD Reference: WELL @ 4876.0ft (Original Well Elev)
North Reference: True
Survey Calculation Method: Minimum Curvature
Database: EDM den0-adp01 Server Data

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)
5,900.0	18.00	111.40	5,488.7	-566.9	1,921.0	2,002.9	3.60	3.53	2.59
5,985.0	18.20	109.00	5,569.5	-576.0	1,945.8	2,029.3	0.91	0.24	-2.82
6,071.0	18.60	107.60	5,651.1	-584.5	1,971.6	2,056.4	0.69	0.47	-1.63
6,156.0	18.10	106.20	5,731.8	-592.3	1,997.2	2,083.2	0.78	-0.59	-1.65
6,242.0	17.70	105.90	5,813.7	-599.6	2,022.6	2,109.6	0.48	-0.47	-0.35
6,327.0	18.30	106.60	5,894.5	-606.9	2,047.8	2,135.9	0.75	0.71	0.82
6,413.0	18.40	106.10	5,976.1	-614.6	2,073.8	2,162.9	0.22	0.12	-0.58
6,498.0	18.40	105.10	6,056.8	-621.8	2,099.6	2,189.8	0.37	0.00	-1.18
6,583.0	18.20	105.80	6,137.5	-628.9	2,125.4	2,216.4	0.35	-0.24	0.82
6,669.0	18.40	105.10	6,219.1	-636.1	2,151.4	2,243.4	0.35	0.23	-0.81
6,754.0	17.80	103.20	6,299.9	-642.5	2,177.0	2,269.8	0.99	-0.71	-2.24
6,840.0	16.80	103.80	6,382.0	-648.5	2,201.9	2,295.4	1.18	-1.16	0.70
6,925.0	17.20	104.30	6,463.3	-654.5	2,226.0	2,320.2	0.50	0.47	0.59
7,011.0	16.50	104.80	6,545.6	-660.8	2,250.1	2,345.1	0.83	-0.81	0.58
7,096.0	15.30	105.30	6,627.4	-666.8	2,272.6	2,368.4	1.42	-1.41	0.59
7,181.0	14.40	104.50	6,709.5	-672.4	2,293.6	2,390.2	1.09	-1.06	-0.94
7,267.0	13.30	108.60	6,793.0	-678.3	2,313.4	2,410.7	1.71	-1.28	4.77
7,275.1	13.22	108.42	6,800.9	-678.9	2,315.1	2,412.6	1.08	-0.95	-2.23
NIOBRARA TARGET BHL 2564'FSL, 157'FEL									
7,352.0	12.50	106.60	6,875.9	-684.0	2,331.4	2,429.7	1.08	-0.94	-2.37
7,438.0	11.10	105.00	6,960.1	-688.8	2,348.4	2,447.3	1.67	-1.63	-1.86
7,524.0	10.40	108.40	7,044.6	-693.4	2,363.7	2,463.3	1.10	-0.81	3.95
7,609.0	10.20	108.70	7,128.2	-698.3	2,378.1	2,478.5	0.24	-0.24	0.35
7,685.0	9.90	108.60	7,203.0	-702.5	2,390.7	2,491.8	0.40	-0.39	-0.13
7,733.0	9.90	108.60	7,250.3	-705.1	2,398.5	2,500.0	0.00	0.00	0.00
TARGET CIRCLE 2540'FSL, 75'FEL - HARDLINE 105°N & 75°E OF BHL									

Wellbore Targets

Target Name	- hit/miss target	- Shape	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
NIOBRARA TARGET			0.00	0.00	6,799.0	-684.0	2,322.3	1,373,137.58	3,175,510.37	40° 21' 21.431 N	104° 52' 12.823 W
- survey misses target center by 9.0ft at 7275.1ft MD (6800.9 TVD, -678.9 N, 2315.1 E)											
- Point											
TARGET CIRCLE 254			0.00	0.00	7,286.0	-708.3	2,404.7	1,373,113.86	3,175,592.94	40° 21' 21.191 N	104° 52' 11.758 W
- survey misses target center by 36.4ft at 7733.0ft MD (7250.3 TVD, -705.1 N, 2398.5 E)											
- Circle (radius 75.0)											
HARDLINE 105°N & 7			0.00	0.00	7,286.0	-603.0	2,479.3	1,373,219.68	3,175,666.79	40° 21' 22.232 N	104° 52' 10.794 W
- survey misses target center by 135.0ft at 7733.0ft MD (7250.3 TVD, -705.1 N, 2398.5 E)											
- Polygon											
Point 1					7,286.0	0.0	0.0	1,373,219.68	3,175,666.79		
Point 2					7,286.0	0.0	-200.0	1,373,218.27	3,175,466.81		
Point 3					7,286.0	0.0	0.0	1,373,219.68	3,175,666.79		
Point 4					7,286.0	-200.0	0.0	1,373,019.69	3,175,668.20		

Checked By: _____ Approved By: _____ Date: _____