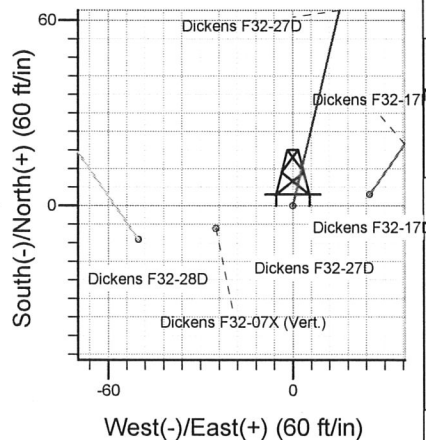
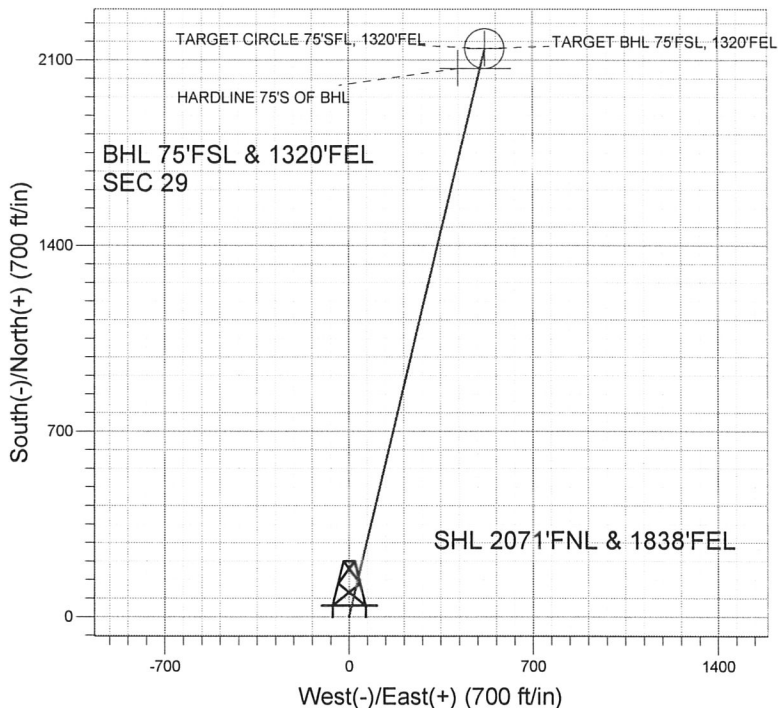
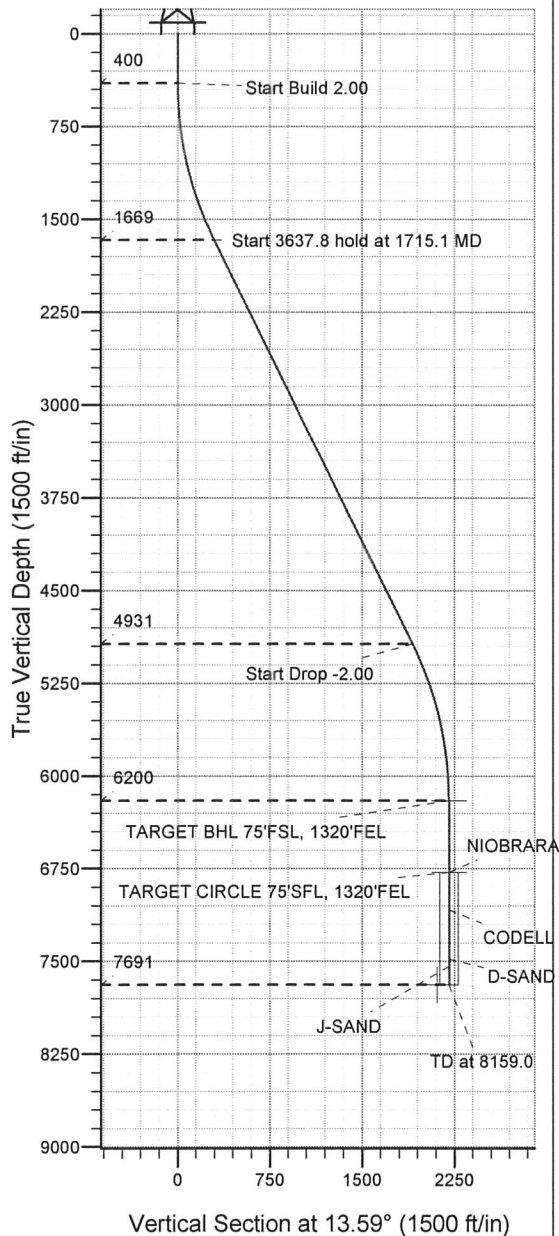


ENSIGN

Directional

Well Name: **Dickens F32-27D**
 Surface Location: Dickens F32-27D Pad Sec.32-T5N-R65W
 North American Datum 1983 , US State Plane 1983 , Colorado Northern Zone
 Ground Elevation: 4668.0
 +N/-S +E/-W Northing Easting Latitude Longitude Slot
 0.0 0.0 1374082.92 3227278.68 40° 21' 26.604 N 104° 41' 4.020 W
 Original Well Elev WELL @ 4681.0ft (Original Well Elev)

NOBLE ENERGY INC WELD COUNTY CO



Dickens F32-27D
 Noble Dickens F32-27D Plan #2 (1-26-10)
 12:22, January 26 2010



Azimuths to True North
 Magnetic North: 8.98°
 Magnetic Field
 Strength: 53292.2snT
 Dip Angle: 67.09°
 Date: 12/29/2009
 Model: IGRF200510

WELLBORE TARGET DETAILS (LAT/LONG)

Name	TVD	+N/-S	+E/-W	Latitude	Longitude	Shape
TARGET BHL 75'FSL, 1320'FEL	6200.0	2143.4	518.3	40° 21' 47.784 N	104° 40' 57.325 W	Point
TARGET CIRCLE 75'SFL, 1320'FEL	6781.0	2143.3	518.3	40° 21' 47.784 N	104° 40' 57.325 W	Circle (Radius: 75.0)
HARDLINE 75'S OF BHL	7691.0	2068.3	418.3	40° 21' 47.043 N	104° 40' 58.617 W	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	400.0	0.00	0.00	400.0	0.0	0.0	0.00	0.00	0.0	
3	1715.1	26.30	13.59	1669.4	288.3	69.7	2.00	13.59	296.6	
4	5352.9	26.30	13.59	4930.6	1855.1	448.6	0.00	0.00	1908.5	
5	6668.0	0.00	0.00	6200.0	2143.4	518.3	2.00	180.00	2205.2	TARGET BHL 75'FSL, 1320'FEL
6	8159.0	0.00	0.00	7691.0	2143.4	518.3	0.00	0.00	2205.2	

ENSIGN

Directional

**NOBLE ENERGY INC WELD
COUNTY CO**

SEC.32-T5N-R65W

Dickens F32-27D Pad Sec.32-T5N-R65W

Dickens F32-27D

Wellbore #1

Plan: Noble Dickens F32-27D Plan #2 (1-26-10)

Standard Planning Report

26 January, 2010

ENSIGN

Directional

Planning Report

Database:	Compass	Local Co-ordinate Reference:	Well Dickens F32-27D
Company:	NOBLE ENERGY INC WELD COUNTY CO	TVD Reference:	WELL @ 4681.0ft (Original Well Elev)
Project:	SEC.32-T5N-R65W	MD Reference:	WELL @ 4681.0ft (Original Well Elev)
Site:	Dickens F32-27D Pad Sec.32-T5N-R65W	North Reference:	True
Well:	Dickens F32-27D	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Noble Dickens F32-27D Plan #2 (1-26-10)		

Project	SEC.32-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		Dickens F32-27D Pad Sec.32-T5N-R65W			
Site Position:		Northing:	1,374,086.80ft	Latitude:	40° 21' 26.640 N
From:	Lat/Long	Easting:	3,227,303.73ft	Longitude:	104° 41' 3.696 W
Position Uncertainty:	0.0 ft	Slot Radius:	"	Grid Convergence:	0.53 °

Well	Dickens F32-27D					
Well Position	+N/-S	-3.7 ft	Northing:	1,374,082.92 ft	Latitude:	40° 21' 26.604 N
	+E/-W	-25.1 ft	Easting:	3,227,278.68 ft	Longitude:	104° 41' 4.020 W
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	4,668.0 ft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF200510	12/29/2009	8.98	67.09	53,292

Design	Noble Dickens F32-27D Plan #2 (1-26-10)			
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	13.59

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	
400.0	0.00	0.00	400.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,715.1	26.30	13.59	1,669.4	288.3	69.7	2.00	2.00	0.00	13.59	
5,352.9	26.30	13.59	4,930.6	1,855.1	448.6	0.00	0.00	0.00	0.00	
6,668.0	0.00	0.00	6,200.0	2,143.4	518.3	2.00	-2.00	0.00	180.00	TARGET BHL 75°F
8,159.0	0.00	0.00	7,691.0	2,143.4	518.3	0.00	0.00	0.00	0.00	

ENSIGN

Directional

Planning Report

Database: Compass
Company: NOBLE ENERGY INC WELD COUNTY CO
Project: SEC.32-T5N-R65W
Site: Dickens F32-27D Pad Sec.32-T5N-R65W
Well: Dickens F32-27D
Wellbore: Wellbore #1
Design: Noble Dickens F32-27D Plan #2 (1-26-10)

Local Co-ordinate Reference:
TVD Reference:
MD Reference:
North Reference:
Survey Calculation Method:

Well Dickens F32-27D
 WELL @ 4681.0ft (Original Well Elev)
 WELL @ 4681.0ft (Original Well Elev)
 True
 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
50.0	0.00	0.00	50.0	0.0	0.0	0.0	0.00	0.00	0.00
100.0	0.00	0.00	100.0	0.0	0.0	0.0	0.00	0.00	0.00
150.0	0.00	0.00	150.0	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
250.0	0.00	0.00	250.0	0.0	0.0	0.0	0.00	0.00	0.00
300.0	0.00	0.00	300.0	0.0	0.0	0.0	0.00	0.00	0.00
350.0	0.00	0.00	350.0	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
450.0	1.00	13.59	450.0	0.4	0.1	0.4	2.00	2.00	0.00
500.0	2.00	13.59	500.0	1.7	0.4	1.7	2.00	2.00	0.00
550.0	3.00	13.59	549.9	3.8	0.9	3.9	2.00	2.00	0.00
600.0	4.00	13.59	599.8	6.8	1.6	7.0	2.00	2.00	0.00
650.0	5.00	13.59	649.7	10.6	2.6	10.9	2.00	2.00	0.00
700.0	6.00	13.59	699.5	15.3	3.7	15.7	2.00	2.00	0.00
750.0	7.00	13.59	749.1	20.8	5.0	21.4	2.00	2.00	0.00
800.0	8.00	13.59	798.7	27.1	6.6	27.9	2.00	2.00	0.00
850.0	9.00	13.59	848.2	34.3	8.3	35.3	2.00	2.00	0.00
900.0	10.00	13.59	897.5	42.3	10.2	43.5	2.00	2.00	0.00
950.0	11.00	13.59	946.6	51.2	12.4	52.6	2.00	2.00	0.00
1,000.0	12.00	13.59	995.6	60.8	14.7	62.6	2.00	2.00	0.00
1,050.0	13.00	13.59	1,044.4	71.4	17.3	73.4	2.00	2.00	0.00
1,100.0	14.00	13.59	1,093.1	82.7	20.0	85.1	2.00	2.00	0.00
1,150.0	15.00	13.59	1,141.5	94.9	22.9	97.6	2.00	2.00	0.00
1,200.0	16.00	13.59	1,189.6	107.9	26.1	111.0	2.00	2.00	0.00
1,250.0	17.00	13.59	1,237.6	121.7	29.4	125.2	2.00	2.00	0.00
1,300.0	18.00	13.59	1,285.3	136.3	33.0	140.2	2.00	2.00	0.00
1,350.0	19.00	13.59	1,332.7	151.7	36.7	156.1	2.00	2.00	0.00
1,400.0	20.00	13.59	1,379.8	167.9	40.6	172.8	2.00	2.00	0.00
1,450.0	21.00	13.59	1,426.6	184.9	44.7	190.3	2.00	2.00	0.00
1,500.0	22.00	13.59	1,473.2	202.8	49.0	208.6	2.00	2.00	0.00
1,550.0	23.00	13.59	1,519.4	221.4	53.5	227.7	2.00	2.00	0.00
1,600.0	24.00	13.59	1,565.2	240.7	58.2	247.7	2.00	2.00	0.00
1,650.0	25.00	13.59	1,610.7	260.9	63.1	268.4	2.00	2.00	0.00
1,700.0	26.00	13.59	1,655.8	281.8	68.1	289.9	2.00	2.00	0.00
1,715.1	26.30	13.59	1,669.4	288.3	69.7	296.6	2.00	2.00	0.00
1,750.0	26.30	13.59	1,700.7	303.3	73.3	312.1	0.00	0.00	0.00
1,800.0	26.30	13.59	1,745.5	324.8	78.6	334.2	0.00	0.00	0.00
1,850.0	26.30	13.59	1,790.3	346.4	83.8	356.4	0.00	0.00	0.00
1,900.0	26.30	13.59	1,835.2	367.9	89.0	378.5	0.00	0.00	0.00
1,950.0	26.30	13.59	1,880.0	389.5	94.2	400.7	0.00	0.00	0.00
2,000.0	26.30	13.59	1,924.8	411.0	99.4	422.8	0.00	0.00	0.00
2,050.0	26.30	13.59	1,969.6	432.5	104.6	445.0	0.00	0.00	0.00
2,100.0	26.30	13.59	2,014.4	454.1	109.8	467.1	0.00	0.00	0.00
2,150.0	26.30	13.59	2,059.3	475.6	115.0	489.3	0.00	0.00	0.00
2,200.0	26.30	13.59	2,104.1	497.1	120.2	511.5	0.00	0.00	0.00
2,250.0	26.30	13.59	2,148.9	518.7	125.4	533.6	0.00	0.00	0.00
2,300.0	26.30	13.59	2,193.7	540.2	130.6	555.8	0.00	0.00	0.00
2,350.0	26.30	13.59	2,238.6	561.7	135.8	577.9	0.00	0.00	0.00
2,400.0	26.30	13.59	2,283.4	583.3	141.0	600.1	0.00	0.00	0.00
2,450.0	26.30	13.59	2,328.2	604.8	146.2	622.2	0.00	0.00	0.00
2,500.0	26.30	13.59	2,373.0	626.3	151.5	644.4	0.00	0.00	0.00
2,550.0	26.30	13.59	2,417.9	647.9	156.7	666.5	0.00	0.00	0.00
2,600.0	26.30	13.59	2,462.7	669.4	161.9	688.7	0.00	0.00	0.00

ENSIGN

Directional

Planning Report

Database:	Compass	Local Co-ordinate Reference:	Well Dickens F32-27D
Company:	NOBLE ENERGY INC WELD COUNTY CO	TVD Reference:	WELL @ 4681.0ft (Original Well Elev)
Project:	SEC.32-T5N-R65W	MD Reference:	WELL @ 4681.0ft (Original Well Elev)
Site:	Dickens F32-27D Pad Sec.32-T5N-R65W	North Reference:	True
Well:	Dickens F32-27D	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Noble Dickens F32-27D Plan #2 (1-26-10)		

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)	
2,650.0	26.30	13.59	2,507.5	690.9	167.1	710.9	0.00	0.00	0.00	
2,700.0	26.30	13.59	2,552.3	712.5	172.3	733.0	0.00	0.00	0.00	
2,750.0	26.30	13.59	2,597.1	734.0	177.5	755.2	0.00	0.00	0.00	
2,800.0	26.30	13.59	2,642.0	755.5	182.7	777.3	0.00	0.00	0.00	
2,850.0	26.30	13.59	2,686.8	777.1	187.9	799.5	0.00	0.00	0.00	
2,900.0	26.30	13.59	2,731.6	798.6	193.1	821.6	0.00	0.00	0.00	
2,950.0	26.30	13.59	2,776.4	820.1	198.3	843.8	0.00	0.00	0.00	
3,000.0	26.30	13.59	2,821.3	841.7	203.5	865.9	0.00	0.00	0.00	
3,050.0	26.30	13.59	2,866.1	863.2	208.7	888.1	0.00	0.00	0.00	
3,100.0	26.30	13.59	2,910.9	884.8	213.9	910.3	0.00	0.00	0.00	
3,150.0	26.30	13.59	2,955.7	906.3	219.1	932.4	0.00	0.00	0.00	
3,200.0	26.30	13.59	3,000.6	927.8	224.4	954.6	0.00	0.00	0.00	
3,250.0	26.30	13.59	3,045.4	949.4	229.6	976.7	0.00	0.00	0.00	
3,300.0	26.30	13.59	3,090.2	970.9	234.8	998.9	0.00	0.00	0.00	
3,350.0	26.30	13.59	3,135.0	992.4	240.0	1,021.0	0.00	0.00	0.00	
3,400.0	26.30	13.59	3,179.9	1,014.0	245.2	1,043.2	0.00	0.00	0.00	
3,450.0	26.30	13.59	3,224.7	1,035.5	250.4	1,065.3	0.00	0.00	0.00	
3,500.0	26.30	13.59	3,269.5	1,057.0	255.6	1,087.5	0.00	0.00	0.00	
3,550.0	26.30	13.59	3,314.3	1,078.6	260.8	1,109.7	0.00	0.00	0.00	
3,600.0	26.30	13.59	3,359.1	1,100.1	266.0	1,131.8	0.00	0.00	0.00	
3,650.0	26.30	13.59	3,404.0	1,121.6	271.2	1,154.0	0.00	0.00	0.00	
3,700.0	26.30	13.59	3,448.8	1,143.2	276.4	1,176.1	0.00	0.00	0.00	
3,750.0	26.30	13.59	3,493.6	1,164.7	281.6	1,198.3	0.00	0.00	0.00	
3,800.0	26.30	13.59	3,538.4	1,186.2	286.8	1,220.4	0.00	0.00	0.00	
3,850.0	26.30	13.59	3,583.3	1,207.8	292.1	1,242.6	0.00	0.00	0.00	
3,900.0	26.30	13.59	3,628.1	1,229.3	297.3	1,264.7	0.00	0.00	0.00	
3,950.0	26.30	13.59	3,672.9	1,250.8	302.5	1,286.9	0.00	0.00	0.00	
4,000.0	26.30	13.59	3,717.7	1,272.4	307.7	1,309.1	0.00	0.00	0.00	
4,050.0	26.30	13.59	3,762.6	1,293.9	312.9	1,331.2	0.00	0.00	0.00	
4,100.0	26.30	13.59	3,807.4	1,315.5	318.1	1,353.4	0.00	0.00	0.00	
4,150.0	26.30	13.59	3,852.2	1,337.0	323.3	1,375.5	0.00	0.00	0.00	
4,200.0	26.30	13.59	3,897.0	1,358.5	328.5	1,397.7	0.00	0.00	0.00	
4,250.0	26.30	13.59	3,941.8	1,380.1	333.7	1,419.8	0.00	0.00	0.00	
4,300.0	26.30	13.59	3,986.7	1,401.6	338.9	1,442.0	0.00	0.00	0.00	
4,350.0	26.30	13.59	4,031.5	1,423.1	344.1	1,464.1	0.00	0.00	0.00	
4,400.0	26.30	13.59	4,076.3	1,444.7	349.3	1,486.3	0.00	0.00	0.00	
4,450.0	26.30	13.59	4,121.1	1,466.2	354.5	1,508.5	0.00	0.00	0.00	
4,500.0	26.30	13.59	4,166.0	1,487.7	359.7	1,530.6	0.00	0.00	0.00	
4,550.0	26.30	13.59	4,210.8	1,509.3	365.0	1,552.8	0.00	0.00	0.00	
4,600.0	26.30	13.59	4,255.6	1,530.8	370.2	1,574.9	0.00	0.00	0.00	
4,650.0	26.30	13.59	4,300.4	1,552.3	375.4	1,597.1	0.00	0.00	0.00	
4,700.0	26.30	13.59	4,345.3	1,573.9	380.6	1,619.2	0.00	0.00	0.00	
4,750.0	26.30	13.59	4,390.1	1,595.4	385.8	1,641.4	0.00	0.00	0.00	
4,800.0	26.30	13.59	4,434.9	1,616.9	391.0	1,663.5	0.00	0.00	0.00	
4,850.0	26.30	13.59	4,479.7	1,638.5	396.2	1,685.7	0.00	0.00	0.00	
4,900.0	26.30	13.59	4,524.6	1,660.0	401.4	1,707.9	0.00	0.00	0.00	
4,950.0	26.30	13.59	4,569.4	1,681.5	406.6	1,730.0	0.00	0.00	0.00	
5,000.0	26.30	13.59	4,614.2	1,703.1	411.8	1,752.2	0.00	0.00	0.00	
5,050.0	26.30	13.59	4,659.0	1,724.6	417.0	1,774.3	0.00	0.00	0.00	
5,100.0	26.30	13.59	4,703.8	1,746.2	422.2	1,796.5	0.00	0.00	0.00	
5,150.0	26.30	13.59	4,748.7	1,767.7	427.4	1,818.6	0.00	0.00	0.00	
5,200.0	26.30	13.59	4,793.5	1,789.2	432.7	1,840.8	0.00	0.00	0.00	
5,250.0	26.30	13.59	4,838.3	1,810.8	437.9	1,862.9	0.00	0.00	0.00	
5,300.0	26.30	13.59	4,883.1	1,832.3	443.1	1,885.1	0.00	0.00	0.00	

ENSIGN

Directional

Planning Report

Database:	Compass	Local Co-ordinate Reference:	Well Dickens F32-27D
Company:	NOBLE ENERGY INC WELD COUNTY CO	TVD Reference:	WELL @ 4681.0ft (Original Well Elev)
Project:	SEC.32-T5N-R65W	MD Reference:	WELL @ 4681.0ft (Original Well Elev)
Site:	Dickens F32-27D Pad Sec.32-T5N-R65W	North Reference:	True
Well:	Dickens F32-27D	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Noble Dickens F32-27D Plan #2 (1-26-10)		

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)	
5,350.0	26.30	13.59	4,928.0	1,853.8	448.3	1,907.3	0.00	0.00	0.00	
5,352.9	26.30	13.59	4,930.6	1,855.1	448.6	1,908.5	0.00	0.00	0.00	
5,400.0	25.36	13.59	4,973.0	1,875.0	453.4	1,929.1	2.00	-2.00	0.00	
5,450.0	24.36	13.59	5,018.3	1,895.5	458.3	1,950.1	2.00	-2.00	0.00	
5,500.0	23.36	13.59	5,064.0	1,915.1	463.1	1,970.3	2.00	-2.00	0.00	
5,550.0	22.36	13.59	5,110.1	1,934.0	467.7	1,989.7	2.00	-2.00	0.00	
5,600.0	21.36	13.59	5,156.5	1,952.1	472.0	2,008.4	2.00	-2.00	0.00	
5,650.0	20.36	13.59	5,203.2	1,969.4	476.2	2,026.2	2.00	-2.00	0.00	
5,700.0	19.36	13.59	5,250.3	1,985.9	480.2	2,043.1	2.00	-2.00	0.00	
5,750.0	18.36	13.59	5,297.6	2,001.6	484.0	2,059.3	2.00	-2.00	0.00	
5,800.0	17.36	13.59	5,345.2	2,016.5	487.6	2,074.6	2.00	-2.00	0.00	
5,850.0	16.36	13.59	5,393.0	2,030.6	491.0	2,089.1	2.00	-2.00	0.00	
5,900.0	15.36	13.59	5,441.1	2,043.9	494.2	2,102.8	2.00	-2.00	0.00	
5,950.0	14.36	13.59	5,489.4	2,056.4	497.3	2,115.6	2.00	-2.00	0.00	
6,000.0	13.36	13.59	5,538.0	2,068.0	500.1	2,127.6	2.00	-2.00	0.00	
6,050.0	12.36	13.59	5,586.7	2,078.8	502.7	2,138.7	2.00	-2.00	0.00	
6,100.0	11.36	13.59	5,635.7	2,088.8	505.1	2,149.0	2.00	-2.00	0.00	
6,150.0	10.36	13.59	5,684.8	2,098.0	507.3	2,158.4	2.00	-2.00	0.00	
6,200.0	9.36	13.59	5,734.0	2,106.3	509.3	2,167.0	2.00	-2.00	0.00	
6,250.0	8.36	13.59	5,783.4	2,113.8	511.1	2,174.7	2.00	-2.00	0.00	
6,300.0	7.36	13.59	5,833.0	2,120.4	512.7	2,181.5	2.00	-2.00	0.00	
6,350.0	6.36	13.59	5,882.6	2,126.2	514.1	2,187.5	2.00	-2.00	0.00	
6,400.0	5.36	13.59	5,932.3	2,131.2	515.3	2,192.6	2.00	-2.00	0.00	
6,450.0	4.36	13.59	5,982.2	2,135.3	516.3	2,196.9	2.00	-2.00	0.00	
6,500.0	3.36	13.59	6,032.0	2,138.6	517.1	2,200.2	2.00	-2.00	0.00	
6,550.0	2.36	13.59	6,082.0	2,141.0	517.7	2,202.7	2.00	-2.00	0.00	
6,600.0	1.36	13.59	6,132.0	2,142.6	518.1	2,204.3	2.00	-2.00	0.00	
6,650.0	0.36	13.59	6,182.0	2,143.3	518.3	2,205.1	2.00	-2.00	0.00	
6,668.0	0.00	0.00	6,200.0	2,143.4	518.3	2,205.2	2.00	-2.00	-75.32	
TARGET BHL 75'FSL, 1320'FEL										
6,700.0	0.00	0.00	6,232.0	2,143.4	518.3	2,205.2	0.00	0.00	0.00	
6,750.0	0.00	0.00	6,282.0	2,143.4	518.3	2,205.2	0.00	0.00	0.00	
6,800.0	0.00	0.00	6,332.0	2,143.4	518.3	2,205.2	0.00	0.00	0.00	
6,850.0	0.00	0.00	6,382.0	2,143.4	518.3	2,205.2	0.00	0.00	0.00	
6,900.0	0.00	0.00	6,432.0	2,143.4	518.3	2,205.2	0.00	0.00	0.00	
6,950.0	0.00	0.00	6,482.0	2,143.4	518.3	2,205.2	0.00	0.00	0.00	
7,000.0	0.00	0.00	6,532.0	2,143.4	518.3	2,205.2	0.00	0.00	0.00	
7,050.0	0.00	0.00	6,582.0	2,143.4	518.3	2,205.2	0.00	0.00	0.00	
7,100.0	0.00	0.00	6,632.0	2,143.4	518.3	2,205.2	0.00	0.00	0.00	
7,150.0	0.00	0.00	6,682.0	2,143.4	518.3	2,205.2	0.00	0.00	0.00	
7,200.0	0.00	0.00	6,732.0	2,143.4	518.3	2,205.2	0.00	0.00	0.00	
7,249.0	0.00	0.00	6,781.0	2,143.4	518.3	2,205.2	0.00	0.00	0.00	
NIOBRARA - TARGET CIRCLE 75'SFL, 1320'FEL										
7,250.0	0.00	0.00	6,782.0	2,143.4	518.3	2,205.2	0.00	0.00	0.00	
7,300.0	0.00	0.00	6,832.0	2,143.4	518.3	2,205.2	0.00	0.00	0.00	
7,350.0	0.00	0.00	6,882.0	2,143.4	518.3	2,205.2	0.00	0.00	0.00	
7,400.0	0.00	0.00	6,932.0	2,143.4	518.3	2,205.2	0.00	0.00	0.00	
7,450.0	0.00	0.00	6,982.0	2,143.4	518.3	2,205.2	0.00	0.00	0.00	
7,500.0	0.00	0.00	7,032.0	2,143.4	518.3	2,205.2	0.00	0.00	0.00	
7,549.0	0.00	0.00	7,081.0	2,143.4	518.3	2,205.2	0.00	0.00	0.00	
CODELL										
7,550.0	0.00	0.00	7,082.0	2,143.4	518.3	2,205.2	0.00	0.00	0.00	
7,600.0	0.00	0.00	7,132.0	2,143.4	518.3	2,205.2	0.00	0.00	0.00	

ENSIGN

Directional

Planning Report

Database:	Compass	Local Co-ordinate Reference:	Well Dickens F32-27D
Company:	NOBLE ENERGY INC WELD COUNTY CO	TVD Reference:	WELL @ 4681.0ft (Original Well Elev)
Project:	SEC.32-T5N-R65W	MD Reference:	WELL @ 4681.0ft (Original Well Elev)
Site:	Dickens F32-27D Pad Sec.32-T5N-R65W	North Reference:	True
Well:	Dickens F32-27D	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Noble Dickens F32-27D Plan #2 (1-26-10)		

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)
7,650.0	0.00	0.00	7,182.0	2,143.4	518.3	2,205.2	0.00	0.00	0.00
7,700.0	0.00	0.00	7,232.0	2,143.4	518.3	2,205.2	0.00	0.00	0.00
7,750.0	0.00	0.00	7,282.0	2,143.4	518.3	2,205.2	0.00	0.00	0.00
7,800.0	0.00	0.00	7,332.0	2,143.4	518.3	2,205.2	0.00	0.00	0.00
7,850.0	0.00	0.00	7,382.0	2,143.4	518.3	2,205.2	0.00	0.00	0.00
7,900.0	0.00	0.00	7,432.0	2,143.4	518.3	2,205.2	0.00	0.00	0.00
7,949.0	0.00	0.00	7,481.0	2,143.4	518.3	2,205.2	0.00	0.00	0.00
D-SAND									
7,950.0	0.00	0.00	7,482.0	2,143.4	518.3	2,205.2	0.00	0.00	0.00
8,000.0	0.00	0.00	7,532.0	2,143.4	518.3	2,205.2	0.00	0.00	0.00
8,009.0	0.00	0.00	7,541.0	2,143.4	518.3	2,205.2	0.00	0.00	0.00
J-SAND									
8,050.0	0.00	0.00	7,582.0	2,143.4	518.3	2,205.2	0.00	0.00	0.00
8,100.0	0.00	0.00	7,632.0	2,143.4	518.3	2,205.2	0.00	0.00	0.00
8,150.0	0.00	0.00	7,682.0	2,143.4	518.3	2,205.2	0.00	0.00	0.00
8,159.0	0.00	0.00	7,691.0	2,143.4	518.3	2,205.2	0.00	0.00	0.00
HARDLINE 75'S 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 75'	0.00	0.00	6,781.0	2,143.3	518.3	1,376,230.85	3,227,777.20	40° 21' 47.784 N	104° 40' 57.325 W
- plan hits target									
- Circle (radius 75.0)									
HARDLINE 75'S OF E	0.00	0.00	7,691.0	2,068.3	418.3	1,376,154.93	3,227,677.90	40° 21' 47.043 N	104° 40' 58.617 W
- plan misses by 125.0ft at 8159.0ft MD (7691.0 TVD, 2143.4 N, 518.3 E)									
- Polygon									
Point 1			7,691.0	0.0	0.0	1,376,154.93	3,227,677.90		
Point 2			7,691.0	0.0	200.0	1,376,156.77	3,227,877.89		
TARGET BHL 75'FSL	0.00	0.00	6,200.0	2,143.4	518.3	1,376,230.88	3,227,777.21	40° 21' 47.784 N	104° 40' 57.325 W
- plan hits target									
- Point									

Formations

Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
7,249.0	6,781.0	NIOBRARA		0.00	
7,549.0	7,081.0	CODELL		0.00	
7,949.0	7,481.0	D-SAND		0.00	
8,009.0	7,541.0	J-SAND		0.00	