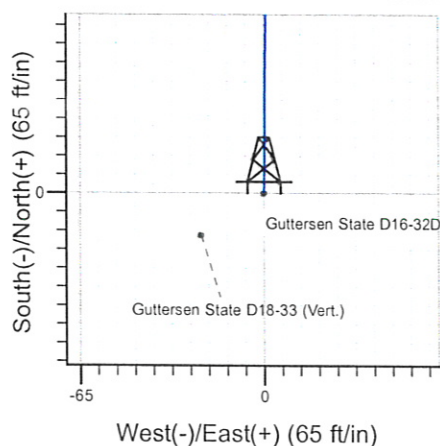
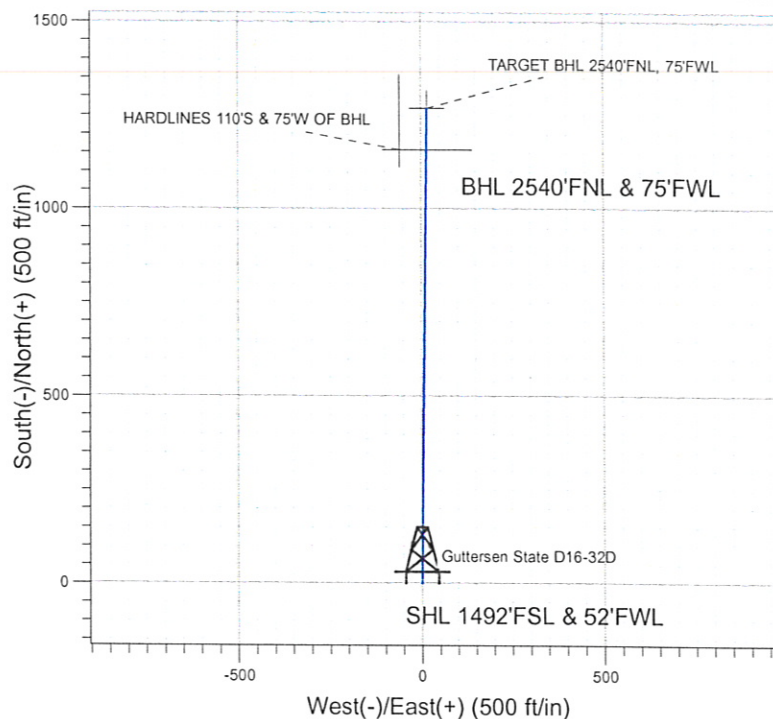
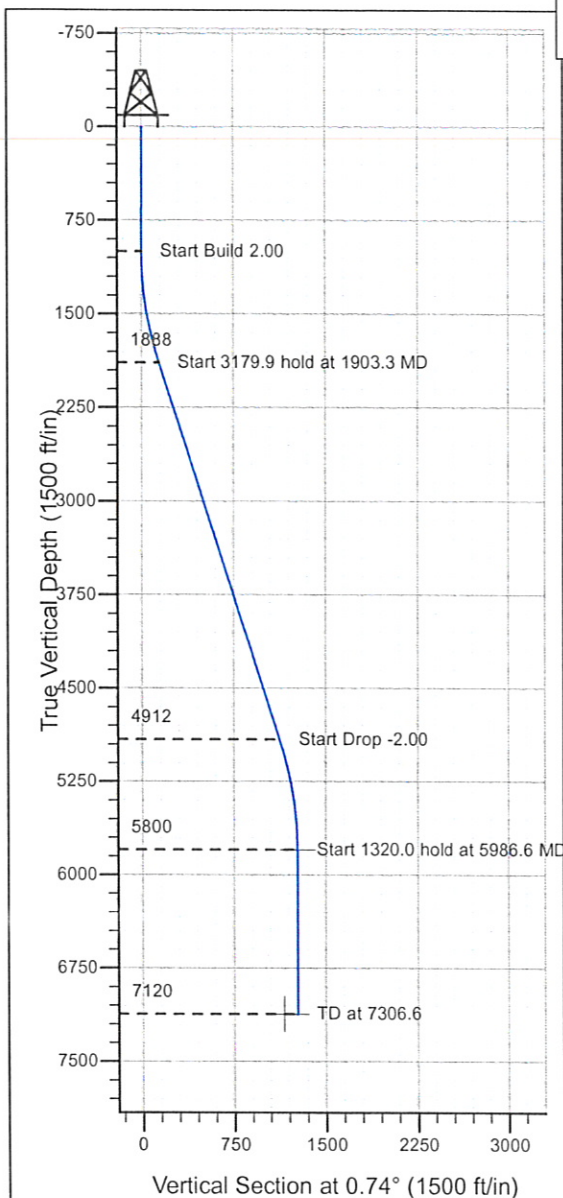


ENSIGN**Directional****Well Name: Gutttersen State D16-32D**Surface Location: Gutttersen State D16-32D Sec.16-T3N-R64W
North American Datum 1983 , US State Plane 1983 , Colorado Northern Zone

Ground Elevation: 4752.0

+N/-S+E/-W	North	East	Latitude	Longitude	Slot
0.0	0.0	1325175.66	3260962.32	40° 13' 20.028 N 104° 33' 55.584 W	
Original Well Elev WELL @ 4765.0ft (Original Well Elev)					

NOBLE ENERGY INC WELD COUNTY CO

Gutttersen State D16-32D Sec.16-T3N-R64W
Gutttersen State D16-32D
Plan #2 (9-2-09)
9:41, September 02 2009



Azimuths to True North
Magnetic North: 8.95°

Magnetic Field
Strength: 53268.2snT
Dip Angle: 67.01°
Date: 8/28/2009
Model: IGRF200510

WELLBORE TARGET DETAILS (LAT/LONG)

Name	TVD	+N/-S	+E/-W	Latitude	Longitude	Shape
TARGET BHL 2540'FNL, 75'FWL	5800.0	1268.5	16.4	40° 13' 32.564 N	104° 33' 55.373 W	Point
HARDLINES 110°S & 75°W OF BHL	7120.0	1158.5	-58.6	40° 13' 31.476 N	104° 33' 56.339 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	1000.0	0.00	0.00	1000.0	0.0	0.0	0.00	0.00	0.0	
3	1903.3	18.07	0.74	1888.4	141.2	1.8	2.00	0.74	141.2	
4	5083.2	18.07	0.74	4911.6	1127.3	14.6	0.00	0.00	1127.4	
5	5986.6	0.00	0.00	5800.0	1268.5	16.4	2.00	180.00	1268.6	TARGET BHL 2540'FNL, 75'FWL
6	7306.6	0.00	0.00	7120.0	1268.5	16.4	0.00	0.00	1268.6	



Directional

NOBLE ENERGY INC WELD COUNTY CO

SEC.16-T3N-R64W

Guttersen State D16-32D Sec.16-T3N-R64W

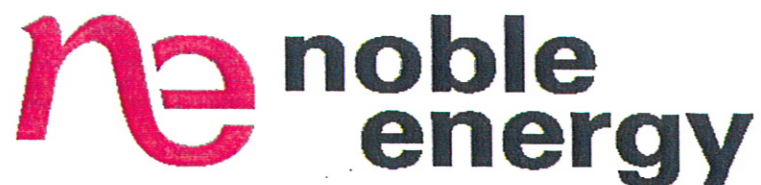
Guttersen State D16-32D

Wellbore #1

Plan: Plan #2 (9-2-09)

Standard Planning Report

02 September, 2009



Database: EDM den0-adp01 Server Data
 Company: NOBLE ENERGY INC WELD COUNTY CO
 Project: SEC.16-T3N-R64W
 Site: Guttersen State D16-32D Sec.16-T3N-R64W
 Well: Guttersen State D16-32D
 Wellbore: Wellbore #1
 Design: Plan #2 (9-2-09)

Local Co-ordinate Reference: Well Guttersen State D16-32D
 TVD Reference: WELL @ 4765.0ft (Original Well Elev)
 MD Reference: WELL @ 4765.0ft (Original Well Elev)
 North Reference: True
 Survey Calculation Method: Minimum Curvature

Project: SEC.16-T3N-R64W, 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: Guttersen State D16-32D Sec.16-T3N-R64W
 Site Position: Northing: 1,325,175.67 ft Latitude: 40° 13' 20.028 N
 From: Lat/Long Easting: 3,260,962.32 ft Longitude: 104° 33' 55.584 W
 Position Uncertainty: 0.0 ft Slot Radius: " Grid Convergence: 0.60 °

Well: Guttersen State D16-32D
 Well Position: +N/-S 0.0 ft Northing: 1,325,175.66 ft Latitude: 40° 13' 20.028 N
 +E/-W 0.0 ft Easting: 3,260,962.32 ft Longitude: 104° 33' 55.584 W
 Position Uncertainty: 0.0 ft Wellhead Elevation: ft Ground Level: 4,752.0 ft

Wellbore: Wellbore #1
 Magnetics: Model Name Sample Date Declination (°) Dip Angle (°) Field Strength (nT)
 IGRF200510 8/28/2009 8.95 67.01 53,268

Design: Plan #2 (9-2-09)
 Audit Notes:
 Version: Phase: PROTOTYPE Tie On Depth: 0.0
 Vertical Section: Depth From (TVD) +N/-S +E/-W Direction
 (ft) (ft) (ft) (°)
 0.0 0.0 0.0 0.74

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	
1,000.0	0.00	0.00	1,000.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,903.3	18.07	0.74	1,888.4	141.2	1.8	2.00	2.00	0.00	0.74	
5,083.2	18.07	0.74	4,911.6	1,127.3	14.6	0.00	0.00	0.00	0.00	
5,986.6	0.00	0.00	5,800.0	1,268.5	16.4	2.00	-2.00	0.00	180.00	TARGET BHL 254C
7,306.6	0.00	0.00	7,120.0	1,268.5	16.4	0.00	0.00	0.00	0.00	

Database: EDM den0-adp01 Server Data
 Company: NOBLE ENERGY INC WELD COUNTY CO
 Project: SEC.16-T3N-R64W
 Site: Guttersen State D16-32D Sec.16-T3N-R64W
 Well: Guttersen State D16-32D
 Wellbore: Wellbore #1
 Design: Plan #2 (9-2-09)

Local Co-ordinate Reference: Well Guttersen State D16-32D
 TVD Reference: WELL @ 4765.0ft (Original Well Elev)
 MD Reference: WELL @ 4765.0ft (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
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
920.0	0.00	0.00	920.0	0.0	0.0	0.0	0.00	0.00	0.00
960.0	0.00	0.00	960.0	0.0	0.0	0.0	0.00	0.00	0.00
1,000.0	0.00	0.00	1,000.0	0.0	0.0	0.0	0.00	0.00	0.00
1,040.0	0.80	0.74	1,040.0	0.3	0.0	0.3	2.00	2.00	0.00
1,080.0	1.60	0.74	1,080.0	1.1	0.0	1.1	2.00	2.00	0.00
1,120.0	2.40	0.74	1,120.0	2.5	0.0	2.5	2.00	2.00	0.00
1,160.0	3.20	0.74	1,159.9	4.5	0.1	4.5	2.00	2.00	0.00
1,200.0	4.00	0.74	1,199.8	7.0	0.1	7.0	2.00	2.00	0.00
1,240.0	4.80	0.74	1,239.7	10.0	0.1	10.0	2.00	2.00	0.00
1,280.0	5.60	0.74	1,279.6	13.7	0.2	13.7	2.00	2.00	0.00
1,320.0	6.40	0.74	1,319.3	17.9	0.2	17.9	2.00	2.00	0.00
1,360.0	7.20	0.74	1,359.1	22.6	0.3	22.6	2.00	2.00	0.00
1,400.0	8.00	0.74	1,398.7	27.9	0.4	27.9	2.00	2.00	0.00
1,440.0	8.80	0.74	1,438.3	33.7	0.4	33.7	2.00	2.00	0.00
1,480.0	9.60	0.74	1,477.8	40.1	0.5	40.1	2.00	2.00	0.00
1,520.0	10.40	0.74	1,517.1	47.1	0.6	47.1	2.00	2.00	0.00
1,560.0	11.20	0.74	1,556.4	54.6	0.7	54.6	2.00	2.00	0.00
1,600.0	12.00	0.74	1,595.6	62.6	0.8	62.6	2.00	2.00	0.00
1,640.0	12.80	0.74	1,634.7	71.2	0.9	71.2	2.00	2.00	0.00
1,680.0	13.60	0.74	1,673.6	80.3	1.0	80.3	2.00	2.00	0.00
1,720.0	14.40	0.74	1,712.4	90.0	1.2	90.0	2.00	2.00	0.00
1,760.0	15.20	0.74	1,751.1	100.2	1.3	100.2	2.00	2.00	0.00
1,800.0	16.00	0.74	1,789.6	111.0	1.4	111.0	2.00	2.00	0.00
1,840.0	16.80	0.74	1,828.0	122.3	1.6	122.3	2.00	2.00	0.00
1,880.0	17.60	0.74	1,866.2	134.1	1.7	134.1	2.00	2.00	0.00
1,903.3	18.07	0.74	1,888.4	141.2	1.8	141.2	2.00	2.00	0.00
1,920.0	18.07	0.74	1,904.3	146.4	1.9	146.4	0.00	0.00	0.00
1,960.0	18.07	0.74	1,942.3	158.8	2.1	158.8	0.00	0.00	0.00
2,000.0	18.07	0.74	1,980.3	171.2	2.2	171.2	0.00	0.00	0.00
2,040.0	18.07	0.74	2,018.4	183.6	2.4	183.6	0.00	0.00	0.00
2,080.0	18.07	0.74	2,056.4	196.0	2.5	196.0	0.00	0.00	0.00

Database: EDM den0-adp01 Server Data
 Company: NOBLE ENERGY INC WELD COUNTY CO
 Project: SEC.16-T3N-R64W
 Site: Guttarsen State D16-32D Sec.16-T3N-R64W
 Well: Guttarsen State D16-32D
 Wellbore: Wellbore #1
 Design: Plan #2 (9-2-09)

Local Co-ordinate Reference: Well Guttarsen State D16-32D
 TVD Reference: WELL @ 4765.0ft (Original Well Elev)
 MD Reference: WELL @ 4765.0ft (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)
2,120.0	18.07	0.74	2,094.4	208.4	2.7	208.4	0.00	0.00	0.00
2,160.0	18.07	0.74	2,132.5	220.8	2.9	220.8	0.00	0.00	0.00
2,200.0	18.07	0.74	2,170.5	233.2	3.0	233.2	0.00	0.00	0.00
2,240.0	18.07	0.74	2,208.5	245.6	3.2	245.7	0.00	0.00	0.00
2,280.0	18.07	0.74	2,246.5	258.0	3.3	258.1	0.00	0.00	0.00
2,320.0	18.07	0.74	2,284.6	270.4	3.5	270.5	0.00	0.00	0.00
2,360.0	18.07	0.74	2,322.6	282.8	3.7	282.9	0.00	0.00	0.00
2,400.0	18.07	0.74	2,360.6	295.2	3.8	295.3	0.00	0.00	0.00
2,440.0	18.07	0.74	2,398.6	307.7	4.0	307.7	0.00	0.00	0.00
2,480.0	18.07	0.74	2,436.7	320.1	4.1	320.1	0.00	0.00	0.00
2,520.0	18.07	0.74	2,474.7	332.5	4.3	332.5	0.00	0.00	0.00
2,560.0	18.07	0.74	2,512.7	344.9	4.5	344.9	0.00	0.00	0.00
2,600.0	18.07	0.74	2,550.8	357.3	4.6	357.3	0.00	0.00	0.00
2,640.0	18.07	0.74	2,588.8	369.7	4.8	369.7	0.00	0.00	0.00
2,680.0	18.07	0.74	2,626.8	382.1	4.9	382.1	0.00	0.00	0.00
2,720.0	18.07	0.74	2,664.8	394.5	5.1	394.5	0.00	0.00	0.00
2,760.0	18.07	0.74	2,702.9	406.9	5.3	406.9	0.00	0.00	0.00
2,800.0	18.07	0.74	2,740.9	419.3	5.4	419.3	0.00	0.00	0.00
2,840.0	18.07	0.74	2,778.9	431.7	5.6	431.7	0.00	0.00	0.00
2,880.0	18.07	0.74	2,817.0	444.1	5.7	444.1	0.00	0.00	0.00
2,920.0	18.07	0.74	2,855.0	456.5	5.9	456.5	0.00	0.00	0.00
2,960.0	18.07	0.74	2,893.0	468.9	6.1	468.9	0.00	0.00	0.00
3,000.0	18.07	0.74	2,931.0	481.3	6.2	481.3	0.00	0.00	0.00
3,040.0	18.07	0.74	2,969.1	493.7	6.4	493.8	0.00	0.00	0.00
3,080.0	18.07	0.74	3,007.1	506.1	6.5	506.2	0.00	0.00	0.00
3,120.0	18.07	0.74	3,045.1	518.5	6.7	518.6	0.00	0.00	0.00
3,160.0	18.07	0.74	3,083.1	530.9	6.9	531.0	0.00	0.00	0.00
3,200.0	18.07	0.74	3,121.2	543.3	7.0	543.4	0.00	0.00	0.00
3,240.0	18.07	0.74	3,159.2	555.7	7.2	555.8	0.00	0.00	0.00
3,280.0	18.07	0.74	3,197.2	568.1	7.3	568.2	0.00	0.00	0.00
3,320.0	18.07	0.74	3,235.3	580.5	7.5	580.6	0.00	0.00	0.00
3,360.0	18.07	0.74	3,273.3	592.9	7.7	593.0	0.00	0.00	0.00
3,400.0	18.07	0.74	3,311.3	605.3	7.8	605.4	0.00	0.00	0.00
3,440.0	18.07	0.74	3,349.3	617.7	8.0	617.8	0.00	0.00	0.00
3,480.0	18.07	0.74	3,387.4	630.2	8.1	630.2	0.00	0.00	0.00
3,520.0	18.07	0.74	3,425.4	642.6	8.3	642.6	0.00	0.00	0.00
3,560.0	18.07	0.74	3,463.4	655.0	8.5	655.0	0.00	0.00	0.00
3,600.0	18.07	0.74	3,501.5	667.4	8.6	667.4	0.00	0.00	0.00
3,640.0	18.07	0.74	3,539.5	679.8	8.8	679.8	0.00	0.00	0.00
3,680.0	18.07	0.74	3,577.5	692.2	8.9	692.2	0.00	0.00	0.00
3,720.0	18.07	0.74	3,615.5	704.6	9.1	704.6	0.00	0.00	0.00
3,760.0	18.07	0.74	3,653.6	717.0	9.3	717.0	0.00	0.00	0.00
3,800.0	18.07	0.74	3,691.6	729.4	9.4	729.4	0.00	0.00	0.00
3,840.0	18.07	0.74	3,729.6	741.8	9.6	741.8	0.00	0.00	0.00
3,880.0	18.07	0.74	3,767.6	754.2	9.7	754.3	0.00	0.00	0.00
3,920.0	18.07	0.74	3,805.7	766.6	9.9	766.7	0.00	0.00	0.00
3,960.0	18.07	0.74	3,843.7	779.0	10.1	779.1	0.00	0.00	0.00
4,000.0	18.07	0.74	3,881.7	791.4	10.2	791.5	0.00	0.00	0.00
4,040.0	18.07	0.74	3,919.8	803.8	10.4	803.9	0.00	0.00	0.00
4,080.0	18.07	0.74	3,957.8	816.2	10.5	816.3	0.00	0.00	0.00
4,120.0	18.07	0.74	3,995.8	828.6	10.7	828.7	0.00	0.00	0.00
4,160.0	18.07	0.74	4,033.8	841.0	10.9	841.1	0.00	0.00	0.00
4,200.0	18.07	0.74	4,071.9	853.4	11.0	853.5	0.00	0.00	0.00
4,240.0	18.07	0.74	4,109.9	865.8	11.2	865.9	0.00	0.00	0.00

Database: EDM den0-adp01 Server Data
 Company: NOBLE ENERGY INC WELD COUNTY CO
 Project: SEC.16-T3N-R64W
 Site: Gutteresen State D16-32D Sec.16-T3N-R64W
 Well: Gutteresen State D16-32D
 Wellbore: Wellbore #1
 Design: Plan #2 (9-2-09)

Local Co-ordinate Reference: Well Gutteresen State D16-32D
 TVD Reference: WELL @ 4765.0ft (Original Well Elev)
 MD Reference: WELL @ 4765.0ft (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)
4,280.0	18.07	0.74	4,147.9	878.2	11.3	878.3	0.00	0.00	0.00
4,320.0	18.07	0.74	4,186.0	890.6	11.5	890.7	0.00	0.00	0.00
4,360.0	18.07	0.74	4,224.0	903.0	11.7	903.1	0.00	0.00	0.00
4,400.0	18.07	0.74	4,262.0	915.4	11.8	915.5	0.00	0.00	0.00
4,440.0	18.07	0.74	4,300.0	927.8	12.0	927.9	0.00	0.00	0.00
4,480.0	18.07	0.74	4,338.1	940.2	12.1	940.3	0.00	0.00	0.00
4,520.0	18.07	0.74	4,376.1	952.7	12.3	952.7	0.00	0.00	0.00
4,560.0	18.07	0.74	4,414.1	965.1	12.5	965.1	0.00	0.00	0.00
4,600.0	18.07	0.74	4,452.1	977.5	12.6	977.5	0.00	0.00	0.00
4,640.0	18.07	0.74	4,490.2	989.9	12.8	989.9	0.00	0.00	0.00
4,680.0	18.07	0.74	4,528.2	1,002.3	12.9	1,002.4	0.00	0.00	0.00
4,720.0	18.07	0.74	4,566.2	1,014.7	13.1	1,014.8	0.00	0.00	0.00
4,760.0	18.07	0.74	4,604.3	1,027.1	13.3	1,027.2	0.00	0.00	0.00
4,800.0	18.07	0.74	4,642.3	1,039.5	13.4	1,039.6	0.00	0.00	0.00
4,840.0	18.07	0.74	4,680.3	1,051.9	13.6	1,052.0	0.00	0.00	0.00
4,880.0	18.07	0.74	4,718.3	1,064.3	13.7	1,064.4	0.00	0.00	0.00
4,920.0	18.07	0.74	4,756.4	1,076.7	13.9	1,076.8	0.00	0.00	0.00
4,960.0	18.07	0.74	4,794.4	1,089.1	14.1	1,089.2	0.00	0.00	0.00
5,000.0	18.07	0.74	4,832.4	1,101.5	14.2	1,101.6	0.00	0.00	0.00
5,040.0	18.07	0.74	4,870.5	1,113.9	14.4	1,114.0	0.00	0.00	0.00
5,080.0	18.07	0.74	4,908.5	1,126.3	14.5	1,126.4	0.00	0.00	0.00
5,083.2	18.07	0.74	4,911.6	1,127.3	14.6	1,127.4	0.00	0.00	0.00
5,120.0	17.33	0.74	4,946.6	1,138.5	14.7	1,138.6	2.00	-2.00	0.00
5,160.0	16.53	0.74	4,984.8	1,150.1	14.8	1,150.2	2.00	-2.00	0.00
5,200.0	15.73	0.74	5,023.3	1,161.2	15.0	1,161.3	2.00	-2.00	0.00
5,240.0	14.93	0.74	5,061.9	1,171.8	15.1	1,171.9	2.00	-2.00	0.00
5,280.0	14.13	0.74	5,100.6	1,181.9	15.3	1,182.0	2.00	-2.00	0.00
5,320.0	13.33	0.74	5,139.4	1,191.4	15.4	1,191.5	2.00	-2.00	0.00
5,360.0	12.53	0.74	5,178.4	1,200.3	15.5	1,200.4	2.00	-2.00	0.00
5,400.0	11.73	0.74	5,217.5	1,208.7	15.6	1,208.8	2.00	-2.00	0.00
5,440.0	10.93	0.74	5,256.7	1,216.6	15.7	1,216.7	2.00	-2.00	0.00
5,480.0	10.13	0.74	5,296.1	1,223.9	15.8	1,224.0	2.00	-2.00	0.00
5,520.0	9.33	0.74	5,335.5	1,230.6	15.9	1,230.7	2.00	-2.00	0.00
5,560.0	8.53	0.74	5,375.0	1,236.8	16.0	1,237.0	2.00	-2.00	0.00
5,600.0	7.73	0.74	5,414.6	1,242.5	16.0	1,242.6	2.00	-2.00	0.00
5,640.0	6.93	0.74	5,454.3	1,247.6	16.1	1,247.7	2.00	-2.00	0.00
5,680.0	6.13	0.74	5,494.0	1,252.2	16.2	1,252.3	2.00	-2.00	0.00
5,720.0	5.33	0.74	5,533.8	1,256.2	16.2	1,256.3	2.00	-2.00	0.00
5,760.0	4.53	0.74	5,573.7	1,259.6	16.3	1,259.7	2.00	-2.00	0.00
5,800.0	3.73	0.74	5,613.6	1,262.5	16.3	1,262.6	2.00	-2.00	0.00
5,840.0	2.93	0.74	5,653.5	1,264.8	16.3	1,264.9	2.00	-2.00	0.00
5,880.0	2.13	0.74	5,693.5	1,266.6	16.4	1,266.7	2.00	-2.00	0.00
5,920.0	1.33	0.74	5,733.4	1,267.8	16.4	1,267.9	2.00	-2.00	0.00
5,960.0	0.53	0.74	5,773.4	1,268.4	16.4	1,268.5	2.00	-2.00	0.00
5,986.6	0.00	0.00	5,800.0	1,268.5	16.4	1,268.6	2.00	-2.00	0.00
TARGET BHL 2540'FNL, 75'FWL									
6,000.0	0.00	0.00	5,813.4	1,268.5	16.4	1,268.6	0.00	0.00	0.00
6,040.0	0.00	0.00	5,853.4	1,268.5	16.4	1,268.6	0.00	0.00	0.00
6,080.0	0.00	0.00	5,893.4	1,268.5	16.4	1,268.6	0.00	0.00	0.00
6,120.0	0.00	0.00	5,933.4	1,268.5	16.4	1,268.6	0.00	0.00	0.00
6,160.0	0.00	0.00	5,973.4	1,268.5	16.4	1,268.6	0.00	0.00	0.00
6,200.0	0.00	0.00	6,013.4	1,268.5	16.4	1,268.6	0.00	0.00	0.00
6,240.0	0.00	0.00	6,053.4	1,268.5	16.4	1,268.6	0.00	0.00	0.00

Database: EDM den0-adp01 Server Data
 Company: NOBLE ENERGY INC WELD COUNTY CO
 Project: SEC.16-T3N-R64W
 Site: Guttersen State D16-32D Sec.16-T3N-R64W
 Well: Guttersen State D16-32D
 Wellbore: Wellbore #1
 Design: Plan #2 (9-2-09)

Local Co-ordinate Reference: Well Guttersen State D16-32D
 TVD Reference: WELL @ 4765.0ft (Original Well Elev)
 MD Reference: WELL @ 4765.0ft (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)
6,280.0	0.00	0.00	6,093.4	1,268.5	16.4	1,268.6	0.00	0.00	0.00
6,320.0	0.00	0.00	6,133.4	1,268.5	16.4	1,268.6	0.00	0.00	0.00
6,360.0	0.00	0.00	6,173.4	1,268.5	16.4	1,268.6	0.00	0.00	0.00
6,400.0	0.00	0.00	6,213.4	1,268.5	16.4	1,268.6	0.00	0.00	0.00
6,440.0	0.00	0.00	6,253.4	1,268.5	16.4	1,268.6	0.00	0.00	0.00
6,480.0	0.00	0.00	6,293.4	1,268.5	16.4	1,268.6	0.00	0.00	0.00
6,520.0	0.00	0.00	6,333.4	1,268.5	16.4	1,268.6	0.00	0.00	0.00
6,560.0	0.00	0.00	6,373.4	1,268.5	16.4	1,268.6	0.00	0.00	0.00
6,600.0	0.00	0.00	6,413.4	1,268.5	16.4	1,268.6	0.00	0.00	0.00
6,640.0	0.00	0.00	6,453.4	1,268.5	16.4	1,268.6	0.00	0.00	0.00
6,680.0	0.00	0.00	6,493.4	1,268.5	16.4	1,268.6	0.00	0.00	0.00
6,720.0	0.00	0.00	6,533.4	1,268.5	16.4	1,268.6	0.00	0.00	0.00
6,760.0	0.00	0.00	6,573.4	1,268.5	16.4	1,268.6	0.00	0.00	0.00
6,800.0	0.00	0.00	6,613.4	1,268.5	16.4	1,268.6	0.00	0.00	0.00
6,840.0	0.00	0.00	6,653.4	1,268.5	16.4	1,268.6	0.00	0.00	0.00
6,853.6	0.00	0.00	6,667.0	1,268.5	16.4	1,268.6	0.00	0.00	0.00
NIOBRARA									
6,880.0	0.00	0.00	6,693.4	1,268.5	16.4	1,268.6	0.00	0.00	0.00
6,920.0	0.00	0.00	6,733.4	1,268.5	16.4	1,268.6	0.00	0.00	0.00
6,960.0	0.00	0.00	6,773.4	1,268.5	16.4	1,268.6	0.00	0.00	0.00
7,000.0	0.00	0.00	6,813.4	1,268.5	16.4	1,268.6	0.00	0.00	0.00
7,040.0	0.00	0.00	6,853.4	1,268.5	16.4	1,268.6	0.00	0.00	0.00
7,080.0	0.00	0.00	6,893.4	1,268.5	16.4	1,268.6	0.00	0.00	0.00
7,120.0	0.00	0.00	6,933.4	1,268.5	16.4	1,268.6	0.00	0.00	0.00
7,156.6	0.00	0.00	6,970.0	1,268.5	16.4	1,268.6	0.00	0.00	0.00
CODELL									
7,160.0	0.00	0.00	6,973.4	1,268.5	16.4	1,268.6	0.00	0.00	0.00
7,200.0	0.00	0.00	7,013.4	1,268.5	16.4	1,268.6	0.00	0.00	0.00
7,240.0	0.00	0.00	7,053.4	1,268.5	16.4	1,268.6	0.00	0.00	0.00
7,280.0	0.00	0.00	7,093.4	1,268.5	16.4	1,268.6	0.00	0.00	0.00
7,306.6	0.00	0.00	7,120.0	1,268.5	16.4	1,268.6	0.00	0.00	0.00
HARDLINES 110'S & 75'W OF BHL									

Targets
Target Name

- hit/miss target	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
- Shape									
HARDLINES 110'S & 75'W OF BHL	0.00	0.00	7,120.0	1,158.5	-58.6	1,326,333.42	3,260,891.52	40° 13' 31.476 N	104° 33' 56.339 W
- plan misses target center by 133.2ft at 7306.6ft MD (7120.0 TVD, 1268.5 N, 16.4 E)									
- Polygon									
Point 1			7,120.0	0.0	0.0	1,326,333.42	3,260,891.52		
Point 2			7,120.0	0.0	200.0	1,326,335.53	3,261,091.50		
Point 3			7,120.0	0.0	0.0	1,326,333.42	3,260,891.52		
Point 4			7,120.0	200.0	0.0	1,326,533.40	3,260,889.41		
TARGET BHL 2540'F	0.00	0.00	5,800.0	1,268.5	16.4	1,326,444.25	3,260,965.33	40° 13' 32.564 N	104° 33' 55.373 W
- plan hits target center									
- Point									

Database: EDM den0-adp01 Server Data
Company: NOBLE ENERGY INC WELD COUNTY CO
Project: SEC.16-T3N-R64W
Site: Guttersen State D16-32D Sec.16-T3N-R64W
Well: Guttersen State D16-32D
Wellbore: Wellbore #1
Design: Plan #2 (9-2-09)

Local Co-ordinate Reference: Well Guttersen State D16-32D
TVD Reference: WELL @ 4765.0ft (Original Well Elev)
MD Reference: WELL @ 4765.0ft (Original Well Elev)
North Reference: True
Survey Calculation Method: Minimum Curvature

Formations

Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
6,853.6	6,667.0	NIOBRARA		0.00	
7,156.6	6,970.0	CODELL		0.00	