

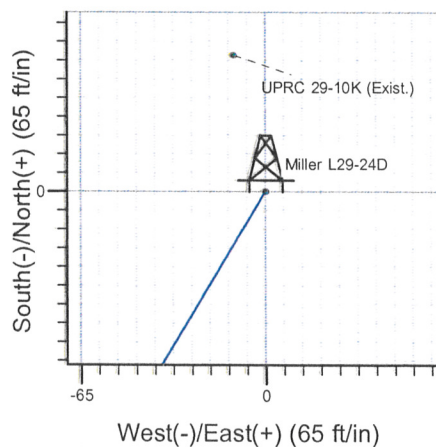
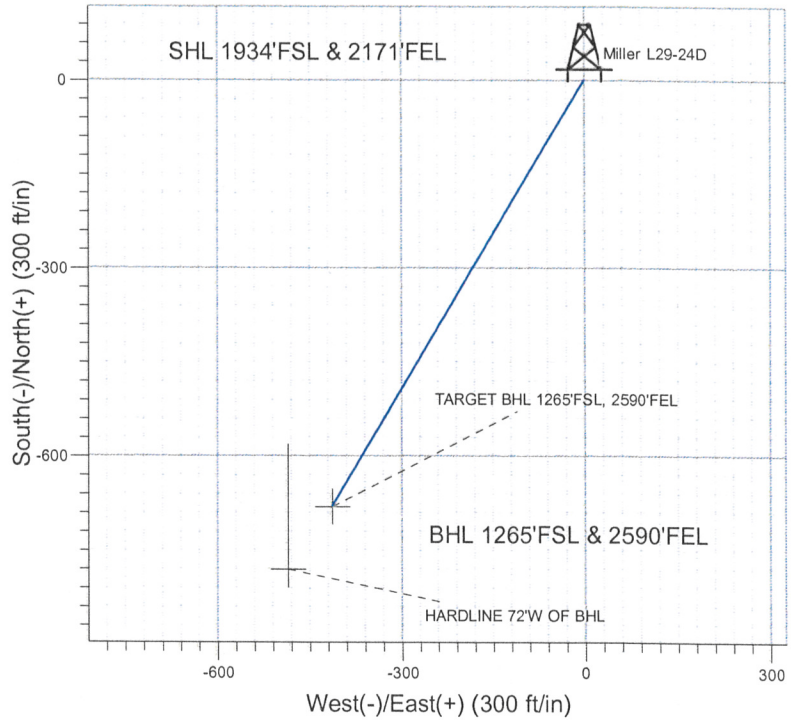
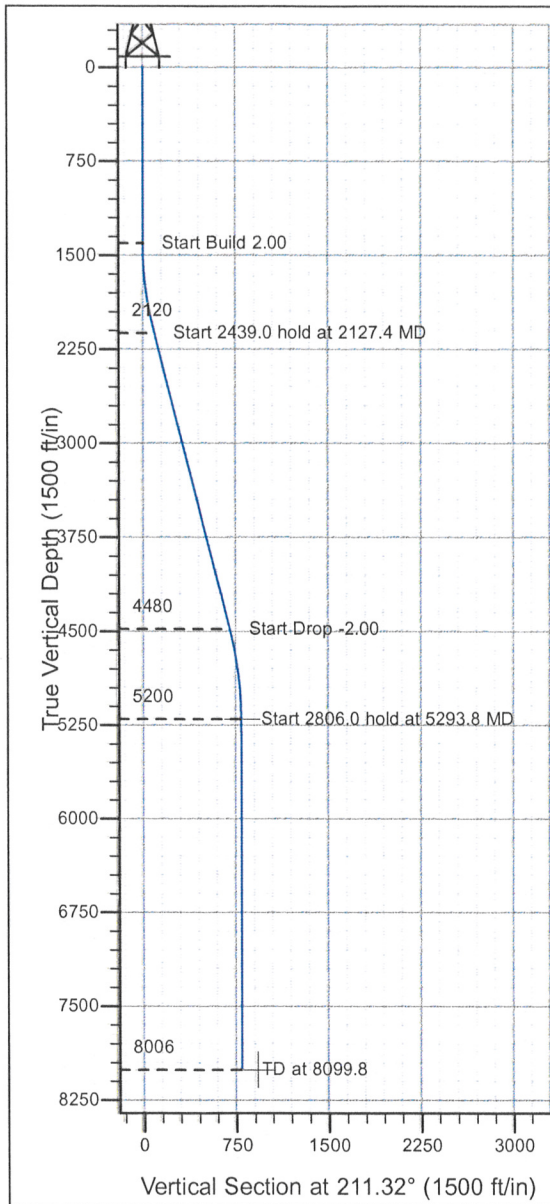
Well Name: Miller L29-24D

Surface Location: Miller L29-24D Pad Sec.29-T3N-R66W
 North American Datum 1983 , US State Plane 1983 , Colorado Northern Zone

Ground Elevation: 4933.0

+N/-S+E/-W Northing Easting Latitude Longitude Slot
 0.0 0.0 1314242.62 3195723.98 40° 11' 37.932 N 104° 47' 57.732 W
 Original Well Elev WELL @ 4946.0ft (Original Well Elev)

NOBLE ENERGY INC WELD COUNTY CO



Miller L29-24D Pad Sec.29-T3N-R66W
 Miller L29-24D
 Plan #1 (7-22-09)
 17:57, July 22 2009



Azimuths to True North
 Magnetic North: 9.08°

Magnetic Field
 Strength: 53237.0snT
 Dip Angle: 66.95°
 Date: 7/22/2009
 Model: IGRF200510

WELLBORE TARGET DETAILS (LAT/LONG)

Name	TVD	+N/-S	+E/-W	Latitude	Longitude	Shape
TARGET BHL 1265'FSL, 2590'FEL	5200.0	-680.3	-413.9	40° 11' 31.209 N	104° 48' 3.065 W	Polygon
HARDLINE 72°W OF BHL	8006.0	-780.3	-485.9	40° 11' 30.221 N	104° 48' 3.993 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	1400.0	0.00	0.00	1400.0	0.0	0.0	0.00	0.00	0.0	
3	2127.4	14.55	211.32	2119.6	-78.5	-47.7	2.00	211.32	91.9	
4	4566.4	14.55	211.32	4480.4	-601.9	-366.2	0.00	0.00	704.5	
5	5293.8	0.00	0.00	5200.0	-680.3	-413.9	2.00	180.00	796.3	TARGET BHL 1265'FSL, 2590'FEL
6	8099.8	0.00	0.00	8006.0	-680.3	-413.9	0.00	0.00	796.3	

ENSIGN

Directional

**NOBLE ENERGY INC WELD
COUNTY CO**

SEC.29-T3N-R66W

Miller L29-24D Pad Sec.29-T3N-R66W

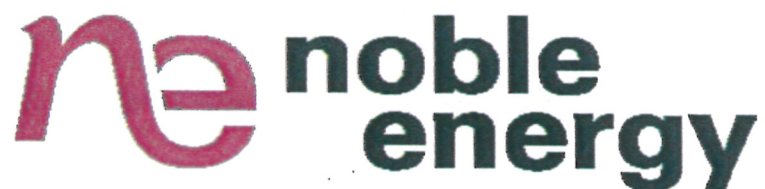
Miller L29-24D

Wellbore #1

Plan: Plan #1 (7-22-09)

Standard Planning Report

23 July, 2009



Database:	EDM den0-adp01 Server Data	Local Co-ordinate Reference:	Well Miller L29-24D
Company:	NOBLE ENERGY INC WELD COUNTY CO	TVD Reference:	WELL @ 4946.0ft (Original Well Elev)
Project:	SEC.29-T3N-R66W	MD Reference:	WELL @ 4946.0ft (Original Well Elev)
Site:	Miller L29-24D Pad Sec.29-T3N-R66W	North Reference:	True
Well:	Miller L29-24D	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1 (7-22-09)		

Project	SEC.29-T3N-R66W, 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	Miller L29-24D Pad Sec.29-T3N-R66W				
Site Position:		Northing:	1,314,242.63ft	Latitude:	40° 11' 37.932 N
From:	Lat/Long	Easting:	3,195,723.98ft	Longitude:	104° 47' 57.732 W
Position Uncertainty:	0.0 ft	Slot Radius:	"	Grid Convergence:	0.45 °

Well	Miller L29-24D					
Well Position	+N/-S	0.0 ft	Northing:	1,314,242.62 ft	Latitude:	40° 11' 37.932 N
	+E/-W	0.0 ft	Easting:	3,195,723.98 ft	Longitude:	104° 47' 57.732 W
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	4,933.0 ft

Wellbore	Wellbore #1				
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Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF200510	7/22/2009	9.08	66.95	53,237

Design	Plan #1 (7-22-09)				
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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	211.32	

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	
1,400.0	0.00	0.00	1,400.0	0.0	0.0	0.00	0.00	0.00	0.00	
2,127.4	14.55	211.32	2,119.6	-78.5	-47.7	2.00	2.00	0.00	211.32	
4,566.4	14.55	211.32	4,480.4	-601.9	-366.2	0.00	0.00	0.00	0.00	
5,293.8	0.00	0.00	5,200.0	-680.3	-413.9	2.00	-2.00	0.00	180.00	TARGET BHL 1265
8,099.8	0.00	0.00	8,006.0	-680.3	-413.9	0.00	0.00	0.00	0.00	

Database:	EDM den0-adp01 Server Data	Local Co-ordinate Reference:	Well Miller L29-24D
Company:	NOBLE ENERGY INC WELD COUNTY CO	TVD Reference:	WELL @ 4946.0ft (Original Well Elev)
Project:	SEC.29-T3N-R66W	MD Reference:	WELL @ 4946.0ft (Original Well Elev)
Site:	Miller L29-24D Pad Sec.29-T3N-R66W	North Reference:	True
Well:	Miller L29-24D	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1 (7-22-09)		

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	0.00	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	0.00	0.00	1,040.0	0.0	0.0	0.0	0.00	0.00	0.00
1,080.0	0.00	0.00	1,080.0	0.0	0.0	0.0	0.00	0.00	0.00
1,120.0	0.00	0.00	1,120.0	0.0	0.0	0.0	0.00	0.00	0.00
1,160.0	0.00	0.00	1,160.0	0.0	0.0	0.0	0.00	0.00	0.00
1,200.0	0.00	0.00	1,200.0	0.0	0.0	0.0	0.00	0.00	0.00
1,240.0	0.00	0.00	1,240.0	0.0	0.0	0.0	0.00	0.00	0.00
1,280.0	0.00	0.00	1,280.0	0.0	0.0	0.0	0.00	0.00	0.00
1,320.0	0.00	0.00	1,320.0	0.0	0.0	0.0	0.00	0.00	0.00
1,360.0	0.00	0.00	1,360.0	0.0	0.0	0.0	0.00	0.00	0.00
1,400.0	0.00	0.00	1,400.0	0.0	0.0	0.0	0.00	0.00	0.00
1,440.0	0.80	211.32	1,440.0	-0.2	-0.1	0.3	2.00	2.00	0.00
1,480.0	1.60	211.32	1,480.0	-1.0	-0.6	1.1	2.00	2.00	0.00
1,520.0	2.40	211.32	1,520.0	-2.1	-1.3	2.5	2.00	2.00	0.00
1,560.0	3.20	211.32	1,559.9	-3.8	-2.3	4.5	2.00	2.00	0.00
1,600.0	4.00	211.32	1,599.8	-6.0	-3.6	7.0	2.00	2.00	0.00
1,640.0	4.80	211.32	1,639.7	-8.6	-5.2	10.0	2.00	2.00	0.00
1,680.0	5.60	211.32	1,679.6	-11.7	-7.1	13.7	2.00	2.00	0.00
1,720.0	6.40	211.32	1,719.3	-15.3	-9.3	17.9	2.00	2.00	0.00
1,760.0	7.20	211.32	1,759.1	-19.3	-11.7	22.6	2.00	2.00	0.00
1,800.0	8.00	211.32	1,798.7	-23.8	-14.5	27.9	2.00	2.00	0.00
1,840.0	8.80	211.32	1,838.3	-28.8	-17.5	33.7	2.00	2.00	0.00
1,880.0	9.60	211.32	1,877.8	-34.3	-20.9	40.1	2.00	2.00	0.00
1,920.0	10.40	211.32	1,917.1	-40.2	-24.5	47.1	2.00	2.00	0.00
1,960.0	11.20	211.32	1,956.4	-46.6	-28.4	54.6	2.00	2.00	0.00
2,000.0	12.00	211.32	1,995.6	-53.5	-32.5	62.6	2.00	2.00	0.00
2,040.0	12.80	211.32	2,034.7	-60.8	-37.0	71.2	2.00	2.00	0.00
2,080.0	13.60	211.32	2,073.6	-68.6	-41.7	80.3	2.00	2.00	0.00
2,120.0	14.40	211.32	2,112.4	-76.9	-46.8	90.0	2.00	2.00	0.00

Database:	EDM den0-adp01 Server Data	Local Co-ordinate Reference:	Well Miller L29-24D
Company:	NOBLE ENERGY INC WELD COUNTY CO	TVD Reference:	WELL @ 4946.0ft (Original Well Elev)
Project:	SEC.29-T3N-R66W	MD Reference:	WELL @ 4946.0ft (Original Well Elev)
Site:	Miller L29-24D Pad Sec.29-T3N-R66W	North Reference:	True
Well:	Miller L29-24D	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1 (7-22-09)		

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)
2,127.4	14.55	211.32	2,119.6	-78.5	-47.7	91.9	2.00	2.00	0.00
2,160.0	14.55	211.32	2,151.2	-85.5	-52.0	100.0	0.00	0.00	0.00
2,200.0	14.55	211.32	2,189.9	-94.1	-57.2	110.1	0.00	0.00	0.00
2,240.0	14.55	211.32	2,228.6	-102.6	-62.4	120.1	0.00	0.00	0.00
2,280.0	14.55	211.32	2,267.3	-111.2	-67.7	130.2	0.00	0.00	0.00
2,320.0	14.55	211.32	2,306.0	-119.8	-72.9	140.2	0.00	0.00	0.00
2,360.0	14.55	211.32	2,344.8	-128.4	-78.1	150.3	0.00	0.00	0.00
2,400.0	14.55	211.32	2,383.5	-137.0	-83.3	160.3	0.00	0.00	0.00
2,440.0	14.55	211.32	2,422.2	-145.6	-88.6	170.4	0.00	0.00	0.00
2,480.0	14.55	211.32	2,460.9	-154.1	-93.8	180.4	0.00	0.00	0.00
2,520.0	14.55	211.32	2,499.6	-162.7	-99.0	190.5	0.00	0.00	0.00
2,560.0	14.55	211.32	2,538.3	-171.3	-104.2	200.5	0.00	0.00	0.00
2,600.0	14.55	211.32	2,577.1	-179.9	-109.4	210.6	0.00	0.00	0.00
2,640.0	14.55	211.32	2,615.8	-188.5	-114.7	220.6	0.00	0.00	0.00
2,680.0	14.55	211.32	2,654.5	-197.1	-119.9	230.7	0.00	0.00	0.00
2,720.0	14.55	211.32	2,693.2	-205.6	-125.1	240.7	0.00	0.00	0.00
2,760.0	14.55	211.32	2,731.9	-214.2	-130.3	250.8	0.00	0.00	0.00
2,800.0	14.55	211.32	2,770.6	-222.8	-135.6	260.8	0.00	0.00	0.00
2,840.0	14.55	211.32	2,809.4	-231.4	-140.8	270.8	0.00	0.00	0.00
2,880.0	14.55	211.32	2,848.1	-240.0	-146.0	280.9	0.00	0.00	0.00
2,920.0	14.55	211.32	2,886.8	-248.6	-151.2	290.9	0.00	0.00	0.00
2,960.0	14.55	211.32	2,925.5	-257.1	-156.4	301.0	0.00	0.00	0.00
3,000.0	14.55	211.32	2,964.2	-265.7	-161.7	311.0	0.00	0.00	0.00
3,040.0	14.55	211.32	3,002.9	-274.3	-166.9	321.1	0.00	0.00	0.00
3,080.0	14.55	211.32	3,041.7	-282.9	-172.1	331.1	0.00	0.00	0.00
3,120.0	14.55	211.32	3,080.4	-291.5	-177.3	341.2	0.00	0.00	0.00
3,160.0	14.55	211.32	3,119.1	-300.1	-182.6	351.2	0.00	0.00	0.00
3,200.0	14.55	211.32	3,157.8	-308.6	-187.8	361.3	0.00	0.00	0.00
3,240.0	14.55	211.32	3,196.5	-317.2	-193.0	371.3	0.00	0.00	0.00
3,280.0	14.55	211.32	3,235.3	-325.8	-198.2	381.4	0.00	0.00	0.00
3,320.0	14.55	211.32	3,274.0	-334.4	-203.4	391.4	0.00	0.00	0.00
3,360.0	14.55	211.32	3,312.7	-343.0	-208.7	401.5	0.00	0.00	0.00
3,400.0	14.55	211.32	3,351.4	-351.6	-213.9	411.5	0.00	0.00	0.00
3,440.0	14.55	211.32	3,390.1	-360.1	-219.1	421.6	0.00	0.00	0.00
3,480.0	14.55	211.32	3,428.8	-368.7	-224.3	431.6	0.00	0.00	0.00
3,520.0	14.55	211.32	3,467.6	-377.3	-229.6	441.7	0.00	0.00	0.00
3,560.0	14.55	211.32	3,506.3	-385.9	-234.8	451.7	0.00	0.00	0.00
3,600.0	14.55	211.32	3,545.0	-394.5	-240.0	461.8	0.00	0.00	0.00
3,640.0	14.55	211.32	3,583.7	-403.1	-245.2	471.8	0.00	0.00	0.00
3,680.0	14.55	211.32	3,622.4	-411.7	-250.4	481.8	0.00	0.00	0.00
3,720.0	14.55	211.32	3,661.1	-420.2	-255.7	491.9	0.00	0.00	0.00
3,760.0	14.55	211.32	3,699.9	-428.8	-260.9	501.9	0.00	0.00	0.00
3,800.0	14.55	211.32	3,738.6	-437.4	-266.1	512.0	0.00	0.00	0.00
3,840.0	14.55	211.32	3,777.3	-446.0	-271.3	522.0	0.00	0.00	0.00
3,880.0	14.55	211.32	3,816.0	-454.6	-276.6	532.1	0.00	0.00	0.00
3,920.0	14.55	211.32	3,854.7	-463.2	-281.8	542.1	0.00	0.00	0.00
3,960.0	14.55	211.32	3,893.5	-471.7	-287.0	552.2	0.00	0.00	0.00
4,000.0	14.55	211.32	3,932.2	-480.3	-292.2	562.2	0.00	0.00	0.00
4,040.0	14.55	211.32	3,970.9	-488.9	-297.4	572.3	0.00	0.00	0.00
4,080.0	14.55	211.32	4,009.6	-497.5	-302.7	582.3	0.00	0.00	0.00
4,120.0	14.55	211.32	4,048.3	-506.1	-307.9	592.4	0.00	0.00	0.00
4,160.0	14.55	211.32	4,087.0	-514.7	-313.1	602.4	0.00	0.00	0.00
4,200.0	14.55	211.32	4,125.8	-523.2	-318.3	612.5	0.00	0.00	0.00
4,240.0	14.55	211.32	4,164.5	-531.8	-323.6	622.5	0.00	0.00	0.00

Database:	EDM den0-adp01 Server Data	Local Co-ordinate Reference:	Well Miller L29-24D
Company:	NOBLE ENERGY INC WELD COUNTY CO	TVD Reference:	WELL @ 4946.0ft (Original Well Elev)
Project:	SEC.29-T3N-R66W	MD Reference:	WELL @ 4946.0ft (Original Well Elev)
Site:	Miller L29-24D Pad Sec.29-T3N-R66W	North Reference:	True
Well:	Miller L29-24D	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1 (7-22-09)		

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	14.55	211.32	4,203.2	-540.4	-328.8	632.6	0.00	0.00	0.00
4,320.0	14.55	211.32	4,241.9	-549.0	-334.0	642.6	0.00	0.00	0.00
4,360.0	14.55	211.32	4,280.6	-557.6	-339.2	652.7	0.00	0.00	0.00
4,400.0	14.55	211.32	4,319.3	-566.2	-344.4	662.7	0.00	0.00	0.00
4,440.0	14.55	211.32	4,358.1	-574.7	-349.7	672.8	0.00	0.00	0.00
4,480.0	14.55	211.32	4,396.8	-583.3	-354.9	682.8	0.00	0.00	0.00
4,520.0	14.55	211.32	4,435.5	-591.9	-360.1	692.8	0.00	0.00	0.00
4,560.0	14.55	211.32	4,474.2	-600.5	-365.3	702.9	0.00	0.00	0.00
4,566.4	14.55	211.32	4,480.4	-601.9	-366.2	704.5	0.00	0.00	0.00
4,600.0	13.88	211.32	4,513.0	-608.9	-370.5	712.8	2.00	-2.00	0.00
4,640.0	13.08	211.32	4,551.9	-616.9	-375.3	722.1	2.00	-2.00	0.00
4,680.0	12.28	211.32	4,590.9	-624.4	-379.9	730.9	2.00	-2.00	0.00
4,720.0	11.48	211.32	4,630.0	-631.4	-384.1	739.1	2.00	-2.00	0.00
4,760.0	10.68	211.32	4,669.3	-638.0	-388.1	746.8	2.00	-2.00	0.00
4,800.0	9.88	211.32	4,708.7	-644.1	-391.8	753.9	2.00	-2.00	0.00
4,840.0	9.08	211.32	4,748.1	-649.7	-395.3	760.5	2.00	-2.00	0.00
4,880.0	8.28	211.32	4,787.7	-654.9	-398.4	766.5	2.00	-2.00	0.00
4,920.0	7.48	211.32	4,827.3	-659.5	-401.2	772.0	2.00	-2.00	0.00
4,960.0	6.68	211.32	4,867.0	-663.7	-403.8	776.9	2.00	-2.00	0.00
5,000.0	5.88	211.32	4,906.7	-667.5	-406.1	781.3	2.00	-2.00	0.00
5,040.0	5.08	211.32	4,946.6	-670.7	-408.1	785.1	2.00	-2.00	0.00
5,080.0	4.28	211.32	4,986.4	-673.5	-409.8	788.4	2.00	-2.00	0.00
5,120.0	3.48	211.32	5,026.3	-675.8	-411.2	791.1	2.00	-2.00	0.00
5,160.0	2.68	211.32	5,066.3	-677.7	-412.3	793.2	2.00	-2.00	0.00
5,200.0	1.88	211.32	5,106.2	-679.0	-413.1	794.8	2.00	-2.00	0.00
5,240.0	1.08	211.32	5,146.2	-679.9	-413.6	795.8	2.00	-2.00	0.00
5,280.0	0.28	211.32	5,186.2	-680.3	-413.9	796.3	2.00	-2.00	0.00
5,293.8	0.00	0.00	5,200.0	-680.3	-413.9	796.3	2.00	-2.00	1,078.97
TARGET BHL 1265'FSL, 2590'FEL									
5,320.0	0.00	0.00	5,226.2	-680.3	-413.9	796.3	0.00	0.00	0.00
5,360.0	0.00	0.00	5,266.2	-680.3	-413.9	796.3	0.00	0.00	0.00
5,400.0	0.00	0.00	5,306.2	-680.3	-413.9	796.3	0.00	0.00	0.00
5,440.0	0.00	0.00	5,346.2	-680.3	-413.9	796.3	0.00	0.00	0.00
5,480.0	0.00	0.00	5,386.2	-680.3	-413.9	796.3	0.00	0.00	0.00
5,520.0	0.00	0.00	5,426.2	-680.3	-413.9	796.3	0.00	0.00	0.00
5,560.0	0.00	0.00	5,466.2	-680.3	-413.9	796.3	0.00	0.00	0.00
5,600.0	0.00	0.00	5,506.2	-680.3	-413.9	796.3	0.00	0.00	0.00
5,640.0	0.00	0.00	5,546.2	-680.3	-413.9	796.3	0.00	0.00	0.00
5,680.0	0.00	0.00	5,586.2	-680.3	-413.9	796.3	0.00	0.00	0.00
5,720.0	0.00	0.00	5,626.2	-680.3	-413.9	796.3	0.00	0.00	0.00
5,760.0	0.00	0.00	5,666.2	-680.3	-413.9	796.3	0.00	0.00	0.00
5,800.0	0.00	0.00	5,706.2	-680.3	-413.9	796.3	0.00	0.00	0.00
5,840.0	0.00	0.00	5,746.2	-680.3	-413.9	796.3	0.00	0.00	0.00
5,880.0	0.00	0.00	5,786.2	-680.3	-413.9	796.3	0.00	0.00	0.00
5,920.0	0.00	0.00	5,826.2	-680.3	-413.9	796.3	0.00	0.00	0.00
5,960.0	0.00	0.00	5,866.2	-680.3	-413.9	796.3	0.00	0.00	0.00
6,000.0	0.00	0.00	5,906.2	-680.3	-413.9	796.3	0.00	0.00	0.00
6,040.0	0.00	0.00	5,946.2	-680.3	-413.9	796.3	0.00	0.00	0.00
6,080.0	0.00	0.00	5,986.2	-680.3	-413.9	796.3	0.00	0.00	0.00
6,120.0	0.00	0.00	6,026.2	-680.3	-413.9	796.3	0.00	0.00	0.00
6,160.0	0.00	0.00	6,066.2	-680.3	-413.9	796.3	0.00	0.00	0.00
6,200.0	0.00	0.00	6,106.2	-680.3	-413.9	796.3	0.00	0.00	0.00
6,240.0	0.00	0.00	6,146.2	-680.3	-413.9	796.3	0.00	0.00	0.00

Database:	EDM den0-adp01 Server Data	Local Co-ordinate Reference:	Well Miller L29-24D
Company:	NOBLE ENERGY INC WELD COUNTY CO	TVD Reference:	WELL @ 4946.0ft (Original Well Elev)
Project:	SEC.29-T3N-R66W	MD Reference:	WELL @ 4946.0ft (Original Well Elev)
Site:	Miller L29-24D Pad Sec.29-T3N-R66W	North Reference:	True
Well:	Miller L29-24D	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1 (7-22-09)		

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)
6,280.0	0.00	0.00	6,186.2	-680.3	-413.9	796.3	0.00	0.00	0.00
6,320.0	0.00	0.00	6,226.2	-680.3	-413.9	796.3	0.00	0.00	0.00
6,360.0	0.00	0.00	6,266.2	-680.3	-413.9	796.3	0.00	0.00	0.00
6,400.0	0.00	0.00	6,306.2	-680.3	-413.9	796.3	0.00	0.00	0.00
6,440.0	0.00	0.00	6,346.2	-680.3	-413.9	796.3	0.00	0.00	0.00
6,480.0	0.00	0.00	6,386.2	-680.3	-413.9	796.3	0.00	0.00	0.00
6,520.0	0.00	0.00	6,426.2	-680.3	-413.9	796.3	0.00	0.00	0.00
6,560.0	0.00	0.00	6,466.2	-680.3	-413.9	796.3	0.00	0.00	0.00
6,600.0	0.00	0.00	6,506.2	-680.3	-413.9	796.3	0.00	0.00	0.00
6,640.0	0.00	0.00	6,546.2	-680.3	-413.9	796.3	0.00	0.00	0.00
6,680.0	0.00	0.00	6,586.2	-680.3	-413.9	796.3	0.00	0.00	0.00
6,720.0	0.00	0.00	6,626.2	-680.3	-413.9	796.3	0.00	0.00	0.00
6,760.0	0.00	0.00	6,666.2	-680.3	-413.9	796.3	0.00	0.00	0.00
6,800.0	0.00	0.00	6,706.2	-680.3	-413.9	796.3	0.00	0.00	0.00
6,840.0	0.00	0.00	6,746.2	-680.3	-413.9	796.3	0.00	0.00	0.00
6,880.0	0.00	0.00	6,786.2	-680.3	-413.9	796.3	0.00	0.00	0.00
6,920.0	0.00	0.00	6,826.2	-680.3	-413.9	796.3	0.00	0.00	0.00
6,960.0	0.00	0.00	6,866.2	-680.3	-413.9	796.3	0.00	0.00	0.00
7,000.0	0.00	0.00	6,906.2	-680.3	-413.9	796.3	0.00	0.00	0.00
7,040.0	0.00	0.00	6,946.2	-680.3	-413.9	796.3	0.00	0.00	0.00
7,080.0	0.00	0.00	6,986.2	-680.3	-413.9	796.3	0.00	0.00	0.00
7,120.0	0.00	0.00	7,026.2	-680.3	-413.9	796.3	0.00	0.00	0.00
7,160.0	0.00	0.00	7,066.2	-680.3	-413.9	796.3	0.00	0.00	0.00
7,200.0	0.00	0.00	7,106.2	-680.3	-413.9	796.3	0.00	0.00	0.00
7,219.8	0.00	0.00	7,126.0	-680.3	-413.9	796.3	0.00	0.00	0.00
NIORARA									
7,240.0	0.00	0.00	7,146.2	-680.3	-413.9	796.3	0.00	0.00	0.00
7,280.0	0.00	0.00	7,186.2	-680.3	-413.9	796.3	0.00	0.00	0.00
7,320.0	0.00	0.00	7,226.2	-680.3	-413.9	796.3	0.00	0.00	0.00
7,360.0	0.00	0.00	7,266.2	-680.3	-413.9	796.3	0.00	0.00	0.00
7,400.0	0.00	0.00	7,306.2	-680.3	-413.9	796.3	0.00	0.00	0.00
7,440.0	0.00	0.00	7,346.2	-680.3	-413.9	796.3	0.00	0.00	0.00
7,480.0	0.00	0.00	7,386.2	-680.3	-413.9	796.3	0.00	0.00	0.00
7,504.8	0.00	0.00	7,411.0	-680.3	-413.9	796.3	0.00	0.00	0.00
CODELL									
7,520.0	0.00	0.00	7,426.2	-680.3	-413.9	796.3	0.00	0.00	0.00
7,560.0	0.00	0.00	7,466.2	-680.3	-413.9	796.3	0.00	0.00	0.00
7,600.0	0.00	0.00	7,506.2	-680.3	-413.9	796.3	0.00	0.00	0.00
7,640.0	0.00	0.00	7,546.2	-680.3	-413.9	796.3	0.00	0.00	0.00
7,680.0	0.00	0.00	7,586.2	-680.3	-413.9	796.3	0.00	0.00	0.00
7,720.0	0.00	0.00	7,626.2	-680.3	-413.9	796.3	0.00	0.00	0.00
7,760.0	0.00	0.00	7,666.2	-680.3	-413.9	796.3	0.00	0.00	0.00
7,800.0	0.00	0.00	7,706.2	-680.3	-413.9	796.3	0.00	0.00	0.00
7,840.0	0.00	0.00	7,746.2	-680.3	-413.9	796.3	0.00	0.00	0.00
7,880.0	0.00	0.00	7,786.2	-680.3	-413.9	796.3	0.00	0.00	0.00
7,920.0	0.00	0.00	7,826.2	-680.3	-413.9	796.3	0.00	0.00	0.00
7,949.8	0.00	0.00	7,856.0	-680.3	-413.9	796.3	0.00	0.00	0.00
J-SAND									
7,960.0	0.00	0.00	7,866.2	-680.3	-413.9	796.3	0.00	0.00	0.00
8,000.0	0.00	0.00	7,906.2	-680.3	-413.9	796.3	0.00	0.00	0.00
8,040.0	0.00	0.00	7,946.2	-680.3	-413.9	796.3	0.00	0.00	0.00
8,080.0	0.00	0.00	7,986.2	-680.3	-413.9	796.3	0.00	0.00	0.00
8,099.8	0.00	0.00	8,006.0	-680.3	-413.9	796.3	0.00	0.00	0.00
HARDLINE 72'W OF BHL									

Database:	EDM den0-adp01 Server Data	Local Co-ordinate Reference:	Well Miller L29-24D
Company:	NOBLE ENERGY INC WELD COUNTY CO	TVD Reference:	WELL @ 4946.0ft (Original Well Elev)
Project:	SEC.29-T3N-R66W	MD Reference:	WELL @ 4946.0ft (Original Well Elev)
Site:	Miller L29-24D Pad Sec.29-T3N-R66W	North Reference:	True
Well:	Miller L29-24D	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1 (7-22-09)		

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)
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Targets

Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
TARGET BHL 1265'F - hit/miss target - Shape - Point	0.00	0.00	5,200.0	-680.3	-413.9	1,313,559.07	3,195,315.48	40° 11' 31.209 N	104° 48' 3.065 W
HARDLINE 72'W OF I - plan misses target center by 123.2ft at 8099.8ft MD (8006.0 TVD, -680.3 N, -413.9 E) - Polygon Point 1 Point 2	0.00	0.00	8,006.0	-780.3	-485.9	1,313,458.54	3,195,244.28	40° 11' 30.221 N	104° 48' 3.993 W
			8,006.0	0.0	0.0	1,313,458.54	3,195,244.28		
			8,006.0	200.0	0.0	1,313,658.53	3,195,242.70		

Formations

Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
7,219.8	7,126.0	NIOBRARA		0.00	
7,504.8	7,411.0	CODELL		0.00	
7,949.8	7,856.0	J-SAND		0.00	