

Well Name: Hippo D27-23D

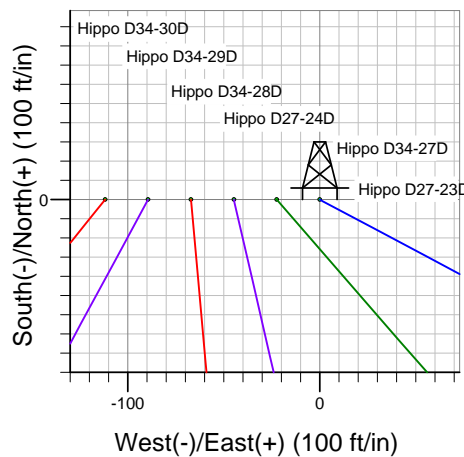
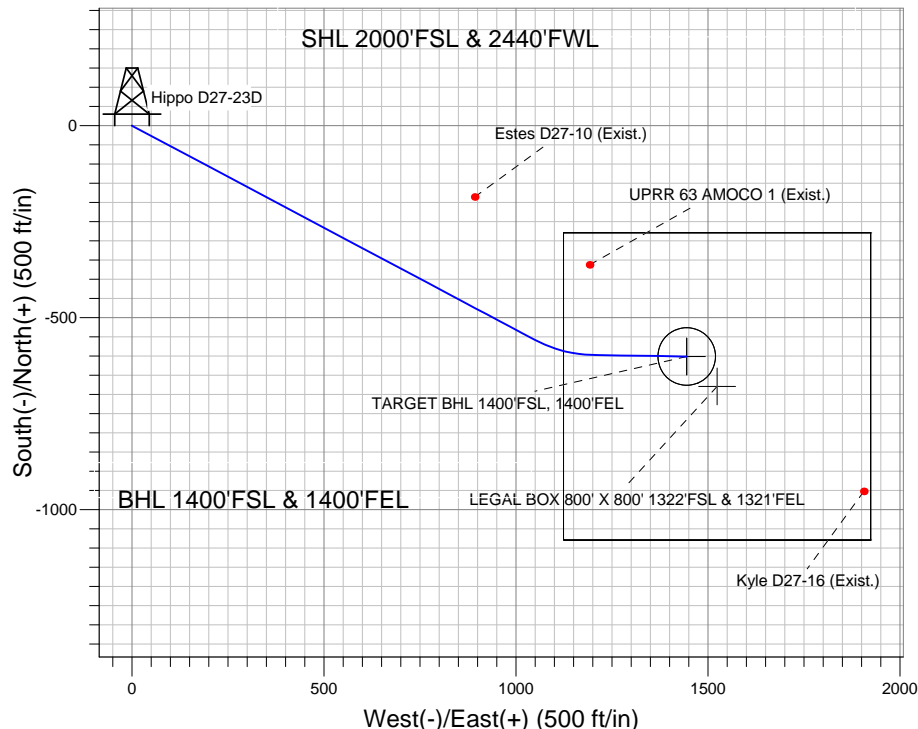
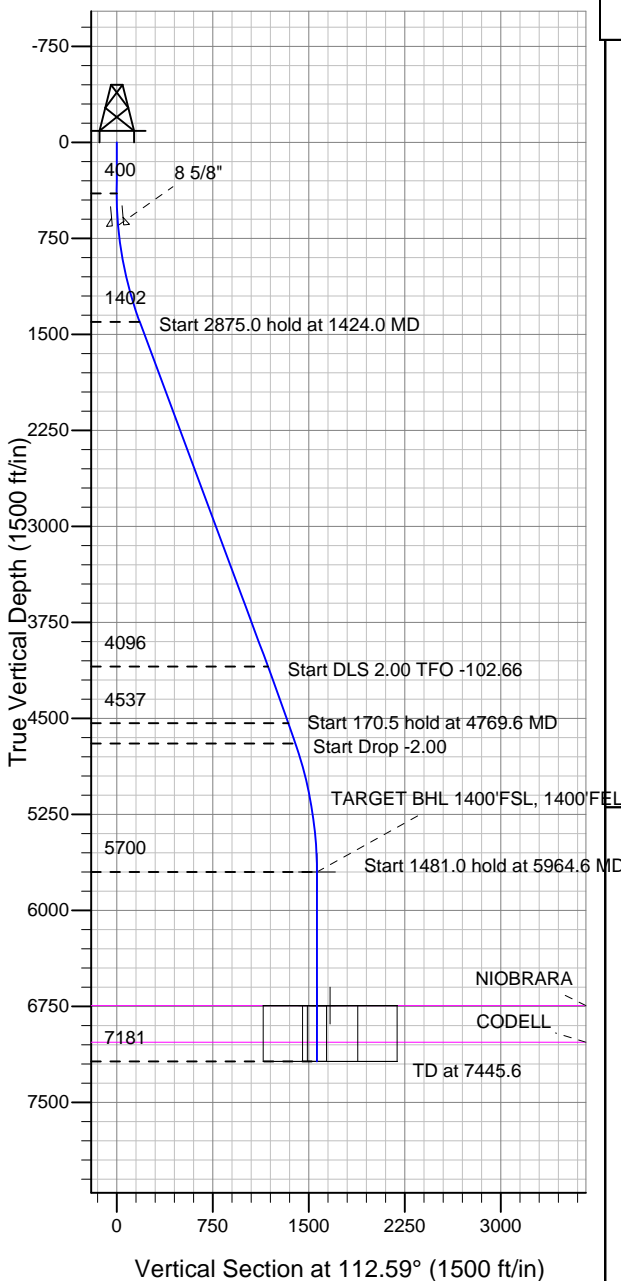
Surface Location: Hippo D27-25D Pad Sec.27-T3N-R64W
North American Datum 1983 US State Plane 1983 Colorado Northern Zone

Ground Elevation: 4874.0

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.0	0.0	1315195.84	3268660.77	40.194610	-104.538260	

Original Well Elev WELL @ 4887.0ft (Original Well Elev)

NOBLE ENERGY INC WELD COUNTY CO



Hippo D27-25D Pad Sec.27-T3N-R64W
Hippo D27-23D
Noble Hippo D27-23D Plan #2 (5-02-11)
14:03, May 02 2011



Azimuths to True North
Magnetic North: 8.74°

Magnetic Field
Strength: 53060.3snT
Dip Angle: 66.93°
Date: 5/2/2011
Model: IGRF2010

WELLBORE TARGET DETAILS (LAT/LONG)

Name	TVD	+N/-S	+E/-W	Latitude	Longitude	Shape
TARGET BHL 1400'FSL, 1400'FEL	5700.0	-601.0	1444.4	40.192960	-104.533090	Point
LEGAL BOX 800' X 800' 1322'FSL & 1321'FEL	6745.0	-679.0	1523.4	40.192746	-104.532807	Rectangle (Sides: L800.0 W800.0)
TARGET CIRCLE 1400'FSL & 1400'FEL	6745.0	-601.0	1444.4	40.192960	-104.533090	Circle (Radius: 75.0)

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	400.0	0.00	0.00	400.0	0.0	0.0	0.00	0.00	0.0	
3	1424.0	20.48	118.00	1402.3	-85.0	159.9	2.00	118.00	180.3	
4	4299.0	20.48	118.00	4095.6	-557.3	1048.0	0.00	0.00	1181.7	
5	4769.6	20.49	90.89	4537.4	-597.3	1203.4	2.00	-102.66	1340.5	
6	4940.0	20.49	90.89	4697.1	-598.2	1263.1	0.00	0.00	1396.0	
7	5964.6	0.00	0.00	5700.0	-601.0	1444.4	2.00	180.00	1564.4	TARGET BHL 1400'FSL, 1400'FEL
8	7445.6	0.00	0.00	7181.0	-601.0	1444.4	0.00	0.00	1564.4	



Directional

NOBLE ENERGY INC WELD COUNTY CO

SEC.27-T3N-R64W

Hippo D27-25D Pad Sec.27-T3N-R64W

Hippo D27-23D

Wellbore #1

Plan: Noble Hippo D27-23D Plan #2 (5-02-11)

Standard Planning Report

02 May, 2011



Database:	Landmark	Local Co-ordinate Reference:	Well Hippo D27-23D
Company:	NOBLE ENERGY INC WELD COUNTY CO	TVD Reference:	WELL @ 4887.0ft (Original Well Elev)
Project:	SEC.27-T3N-R64W	MD Reference:	WELL @ 4887.0ft (Original Well Elev)
Site:	Hippo D27-25D Pad Sec.27-T3N-R64W	North Reference:	True
Well:	Hippo D27-23D	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Noble Hippo D27-23D Plan #2 (5-02-11)		

Project	SEC.27-T3N-R64W, 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						Hippo D27-25D Pad Sec.27-T3N-R64W											
Site Position:						Northing:			1,315,194.44 ft			Latitude:			40.194610		
From:			Lat/Long			Easting:			3,268,526.69 ft			Longitude:			-104.538740		
Position Uncertainty:			0.0 ft			Slot Radius:			"			Grid Convergence:			0.62 °		

Well	Hippo D27-23D					
Well Position	+N-S	-0.1 ft	Northing:	1,315,195.84 ft	Latitude:	40.194610
	+E-W	134.1 ft	Easting:	3,268,660.77 ft	Longitude:	-104.538260
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	4,874.0 ft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	5/2/2011	8.74	66.93	53,060

Design	Noble Hippo D27-23D Plan #2 (5-02-11)			
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	112.59

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	
1,424.0	20.48	118.00	1,402.3	-85.0	159.9	2.00	2.00	0.00	118.00	
4,299.0	20.48	118.00	4,095.6	-557.3	1,048.0	0.00	0.00	0.00	0.00	
4,769.6	20.49	90.89	4,537.4	-597.3	1,203.4	2.00	0.00	-5.76	-102.66	
4,940.0	20.49	90.89	4,697.1	-598.2	1,263.1	0.00	0.00	0.00	0.00	
5,964.6	0.00	0.00	5,700.0	-601.0	1,444.4	2.00	-2.00	0.00	180.00	TARGET BHL 140C
7,445.6	0.00	0.00	7,181.0	-601.0	1,444.4	0.00	0.00	0.00	0.00	

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Project:	SEC.27-T3N-R64W	MD Reference:	WELL @ 4887.0ft (Original Well Elev)
Site:	Hippo D27-25D Pad Sec.27-T3N-R64W	North Reference:	True
Well:	Hippo D27-23D	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Noble Hippo D27-23D Plan #2 (5-02-11)		

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	0.80	118.00	440.0	-0.1	0.2	0.3	2.00	2.00	0.00
480.0	1.60	118.00	480.0	-0.5	1.0	1.1	2.00	2.00	0.00
520.0	2.40	118.00	520.0	-1.2	2.2	2.5	2.00	2.00	0.00
560.0	3.20	118.00	559.9	-2.1	3.9	4.4	2.00	2.00	0.00
600.0	4.00	118.00	599.8	-3.3	6.2	6.9	2.00	2.00	0.00
640.0	4.80	118.00	639.7	-4.7	8.9	10.0	2.00	2.00	0.00
650.3	5.01	118.00	650.0	-5.1	9.6	10.9	2.00	2.00	0.00
8 5/8"									
680.0	5.60	118.00	679.6	-6.4	12.1	13.6	2.00	2.00	0.00
720.0	6.40	118.00	719.3	-8.4	15.8	17.8	2.00	2.00	0.00
760.0	7.20	118.00	759.1	-10.6	19.9	22.5	2.00	2.00	0.00
800.0	8.00	118.00	798.7	-13.1	24.6	27.8	2.00	2.00	0.00
840.0	8.80	118.00	838.3	-15.8	29.8	33.6	2.00	2.00	0.00
880.0	9.60	118.00	877.8	-18.8	35.4	39.9	2.00	2.00	0.00
920.0	10.40	118.00	917.1	-22.1	41.6	46.9	2.00	2.00	0.00
960.0	11.20	118.00	956.4	-25.6	48.2	54.3	2.00	2.00	0.00
1,000.0	12.00	118.00	995.6	-29.4	55.3	62.3	2.00	2.00	0.00
1,040.0	12.80	118.00	1,034.7	-33.4	62.9	70.9	2.00	2.00	0.00
1,080.0	13.60	118.00	1,073.6	-37.7	70.9	80.0	2.00	2.00	0.00
1,120.0	14.40	118.00	1,112.4	-42.3	79.5	89.6	2.00	2.00	0.00
1,160.0	15.20	118.00	1,151.1	-47.1	88.5	99.8	2.00	2.00	0.00
1,200.0	16.00	118.00	1,189.6	-52.1	98.0	110.5	2.00	2.00	0.00
1,240.0	16.80	118.00	1,228.0	-57.4	108.0	121.7	2.00	2.00	0.00
1,280.0	17.60	118.00	1,266.2	-63.0	118.4	133.5	2.00	2.00	0.00
1,320.0	18.40	118.00	1,304.3	-68.8	129.3	145.8	2.00	2.00	0.00
1,360.0	19.20	118.00	1,342.1	-74.8	140.7	158.6	2.00	2.00	0.00
1,400.0	20.00	118.00	1,379.8	-81.1	152.5	172.0	2.00	2.00	0.00
1,424.0	20.48	118.00	1,402.3	-85.0	159.9	180.3	2.00	2.00	0.00
1,440.0	20.48	118.00	1,417.3	-87.6	164.8	185.8	0.00	0.00	0.00
1,480.0	20.48	118.00	1,454.8	-94.2	177.2	199.8	0.00	0.00	0.00
1,520.0	20.48	118.00	1,492.3	-100.8	189.5	213.7	0.00	0.00	0.00
1,560.0	20.48	118.00	1,529.7	-107.3	201.9	227.6	0.00	0.00	0.00
1,600.0	20.48	118.00	1,567.2	-113.9	214.2	241.6	0.00	0.00	0.00
1,640.0	20.48	118.00	1,604.7	-120.5	226.6	255.5	0.00	0.00	0.00
1,680.0	20.48	118.00	1,642.2	-127.1	239.0	269.4	0.00	0.00	0.00
1,720.0	20.48	118.00	1,679.6	-133.6	251.3	283.4	0.00	0.00	0.00
1,760.0	20.48	118.00	1,717.1	-140.2	263.7	297.3	0.00	0.00	0.00
1,800.0	20.48	118.00	1,754.6	-146.8	276.0	311.2	0.00	0.00	0.00
1,840.0	20.48	118.00	1,792.0	-153.3	288.4	325.2	0.00	0.00	0.00
1,880.0	20.48	118.00	1,829.5	-159.9	300.7	339.1	0.00	0.00	0.00
1,920.0	20.48	118.00	1,867.0	-166.5	313.1	353.0	0.00	0.00	0.00
1,960.0	20.48	118.00	1,904.5	-173.1	325.5	367.0	0.00	0.00	0.00
2,000.0	20.48	118.00	1,941.9	-179.6	337.8	380.9	0.00	0.00	0.00

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Project:	SEC.27-T3N-R64W	MD Reference:	WELL @ 4887.0ft (Original Well Elev)
Site:	Hippo D27-25D Pad Sec.27-T3N-R64W	North Reference:	True
Well:	Hippo D27-23D	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Noble Hippo D27-23D Plan #2 (5-02-11)		

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)
2,040.0	20.48	118.00	1,979.4	-186.2	350.2	394.8	0.00	0.00	0.00
2,080.0	20.48	118.00	2,016.9	-192.8	362.5	408.8	0.00	0.00	0.00
2,120.0	20.48	118.00	2,054.3	-199.3	374.9	422.7	0.00	0.00	0.00
2,160.0	20.48	118.00	2,091.8	-205.9	387.2	436.6	0.00	0.00	0.00
2,200.0	20.48	118.00	2,129.3	-212.5	399.6	450.6	0.00	0.00	0.00
2,240.0	20.48	118.00	2,166.8	-219.0	412.0	464.5	0.00	0.00	0.00
2,280.0	20.48	118.00	2,204.2	-225.6	424.3	478.4	0.00	0.00	0.00
2,320.0	20.48	118.00	2,241.7	-232.2	436.7	492.4	0.00	0.00	0.00
2,360.0	20.48	118.00	2,279.2	-238.8	449.0	506.3	0.00	0.00	0.00
2,400.0	20.48	118.00	2,316.6	-245.3	461.4	520.2	0.00	0.00	0.00
2,440.0	20.48	118.00	2,354.1	-251.9	473.7	534.2	0.00	0.00	0.00
2,480.0	20.48	118.00	2,391.6	-258.5	486.1	548.1	0.00	0.00	0.00
2,520.0	20.48	118.00	2,429.1	-265.0	498.5	562.0	0.00	0.00	0.00
2,560.0	20.48	118.00	2,466.5	-271.6	510.8	576.0	0.00	0.00	0.00
2,600.0	20.48	118.00	2,504.0	-278.2	523.2	589.9	0.00	0.00	0.00
2,640.0	20.48	118.00	2,541.5	-284.7	535.5	603.8	0.00	0.00	0.00
2,680.0	20.48	118.00	2,578.9	-291.3	547.9	617.8	0.00	0.00	0.00
2,720.0	20.48	118.00	2,616.4	-297.9	560.2	631.7	0.00	0.00	0.00
2,760.0	20.48	118.00	2,653.9	-304.5	572.6	645.6	0.00	0.00	0.00
2,800.0	20.48	118.00	2,691.4	-311.0	585.0	659.6	0.00	0.00	0.00
2,840.0	20.48	118.00	2,728.8	-317.6	597.3	673.5	0.00	0.00	0.00
2,880.0	20.48	118.00	2,766.3	-324.2	609.7	687.4	0.00	0.00	0.00
2,920.0	20.48	118.00	2,803.8	-330.7	622.0	701.4	0.00	0.00	0.00
2,960.0	20.48	118.00	2,841.2	-337.3	634.4	715.3	0.00	0.00	0.00
3,000.0	20.48	118.00	2,878.7	-343.9	646.7	729.2	0.00	0.00	0.00
3,040.0	20.48	118.00	2,916.2	-350.4	659.1	743.2	0.00	0.00	0.00
3,080.0	20.48	118.00	2,953.7	-357.0	671.5	757.1	0.00	0.00	0.00
3,120.0	20.48	118.00	2,991.1	-363.6	683.8	771.0	0.00	0.00	0.00
3,160.0	20.48	118.00	3,028.6	-370.2	696.2	785.0	0.00	0.00	0.00
3,200.0	20.48	118.00	3,066.1	-376.7	708.5	798.9	0.00	0.00	0.00
3,240.0	20.48	118.00	3,103.6	-383.3	720.9	812.8	0.00	0.00	0.00
3,280.0	20.48	118.00	3,141.0	-389.9	733.2	826.8	0.00	0.00	0.00
3,320.0	20.48	118.00	3,178.5	-396.4	745.6	840.7	0.00	0.00	0.00
3,360.0	20.48	118.00	3,216.0	-403.0	758.0	854.6	0.00	0.00	0.00
3,400.0	20.48	118.00	3,253.4	-409.6	770.3	868.6	0.00	0.00	0.00
3,440.0	20.48	118.00	3,290.9	-416.2	782.7	882.5	0.00	0.00	0.00
3,480.0	20.48	118.00	3,328.4	-422.7	795.0	896.4	0.00	0.00	0.00
3,520.0	20.48	118.00	3,365.9	-429.3	807.4	910.3	0.00	0.00	0.00
3,560.0	20.48	118.00	3,403.3	-435.9	819.7	924.3	0.00	0.00	0.00
3,600.0	20.48	118.00	3,440.8	-442.4	832.1	938.2	0.00	0.00	0.00
3,640.0	20.48	118.00	3,478.3	-449.0	844.5	952.1	0.00	0.00	0.00
3,680.0	20.48	118.00	3,515.7	-455.6	856.8	966.1	0.00	0.00	0.00
3,720.0	20.48	118.00	3,553.2	-462.1	869.2	980.0	0.00	0.00	0.00
3,760.0	20.48	118.00	3,590.7	-468.7	881.5	993.9	0.00	0.00	0.00
3,800.0	20.48	118.00	3,628.2	-475.3	893.9	1,007.9	0.00	0.00	0.00
3,840.0	20.48	118.00	3,665.6	-481.9	906.2	1,021.8	0.00	0.00	0.00
3,880.0	20.48	118.00	3,703.1	-488.4	918.6	1,035.7	0.00	0.00	0.00
3,920.0	20.48	118.00	3,740.6	-495.0	931.0	1,049.7	0.00	0.00	0.00
3,960.0	20.48	118.00	3,778.0	-501.6	943.3	1,063.6	0.00	0.00	0.00
4,000.0	20.48	118.00	3,815.5	-508.1	955.7	1,077.5	0.00	0.00	0.00
4,040.0	20.48	118.00	3,853.0	-514.7	968.0	1,091.5	0.00	0.00	0.00
4,080.0	20.48	118.00	3,890.5	-521.3	980.4	1,105.4	0.00	0.00	0.00
4,120.0	20.48	118.00	3,927.9	-527.8	992.7	1,119.3	0.00	0.00	0.00
4,160.0	20.48	118.00	3,965.4	-534.4	1,005.1	1,133.3	0.00	0.00	0.00

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Well:	Hippo D27-23D	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Noble Hippo D27-23D Plan #2 (5-02-11)		

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)
4,200.0	20.48	118.00	4,002.9	-541.0	1,017.5	1,147.2	0.00	0.00	0.00
4,240.0	20.48	118.00	4,040.3	-547.6	1,029.8	1,161.1	0.00	0.00	0.00
4,280.0	20.48	118.00	4,077.8	-554.1	1,042.2	1,175.1	0.00	0.00	0.00
4,299.0	20.48	118.00	4,095.6	-557.3	1,048.0	1,181.7	0.00	0.00	0.00
4,320.0	20.39	116.82	4,115.3	-560.6	1,054.5	1,189.0	2.00	-0.42	-5.60
4,360.0	20.25	114.56	4,152.8	-566.6	1,067.1	1,202.9	2.00	-0.36	-5.66
4,400.0	20.13	112.26	4,190.4	-572.1	1,079.7	1,216.7	2.00	-0.29	-5.73
4,440.0	20.04	109.95	4,227.9	-577.1	1,092.5	1,230.4	2.00	-0.22	-5.79
4,480.0	19.99	107.62	4,265.5	-581.5	1,105.5	1,244.1	2.00	-0.14	-5.83
4,520.0	19.96	105.28	4,303.1	-585.4	1,118.6	1,257.6	2.00	-0.06	-5.85
4,560.0	19.97	102.93	4,340.7	-588.7	1,131.8	1,271.1	2.00	0.01	-5.86
4,600.0	20.00	100.60	4,378.3	-591.5	1,145.2	1,284.6	2.00	0.09	-5.85
4,640.0	20.07	98.27	4,415.9	-593.7	1,158.7	1,297.9	2.00	0.17	-5.82
4,680.0	20.17	95.96	4,453.4	-595.4	1,172.4	1,311.2	2.00	0.24	-5.77
4,720.0	20.29	93.68	4,491.0	-596.6	1,186.2	1,324.3	2.00	0.32	-5.71
4,760.0	20.45	91.42	4,528.5	-597.2	1,200.1	1,337.4	2.00	0.39	-5.64
4,769.6	20.49	90.89	4,537.4	-597.3	1,203.4	1,340.5	2.00	0.43	-5.58
4,800.0	20.49	90.89	4,565.9	-597.4	1,214.1	1,350.4	0.00	0.00	0.00
4,840.0	20.49	90.89	4,603.4	-597.6	1,228.1	1,363.4	0.00	0.00	0.00
4,880.0	20.49	90.89	4,640.9	-597.9	1,242.1	1,376.5	0.00	0.00	0.00
4,920.0	20.49	90.89	4,678.3	-598.1	1,256.1	1,389.5	0.00	0.00	0.00
4,940.0	20.49	90.89	4,697.1	-598.2	1,263.1	1,396.0	0.00	0.00	0.00
4,960.0	20.09	90.89	4,715.8	-598.3	1,270.0	1,402.4	2.00	-2.00	0.00
5,000.0	19.29	90.89	4,753.5	-598.5	1,283.5	1,414.9	2.00	-2.00	0.00
5,040.0	18.49	90.89	4,791.3	-598.7	1,296.5	1,427.0	2.00	-2.00	0.00
5,080.0	17.69	90.89	4,829.4	-598.9	1,308.9	1,438.5	2.00	-2.00	0.00
5,120.0	16.89	90.89	4,867.5	-599.1	1,320.8	1,449.6	2.00	-2.00	0.00
5,160.0	16.09	90.89	4,905.9	-599.3	1,332.1	1,460.1	2.00	-2.00	0.00
5,200.0	15.29	90.89	4,944.4	-599.4	1,342.9	1,470.2	2.00	-2.00	0.00
5,240.0	14.49	90.89	4,983.1	-599.6	1,353.2	1,479.7	2.00	-2.00	0.00
5,280.0	13.69	90.89	5,021.9	-599.7	1,362.9	1,488.8	2.00	-2.00	0.00
5,320.0	12.89	90.89	5,060.8	-599.9	1,372.1	1,497.3	2.00	-2.00	0.00
5,360.0	12.09	90.89	5,099.8	-600.0	1,380.8	1,505.3	2.00	-2.00	0.00
5,400.0	11.29	90.89	5,139.0	-600.1	1,388.9	1,512.9	2.00	-2.00	0.00
5,440.0	10.49	90.89	5,178.3	-600.3	1,396.5	1,519.9	2.00	-2.00	0.00
5,480.0	9.69	90.89	5,217.7	-600.4	1,403.5	1,526.4	2.00	-2.00	0.00
5,520.0	8.89	90.89	5,257.1	-600.5	1,409.9	1,532.4	2.00	-2.00	0.00
5,560.0	8.09	90.89	5,296.7	-600.6	1,415.8	1,537.9	2.00	-2.00	0.00
5,600.0	7.29	90.89	5,336.3	-600.6	1,421.2	1,542.9	2.00	-2.00	0.00
5,640.0	6.49	90.89	5,376.1	-600.7	1,426.0	1,547.3	2.00	-2.00	0.00
5,680.0	5.69	90.89	5,415.8	-600.8	1,430.2	1,551.3	2.00	-2.00	0.00
5,720.0	4.89	90.89	5,455.7	-600.8	1,433.9	1,554.7	2.00	-2.00	0.00
5,760.0	4.09	90.89	5,495.5	-600.9	1,437.1	1,557.6	2.00	-2.00	0.00
5,800.0	3.29	90.89	5,535.5	-600.9	1,439.6	1,560.0	2.00	-2.00	0.00
5,840.0	2.49	90.89	5,575.4	-601.0	1,441.6	1,561.9	2.00	-2.00	0.00
5,880.0	1.69	90.89	5,615.4	-601.0	1,443.1	1,563.2	2.00	-2.00	0.00
5,920.0	0.89	90.89	5,655.4	-601.0	1,444.0	1,564.1	2.00	-2.00	0.00
5,960.0	0.09	90.89	5,695.4	-601.0	1,444.4	1,564.4	2.00	-2.00	0.00
5,964.6	0.00	0.00	5,700.0	-601.0	1,444.4	1,564.4	2.00	-2.00	0.00
TARGET BHL 1400'FSL, 1400'FEL									
6,000.0	0.00	0.00	5,735.4	-601.0	1,444.4	1,564.4	0.00	0.00	0.00
6,040.0	0.00	0.00	5,775.4	-601.0	1,444.4	1,564.4	0.00	0.00	0.00
6,080.0	0.00	0.00	5,815.4	-601.0	1,444.4	1,564.4	0.00	0.00	0.00
6,120.0	0.00	0.00	5,855.4	-601.0	1,444.4	1,564.4	0.00	0.00	0.00

Database:	Landmark	Local Co-ordinate Reference:	Well Hippo D27-23D
Company:	NOBLE ENERGY INC WELD COUNTY CO	TVD Reference:	WELL @ 4887.0ft (Original Well Elev)
Project:	SEC.27-T3N-R64W	MD Reference:	WELL @ 4887.0ft (Original Well Elev)
Site:	Hippo D27-25D Pad Sec.27-T3N-R64W	North Reference:	True
Well:	Hippo D27-23D	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Noble Hippo D27-23D Plan #2 (5-02-11)		

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)
6,160.0	0.00	0.00	5,895.4	-601.0	1,444.4	1,564.4	0.00	0.00	0.00
6,200.0	0.00	0.00	5,935.4	-601.0	1,444.4	1,564.4	0.00	0.00	0.00
6,240.0	0.00	0.00	5,975.4	-601.0	1,444.4	1,564.4	0.00	0.00	0.00
6,280.0	0.00	0.00	6,015.4	-601.0	1,444.4	1,564.4	0.00	0.00	0.00
6,320.0	0.00	0.00	6,055.4	-601.0	1,444.4	1,564.4	0.00	0.00	0.00
6,360.0	0.00	0.00	6,095.4	-601.0	1,444.4	1,564.4	0.00	0.00	0.00
6,400.0	0.00	0.00	6,135.4	-601.0	1,444.4	1,564.4	0.00	0.00	0.00
6,440.0	0.00	0.00	6,175.4	-601.0	1,444.4	1,564.4	0.00	0.00	0.00
6,480.0	0.00	0.00	6,215.4	-601.0	1,444.4	1,564.4	0.00	0.00	0.00
6,520.0	0.00	0.00	6,255.4	-601.0	1,444.4	1,564.4	0.00	0.00	0.00
6,560.0	0.00	0.00	6,295.4	-601.0	1,444.4	1,564.4	0.00	0.00	0.00
6,600.0	0.00	0.00	6,335.4	-601.0	1,444.4	1,564.4	0.00	0.00	0.00
6,640.0	0.00	0.00	6,375.4	-601.0	1,444.4	1,564.4	0.00	0.00	0.00
6,680.0	0.00	0.00	6,415.4	-601.0	1,444.4	1,564.4	0.00	0.00	0.00
6,720.0	0.00	0.00	6,455.4	-601.0	1,444.4	1,564.4	0.00	0.00	0.00
6,760.0	0.00	0.00	6,495.4	-601.0	1,444.4	1,564.4	0.00	0.00	0.00
6,800.0	0.00	0.00	6,535.4	-601.0	1,444.4	1,564.4	0.00	0.00	0.00
6,840.0	0.00	0.00	6,575.4	-601.0	1,444.4	1,564.4	0.00	0.00	0.00
6,880.0	0.00	0.00	6,615.4	-601.0	1,444.4	1,564.4	0.00	0.00	0.00
6,920.0	0.00	0.00	6,655.4	-601.0	1,444.4	1,564.4	0.00	0.00	0.00
6,960.0	0.00	0.00	6,695.4	-601.0	1,444.4	1,564.4	0.00	0.00	0.00
7,000.0	0.00	0.00	6,735.4	-601.0	1,444.4	1,564.4	0.00	0.00	0.00
7,009.6	0.00	0.00	6,745.0	-601.0	1,444.4	1,564.4	0.00	0.00	0.00
NIOBRARA - TARGET CIRCLE 1400'FSL & 1400'FEL - LEGAL BOX 800' X 800' 1322'FSL & 1321'FEL									
7,040.0	0.00	0.00	6,775.4	-601.0	1,444.4	1,564.4	0.00	0.00	0.00
7,080.0	0.00	0.00	6,815.4	-601.0	1,444.4	1,564.4	0.00	0.00	0.00
7,120.0	0.00	0.00	6,855.4	-601.0	1,444.4	1,564.4	0.00	0.00	0.00
7,160.0	0.00	0.00	6,895.4	-601.0	1,444.4	1,564.4	0.00	0.00	0.00
7,200.0	0.00	0.00	6,935.4	-601.0	1,444.4	1,564.4	0.00	0.00	0.00
7,240.0	0.00	0.00	6,975.4	-601.0	1,444.4	1,564.4	0.00	0.00	0.00
7,280.0	0.00	0.00	7,015.4	-601.0	1,444.4	1,564.4	0.00	0.00	0.00
7,295.6	0.00	0.00	7,031.0	-601.0	1,444.4	1,564.4	0.00	0.00	0.00
CODELL									
7,320.0	0.00	0.00	7,055.4	-601.0	1,444.4	1,564.4	0.00	0.00	0.00
7,360.0	0.00	0.00	7,095.4	-601.0	1,444.4	1,564.4	0.00	0.00	0.00
7,400.0	0.00	0.00	7,135.4	-601.0	1,444.4	1,564.4	0.00	0.00	0.00
7,440.0	0.00	0.00	7,175.4	-601.0	1,444.4	1,564.4	0.00	0.00	0.00
7,445.6	0.00	0.00	7,181.0	-601.0	1,444.4	1,564.4	0.00	0.00	0.00

Database:	Landmark	Local Co-ordinate Reference:	Well Hippo D27-23D
Company:	NOBLE ENERGY INC WELD COUNTY CO	TVD Reference:	WELL @ 4887.0ft (Original Well Elev)
Project:	SEC.27-T3N-R64W	MD Reference:	WELL @ 4887.0ft (Original Well Elev)
Site:	Hippo D27-25D Pad Sec.27-T3N-R64W	North Reference:	True
Well:	Hippo D27-23D	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Noble Hippo D27-23D Plan #2 (5-02-11)		

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 BHL 1400'F:	0.00	0.00	5,700.0	-601.0	1,444.4	1,314,610.57	3,270,111.50	40.192960	-104.533090
- plan hits target center									
- Point									
TARGET CIRCLE 140	0.00	0.00	6,745.0	-601.0	1,444.4	1,314,610.57	3,270,111.50	40.192960	-104.533090
- plan hits target center									
- Circle (radius 75.0)									
LEGAL BOX 800' X 80	0.00	0.00	6,745.0	-679.0	1,523.4	1,314,533.43	3,270,191.38	40.192746	-104.532807
- plan misses target center by 111.0ft at 7009.6ft MD (6745.0 TVD, -601.0 N, 1444.4 E)									
- Rectangle (sides W800.0 H800.0 D436.0)									

Casing Points					
Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (")	Hole Diameter (")	
650.3	650.0	8 5/8"	8-5/8	12-1/4	

Formations					
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
7,009.6	6,745.0	NIOBRARA		0.00	
7,295.6	7,031.0	CODELL		0.00	