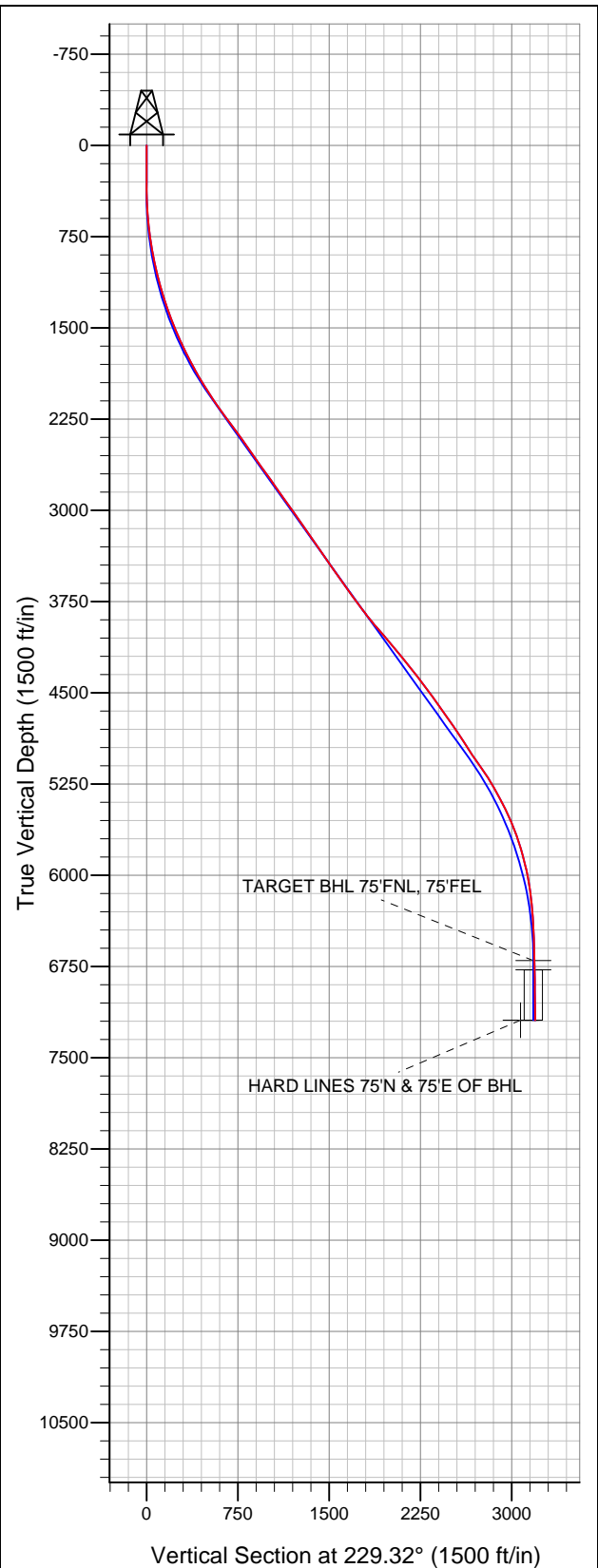
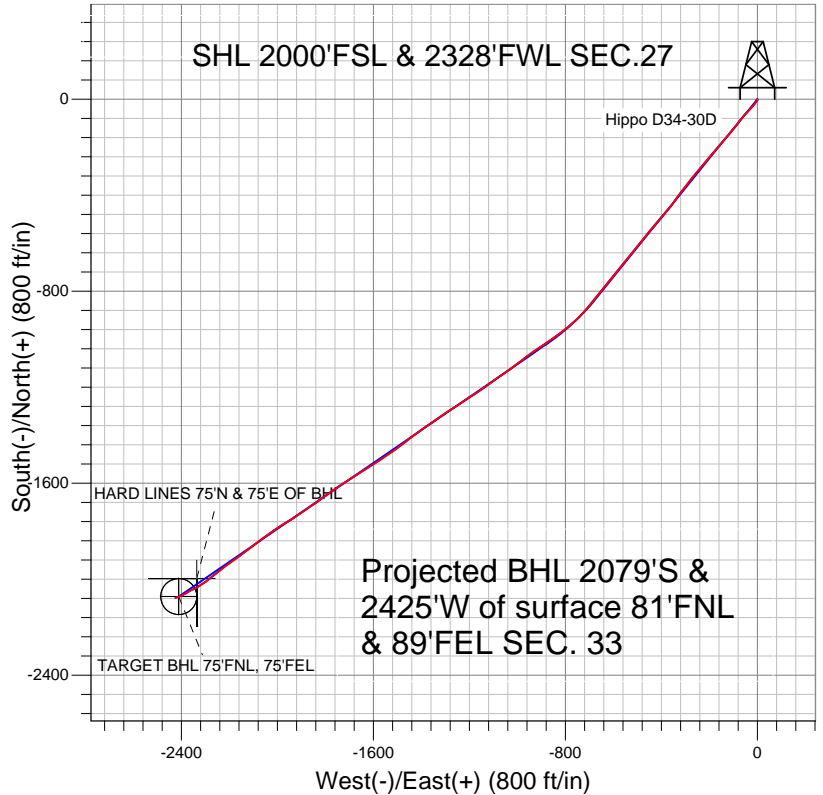


Well Name: **Hippo D34-30D**
 Surface Location: Hippo D27-25D Pad Sec.27-T3N-R64W
 North American Datum 1983 US State Plane 1983Colorado Northern Zone
 Ground Elevation: 4874.0
 +N/-S +E/-W Northing Easting Latitude Longitude Slot
 0.0 0.0 1315194.67 3268549.04 40.194610 -104.538660
 Original Well EleWELL @ 4887.0ft (Original Well Elev)



NOBLE ENERGY INC WELD COUNTY CO



LEGEND

- Hippo D34-30D, Wellbore #1, Noble Hippo D34-30D Plan #2 (5-02-11) V0
- Wellbore #1
- Survey #1

Final Survey Plot

Projected Final Survey -
 8125'MD & 7192'TVD @ 3194' VS
 0.5 deg Inc 233.2 deg AZ

Project: SEC.27-T3N-R64W
 Site: Hippo D27-25D Pad Sec.27-T3N-R64W
 Well: Hippo D34-30D
 Plan: Wellbore #1



NOBLE ENERGY INC WELD COUNTY CO

SEC.27-T3N-R64W

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

Hippo D34-30D

Wellbore #1

Survey: Survey #1

Standard Survey Report

06 October, 2011



Company:	NOBLE ENERGY INC WELD COUNTY CO	Local Co-ordinate Reference:	Well Hippo D34-30D
Project:	SEC.27-T3N-R64W	TVD Reference:	WELL @ 4887.0ft (Original Well Elev)
Site:	Hippo D27-25D Pad Sec.27-T3N-R64W	MD Reference:	WELL @ 4887.0ft (Original Well Elev)
Well:	Hippo D34-30D	North Reference:	True
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	Landmark

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
From:	Lat/Long	Easting:	3,268,526.69 ft
Position Uncertainty:	0.0 ft	Slot Radius:	"
		Latitude:	40.194610
		Longitude:	-104.538740
		Grid Convergence:	0.62 °

Well	Hippo D34-30D		
Well Position	+N/-S	0.0 ft	Northing: 1,315,194.67 ft
	+E/-W	0.0 ft	Easting: 3,268,549.04 ft
Position Uncertainty	0.0 ft	Wellhead Elevation:	ft
		Latitude:	40.194610
		Longitude:	-104.538660
		Ground Level:	4,874.0 ft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	8/2/2011	8.71	66.92	53,034

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 (°)	
	6,700.0	0.0	0.0	229.32	

Survey Program	Date	10/6/2011			
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
129.0	8,125.0	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	
129.0	0.60	172.50	129.0	-0.7	0.1	0.4	0.47	0.47	0.00	
220.0	0.40	144.20	220.0	-1.4	0.3	0.7	0.34	-0.22	-31.10	
312.0	0.50	189.90	312.0	-2.1	0.5	1.0	0.39	0.11	49.67	
403.0	1.30	201.00	403.0	-3.4	0.0	2.2	0.90	0.88	12.20	
494.0	3.20	211.60	493.9	-6.5	-1.7	5.5	2.13	2.09	11.65	
585.0	4.70	216.50	584.7	-11.7	-5.2	11.6	1.69	1.65	5.38	
679.0	6.50	219.80	678.2	-18.9	-10.9	20.6	1.94	1.91	3.51	
768.0	8.30	216.50	766.5	-27.9	-18.0	31.8	2.08	2.02	-3.71	
867.0	9.40	225.10	864.3	-39.4	-28.0	46.9	1.74	1.11	8.69	
962.0	11.90	225.30	957.7	-51.7	-40.4	64.4	2.63	2.63	0.21	
1,057.0	14.50	220.00	1,050.2	-67.7	-55.0	85.9	3.02	2.74	-5.58	
1,150.0	14.90	216.70	1,140.1	-86.2	-69.7	109.0	1.00	0.43	-3.55	

Company:	NOBLE ENERGY INC WELD COUNTY CO	Local Co-ordinate Reference:	Well Hippo D34-30D
Project:	SEC.27-T3N-R64W	TVD Reference:	WELL @ 4887.0ft (Original Well Elev)
Site:	Hippo D27-25D Pad Sec.27-T3N-R64W	MD Reference:	WELL @ 4887.0ft (Original Well Elev)
Well:	Hippo D34-30D	North Reference:	True
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	Landmark

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)	
1,243.0	17.00	219.30	1,229.5	-106.4	-85.4	134.1	2.38	2.26	2.80	
1,337.0	19.50	219.50	1,318.8	-129.1	-104.1	163.1	2.66	2.66	0.21	
1,430.0	22.10	219.80	1,405.7	-154.5	-125.2	195.7	2.80	2.80	0.32	
1,525.0	22.60	219.50	1,493.6	-182.3	-148.2	231.3	0.54	0.53	-0.32	
1,619.0	24.10	221.90	1,579.9	-210.6	-172.5	268.1	1.89	1.60	2.55	
1,712.0	25.50	220.40	1,664.3	-239.9	-198.2	306.7	1.65	1.51	-1.61	
1,805.0	26.80	220.50	1,747.8	-271.1	-224.8	347.2	1.40	1.40	0.11	
1,899.0	28.60	219.30	1,831.0	-304.7	-252.8	390.3	2.00	1.91	-1.28	
1,992.0	31.50	216.80	1,911.5	-341.3	-281.5	435.9	3.40	3.12	-2.69	
2,087.0	32.60	217.50	1,992.0	-381.5	-311.9	485.2	1.22	1.16	0.74	
2,182.0	34.60	217.20	2,071.2	-423.3	-343.8	536.7	2.11	2.11	-0.32	
2,275.0	35.60	220.50	2,147.2	-464.9	-377.3	589.2	2.31	1.08	3.55	
2,368.0	36.30	219.50	2,222.5	-506.8	-412.4	643.1	0.98	0.75	-1.08	
2,461.0	36.70	219.60	2,297.3	-549.4	-447.7	697.6	0.43	0.43	0.11	
2,555.0	36.80	219.10	2,372.6	-592.9	-483.3	753.0	0.34	0.11	-0.53	
2,648.0	35.90	218.80	2,447.5	-635.8	-518.0	807.2	0.99	-0.97	-0.32	
2,741.0	35.20	219.80	2,523.2	-677.6	-552.2	860.5	0.98	-0.75	1.08	
2,834.0	35.30	218.40	2,599.1	-719.3	-586.1	913.3	0.88	0.11	-1.51	
2,927.0	36.10	219.30	2,674.7	-761.5	-620.1	966.7	1.03	0.86	0.97	
3,022.0	36.20	219.10	2,751.4	-805.0	-655.5	1,021.8	0.16	0.11	-0.21	
3,115.0	35.20	218.90	2,826.9	-847.1	-689.7	1,075.2	1.08	-1.08	-0.22	
3,208.0	34.90	221.20	2,903.0	-888.0	-724.0	1,127.9	1.46	-0.32	2.47	
3,301.0	35.70	227.80	2,978.9	-926.3	-761.7	1,181.4	4.19	0.86	7.10	
3,394.0	35.70	232.00	3,054.5	-961.2	-803.2	1,235.7	2.63	0.00	4.52	
3,487.0	35.30	234.60	3,130.2	-993.5	-846.5	1,289.5	1.68	-0.43	2.80	
3,581.0	34.50	236.50	3,207.3	-1,023.9	-890.8	1,343.0	1.44	-0.85	2.02	
3,674.0	35.60	234.40	3,283.4	-1,054.2	-934.8	1,396.1	1.76	1.18	-2.26	
3,769.0	35.30	233.50	3,360.8	-1,086.6	-979.3	1,451.0	0.63	-0.32	-0.95	
3,863.0	34.70	233.40	3,437.8	-1,118.7	-1,022.6	1,504.8	0.64	-0.64	-0.11	
3,957.0	33.90	234.60	3,515.5	-1,149.9	-1,065.5	1,557.6	1.11	-0.85	1.28	
4,051.0	34.90	234.40	3,593.0	-1,180.7	-1,108.7	1,610.4	1.07	1.06	-0.21	
4,144.0	36.30	235.50	3,668.7	-1,211.8	-1,153.0	1,664.3	1.66	1.51	1.18	
4,237.0	38.00	236.70	3,742.8	-1,243.1	-1,199.7	1,720.1	1.99	1.83	1.29	
4,332.0	36.50	236.70	3,818.4	-1,274.7	-1,247.7	1,777.1	1.58	-1.58	0.00	
4,425.0	39.00	236.20	3,891.9	-1,306.1	-1,295.2	1,833.6	2.71	2.69	-0.54	
4,518.0	41.00	235.80	3,963.2	-1,339.6	-1,344.7	1,893.0	2.17	2.15	-0.43	
4,611.0	40.30	234.40	4,033.7	-1,374.2	-1,394.4	1,953.2	1.24	-0.75	-1.51	
4,705.0	39.40	233.00	4,105.9	-1,409.9	-1,442.9	2,013.3	1.35	-0.96	-1.49	
4,798.0	40.20	233.70	4,177.3	-1,445.4	-1,490.7	2,072.7	0.99	0.86	0.75	
4,891.0	40.40	234.60	4,248.3	-1,480.6	-1,539.5	2,132.6	0.66	0.22	0.97	
4,985.0	38.00	236.50	4,321.1	-1,514.3	-1,588.4	2,191.7	2.85	-2.55	2.02	
5,079.0	36.40	238.60	4,396.0	-1,544.8	-1,636.4	2,247.9	2.17	-1.70	2.23	
5,172.0	37.40	237.20	4,470.4	-1,574.5	-1,683.7	2,303.1	1.40	1.08	-1.51	
5,265.0	36.80	237.80	4,544.5	-1,604.6	-1,731.0	2,358.6	0.75	-0.65	0.65	
5,358.0	34.90	234.60	4,619.9	-1,634.9	-1,776.2	2,412.7	2.87	-2.04	-3.44	
5,451.0	35.20	232.80	4,696.1	-1,666.5	-1,819.3	2,465.9	1.16	0.32	-1.94	
5,545.0	35.40	235.80	4,772.8	-1,698.2	-1,863.4	2,520.0	1.86	0.21	3.19	
5,639.0	33.80	235.30	4,850.1	-1,728.3	-1,907.4	2,573.1	1.73	-1.70	-0.53	
5,733.0	32.10	239.00	4,929.0	-1,756.1	-1,950.3	2,623.7	2.80	-1.81	3.94	
5,827.0	34.60	237.00	5,007.6	-1,783.5	-1,994.1	2,674.8	2.91	2.66	-2.13	
5,920.0	35.40	233.70	5,083.7	-1,813.8	-2,038.0	2,727.8	2.21	0.86	-3.55	
6,013.0	34.10	233.00	5,160.2	-1,845.5	-2,080.5	2,780.7	1.46	-1.40	-0.75	
6,107.0	30.80	233.50	5,239.5	-1,875.7	-2,120.9	2,831.0	3.52	-3.51	0.53	
6,201.0	29.20	233.20	5,320.9	-1,903.7	-2,158.6	2,877.9	1.71	-1.70	-0.32	

Company:	NOBLE ENERGY INC WELD COUNTY CO	Local Co-ordinate Reference:	Well Hippo D34-30D
Project:	SEC.27-T3N-R64W	TVD Reference:	WELL @ 4887.0ft (Original Well Elev)
Site:	Hippo D27-25D Pad Sec.27-T3N-R64W	MD Reference:	WELL @ 4887.0ft (Original Well Elev)
Well:	Hippo D34-30D	North Reference:	True
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	Landmark

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)
6,295.0	27.20	234.40	5,403.7	-1,930.0	-2,194.4	2,922.2	2.21	-2.13	1.28
6,388.0	25.00	232.00	5,487.2	-1,954.4	-2,227.2	2,963.0	2.62	-2.37	-2.58
6,481.0	23.60	231.20	5,572.0	-1,978.2	-2,257.2	3,001.2	1.55	-1.51	-0.86
6,576.0	20.20	232.30	5,660.1	-2,000.1	-2,285.0	3,036.6	3.60	-3.58	1.16
6,669.0	17.00	234.90	5,748.2	-2,017.8	-2,308.8	3,066.2	3.55	-3.44	2.80
6,763.0	15.10	239.90	5,838.6	-2,031.8	-2,330.7	3,091.9	2.50	-2.02	5.32
6,856.0	14.10	246.70	5,928.6	-2,042.4	-2,351.6	3,114.6	2.13	-1.08	7.31
6,951.0	11.10	237.20	6,021.3	-2,051.9	-2,369.9	3,134.7	3.83	-3.16	-10.00
7,045.0	8.40	240.60	6,113.9	-2,060.2	-2,383.5	3,150.4	2.94	-2.87	3.62
7,138.0	6.60	242.10	6,206.1	-2,066.0	-2,394.1	3,162.3	1.95	-1.94	1.61
7,232.0	4.70	243.20	6,299.7	-2,070.3	-2,402.3	3,171.3	2.02	-2.02	1.17
7,325.0	3.20	250.60	6,392.4	-2,072.9	-2,408.2	3,177.4	1.70	-1.61	7.96
7,418.0	2.40	258.30	6,485.3	-2,074.1	-2,412.5	3,181.6	0.95	-0.86	8.28
7,512.0	1.80	254.30	6,579.3	-2,074.9	-2,415.9	3,184.6	0.66	-0.64	-4.26
7,606.0	1.70	250.90	6,673.2	-2,075.8	-2,418.6	3,187.3	0.15	-0.11	-3.62
7,632.6	1.56	249.45	6,699.8	-2,076.0	-2,419.3	3,188.0	0.57	-0.54	-5.46
TARGET BHL 75'FNL, 75'FEL									
7,699.0	1.20	244.30	6,766.2	-2,076.7	-2,420.8	3,189.5	0.57	-0.53	-7.75
7,708.6	1.15	245.88	6,775.8	-2,076.7	-2,421.0	3,189.7	0.59	-0.49	16.37
TARGET CIRCLE 75'FNL & 75'FEL									
7,792.0	0.80	266.80	6,859.2	-2,077.1	-2,422.3	3,190.9	0.59	-0.42	25.10
7,885.0	0.40	234.60	6,952.2	-2,077.3	-2,423.2	3,191.8	0.55	-0.43	-34.62
7,979.0	0.60	234.60	7,046.2	-2,077.8	-2,423.9	3,192.6	0.21	0.21	0.00
8,073.0	0.50	233.20	7,140.2	-2,078.3	-2,424.6	3,193.5	0.11	-0.11	-1.49
8,122.8	0.50	233.20	7,190.0	-2,078.6	-2,425.0	3,193.9	0.00	0.00	0.00
HARD LINES 75'N & 75'E OF BHL									
8,125.0	0.50	233.20	7,192.2	-2,078.6	-2,425.0	3,193.9	0.00	0.00	0.00

Checked By: _____	Approved By: _____	Date: _____
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