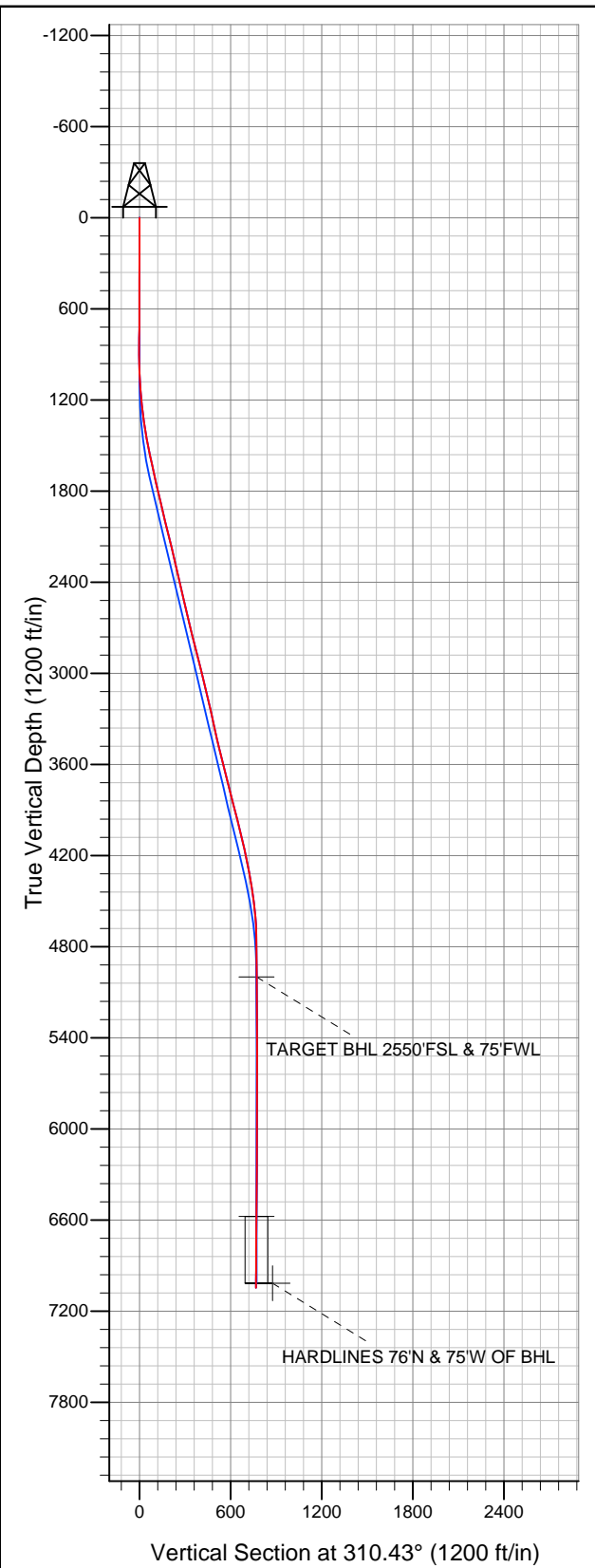
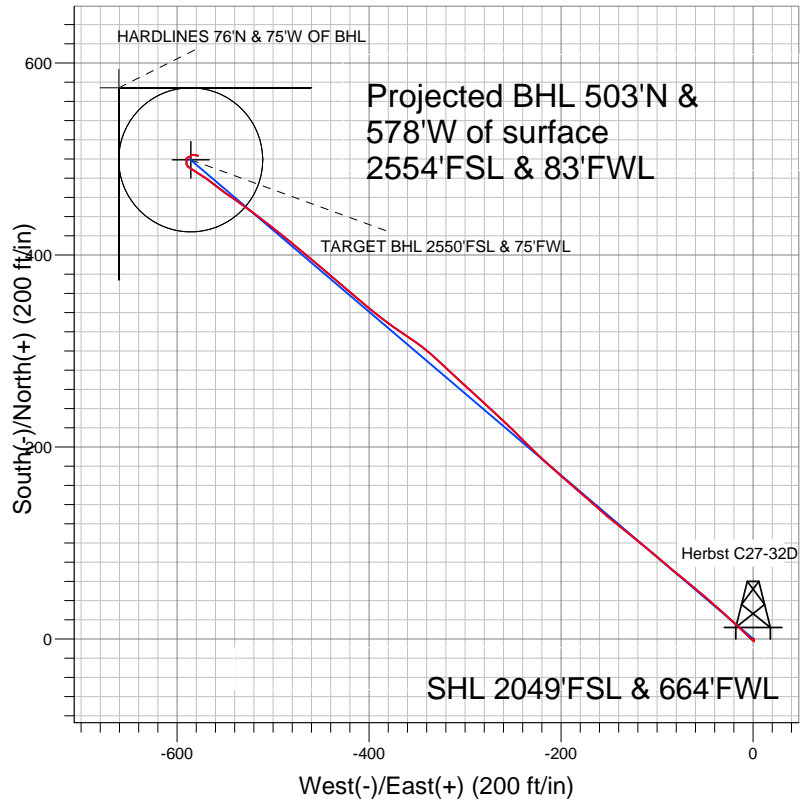


Well Name: Herbst C27-32D

Surface Location: Herbst C27-33D Pad Sec.27-T4N-R64W
 North American Datum 1983 US State Plane 1983 Colorado Northern Zone
 Ground Elevation: 4704.0
 +N/-S +E/-W Northing Easting Latitude Longitude Slot
 0.0 0.0 1346953.02 3266686.90 40.281840 -104.544100
 Original Well Elev WELL @ 4717.0ft (Original Well Elev)



NOBLE ENERGY INC WELD COUNTY CO



LEGEND

- Herbst C27-32D, Wellbore #1, Noble Herbst C27-32D Plan #3 (4-23-12) R V0
- Wellbore #1
- Survey #1

Final Survey Plot

Projected Final Survey -
 7133'MD & 7047'TVD @ 767'VS
 0.4 deg Inc 99.1 deg AZ

Project: SEC.27-T4N-R64W
 Site: Herbst C27-33D Pad Sec.27-T4N-R64W
 Well: Herbst C27-32D
 Plan: Wellbore #1



NOBLE ENERGY INC WELD COUNTY CO

SEC.27-T4N-R64W

Herbst C27-33D Pad Sec.27-T4N-R64W

Herbst C27-32D

Wellbore #1

Survey: Survey #1

Standard Survey Report

02 May, 2012



Company:	NOBLE ENERGY INC WELD COUNTY CO	Local Co-ordinate Reference:	Well Herbst C27-32D
Project:	SEC.27-T4N-R64W	TVD Reference:	WELL @ 4717.0ft (Original Well Elev)
Site:	Herbst C27-33D Pad Sec.27-T4N-R64W	MD Reference:	WELL @ 4717.0ft (Original Well Elev)
Well:	Herbst C27-32D	North Reference:	True
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	Landmark

Project	SEC.27-T4N-R64W, 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	Herbst C27-33D Pad Sec.27-T4N-R64W				
Site Position:		Northing:	1,346,931.18ft	Latitude:	40.281780
From:	Lat/Long	Easting:	3,266,687.14ft	Longitude:	-104.544100
Position Uncertainty:	0.0 ft	Slot Radius:	"	Grid Convergence:	0.62 °

Well	Herbst C27-32D					
Well Position	+N/-S	0.0 ft	Northing:	1,346,953.02 ft	Latitude:	40.281840
	+E/-W	0.0 ft	Easting:	3,266,686.90 ft	Longitude:	-104.544100
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	4,704.0 ft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	4/23/2012	8.64	66.97	53,019

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 (°)	
	5,000.0	0.0	0.0	310.43	

Survey Program	Date	5/2/2012			
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
208.0	7,133.0	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	
208.0	0.30	102.10	208.0	-0.1	0.5	-0.5	0.14	0.14	0.00	
411.0	0.20	189.90	411.0	-0.6	1.0	-1.1	0.17	-0.05	43.25	
732.0	0.30	189.00	732.0	-2.0	0.8	-1.8	0.03	0.03	-0.28	
861.0	0.30	120.80	861.0	-2.5	1.0	-2.4	0.26	0.00	-52.87	
989.0	1.20	301.80	989.0	-1.9	0.1	-1.4	1.17	0.70	-139.84	
1,117.0	3.90	313.80	1,116.8	1.8	-4.1	4.3	2.14	2.11	9.38	
1,245.0	6.50	314.50	1,244.3	9.9	-12.4	15.9	2.03	2.03	0.55	
1,374.0	8.70	311.30	1,372.2	21.4	-25.0	32.9	1.74	1.71	-2.48	
1,502.0	11.10	312.70	1,498.3	36.2	-41.3	54.9	1.88	1.88	1.09	
1,630.0	12.60	308.30	1,623.5	53.2	-61.3	81.2	1.37	1.17	-3.44	
1,758.0	12.90	310.30	1,748.4	71.1	-83.2	109.4	0.42	0.23	1.56	
1,887.0	13.30	310.40	1,874.0	90.0	-105.5	138.7	0.31	0.31	0.08	

Company:	NOBLE ENERGY INC WELD COUNTY CO	Local Co-ordinate Reference:	Well Herbst C27-32D
Project:	SEC.27-T4N-R64W	TVD Reference:	WELL @ 4717.0ft (Original Well Elev)
Site:	Herbst C27-33D Pad Sec.27-T4N-R64W	MD Reference:	WELL @ 4717.0ft (Original Well Elev)
Well:	Herbst C27-32D	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)
2,015.0	13.50	307.60	1,998.5	108.7	-128.5	168.3	0.53	0.16	-2.19
2,143.0	14.00	310.80	2,122.9	127.9	-152.1	198.7	0.71	0.39	2.50
2,271.0	13.20	311.50	2,247.3	147.7	-174.7	228.8	0.64	-0.63	0.55
2,400.0	13.10	310.60	2,372.9	167.0	-196.9	258.2	0.18	-0.08	-0.70
2,528.0	13.00	313.10	2,497.6	186.3	-218.4	287.0	0.45	-0.08	1.95
2,656.0	13.00	315.20	2,622.3	206.3	-239.0	315.8	0.37	0.00	1.64
2,784.0	14.10	313.40	2,746.7	227.2	-260.5	345.7	0.92	0.86	-1.41
2,913.0	14.60	312.40	2,871.7	249.0	-283.9	377.6	0.43	0.39	-0.78
3,041.0	13.50	312.20	2,995.9	269.9	-306.9	408.7	0.86	-0.86	-0.16
3,169.0	14.00	314.10	3,120.2	290.7	-329.1	439.1	0.53	0.39	1.48
3,297.0	12.60	303.60	3,244.8	309.2	-351.9	468.4	2.18	-1.09	-8.20
3,426.0	12.00	305.30	3,370.8	324.8	-374.5	495.7	0.54	-0.47	1.32
3,554.0	13.60	309.00	3,495.7	341.9	-397.1	524.0	1.40	1.25	2.89
3,682.0	14.50	310.80	3,619.8	361.9	-420.9	555.1	0.78	0.70	1.41
3,810.0	14.30	310.30	3,743.8	382.6	-445.1	586.9	0.18	-0.16	-0.39
3,939.0	14.20	310.30	3,868.8	403.1	-469.3	618.7	0.08	-0.08	0.00
4,067.0	14.60	308.20	3,992.8	423.2	-494.0	650.5	0.51	0.31	-1.64
4,195.0	13.30	306.90	4,117.0	442.1	-518.4	681.3	1.04	-1.02	-1.02
4,323.0	11.20	304.60	4,242.1	458.0	-540.4	708.4	1.68	-1.64	-1.80
4,452.0	10.00	308.00	4,368.9	472.0	-559.6	732.0	1.05	-0.93	2.64
4,580.0	7.50	302.40	4,495.4	483.3	-575.4	751.4	2.06	-1.95	-4.38
4,708.0	4.20	303.90	4,622.7	490.4	-586.3	764.3	2.58	-2.58	1.17
4,836.0	1.30	357.20	4,750.6	494.4	-590.3	770.0	2.80	-2.27	41.64
4,965.0	0.70	10.90	4,879.6	496.7	-590.2	771.4	0.50	-0.47	10.62
5,085.5	0.42	8.38	5,000.0	497.8	-590.0	772.0	0.24	-0.23	-2.10
TARGET BHL 2550'FSL & 75'FWL									
5,093.0	0.40	8.10	5,007.6	497.9	-590.0	772.0	0.24	-0.23	-3.67
5,221.0	0.50	324.30	5,135.6	498.8	-590.3	772.8	0.27	0.08	-34.22
5,349.0	0.50	356.50	5,263.6	499.8	-590.6	773.7	0.22	0.00	25.16
5,478.0	0.10	119.50	5,392.5	500.3	-590.6	774.0	0.43	-0.31	95.35
5,606.0	0.50	60.10	5,520.5	500.5	-590.0	773.7	0.36	0.31	-46.41
5,734.0	0.40	44.10	5,648.5	501.1	-589.2	773.5	0.12	-0.08	-12.50
5,862.0	0.50	69.10	5,776.5	501.7	-588.4	773.2	0.17	0.08	19.53
5,991.0	0.30	104.80	5,905.5	501.8	-587.5	772.6	0.24	-0.16	27.67
6,119.0	0.60	49.90	6,033.5	502.1	-586.7	772.2	0.39	0.23	-42.89
6,247.0	0.30	12.00	6,161.5	502.9	-586.1	772.2	0.32	-0.23	-29.61
6,375.0	0.30	11.90	6,289.5	503.5	-585.9	772.6	0.00	0.00	-0.08
6,504.0	0.90	72.60	6,418.5	504.2	-584.9	772.2	0.62	0.47	47.05
6,632.0	1.00	98.10	6,546.5	504.3	-582.8	770.7	0.34	0.08	19.92
6,662.5	0.88	98.76	6,577.0	504.2	-582.3	770.3	0.39	-0.39	2.17
TARGET CIRCLE 2565'FSL & 75'FWL									
6,760.0	0.50	103.00	6,674.5	504.0	-581.2	769.3	0.39	-0.39	4.35
6,888.0	0.50	99.00	6,802.5	503.8	-580.1	768.3	0.03	0.00	-3.13
7,017.0	0.40	106.70	6,931.5	503.6	-579.1	767.4	0.09	-0.08	5.97
7,088.0	0.40	99.10	7,002.5	503.5	-578.6	767.0	0.07	0.00	-10.70
HARDLINES 76'N & 75'W OF BHL									
7,133.0	0.40	99.10	7,047.5	503.4	-578.3	766.7	0.00	0.00	0.00

Company:	NOBLE ENERGY INC WELD COUNTY CO	Local Co-ordinate Reference:	Well Herbst C27-32D
Project:	SEC.27-T4N-R64W	TVD Reference:	WELL @ 4717.0ft (Original Well Elev)
Site:	Herbst C27-33D Pad Sec.27-T4N-R64W	MD Reference:	WELL @ 4717.0ft (Original Well Elev)
Well:	Herbst C27-32D	North Reference:	True
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	Landmark

Checked By: _____ Approved By: _____ Date: _____