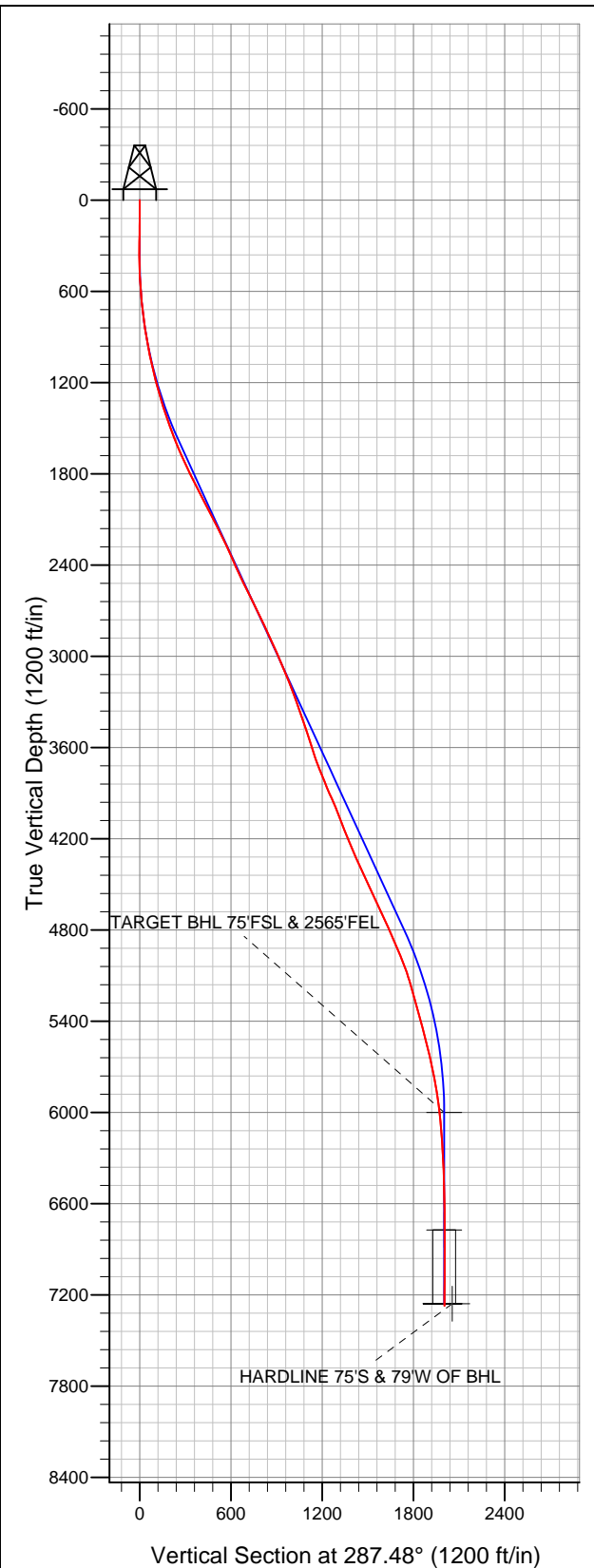


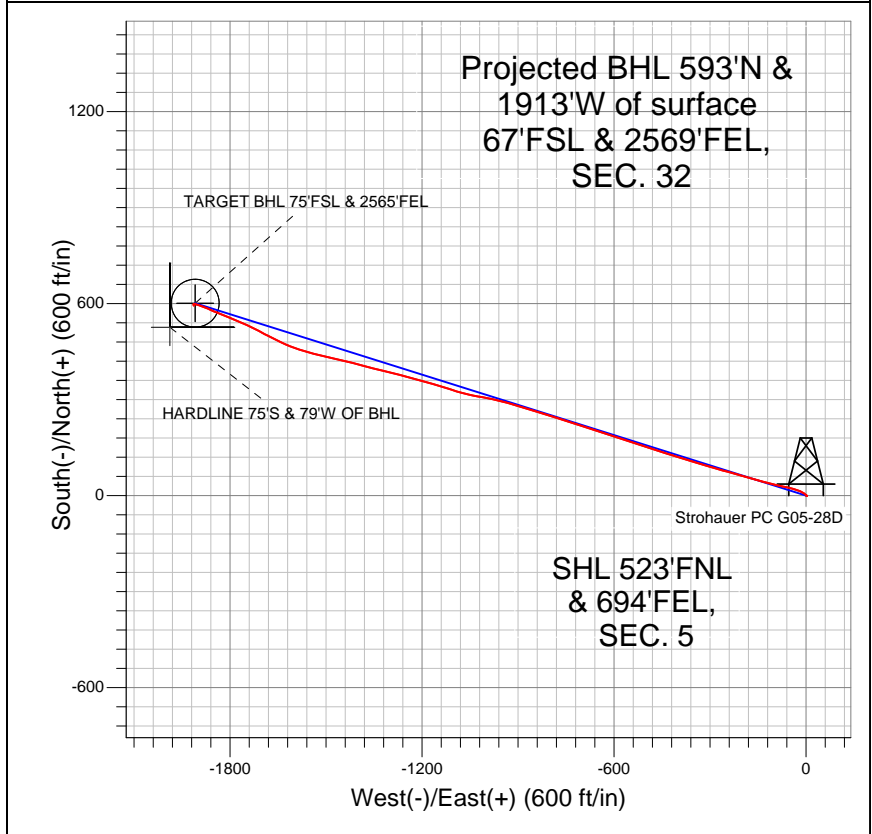
Well Name: Strohauer PC G05-28D

Surface Location: Strohauer PC G05-27D Pad Sec.5-T4N-R65W
North American Datum 1983 US State Plane 1983 Colorado Northern Zone
Ground Elevation: 4675.0

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.0	0.0	1370323.54	3228495.11	40.347040	-104.680210	
Original Well Elev WELL @ 4688.0ft (Original Well Elev)						



NOBLE ENERGY INC WELD COUNTY CO



LEGEND

- Survey #1
- Strohauer PC G05-28D, Wellbore #1, Noble Strohauer PC G05-28D Plan #1 (2-9-12) R V0
- Wellbore #1

Final Survey Plot

Projected Final Survey -
7652'MD & 7273'TVD @ 2003'VS
0.80 deg Inc 156.60 deg AZ

Project: SEC.5-T4N-R65W
Site: Strohauer PC G05-27D Pad Sec.5-T4N-R65W
Well: Strohauer PC G05-28D
Plan: Wellbore #1



NOBLE ENERGY INC WELD COUNTY CO

SEC.5-T4N-R65W

Strohauer PC G05-27D Pad Sec.5-T4N-R65W

Strohauer PC G05-28D

Wellbore #1

Survey: Survey #1

Standard Survey Report

15 February, 2012



Company:	NOBLE ENERGY INC WELD COUNTY CO	Local Co-ordinate Reference:	Well Strohauser PC G05-28D
Project:	SEC.5-T4N-R65W	TVD Reference:	WELL @ 4688.0ft (Original Well Elev)
Site:	Strohauser PC G05-27D Pad Sec.5-T4N-R65W	MD Reference:	WELL @ 4688.0ft (Original Well Elev)
Well:	Strohauser PC G05-28D	North Reference:	True
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	Landmark

Project	SEC.5-T4N-R65W, Weld County, CO		
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	Strohauser PC G05-27D Pad Sec.5-T4N-R65W		
Site Position:		Northing:	1,370,345.41 ft
From:	Lat/Long	Easting:	3,228,494.91 ft
Position Uncertainty:	0.0 ft	Slot Radius:	"
		Latitude:	40.347100
		Longitude:	-104.680210
		Grid Convergence:	0.53 °

Well	Strohauser PC G05-28D		
Well Position	+N/-S	0.0 ft	Northing: 1,370,323.54 ft
	+E/-W	0.0 ft	Easting: 3,228,495.11 ft
Position Uncertainty	0.0 ft	Wellhead Elevation:	ft
		Latitude:	40.347040
		Longitude:	-104.680210
		Ground Level:	4,675.0 ft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	2/9/2012	8.73	67.00	53,045

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 (°)	
	0.0	0.0	0.0	287.48	

Survey Program	Date	2/15/2012			
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
111.0	7,652.0	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	
111.0	0.40	133.90	111.0	-0.3	0.3	-0.3	0.36	0.36	0.00	
169.0	0.80	99.50	169.0	-0.5	0.8	-0.9	0.90	0.69	-59.31	
230.0	0.60	120.30	230.0	-0.7	1.5	-1.7	0.53	-0.33	34.10	
303.0	0.70	95.70	303.0	-0.9	2.3	-2.5	0.40	0.14	-33.70	
388.0	0.60	307.10	388.0	-0.7	2.5	-2.6	1.47	-0.12	-174.82	
473.0	2.00	313.30	473.0	0.6	1.0	-0.8	1.65	1.65	7.29	
558.0	3.90	309.60	557.8	3.4	-2.3	3.2	2.25	2.24	-4.35	
639.0	5.60	303.80	638.6	7.4	-7.7	9.6	2.18	2.10	-7.16	
730.0	6.90	298.50	729.0	12.5	-16.2	19.2	1.56	1.43	-5.82	
815.0	8.20	287.40	813.3	16.7	-26.5	30.3	2.29	1.53	-13.06	
901.0	9.50	285.20	898.3	20.4	-39.2	43.5	1.56	1.51	-2.56	
986.0	11.30	284.30	981.9	24.3	-54.0	58.8	2.13	2.12	-1.06	

Company:	NOBLE ENERGY INC WELD COUNTY CO	Local Co-ordinate Reference:	Well Strothauer PC G05-28D
Project:	SEC.5-T4N-R65W	TVD Reference:	WELL @ 4688.0ft (Original Well Elev)
Site:	Strothauer PC G05-27D Pad Sec.5-T4N-R65W	MD Reference:	WELL @ 4688.0ft (Original Well Elev)
Well:	Strothauer PC G05-28D	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)	
1,072.0	12.60	282.30	1,066.0	28.4	-71.3	76.6	1.59	1.51	-2.33	
1,157.0	13.00	281.70	1,148.9	32.3	-89.8	95.3	0.50	0.47	-0.71	
1,243.0	14.90	284.20	1,232.3	37.0	-109.9	116.0	2.32	2.21	2.91	
1,328.0	17.30	285.30	1,314.0	43.0	-132.7	139.5	2.85	2.82	1.29	
1,414.0	18.90	285.20	1,395.7	50.0	-158.5	166.2	1.86	1.86	-0.12	
1,499.0	19.70	286.10	1,476.0	57.6	-185.6	194.3	1.00	0.94	1.06	
1,585.0	20.90	285.60	1,556.6	65.7	-214.3	224.1	1.41	1.40	-0.58	
1,670.0	22.90	284.90	1,635.5	74.1	-244.8	255.8	2.37	2.35	-0.82	
1,756.0	23.90	286.30	1,714.4	83.3	-277.7	289.9	1.33	1.16	1.63	
1,841.0	26.30	286.30	1,791.4	93.4	-312.3	326.0	2.82	2.82	0.00	
1,926.0	27.20	287.00	1,867.3	104.3	-349.0	364.2	1.12	1.06	0.82	
2,012.0	27.30	287.80	1,943.7	116.1	-386.6	403.6	0.44	0.12	0.93	
2,097.0	27.60	287.80	2,019.2	128.1	-423.9	442.8	0.35	0.35	0.00	
2,183.0	27.50	286.90	2,095.4	140.0	-461.8	482.6	0.50	-0.12	-1.05	
2,268.0	26.20	287.60	2,171.3	151.3	-498.5	520.9	1.57	-1.53	0.82	
2,354.0	24.40	287.20	2,249.0	162.3	-533.6	557.7	2.10	-2.09	-0.47	
2,439.0	24.40	289.50	2,326.4	173.4	-566.9	592.8	1.12	0.00	2.71	
2,525.0	24.80	289.60	2,404.6	185.4	-600.6	628.6	0.47	0.47	0.12	
2,610.0	25.10	287.80	2,481.7	196.9	-634.6	664.4	0.96	0.35	-2.12	
2,696.0	26.70	287.10	2,559.0	208.1	-670.4	702.0	1.89	1.86	-0.81	
2,781.0	26.50	287.60	2,635.0	219.5	-706.8	740.0	0.35	-0.24	0.59	
2,867.0	26.10	287.70	2,712.1	231.0	-743.1	778.1	0.47	-0.47	0.12	
2,952.0	25.10	287.40	2,788.8	242.1	-778.1	814.9	1.19	-1.18	-0.35	
3,038.0	23.90	287.30	2,867.0	252.7	-812.1	850.5	1.40	-1.40	-0.12	
3,123.0	24.30	287.80	2,944.6	263.2	-845.2	885.2	0.53	0.47	0.59	
3,208.0	24.10	287.10	3,022.2	273.6	-878.5	920.1	0.41	-0.24	-0.82	
3,294.0	22.90	286.40	3,101.0	283.5	-911.3	954.4	1.43	-1.40	-0.81	
3,379.0	21.10	285.00	3,179.8	292.2	-941.9	986.2	2.21	-2.12	-1.65	
3,465.0	20.30	281.90	3,260.3	299.2	-971.5	1,016.5	1.58	-0.93	-3.60	
3,551.0	19.30	281.10	3,341.2	305.1	-1,000.0	1,045.5	1.20	-1.16	-0.93	
3,636.0	18.60	279.90	3,421.6	310.1	-1,027.2	1,072.9	0.94	-0.82	-1.41	
3,722.0	18.20	283.60	3,503.2	315.6	-1,053.7	1,099.9	1.44	-0.47	4.30	
3,807.0	18.00	285.00	3,584.0	322.1	-1,079.3	1,126.2	0.56	-0.24	1.65	
3,893.0	19.00	287.90	3,665.6	329.9	-1,105.5	1,153.5	1.58	1.16	3.37	
3,978.0	21.60	286.30	3,745.3	338.5	-1,133.7	1,183.0	3.13	3.06	-1.88	
4,064.0	22.10	286.90	3,825.1	347.7	-1,164.3	1,215.0	0.64	0.58	0.70	
4,149.0	23.30	286.50	3,903.5	357.1	-1,195.8	1,247.8	1.42	1.41	-0.47	
4,235.0	23.60	285.30	3,982.4	366.5	-1,228.7	1,282.0	0.66	0.35	-1.40	
4,320.0	21.20	282.70	4,061.0	374.3	-1,260.1	1,314.3	3.05	-2.82	-3.06	
4,406.0	21.50	284.20	4,141.1	381.6	-1,290.5	1,345.6	0.72	0.35	1.74	
4,492.0	22.40	284.80	4,220.9	389.7	-1,321.7	1,377.7	1.08	1.05	0.70	
4,577.0	23.00	284.20	4,299.3	397.9	-1,353.4	1,410.4	0.76	0.71	-0.71	
4,663.0	25.00	284.90	4,377.8	406.7	-1,387.3	1,445.4	2.35	2.33	0.81	
4,749.0	25.10	284.20	4,455.7	415.8	-1,422.5	1,481.7	0.36	0.12	-0.81	
4,834.0	25.30	283.10	4,532.6	424.4	-1,457.7	1,517.8	0.60	0.24	-1.29	
4,920.0	25.10	282.70	4,610.5	432.5	-1,493.4	1,554.3	0.31	-0.23	-0.47	
5,006.0	25.20	284.70	4,688.3	441.2	-1,528.9	1,590.8	1.00	0.12	2.33	
5,091.0	23.60	284.20	4,765.7	449.9	-1,562.9	1,625.9	1.90	-1.88	-0.59	
5,176.0	23.30	290.20	4,843.7	459.9	-1,595.2	1,659.6	2.83	-0.35	7.06	
5,262.0	23.20	293.40	4,922.7	472.5	-1,626.7	1,693.5	1.47	-0.12	3.72	
5,348.0	22.60	297.20	5,002.0	486.8	-1,656.9	1,726.6	1.86	-0.70	4.42	
5,433.0	19.00	296.20	5,081.4	500.4	-1,683.9	1,756.4	4.26	-4.24	-1.18	
5,518.0	16.70	298.80	5,162.3	512.4	-1,707.0	1,782.1	2.86	-2.71	3.06	
5,604.0	15.40	296.90	5,245.0	523.5	-1,728.0	1,805.4	1.63	-1.51	-2.21	

Company:	NOBLE ENERGY INC WELD COUNTY CO	Local Co-ordinate Reference:	Well Strohauser PC G05-28D
Project:	SEC.5-T4N-R65W	TVD Reference:	WELL @ 4688.0ft (Original Well Elev)
Site:	Strohauser PC G05-27D Pad Sec.5-T4N-R65W	MD Reference:	WELL @ 4688.0ft (Original Well Elev)
Well:	Strohauser PC G05-28D	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)
5,689.0	15.40	293.50	5,326.9	533.1	-1,748.4	1,827.8	1.06	0.00	-4.00
5,775.0	15.30	292.50	5,409.8	542.0	-1,769.4	1,850.5	0.33	-0.12	-1.16
5,861.0	14.20	293.00	5,493.0	550.5	-1,789.6	1,872.3	1.29	-1.28	0.58
5,946.0	14.00	292.70	5,575.4	558.5	-1,808.6	1,892.9	0.25	-0.24	-0.35
6,032.0	13.10	291.60	5,659.0	566.1	-1,827.3	1,913.0	1.09	-1.05	-1.28
6,118.0	11.30	292.10	5,743.1	572.9	-1,844.2	1,931.1	2.10	-2.09	0.58
6,203.0	9.50	294.70	5,826.7	578.9	-1,858.3	1,946.3	2.19	-2.12	3.06
6,289.0	8.30	293.00	5,911.7	584.3	-1,870.4	1,959.6	1.43	-1.40	-1.98
6,374.0	6.90	292.60	5,995.9	588.7	-1,880.8	1,970.8	1.65	-1.65	-0.47
6,381.4	6.77	292.36	6,003.3	589.0	-1,881.6	1,971.6	1.82	-1.78	-3.19
TARGET BHL 75°FSL & 2565°FEL									
6,459.0	5.40	289.20	6,080.4	592.0	-1,889.3	1,979.8	1.82	-1.76	-4.08
6,545.0	4.00	288.80	6,166.1	594.3	-1,895.9	1,986.9	1.63	-1.63	-0.47
6,630.0	3.20	287.80	6,251.0	595.9	-1,901.0	1,992.2	0.94	-0.94	-1.18
6,716.0	2.50	291.00	6,336.9	597.4	-1,905.0	1,996.5	0.83	-0.81	3.72
6,801.0	1.60	280.60	6,421.8	598.2	-1,907.9	1,999.5	1.14	-1.06	-12.24
6,887.0	1.10	280.60	6,507.8	598.6	-1,909.9	2,001.5	0.58	-0.58	0.00
6,973.0	1.00	272.00	6,593.8	598.8	-1,911.5	2,003.1	0.22	-0.12	-10.00
7,058.0	0.60	264.80	6,678.8	598.8	-1,912.7	2,004.2	0.48	-0.47	-8.47
7,144.0	0.70	251.70	6,764.7	598.6	-1,913.6	2,005.0	0.21	0.12	-15.23
7,152.2	0.70	248.68	6,772.9	598.5	-1,913.7	2,005.1	0.45	0.01	-36.83
TARGET CIRCLE 75°FSL & 2565°FEL									
7,229.0	0.80	223.10	6,849.7	598.0	-1,914.5	2,005.7	0.45	0.13	-33.31
7,315.0	0.40	168.10	6,935.7	597.2	-1,914.9	2,005.8	0.77	-0.47	-63.95
7,400.0	0.50	172.00	7,020.7	596.6	-1,914.8	2,005.5	0.12	0.12	4.59
7,486.0	0.90	154.80	7,106.7	595.6	-1,914.4	2,004.9	0.52	0.47	-20.00
7,571.0	0.90	154.30	7,191.7	594.4	-1,913.8	2,004.0	0.01	0.00	-0.59
7,605.0	0.80	156.60	7,225.7	593.9	-1,913.6	2,003.7	0.31	-0.29	6.76
7,637.7	0.80	156.60	7,258.4	593.5	-1,913.4	2,003.4	0.00	0.00	0.00
HARDLINE 75°S & 79°W OF BHL									
7,652.0	0.80	156.60	7,272.7	593.3	-1,913.4	2,003.2	0.00	0.00	0.00

Checked By: _____ Approved By: _____ Date: _____