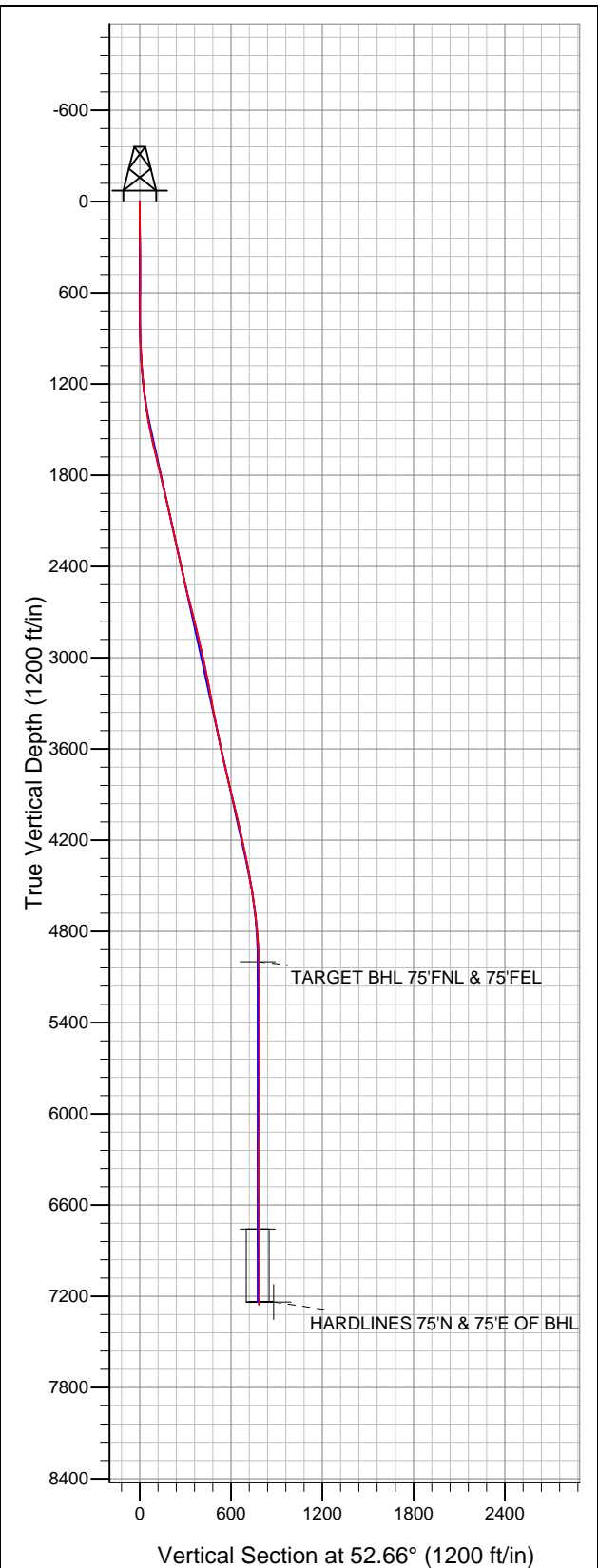




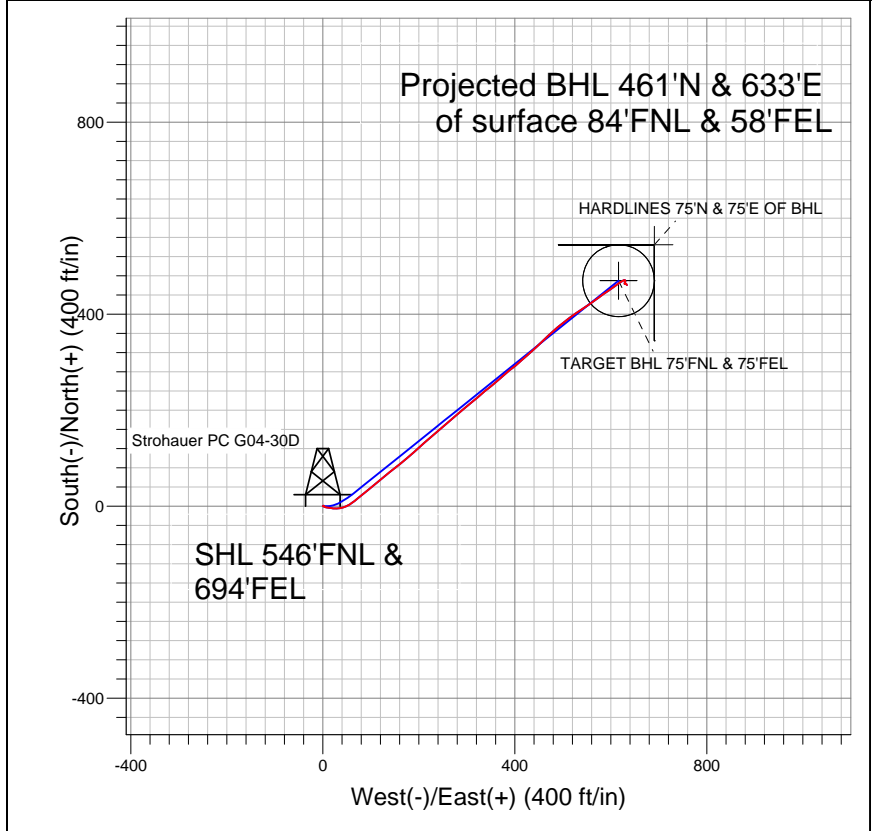
# Well Name: Strohauer PC G04-30D

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	1370301.68	3228495.31	40.346980	-104.680210	
Original Well Elev WELL @ 4688.0ft (Original Well Elev)						



## NOBLE ENERGY INC WELD COUNTY CO



### LEGEND

- Strohauer PC G04-30D, Wellbore #1, Noble Strohauer PC G04-30D Plan #1 (8-19-11) V0
- Wellbore #1
- Survey #1

## Final Survey Plot

Projected Final Survey -  
7336'MD & 7254'TVD @ 783'VS  
0.6 deg Inc 148.8 deg AZ

Project: SEC.5-T4N-R65W  
Site: Strohauer PC G05-27D Pad Sec.5-T4N-R65W  
Well: Strohauer PC G04-30D  
Plan: Wellbore #1



# **NOBLE ENERGY INC WELD COUNTY CO**

**SEC.5-T4N-R65W**

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

**Strohauer PC G04-30D**

**Wellbore #1**

**Survey: Survey #1**

## **Standard Survey Report**

**10 February, 2012**



<b>Company:</b>	NOBLE ENERGY INC WELD COUNTY CO	<b>Local Co-ordinate Reference:</b>	Well Strohauser PC G04-30D
<b>Project:</b>	SEC.5-T4N-R65W	<b>TVD Reference:</b>	WELL @ 4688.0ft (Original Well Elev)
<b>Site:</b>	Strohauser PC G05-27D Pad Sec.5-T4N-R65W	<b>MD Reference:</b>	WELL @ 4688.0ft (Original Well Elev)
<b>Well:</b>	Strohauser PC G04-30D	<b>North Reference:</b>	True
<b>Wellbore:</b>	Wellbore #1	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	Wellbore #1	<b>Database:</b>	Landmark

<b>Project</b>	SEC.5-T4N-R65W, Weld County, CO		
<b>Map System:</b>	US State Plane 1983	<b>System Datum:</b>	Mean Sea Level
<b>Geo Datum:</b>	North American Datum 1983		Using Well Reference Point
<b>Map Zone:</b>	Colorado Northern Zone		Using geodetic scale factor

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

<b>Well</b>	Strohauser PC G04-30D		
<b>Well Position</b>	<b>+N/-S</b>	0.0 ft	<b>Northing:</b> 1,370,301.68 ft
	<b>+E/-W</b>	0.0 ft	<b>Easting:</b> 3,228,495.31 ft
<b>Position Uncertainty</b>	0.0 ft	<b>Wellhead Elevation:</b>	ft
		<b>Latitude:</b>	40.346980
		<b>Longitude:</b>	-104.680210
		<b>Ground Level:</b>	4,675.0 ft

<b>Wellbore</b>	Wellbore #1				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	IGRF2010	8/19/2011	8.79	67.02	53,095

<b>Design</b>	Wellbore #1				
<b>Audit Notes:</b>					
<b>Version:</b>	1.0	<b>Phase:</b>	ACTUAL	<b>Tie On Depth:</b>	0.0
<b>Vertical Section:</b>	<b>Depth From (TVD) (ft)</b>	<b>+N/-S (ft)</b>	<b>+E/-W (ft)</b>	<b>Direction (°)</b>	
	5,000.0	0.0	0.0	52.66	

<b>Survey Program</b>	<b>Date</b>	2/10/2012			
<b>From (ft)</b>	<b>To (ft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Description</b>	
150.0	7,336.0	Survey #1 (Wellbore #1)	MWD	MWD - Standard	

<b>Survey</b>										
<b>Measured Depth (ft)</b>	<b>Inclination (°)</b>	<b>Azimuth (°)</b>	<b>Vertical Depth (ft)</b>	<b>+N/-S (ft)</b>	<b>+E/-W (ft)</b>	<b>Vertical Section (ft)</b>	<b>Dogleg Rate (°/100ft)</b>	<b>Build Rate (°/100ft)</b>	<b>Turn Rate (°/100ft)</b>	
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00	
150.0	0.30	11.00	150.0	0.4	0.1	0.3	0.20	0.20	0.00	
350.0	0.60	56.10	350.0	1.5	1.0	1.7	0.22	0.15	22.55	
570.0	0.60	159.70	570.0	1.0	2.4	2.5	0.43	0.00	47.09	
670.0	0.40	200.00	670.0	0.2	2.5	2.1	0.39	-0.20	40.30	
731.0	0.40	174.20	731.0	-0.2	2.4	1.8	0.29	0.00	-42.30	
816.0	1.20	121.70	816.0	-0.9	3.2	2.0	1.19	0.94	-61.76	
902.0	2.50	101.70	901.9	-1.8	5.8	3.5	1.67	1.51	-23.26	
987.0	3.70	97.80	986.8	-2.6	10.3	6.7	1.43	1.41	-4.59	
1,073.0	5.30	100.10	1,072.5	-3.6	17.0	11.3	1.87	1.86	2.67	
1,159.0	6.50	91.40	1,158.1	-4.4	25.8	17.8	1.74	1.40	-10.12	
1,244.0	7.40	81.20	1,242.5	-3.7	36.0	26.4	1.79	1.06	-12.00	
1,330.0	8.80	66.90	1,327.6	-0.3	47.5	37.6	2.84	1.63	-16.63	

<b>Company:</b>	NOBLE ENERGY INC WELD COUNTY CO	<b>Local Co-ordinate Reference:</b>	Well Strohauser PC G04-30D
<b>Project:</b>	SEC.5-T4N-R65W	<b>TVD Reference:</b>	WELL @ 4688.0ft (Original Well Elev)
<b>Site:</b>	Strohauser PC G05-27D Pad Sec.5-T4N-R65W	<b>MD Reference:</b>	WELL @ 4688.0ft (Original Well Elev)
<b>Well:</b>	Strohauser PC G04-30D	<b>North Reference:</b>	True
<b>Wellbore:</b>	Wellbore #1	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	Wellbore #1	<b>Database:</b>	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)
1,415.0	10.20	55.80	1,411.4	6.5	59.7	51.4	2.71	1.65	-13.06
1,501.0	10.90	49.90	1,496.0	16.0	72.2	67.1	1.50	0.81	-6.86
1,586.0	12.40	50.80	1,579.2	27.0	85.5	84.3	1.78	1.76	1.06
1,672.0	13.60	51.10	1,663.0	39.1	100.5	103.6	1.40	1.40	0.35
1,757.0	14.10	50.20	1,745.6	52.0	116.2	124.0	0.64	0.59	-1.06
1,843.0	13.00	51.00	1,829.2	64.8	131.8	144.1	1.30	-1.28	0.93
1,928.0	12.90	50.80	1,912.0	76.9	146.6	163.1	0.13	-0.12	-0.24
2,014.0	12.40	51.40	1,995.9	88.7	161.2	182.0	0.60	-0.58	0.70
2,099.0	12.90	49.80	2,078.9	100.5	175.6	200.6	0.72	0.59	-1.88
2,185.0	12.80	48.50	2,162.7	113.0	190.1	219.7	0.36	-0.12	-1.51
2,270.0	12.30	46.50	2,245.7	125.5	203.7	238.0	0.78	-0.59	-2.35
2,356.0	12.20	48.40	2,329.7	137.8	217.1	256.2	0.48	-0.12	2.21
2,441.0	13.00	50.80	2,412.7	149.8	231.3	274.7	1.12	0.94	2.82
2,527.0	12.70	49.70	2,496.5	162.0	246.0	293.8	0.45	-0.35	-1.28
2,612.0	13.80	48.60	2,579.2	174.8	260.7	313.3	1.33	1.29	-1.29
2,698.0	14.50	49.80	2,662.6	188.5	276.6	334.3	0.88	0.81	1.40
2,783.0	14.30	50.30	2,745.0	202.1	292.8	355.4	0.28	-0.24	0.59
2,869.0	13.20	50.20	2,828.5	215.2	308.5	375.8	1.28	-1.28	-0.12
2,954.0	12.90	49.40	2,911.3	227.6	323.2	395.0	0.41	-0.35	-0.94
3,040.0	12.80	50.20	2,995.2	239.9	337.8	414.1	0.24	-0.12	0.93
3,125.0	11.60	51.20	3,078.2	251.3	351.7	432.0	1.43	-1.41	1.18
3,211.0	10.30	48.20	3,162.7	261.8	364.2	448.3	1.65	-1.51	-3.49
3,297.0	10.90	48.00	3,247.2	272.4	375.9	464.1	0.70	0.70	-0.23
3,382.0	10.90	53.30	3,330.7	282.6	388.4	480.2	1.18	0.00	6.24
3,468.0	11.40	48.90	3,415.0	293.0	401.3	496.8	1.15	0.58	-5.12
3,553.0	11.50	49.30	3,498.4	304.1	414.0	513.6	0.15	0.12	0.47
3,639.0	11.30	47.80	3,582.7	315.3	426.8	530.6	0.42	-0.23	-1.74
3,724.0	12.80	46.80	3,665.8	327.4	439.8	548.2	1.78	1.76	-1.18
3,810.0	13.80	47.20	3,749.5	340.9	454.3	567.9	1.17	1.16	0.47
3,895.0	13.60	46.60	3,832.1	354.6	469.0	587.9	0.29	-0.24	-0.71
3,981.0	13.30	49.10	3,915.7	368.0	483.8	607.9	0.76	-0.35	2.91
4,066.0	12.80	51.60	3,998.5	380.3	498.6	627.0	0.89	-0.59	2.94
4,152.0	11.70	51.70	4,082.5	391.6	512.9	645.3	1.28	-1.28	0.12
4,237.0	12.70	55.30	4,165.6	402.3	527.3	663.2	1.48	1.18	4.24
4,323.0	13.10	57.30	4,249.5	412.9	543.3	682.4	0.70	0.47	2.33
4,408.0	12.10	55.10	4,332.4	423.2	558.7	700.9	1.30	-1.18	-2.59
4,494.0	10.80	53.10	4,416.7	433.2	572.5	718.0	1.58	-1.51	-2.33
4,579.0	9.40	55.30	4,500.4	441.9	584.6	732.9	1.71	-1.65	2.59
4,665.0	8.40	54.70	4,585.3	449.6	595.5	746.2	1.17	-1.16	-0.70
4,750.0	6.90	55.80	4,669.6	456.0	604.8	757.5	1.77	-1.76	1.29
4,836.0	5.50	53.30	4,755.1	461.4	612.4	766.7	1.66	-1.63	-2.91
4,921.0	4.00	53.70	4,839.8	465.6	618.0	773.8	1.77	-1.76	0.47
5,007.0	3.20	57.20	4,925.6	468.7	622.5	779.2	0.96	-0.93	4.07
5,081.2	1.32	80.01	4,999.7	469.9	625.1	782.0	2.76	-2.53	30.76
<b>TARGET BHL 75°FNL &amp; 75°FEL</b>									
5,092.0	1.10	89.50	5,010.5	470.0	625.3	782.2	2.76	-2.06	87.51
5,178.0	0.90	57.30	5,096.5	470.3	626.7	783.5	0.68	-0.23	-37.44
5,263.0	0.60	9.20	5,181.5	471.1	627.3	784.5	0.79	-0.35	-56.59
5,349.0	0.60	87.50	5,267.5	471.6	627.8	785.2	0.88	0.00	91.05
5,435.0	0.60	114.20	5,353.5	471.4	628.7	785.8	0.32	0.00	31.05
5,520.0	0.70	125.40	5,438.5	470.9	629.5	786.2	0.19	0.12	13.18
5,606.0	0.30	160.80	5,524.5	470.4	630.0	786.2	0.57	-0.47	41.16
5,691.0	0.50	181.40	5,609.5	469.8	630.1	785.9	0.29	0.24	24.24
5,777.0	0.60	169.60	5,695.5	469.0	630.2	785.5	0.18	0.12	-13.72

<b>Company:</b>	NOBLE ENERGY INC WELD COUNTY CO	<b>Local Co-ordinate Reference:</b>	Well Strohauser PC G04-30D
<b>Project:</b>	SEC.5-T4N-R65W	<b>TVD Reference:</b>	WELL @ 4688.0ft (Original Well Elev)
<b>Site:</b>	Strohauser PC G05-27D Pad Sec.5-T4N-R65W	<b>MD Reference:</b>	WELL @ 4688.0ft (Original Well Elev)
<b>Well:</b>	Strohauser PC G04-30D	<b>North Reference:</b>	True
<b>Wellbore:</b>	Wellbore #1	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	Wellbore #1	<b>Database:</b>	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)	
5,862.0	0.50	171.20	5,780.5	468.2	630.3	785.1	0.12	-0.12	1.88	
5,948.0	0.70	204.70	5,866.5	467.4	630.1	784.5	0.46	0.23	38.95	
6,033.0	0.40	193.60	5,951.5	466.6	629.9	783.8	0.37	-0.35	-13.06	
6,119.0	0.60	223.90	6,037.5	466.0	629.5	783.1	0.38	0.23	35.23	
6,204.0	0.70	202.50	6,122.5	465.2	629.0	782.2	0.31	0.12	-25.18	
6,290.0	0.50	180.20	6,208.5	464.3	628.8	781.5	0.35	-0.23	-25.93	
6,375.0	0.40	190.20	6,293.5	463.7	628.7	781.1	0.15	-0.12	11.76	
6,461.0	0.30	75.50	6,379.5	463.4	628.9	781.1	0.69	-0.12	-133.37	
6,546.0	0.20	133.60	6,464.5	463.4	629.2	781.3	0.30	-0.12	68.35	
6,632.0	0.40	50.70	6,550.5	463.5	629.5	781.6	0.49	0.23	-96.40	
6,717.0	0.10	177.00	6,635.5	463.6	629.8	781.9	0.55	-0.35	148.59	
6,803.0	0.20	72.10	6,721.5	463.6	629.9	782.0	0.29	0.12	-121.98	
6,839.4	0.32	94.95	6,757.9	463.6	630.1	782.1	0.42	0.32	62.71	
TARGET CIRCLE 75'FNL & 75'FEL										
6,888.0	0.50	106.90	6,806.5	463.5	630.4	782.3	0.42	0.38	24.60	
6,974.0	0.50	87.90	6,892.5	463.4	631.2	782.9	0.19	0.00	-22.09	
7,059.0	0.60	126.40	6,977.5	463.2	631.9	783.3	0.44	0.12	45.29	
7,145.0	0.40	127.30	7,063.5	462.7	632.5	783.5	0.23	-0.23	1.05	
7,230.0	0.70	159.90	7,148.5	462.0	632.9	783.4	0.50	0.35	38.35	
7,291.0	0.60	148.80	7,209.5	461.4	633.2	783.3	0.26	-0.16	-18.20	
7,319.1	0.60	148.80	7,237.6	461.2	633.3	783.3	0.00	0.00	0.00	
HARDLINES 75'N & 75'E OF BHL										
7,336.0	0.60	148.80	7,254.4	461.0	633.4	783.2	0.00	0.00	0.00	

Checked By: _____	Approved By: _____	Date: _____
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