

ENSIGN

Directional

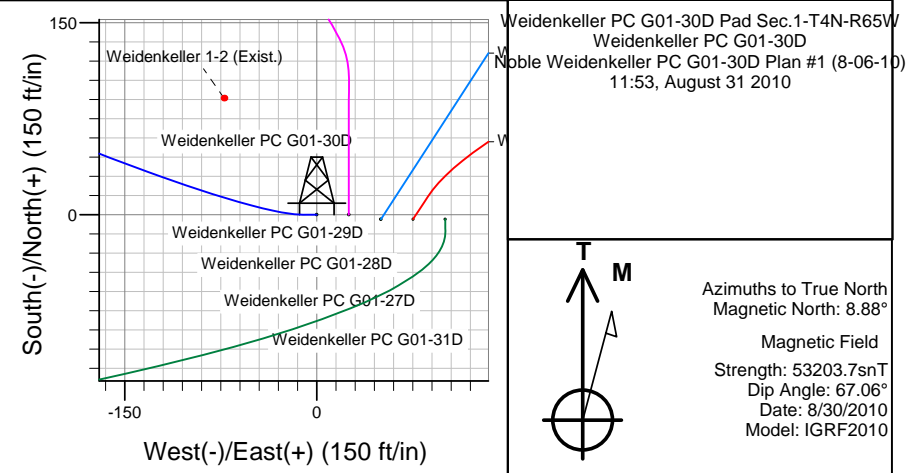
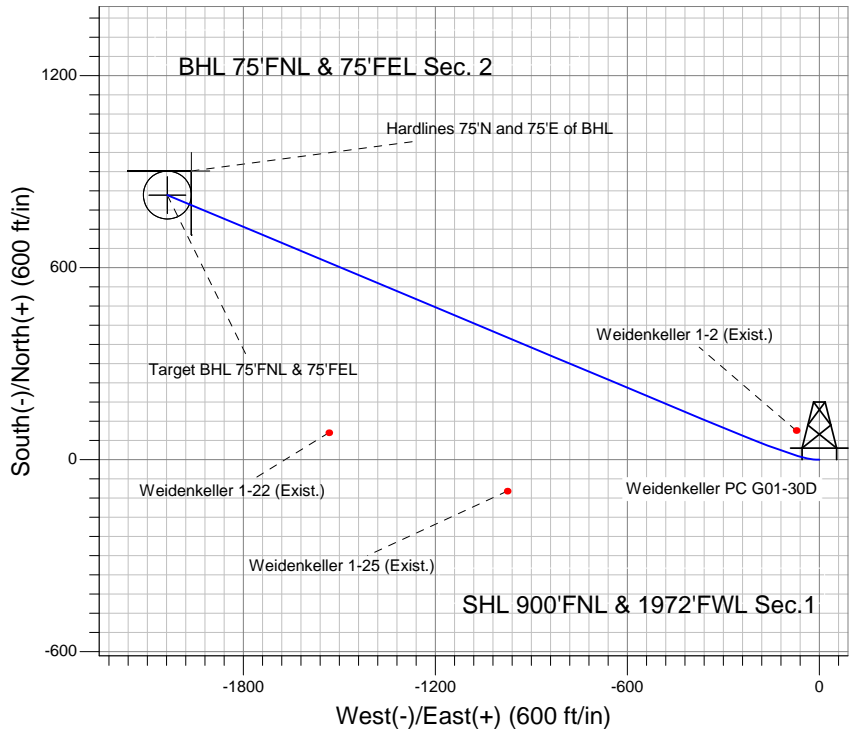
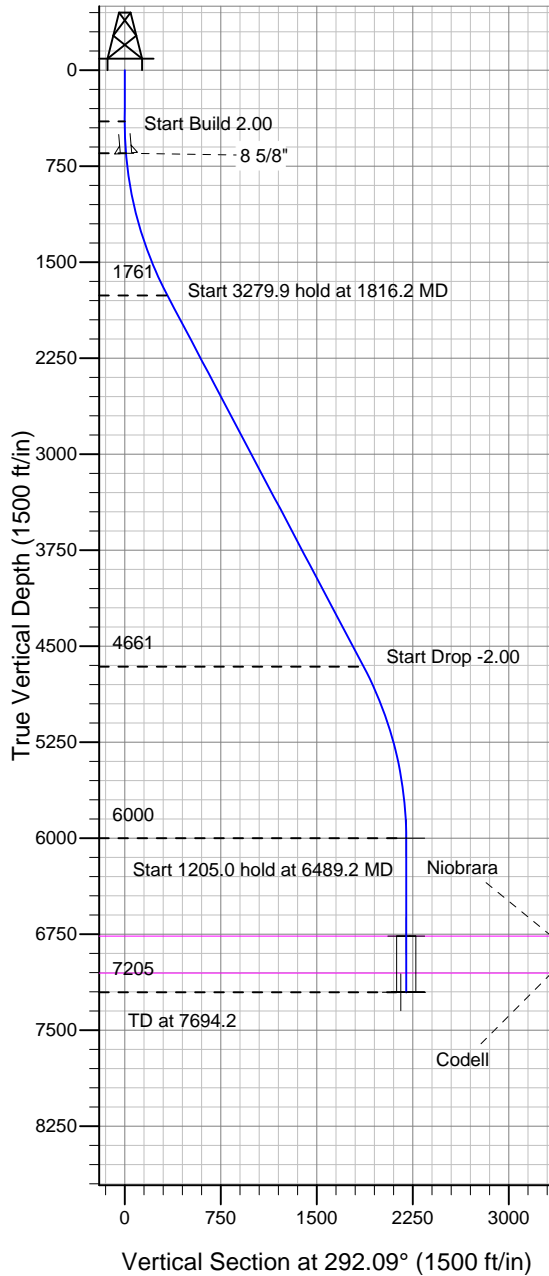
Well Name: **Weidenkeller PC G01-30D**

Surface Location: Weidenkeller PC G01-30D Pad Sec.1-T4N-R65W
North American Datum 1983, US State Plane 1983 Colorado Northern Zone
Ground Elevation: 4752.0

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.0	0.0	1370111.82	3247008.47	40° 20' 45.492 N	104° 36' 49.680 W	

Original Well EleWELL @ 4765.0ft (Original Well Elev)

NOBLE ENERGY INC WELD COUNTY CO



WELLBORE TARGET DETAILS (LAT/LONG)

Name	TVD	+N/-S	+E/-W	Latitude	Longitude	Shape
Target BHL 75'FNL & 75'FEL	6000.0	827.1	-2037.6	40° 20' 53.664 N	104° 37' 15.996 W	Point
Target Circle 75'FNL & 75'FEL	6765.0	827.1	-2037.6	40° 20' 53.664 N	104° 37' 15.996 W	Circle (Radius: 75.0)
Hardlines 75'N and 75'E of BHL	7205.0	902.1	-1962.6	40° 20' 54.405 N	104° 37' 15.028 W	Polygon

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	650.0	5.00	270.00	649.7	0.0	-10.9	2.00	270.00	10.1	
4	1816.2	27.86	292.72	1761.5	106.7	-317.3	2.00	27.12	334.2	
5	5096.1	27.86	292.72	4661.1	698.8	-1731.2	0.00	0.00	1866.9	
6	6489.2	0.00	0.00	6000.0	827.1	-2037.6	2.00	180.00	2199.0	Target BHL 75'FNL & 75'FEL
7	7694.2	0.00	0.00	7205.0	827.1	-2037.6	0.00	0.00	2199.0	



Directional

NOBLE ENERGY INC WELD COUNTY CO

SEC.1-T4N-R65W

Weidenkeller PC G01-30D Pad Sec.1-T4N-R65W

Weidenkeller PC G01-30D

Wellbore #1

Plan: Noble Weidenkeller PC G01-30D Plan #1 (8-06-10)

Standard Planning Report

31 August, 2010



Database:	Landmark	Local Co-ordinate Reference:	Well Weidenkeller PC G01-30D
Company:	NOBLE ENERGY INC WELD COUNTY CO	TVD Reference:	WELL @ 4765.0ft (Original Well Elev)
Project:	SEC.1-T4N-R65W	MD Reference:	WELL @ 4765.0ft (Original Well Elev)
Site:	Weidenkeller PC G01-30D Pad Sec.1-T4N-R65W	North Reference:	True
Well:	Weidenkeller PC G01-30D	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Noble Weidenkeller PC G01-30D Plan #1 (8-06-10)		

Project	SEC.1-T4N-R65W, 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	Weidenkeller PC G01-30D Pad Sec.1-T4N-R65W		
Site Position:		Northing:	1,370,111.83 ft
From:	Lat/Long	Easting:	3,247,008.47 ft
Position Uncertainty:	0.0 ft	Slot Radius:	"
		Latitude:	40° 20' 45.492 N
		Longitude:	104° 36' 49.680 W
		Grid Convergence:	0.57 °

Well	Weidenkeller PC G01-30D		
Well Position	+N/-S	0.0 ft	Northing: 1,370,111.82 ft
	+E/-W	0.0 ft	Easting: 3,247,008.47 ft
Position Uncertainty	0.0 ft	Wellhead Elevation:	ft
		Latitude:	40° 20' 45.492 N
		Longitude:	104° 36' 49.680 W
		Ground Level:	4,752.0 ft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	8/30/2010	8.89	67.06	53,204

Design	Noble Weidenkeller PC G01-30D Plan #1 (8-06-10)			
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	292.09

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	
650.0	5.00	270.00	649.7	0.0	-10.9	2.00	2.00	0.00	270.00	
1,816.2	27.86	292.72	1,761.5	106.7	-317.3	2.00	1.96	1.95	27.12	
5,096.1	27.86	292.72	4,661.1	698.8	-1,731.2	0.00	0.00	0.00	0.00	
6,489.2	0.00	0.00	6,000.0	827.1	-2,037.6	2.00	-2.00	0.00	180.00	Target BHL 75'FNL
7,694.2	0.00	0.00	7,205.0	827.1	-2,037.6	0.00	0.00	0.00	0.00	

Database:	Landmark	Local Co-ordinate Reference:	Well Weidenkeller PC G01-30D
Company:	NOBLE ENERGY INC WELD COUNTY CO	TVD Reference:	WELL @ 4765.0ft (Original Well Elev)
Project:	SEC.1-T4N-R65W	MD Reference:	WELL @ 4765.0ft (Original Well Elev)
Site:	Weidenkeller PC G01-30D Pad Sec.1-T4N-R65W	North Reference:	True
Well:	Weidenkeller PC G01-30D	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Noble Weidenkeller PC G01-30D Plan #1 (8-06		

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	270.00	440.0	0.0	-0.3	0.3	2.00	2.00	0.00
480.0	1.60	270.00	480.0	0.0	-1.1	1.0	2.00	2.00	0.00
520.0	2.40	270.00	520.0	0.0	-2.5	2.3	2.00	2.00	0.00
560.0	3.20	270.00	559.9	0.0	-4.5	4.1	2.00	2.00	0.00
600.0	4.00	270.00	599.8	0.0	-7.0	6.5	2.00	2.00	0.00
640.0	4.80	270.00	639.7	0.0	-10.0	9.3	2.00	2.00	0.00
650.0	5.00	270.00	649.7	0.0	-10.9	10.1	2.00	2.00	0.00
650.3	5.01	270.03	650.0	0.0	-10.9	10.1	2.00	1.78	10.45
8 5/8"									
680.0	5.54	272.83	679.6	0.1	-13.7	12.7	2.00	1.80	9.44
720.0	6.28	275.85	719.3	0.4	-17.8	16.6	2.00	1.84	7.53
760.0	7.03	278.22	759.1	1.0	-22.4	21.1	2.00	1.88	5.94
800.0	7.79	280.14	798.7	1.8	-27.4	26.1	2.00	1.90	4.79
840.0	8.56	281.71	838.3	2.9	-33.0	31.7	2.00	1.92	3.94
880.0	9.33	283.03	877.8	4.2	-39.1	37.8	2.00	1.93	3.29
920.0	10.11	284.15	917.3	5.8	-45.7	44.5	2.00	1.94	2.79
960.0	10.89	285.11	956.6	7.6	-52.7	51.7	2.00	1.95	2.40
1,000.0	11.67	285.94	995.8	9.7	-60.3	59.5	2.00	1.96	2.08
1,040.0	12.46	286.67	1,034.9	12.1	-68.3	67.8	2.00	1.96	1.82
1,080.0	13.25	287.31	1,073.9	14.7	-76.8	76.7	2.00	1.97	1.61
1,120.0	14.03	287.88	1,112.8	17.5	-85.8	86.1	2.00	1.97	1.43
1,160.0	14.82	288.39	1,151.6	20.6	-95.3	96.0	2.00	1.97	1.28
1,200.0	15.62	288.86	1,190.1	24.0	-105.2	106.5	2.00	1.98	1.15
1,240.0	16.41	289.27	1,228.6	27.6	-115.6	117.5	2.00	1.98	1.05
1,280.0	17.20	289.65	1,266.9	31.5	-126.5	129.1	2.00	1.98	0.95
1,320.0	17.99	290.00	1,305.0	35.6	-137.9	141.2	2.00	1.98	0.87
1,360.0	18.79	290.32	1,343.0	39.9	-149.8	153.8	2.00	1.98	0.80
1,400.0	19.58	290.62	1,380.8	44.5	-162.1	166.9	2.00	1.99	0.74
1,440.0	20.37	290.89	1,418.3	49.3	-174.9	180.6	2.00	1.99	0.68
1,480.0	21.17	291.14	1,455.7	54.4	-188.1	194.8	2.00	1.99	0.63
1,520.0	21.96	291.38	1,492.9	59.8	-201.8	209.5	2.00	1.99	0.59
1,560.0	22.76	291.60	1,529.9	65.3	-216.0	224.7	2.00	1.99	0.55
1,600.0	23.56	291.80	1,566.7	71.2	-230.6	240.4	2.00	1.99	0.51
1,640.0	24.35	292.00	1,603.3	77.2	-245.6	256.6	2.00	1.99	0.48
1,680.0	25.15	292.18	1,639.6	83.5	-261.2	273.4	2.00	1.99	0.45
1,720.0	25.95	292.35	1,675.7	90.0	-277.1	290.6	2.00	1.99	0.43
1,760.0	26.74	292.51	1,711.5	96.8	-293.5	308.4	2.00	1.99	0.40
1,800.0	27.54	292.66	1,747.1	103.8	-310.4	326.6	2.00	1.99	0.38
1,816.2	27.86	292.72	1,761.5	106.7	-317.3	334.2	2.00	1.99	0.37
1,840.0	27.86	292.72	1,782.5	111.0	-327.6	345.3	0.00	0.00	0.00
1,880.0	27.86	292.72	1,817.9	118.3	-344.8	364.0	0.00	0.00	0.00
1,920.0	27.86	292.72	1,853.2	125.5	-362.1	382.7	0.00	0.00	0.00

Database:	Landmark	Local Co-ordinate Reference:	Well Weidenkeller PC G01-30D
Company:	NOBLE ENERGY INC WELD COUNTY CO	TVD Reference:	WELL @ 4765.0ft (Original Well Elev)
Project:	SEC.1-T4N-R65W	MD Reference:	WELL @ 4765.0ft (Original Well Elev)
Site:	Weidenkeller PC G01-30D Pad Sec.1-T4N-R65W	North Reference:	True
Well:	Weidenkeller PC G01-30D	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Noble Weidenkeller PC G01-30D Plan #1 (8-06		

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)	
1,960.0	27.86	292.72	1,888.6	132.7	-379.3	401.4	0.00	0.00	0.00	
2,000.0	27.86	292.72	1,924.0	139.9	-396.6	420.1	0.00	0.00	0.00	
2,040.0	27.86	292.72	1,959.3	147.1	-413.8	438.8	0.00	0.00	0.00	
2,080.0	27.86	292.72	1,994.7	154.4	-431.0	457.4	0.00	0.00	0.00	
2,120.0	27.86	292.72	2,030.0	161.6	-448.3	476.1	0.00	0.00	0.00	
2,160.0	27.86	292.72	2,065.4	168.8	-465.5	494.8	0.00	0.00	0.00	
2,200.0	27.86	292.72	2,100.8	176.0	-482.8	513.5	0.00	0.00	0.00	
2,240.0	27.86	292.72	2,136.1	183.2	-500.0	532.2	0.00	0.00	0.00	
2,280.0	27.86	292.72	2,171.5	190.5	-517.3	550.9	0.00	0.00	0.00	
2,320.0	27.86	292.72	2,206.9	197.7	-534.5	569.6	0.00	0.00	0.00	
2,360.0	27.86	292.72	2,242.2	204.9	-551.7	588.3	0.00	0.00	0.00	
2,400.0	27.86	292.72	2,277.6	212.1	-569.0	607.0	0.00	0.00	0.00	
2,440.0	27.86	292.72	2,312.9	219.3	-586.2	625.7	0.00	0.00	0.00	
2,480.0	27.86	292.72	2,348.3	226.6	-603.5	644.4	0.00	0.00	0.00	
2,520.0	27.86	292.72	2,383.7	233.8	-620.7	663.1	0.00	0.00	0.00	
2,560.0	27.86	292.72	2,419.0	241.0	-638.0	681.8	0.00	0.00	0.00	
2,600.0	27.86	292.72	2,454.4	248.2	-655.2	700.5	0.00	0.00	0.00	
2,640.0	27.86	292.72	2,489.8	255.4	-672.4	719.1	0.00	0.00	0.00	
2,680.0	27.86	292.72	2,525.1	262.7	-689.7	737.8	0.00	0.00	0.00	
2,720.0	27.86	292.72	2,560.5	269.9	-706.9	756.5	0.00	0.00	0.00	
2,760.0	27.86	292.72	2,595.9	277.1	-724.2	775.2	0.00	0.00	0.00	
2,800.0	27.86	292.72	2,631.2	284.3	-741.4	793.9	0.00	0.00	0.00	
2,840.0	27.86	292.72	2,666.6	291.5	-758.7	812.6	0.00	0.00	0.00	
2,880.0	27.86	292.72	2,701.9	298.8	-775.9	831.3	0.00	0.00	0.00	
2,920.0	27.86	292.72	2,737.3	306.0	-793.2	850.0	0.00	0.00	0.00	
2,960.0	27.86	292.72	2,772.7	313.2	-810.4	868.7	0.00	0.00	0.00	
3,000.0	27.86	292.72	2,808.0	320.4	-827.6	887.4	0.00	0.00	0.00	
3,040.0	27.86	292.72	2,843.4	327.6	-844.9	906.1	0.00	0.00	0.00	
3,080.0	27.86	292.72	2,878.8	334.9	-862.1	924.8	0.00	0.00	0.00	
3,120.0	27.86	292.72	2,914.1	342.1	-879.4	943.5	0.00	0.00	0.00	
3,160.0	27.86	292.72	2,949.5	349.3	-896.6	962.2	0.00	0.00	0.00	
3,200.0	27.86	292.72	2,984.8	356.5	-913.9	980.8	0.00	0.00	0.00	
3,240.0	27.86	292.72	3,020.2	363.7	-931.1	999.5	0.00	0.00	0.00	
3,280.0	27.86	292.72	3,055.6	371.0	-948.3	1,018.2	0.00	0.00	0.00	
3,320.0	27.86	292.72	3,090.9	378.2	-965.6	1,036.9	0.00	0.00	0.00	
3,360.0	27.86	292.72	3,126.3	385.4	-982.8	1,055.6	0.00	0.00	0.00	
3,400.0	27.86	292.72	3,161.7	392.6	-1,000.1	1,074.3	0.00	0.00	0.00	
3,440.0	27.86	292.72	3,197.0	399.9	-1,017.3	1,093.0	0.00	0.00	0.00	
3,480.0	27.86	292.72	3,232.4	407.1	-1,034.6	1,111.7	0.00	0.00	0.00	
3,520.0	27.86	292.72	3,267.7	414.3	-1,051.8	1,130.4	0.00	0.00	0.00	
3,560.0	27.86	292.72	3,303.1	421.5	-1,069.0	1,149.1	0.00	0.00	0.00	
3,600.0	27.86	292.72	3,338.5	428.7	-1,086.3	1,167.8	0.00	0.00	0.00	
3,640.0	27.86	292.72	3,373.8	436.0	-1,103.5	1,186.5	0.00	0.00	0.00	
3,680.0	27.86	292.72	3,409.2	443.2	-1,120.8	1,205.2	0.00	0.00	0.00	
3,720.0	27.86	292.72	3,444.6	450.4	-1,138.0	1,223.9	0.00	0.00	0.00	
3,760.0	27.86	292.72	3,479.9	457.6	-1,155.3	1,242.5	0.00	0.00	0.00	
3,800.0	27.86	292.72	3,515.3	464.8	-1,172.5	1,261.2	0.00	0.00	0.00	
3,840.0	27.86	292.72	3,550.7	472.1	-1,189.7	1,279.9	0.00	0.00	0.00	
3,880.0	27.86	292.72	3,586.0	479.3	-1,207.0	1,298.6	0.00	0.00	0.00	
3,920.0	27.86	292.72	3,621.4	486.5	-1,224.2	1,317.3	0.00	0.00	0.00	
3,960.0	27.86	292.72	3,656.7	493.7	-1,241.5	1,336.0	0.00	0.00	0.00	
4,000.0	27.86	292.72	3,692.1	500.9	-1,258.7	1,354.7	0.00	0.00	0.00	
4,040.0	27.86	292.72	3,727.5	508.2	-1,276.0	1,373.4	0.00	0.00	0.00	

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Project:	SEC.1-T4N-R65W	MD Reference:	WELL @ 4765.0ft (Original Well Elev)
Site:	Weidenkeller PC G01-30D Pad Sec.1-T4N-R65W	North Reference:	True
Well:	Weidenkeller PC G01-30D	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Noble Weidenkeller PC G01-30D Plan #1 (8-06		

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)
4,080.0	27.86	292.72	3,762.8	515.4	-1,293.2	1,392.1	0.00	0.00	0.00
4,120.0	27.86	292.72	3,798.2	522.6	-1,310.4	1,410.8	0.00	0.00	0.00
4,160.0	27.86	292.72	3,833.6	529.8	-1,327.7	1,429.5	0.00	0.00	0.00
4,200.0	27.86	292.72	3,868.9	537.0	-1,344.9	1,448.2	0.00	0.00	0.00
4,240.0	27.86	292.72	3,904.3	544.3	-1,362.2	1,466.9	0.00	0.00	0.00
4,280.0	27.86	292.72	3,939.6	551.5	-1,379.4	1,485.6	0.00	0.00	0.00
4,320.0	27.86	292.72	3,975.0	558.7	-1,396.7	1,504.2	0.00	0.00	0.00
4,360.0	27.86	292.72	4,010.4	565.9	-1,413.9	1,522.9	0.00	0.00	0.00
4,400.0	27.86	292.72	4,045.7	573.1	-1,431.1	1,541.6	0.00	0.00	0.00
4,440.0	27.86	292.72	4,081.1	580.4	-1,448.4	1,560.3	0.00	0.00	0.00
4,480.0	27.86	292.72	4,116.5	587.6	-1,465.6	1,579.0	0.00	0.00	0.00
4,520.0	27.86	292.72	4,151.8	594.8	-1,482.9	1,597.7	0.00	0.00	0.00
4,560.0	27.86	292.72	4,187.2	602.0	-1,500.1	1,616.4	0.00	0.00	0.00
4,600.0	27.86	292.72	4,222.5	609.2	-1,517.4	1,635.1	0.00	0.00	0.00
4,640.0	27.86	292.72	4,257.9	616.5	-1,534.6	1,653.8	0.00	0.00	0.00
4,680.0	27.86	292.72	4,293.3	623.7	-1,551.8	1,672.5	0.00	0.00	0.00
4,720.0	27.86	292.72	4,328.6	630.9	-1,569.1	1,691.2	0.00	0.00	0.00
4,760.0	27.86	292.72	4,364.0	638.1	-1,586.3	1,709.9	0.00	0.00	0.00
4,800.0	27.86	292.72	4,399.4	645.3	-1,603.6	1,728.6	0.00	0.00	0.00
4,840.0	27.86	292.72	4,434.7	652.6	-1,620.8	1,747.2	0.00	0.00	0.00
4,880.0	27.86	292.72	4,470.1	659.8	-1,638.1	1,765.9	0.00	0.00	0.00
4,920.0	27.86	292.72	4,505.5	667.0	-1,655.3	1,784.6	0.00	0.00	0.00
4,960.0	27.86	292.72	4,540.8	674.2	-1,672.5	1,803.3	0.00	0.00	0.00
5,000.0	27.86	292.72	4,576.2	681.4	-1,689.8	1,822.0	0.00	0.00	0.00
5,040.0	27.86	292.72	4,611.5	688.7	-1,707.0	1,840.7	0.00	0.00	0.00
5,080.0	27.86	292.72	4,646.9	695.9	-1,724.3	1,859.4	0.00	0.00	0.00
5,096.1	27.86	292.72	4,661.1	698.8	-1,731.2	1,866.9	0.00	0.00	0.00
5,120.0	27.38	292.72	4,682.3	703.1	-1,741.4	1,878.0	2.00	-2.00	0.00
5,160.0	26.58	292.72	4,718.0	710.1	-1,758.2	1,896.2	2.00	-2.00	0.00
5,200.0	25.78	292.72	4,753.9	716.9	-1,774.5	1,913.8	2.00	-2.00	0.00
5,240.0	24.98	292.72	4,790.0	723.5	-1,790.3	1,931.0	2.00	-2.00	0.00
5,280.0	24.18	292.72	4,826.4	730.0	-1,805.6	1,947.6	2.00	-2.00	0.00
5,320.0	23.38	292.72	4,863.0	736.2	-1,820.5	1,963.7	2.00	-2.00	0.00
5,360.0	22.58	292.72	4,899.8	742.2	-1,834.9	1,979.3	2.00	-2.00	0.00
5,400.0	21.78	292.72	4,936.8	748.1	-1,848.8	1,994.4	2.00	-2.00	0.00
5,440.0	20.98	292.72	4,974.1	753.7	-1,862.3	2,009.0	2.00	-2.00	0.00
5,480.0	20.18	292.72	5,011.5	759.1	-1,875.3	2,023.1	2.00	-2.00	0.00
5,520.0	19.38	292.72	5,049.2	764.3	-1,887.8	2,036.6	2.00	-2.00	0.00
5,560.0	18.58	292.72	5,087.0	769.4	-1,899.8	2,049.6	2.00	-2.00	0.00
5,600.0	17.78	292.72	5,125.0	774.2	-1,911.3	2,062.1	2.00	-2.00	0.00
5,640.0	16.98	292.72	5,163.2	778.8	-1,922.3	2,074.1	2.00	-2.00	0.00
5,680.0	16.18	292.72	5,201.5	783.2	-1,932.8	2,085.5	2.00	-2.00	0.00
5,720.0	15.38	292.72	5,240.0	787.4	-1,942.9	2,096.4	2.00	-2.00	0.00
5,760.0	14.58	292.72	5,278.6	791.4	-1,952.4	2,106.7	2.00	-2.00	0.00
5,800.0	13.78	292.72	5,317.4	795.2	-1,961.4	2,116.5	2.00	-2.00	0.00
5,840.0	12.98	292.72	5,356.3	798.8	-1,970.0	2,125.8	2.00	-2.00	0.00
5,880.0	12.18	292.72	5,395.4	802.1	-1,978.0	2,134.5	2.00	-2.00	0.00
5,920.0	11.38	292.72	5,434.5	805.3	-1,985.6	2,142.7	2.00	-2.00	0.00
5,960.0	10.58	292.72	5,473.8	808.2	-1,992.6	2,150.3	2.00	-2.00	0.00
6,000.0	9.78	292.72	5,513.2	811.0	-1,999.1	2,157.3	2.00	-2.00	0.00
6,040.0	8.98	292.72	5,552.6	813.5	-2,005.1	2,163.9	2.00	-2.00	0.00
6,080.0	8.18	292.72	5,592.2	815.8	-2,010.6	2,169.8	2.00	-2.00	0.00
6,120.0	7.38	292.72	5,631.8	817.9	-2,015.6	2,175.3	2.00	-2.00	0.00

Database:	Landmark	Local Co-ordinate Reference:	Well Weidenkeller PC G01-30D
Company:	NOBLE ENERGY INC WELD COUNTY CO	TVD Reference:	WELL @ 4765.0ft (Original Well Elev)
Project:	SEC.1-T4N-R65W	MD Reference:	WELL @ 4765.0ft (Original Well Elev)
Site:	Weidenkeller PC G01-30D Pad Sec.1-T4N-R65W	North Reference:	True
Well:	Weidenkeller PC G01-30D	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Noble Weidenkeller PC G01-30D Plan #1 (8-06		

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	6.58	292.72	5,671.5	819.8	-2,020.1	2,180.1	2.00	-2.00	0.00
6,200.0	5.78	292.72	5,711.3	821.4	-2,024.1	2,184.4	2.00	-2.00	0.00
6,240.0	4.98	292.72	5,751.1	822.9	-2,027.6	2,188.2	2.00	-2.00	0.00
6,280.0	4.18	292.72	5,791.0	824.1	-2,030.5	2,191.4	2.00	-2.00	0.00
6,320.0	3.38	292.72	5,830.9	825.1	-2,032.9	2,194.0	2.00	-2.00	0.00
6,360.0	2.58	292.72	5,870.8	825.9	-2,034.9	2,196.1	2.00	-2.00	0.00
6,400.0	1.78	292.72	5,910.8	826.5	-2,036.3	2,197.6	2.00	-2.00	0.00
6,440.0	0.98	292.72	5,950.8	826.9	-2,037.2	2,198.6	2.00	-2.00	0.00
6,480.0	0.18	292.72	5,990.8	827.1	-2,037.5	2,199.0	2.00	-2.00	0.00
6,489.2	0.00	0.00	6,000.0	827.1	-2,037.6	2,199.0	2.00	-2.00	0.00
Target BHL 75'FNL & 75'FEL									
6,520.0	0.00	0.00	6,030.8	827.1	-2,037.6	2,199.0	0.00	0.00	0.00
6,560.0	0.00	0.00	6,070.8	827.1	-2,037.6	2,199.0	0.00	0.00	0.00
6,600.0	0.00	0.00	6,110.8	827.1	-2,037.6	2,199.0	0.00	0.00	0.00
6,640.0	0.00	0.00	6,150.8	827.1	-2,037.6	2,199.0	0.00	0.00	0.00
6,680.0	0.00	0.00	6,190.8	827.1	-2,037.6	2,199.0	0.00	0.00	0.00
6,720.0	0.00	0.00	6,230.8	827.1	-2,037.6	2,199.0	0.00	0.00	0.00
6,760.0	0.00	0.00	6,270.8	827.1	-2,037.6	2,199.0	0.00	0.00	0.00
6,800.0	0.00	0.00	6,310.8	827.1	-2,037.6	2,199.0	0.00	0.00	0.00
6,840.0	0.00	0.00	6,350.8	827.1	-2,037.6	2,199.0	0.00	0.00	0.00
6,880.0	0.00	0.00	6,390.8	827.1	-2,037.6	2,199.0	0.00	0.00	0.00
6,920.0	0.00	0.00	6,430.8	827.1	-2,037.6	2,199.0	0.00	0.00	0.00
6,960.0	0.00	0.00	6,470.8	827.1	-2,037.6	2,199.0	0.00	0.00	0.00
7,000.0	0.00	0.00	6,510.8	827.1	-2,037.6	2,199.0	0.00	0.00	0.00
7,040.0	0.00	0.00	6,550.8	827.1	-2,037.6	2,199.0	0.00	0.00	0.00
7,080.0	0.00	0.00	6,590.8	827.1	-2,037.6	2,199.0	0.00	0.00	0.00
7,120.0	0.00	0.00	6,630.8	827.1	-2,037.6	2,199.0	0.00	0.00	0.00
7,160.0	0.00	0.00	6,670.8	827.1	-2,037.6	2,199.0	0.00	0.00	0.00
7,200.0	0.00	0.00	6,710.8	827.1	-2,037.6	2,199.0	0.00	0.00	0.00
7,240.0	0.00	0.00	6,750.8	827.1	-2,037.6	2,199.0	0.00	0.00	0.00
7,254.2	0.00	0.00	6,765.0	827.1	-2,037.6	2,199.0	0.00	0.00	0.00
Niobrara - Target Circle 75'FNL & 75'FEL									
7,280.0	0.00	0.00	6,790.8	827.1	-2,037.6	2,199.0	0.00	0.00	0.00
7,320.0	0.00	0.00	6,830.8	827.1	-2,037.6	2,199.0	0.00	0.00	0.00
7,360.0	0.00	0.00	6,870.8	827.1	-2,037.6	2,199.0	0.00	0.00	0.00
7,400.0	0.00	0.00	6,910.8	827.1	-2,037.6	2,199.0	0.00	0.00	0.00
7,440.0	0.00	0.00	6,950.8	827.1	-2,037.6	2,199.0	0.00	0.00	0.00
7,480.0	0.00	0.00	6,990.8	827.1	-2,037.6	2,199.0	0.00	0.00	0.00
7,520.0	0.00	0.00	7,030.8	827.1	-2,037.6	2,199.0	0.00	0.00	0.00
7,544.2	0.00	0.00	7,055.0	827.1	-2,037.6	2,199.0	0.00	0.00	0.00
Codell									
7,560.0	0.00	0.00	7,070.8	827.1	-2,037.6	2,199.0	0.00	0.00	0.00
7,600.0	0.00	0.00	7,110.8	827.1	-2,037.6	2,199.0	0.00	0.00	0.00
7,640.0	0.00	0.00	7,150.8	827.1	-2,037.6	2,199.0	0.00	0.00	0.00
7,680.0	0.00	0.00	7,190.8	827.1	-2,037.6	2,199.0	0.00	0.00	0.00
7,694.2	0.00	0.00	7,205.0	827.1	-2,037.6	2,199.0	0.00	0.00	0.00
Hardlines 75'N and 75'E of BHL									

Database:	Landmark	Local Co-ordinate Reference:	Well Weidenkeller PC G01-30D
Company:	NOBLE ENERGY INC WELD COUNTY CO	TVD Reference:	WELL @ 4765.0ft (Original Well Elev)
Project:	SEC.1-T4N-R65W	MD Reference:	WELL @ 4765.0ft (Original Well Elev)
Site:	Weidenkeller PC G01-30D Pad Sec.1-T4N-R65W	North Reference:	True
Well:	Weidenkeller PC G01-30D	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Noble Weidenkeller PC G01-30D Plan #1 (8-06		

Targets									
Target Name	Dip Angle	Dip Dir.	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
- hit/miss target	(°)	(°)	(ft)	(ft)	(ft)	(ft)	(ft)		
- Shape									
Hardlines 75°N and 75°E	0.00	0.00	7,205.0	902.1	-1,962.6	1,370,994.23	3,245,037.04	40° 20' 54.405 N	104° 37' 15.028 W
- plan misses by 106.1ft at 7694.2ft MD (7205.0 TVD, 827.1 N, -2037.6 E)									
- Polygon									
Point 1			7,205.0	0.0	0.0	1,370,994.23	3,245,037.04		
Point 2			7,205.0	0.0	-200.0	1,370,992.23	3,244,837.06		
Point 3			7,205.0	0.0	0.0	1,370,994.23	3,245,037.04		
Point 4			7,205.0	-200.0	0.0	1,370,794.25	3,245,039.04		
Target BHL 75°FNL & 75°E	0.00	0.00	6,000.0	827.1	-2,037.6	1,370,918.46	3,244,962.84	40° 20' 53.664 N	104° 37' 15.996 W
- plan hits target									
- Point									
Target Circle 75°FNL & 75°E	0.00	0.00	6,765.0	827.1	-2,037.6	1,370,918.46	3,244,962.84	40° 20' 53.664 N	104° 37' 15.996 W
- plan hits target									
- Circle (radius 75.0)									

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 (°)
7,254.2	6,765.0	Niobrara		0.00	
7,544.2	7,055.0	Codell		0.00	