

ENSIGN

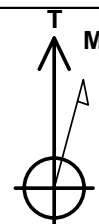
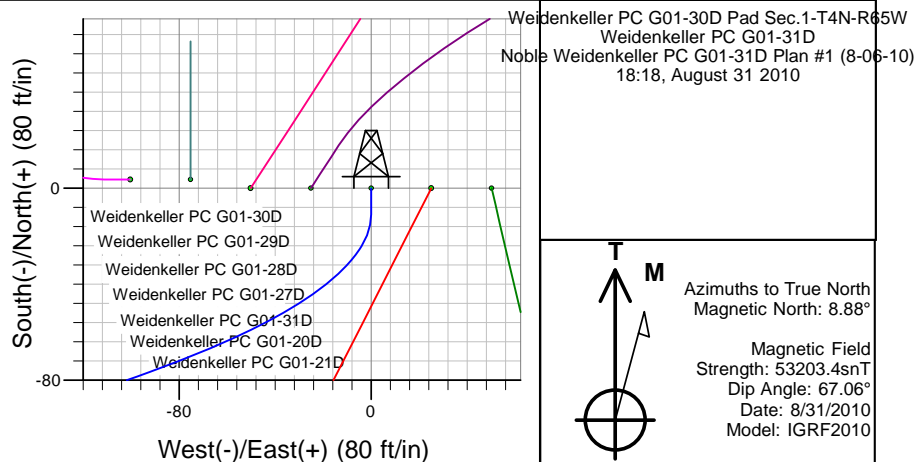
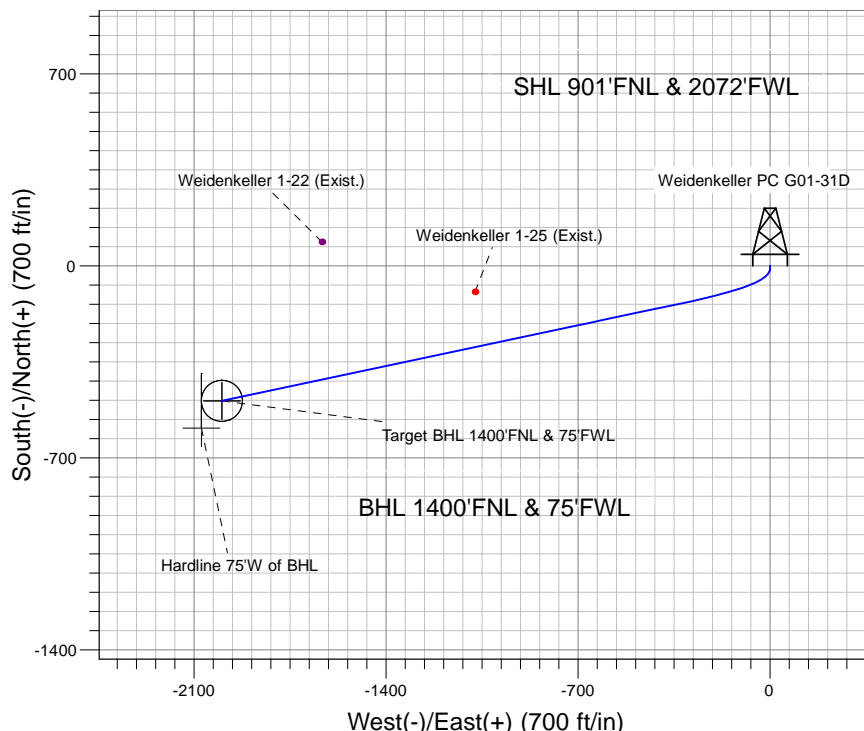
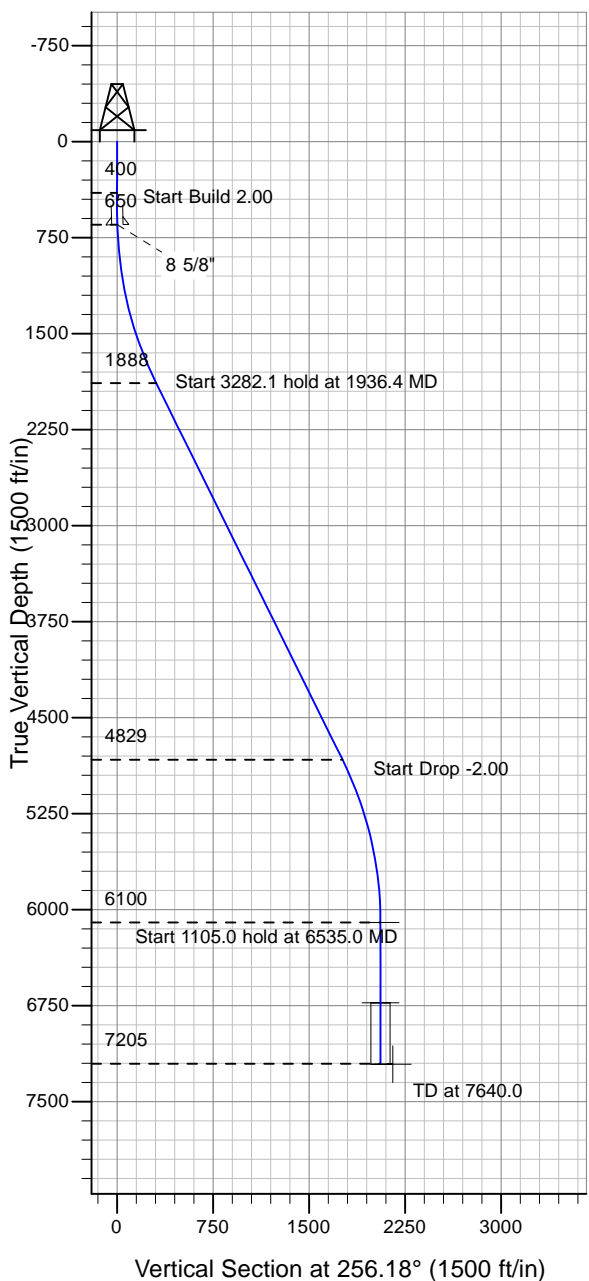
Directional

Well Name: Weidenkeller PC G01-31D

Surface Location: Weidenkeller PC G01-30D Pad Sec.1-T4N-R65W
 North American Datum 1983 , US State Plane 1983 , Colorado Northern Zone
 Ground Elevation: 4755.0

+N/-S+E/-W Northing Easting Latitude Longitude Slot
 0.0 0.0 1370109.19 3247108.85 40° 20' 45.456 N 104° 36' 48.384 W
 Original Well Elev WELL @ 4768.0ft (Original Well Elev)

NOBLE ENERGY INC WELD COUNTY CO



Azimuths to True North
 Magnetic North: 8.88°

Magnetic Field
 Strength: 53203.4snT
 Dip Angle: 67.06°
 Date: 8/31/2010
 Model: IGRF2010

WELLBORE TARGET DETAILS (LAT/LONG)

Name	TVD	+N/-S	+E/-W	Latitude	Longitude	Shape
Target BHL 1400'FNL & 75'FWL	6100.0	-491.7	-1998.6	40° 20' 40.596 N	104° 37' 14.196 W	Point
Target Circle 1400'FNL & 75'FWL	6728.0	-491.7	-1998.6	40° 20' 40.596 N	104° 37' 14.196 W	Circle (Radius: 75.0)
Hardline 75'W of BHL	7208.0	-591.7	-2073.6	40° 20' 39.608 N	104° 37' 15.164 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	180.00	649.7	-10.9	0.0	2.00	180.00	2.6	
4	1936.4	26.33	258.03	1887.8	-128.1	-283.9	2.00	88.21	306.2	
5	5218.5	26.33	258.03	4829.4	-430.1	-1707.9	0.00	0.00	1761.2	
6	6535.0	0.00	0.00	6100.0	-491.7	-1998.6	2.00	180.00	2058.2	Target BHL 1400'FNL & 75'FWL
7	7640.0	0.00	0.00	7205.0	-491.7	-1998.6	0.00	0.00	2058.2	



NOBLE ENERGY INC WELD COUNTY CO

SEC.1-T4N-R65W

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

Weidenkeller PC G01-31D

Wellbore #1

Plan: Noble Weidenkeller PC G01-31D Plan #1 (8-06-10)

Standard Planning Report

31 August, 2010



Database:	EDM den0-adp01 Server Data	Local Co-ordinate Reference:	Well Weidenkeller PC G01-31D
Company:	NOBLE ENERGY INC WELD COUNTY CO	TVD Reference:	WELL @ 4768.0ft (Original Well Elev)
Project:	SEC.1-T4N-R65W	MD Reference:	WELL @ 4768.0ft (Original Well Elev)
Site:	Weidenkeller PC G01-30D Pad Sec.1-T4N-R65W	North Reference:	True
Well:	Weidenkeller PC G01-31D	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Noble Weidenkeller PC G01-31D 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:	1,370,111.83ft	Latitude:	40° 20' 45.492 N
From:	Lat/Long	Easting:	3,247,008.47ft	Longitude:	104° 36' 49.680 W
Position Uncertainty:	0.0 ft	Slot Radius:	"	Grid Convergence:	0.57 °

Well	Weidenkeller PC G01-31D					
Well Position	+N-S	-3.7 ft	Northing:	1,370,109.19 ft	Latitude:	40° 20' 45.456 N
	+E-W	100.3 ft	Easting:	3,247,108.85 ft	Longitude:	104° 36' 48.384 W
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	4,755.0 ft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	8/31/2010	8.88	67.06	53,203

Design	Noble Weidenkeller PC G01-31D 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	256.18

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	180.00	649.7	-10.9	0.0	2.00	2.00	0.00	180.00	
1,936.4	26.33	258.03	1,887.8	-128.1	-283.9	2.00	1.66	6.07	88.21	
5,218.5	26.33	258.03	4,829.4	-430.1	-1,707.9	0.00	0.00	0.00	0.00	
6,535.0	0.00	0.00	6,100.0	-491.7	-1,998.6	2.00	-2.00	0.00	180.00	Target BHL 1400'FI
7,640.0	0.00	0.00	7,205.0	-491.7	-1,998.6	0.00	0.00	0.00	0.00	

Database:	EDM den0-adp01 Server Data	Local Co-ordinate Reference:	Well Weidenkeller PC G01-31D
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Project:	SEC.1-T4N-R65W	MD Reference:	WELL @ 4768.0ft (Original Well Elev)
Site:	Weidenkeller PC G01-30D Pad Sec.1-T4N-R65W	North Reference:	True
Well:	Weidenkeller PC G01-31D	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Noble Weidenkeller PC G01-31D 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	180.00	440.0	-0.3	0.0	0.1	2.00	2.00	0.00
480.0	1.60	180.00	480.0	-1.1	0.0	0.3	2.00	2.00	0.00
520.0	2.40	180.00	520.0	-2.5	0.0	0.6	2.00	2.00	0.00
560.0	3.20	180.00	559.9	-4.5	0.0	1.1	2.00	2.00	0.00
600.0	4.00	180.00	599.8	-7.0	0.0	1.7	2.00	2.00	0.00
640.0	4.80	180.00	639.7	-10.0	0.0	2.4	2.00	2.00	0.00
650.0	5.00	180.00	649.7	-10.9	0.0	2.6	2.00	2.00	0.00
650.3	5.00	180.07	650.0	-10.9	0.0	2.6	2.00	0.06	22.93
8 5/8"									
680.0	5.05	186.82	679.6	-13.5	-0.2	3.4	2.00	0.18	22.74
720.0	5.23	195.53	719.4	-17.0	-0.9	4.9	2.00	0.45	21.76
760.0	5.52	203.49	759.2	-20.6	-2.1	7.0	2.00	0.73	19.91
800.0	5.91	210.54	799.0	-24.1	-3.9	9.6	2.00	0.96	17.63
840.0	6.37	216.65	838.8	-27.6	-6.3	12.7	2.00	1.16	15.28
880.0	6.89	221.89	878.5	-31.2	-9.2	16.4	2.00	1.31	13.10
920.0	7.47	226.36	918.2	-34.8	-12.7	20.7	2.00	1.43	11.18
960.0	8.08	230.18	957.9	-38.4	-16.7	25.4	2.00	1.53	9.54
1,000.0	8.72	233.45	997.4	-42.0	-21.3	30.8	2.00	1.60	8.18
1,040.0	9.39	236.27	1,036.9	-45.6	-26.5	36.6	2.00	1.66	7.05
1,080.0	10.07	238.71	1,076.4	-49.2	-32.2	43.0	2.00	1.71	6.11
1,120.0	10.77	240.85	1,115.7	-52.9	-38.4	50.0	2.00	1.75	5.33
1,160.0	11.49	242.72	1,154.9	-56.5	-45.3	57.4	2.00	1.78	4.68
1,200.0	12.21	244.37	1,194.1	-60.2	-52.6	65.5	2.00	1.81	4.14
1,240.0	12.94	245.84	1,233.1	-63.8	-60.5	74.0	2.00	1.83	3.68
1,280.0	13.69	247.16	1,272.1	-67.5	-69.0	83.1	2.00	1.85	3.29
1,320.0	14.43	248.34	1,310.9	-71.2	-78.0	92.7	2.00	1.87	2.95
1,360.0	15.18	249.41	1,349.5	-74.9	-87.5	102.8	2.00	1.88	2.67
1,400.0	15.94	250.38	1,388.1	-78.6	-97.6	113.5	2.00	1.89	2.42
1,440.0	16.70	251.26	1,426.4	-82.2	-108.2	124.7	2.00	1.90	2.21
1,480.0	17.47	252.07	1,464.7	-85.9	-119.3	136.4	2.00	1.91	2.02
1,520.0	18.23	252.81	1,502.8	-89.6	-131.0	148.6	2.00	1.92	1.86
1,560.0	19.00	253.50	1,540.7	-93.3	-143.2	161.4	2.00	1.92	1.71
1,600.0	19.77	254.13	1,578.4	-97.0	-156.0	174.7	2.00	1.93	1.58
1,640.0	20.55	254.71	1,615.9	-100.7	-169.3	188.4	2.00	1.94	1.47
1,680.0	21.32	255.26	1,653.3	-104.4	-183.1	202.7	2.00	1.94	1.37
1,720.0	22.10	255.77	1,690.5	-108.1	-197.4	217.5	2.00	1.94	1.27
1,760.0	22.88	256.25	1,727.4	-111.8	-212.3	232.8	2.00	1.95	1.19
1,800.0	23.66	256.69	1,764.2	-115.5	-227.6	248.6	2.00	1.95	1.12
1,840.0	24.44	257.11	1,800.7	-119.2	-243.5	264.9	2.00	1.95	1.05
1,880.0	25.22	257.51	1,837.0	-122.9	-259.9	281.7	2.00	1.96	0.99
1,920.0	26.01	257.88	1,873.1	-126.6	-276.8	299.0	2.00	1.96	0.93
1,936.4	26.33	258.03	1,887.8	-128.1	-283.9	306.2	2.00	1.96	0.90

Database:	EDM den0-adp01 Server Data	Local Co-ordinate Reference:	Well Weidenkeller PC G01-31D
Company:	NOBLE ENERGY INC WELD COUNTY CO	TVD Reference:	WELL @ 4768.0ft (Original Well Elev)
Project:	SEC.1-T4N-R65W	MD Reference:	WELL @ 4768.0ft (Original Well Elev)
Site:	Weidenkeller PC G01-30D Pad Sec.1-T4N-R65W	North Reference:	True
Well:	Weidenkeller PC G01-31D	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Noble Weidenkeller PC G01-31D 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	26.33	258.03	1,908.9	-130.3	-294.1	316.7	0.00	0.00	0.00
2,000.0	26.33	258.03	1,944.8	-134.0	-311.5	334.4	0.00	0.00	0.00
2,040.0	26.33	258.03	1,980.6	-137.6	-328.8	352.2	0.00	0.00	0.00
2,080.0	26.33	258.03	2,016.5	-141.3	-346.2	369.9	0.00	0.00	0.00
2,120.0	26.33	258.03	2,052.3	-145.0	-363.5	387.6	0.00	0.00	0.00
2,160.0	26.33	258.03	2,088.2	-148.7	-380.9	405.4	0.00	0.00	0.00
2,200.0	26.33	258.03	2,124.0	-152.4	-398.2	423.1	0.00	0.00	0.00
2,240.0	26.33	258.03	2,159.9	-156.0	-415.6	440.8	0.00	0.00	0.00
2,280.0	26.33	258.03	2,195.7	-159.7	-432.9	458.6	0.00	0.00	0.00
2,320.0	26.33	258.03	2,231.6	-163.4	-450.3	476.3	0.00	0.00	0.00
2,360.0	26.33	258.03	2,267.4	-167.1	-467.7	494.0	0.00	0.00	0.00
2,400.0	26.33	258.03	2,303.3	-170.8	-485.0	511.8	0.00	0.00	0.00
2,440.0	26.33	258.03	2,339.1	-174.4	-502.4	529.5	0.00	0.00	0.00
2,480.0	26.33	258.03	2,375.0	-178.1	-519.7	547.2	0.00	0.00	0.00
2,520.0	26.33	258.03	2,410.8	-181.8	-537.1	565.0	0.00	0.00	0.00
2,560.0	26.33	258.03	2,446.7	-185.5	-554.4	582.7	0.00	0.00	0.00
2,600.0	26.33	258.03	2,482.5	-189.2	-571.8	600.4	0.00	0.00	0.00
2,640.0	26.33	258.03	2,518.4	-192.8	-589.1	618.2	0.00	0.00	0.00
2,680.0	26.33	258.03	2,554.2	-196.5	-606.5	635.9	0.00	0.00	0.00
2,720.0	26.33	258.03	2,590.1	-200.2	-623.9	653.6	0.00	0.00	0.00
2,760.0	26.33	258.03	2,625.9	-203.9	-641.2	671.4	0.00	0.00	0.00
2,800.0	26.33	258.03	2,661.8	-207.6	-658.6	689.1	0.00	0.00	0.00
2,840.0	26.33	258.03	2,697.6	-211.2	-675.9	706.8	0.00	0.00	0.00
2,880.0	26.33	258.03	2,733.5	-214.9	-693.3	724.5	0.00	0.00	0.00
2,920.0	26.33	258.03	2,769.3	-218.6	-710.6	742.3	0.00	0.00	0.00
2,960.0	26.33	258.03	2,805.2	-222.3	-728.0	760.0	0.00	0.00	0.00
3,000.0	26.33	258.03	2,841.0	-226.0	-745.3	777.7	0.00	0.00	0.00
3,040.0	26.33	258.03	2,876.9	-229.6	-762.7	795.5	0.00	0.00	0.00
3,080.0	26.33	258.03	2,912.7	-233.3	-780.1	813.2	0.00	0.00	0.00
3,120.0	26.33	258.03	2,948.6	-237.0	-797.4	830.9	0.00	0.00	0.00
3,160.0	26.33	258.03	2,984.4	-240.7	-814.8	848.7	0.00	0.00	0.00
3,200.0	26.33	258.03	3,020.3	-244.4	-832.1	866.4	0.00	0.00	0.00
3,240.0	26.33	258.03	3,056.1	-248.0	-849.5	884.1	0.00	0.00	0.00
3,280.0	26.33	258.03	3,092.0	-251.7	-866.8	901.9	0.00	0.00	0.00
3,320.0	26.33	258.03	3,127.8	-255.4	-884.2	919.6	0.00	0.00	0.00
3,360.0	26.33	258.03	3,163.7	-259.1	-901.5	937.3	0.00	0.00	0.00
3,400.0	26.33	258.03	3,199.5	-262.8	-918.9	955.1	0.00	0.00	0.00
3,440.0	26.33	258.03	3,235.4	-266.5	-936.3	972.8	0.00	0.00	0.00
3,480.0	26.33	258.03	3,271.2	-270.1	-953.6	990.5	0.00	0.00	0.00
3,520.0	26.33	258.03	3,307.1	-273.8	-971.0	1,008.3	0.00	0.00	0.00
3,560.0	26.33	258.03	3,342.9	-277.5	-988.3	1,026.0	0.00	0.00	0.00
3,600.0	26.33	258.03	3,378.8	-281.2	-1,005.7	1,043.7	0.00	0.00	0.00
3,640.0	26.33	258.03	3,414.6	-284.9	-1,023.0	1,061.5	0.00	0.00	0.00
3,680.0	26.33	258.03	3,450.5	-288.5	-1,040.4	1,079.2	0.00	0.00	0.00
3,720.0	26.33	258.03	3,486.3	-292.2	-1,057.7	1,096.9	0.00	0.00	0.00
3,760.0	26.33	258.03	3,522.2	-295.9	-1,075.1	1,114.7	0.00	0.00	0.00
3,800.0	26.33	258.03	3,558.0	-299.6	-1,092.4	1,132.4	0.00	0.00	0.00
3,840.0	26.33	258.03	3,593.9	-303.3	-1,109.8	1,150.1	0.00	0.00	0.00
3,880.0	26.33	258.03	3,629.7	-306.9	-1,127.2	1,167.8	0.00	0.00	0.00
3,920.0	26.33	258.03	3,665.6	-310.6	-1,144.5	1,185.6	0.00	0.00	0.00
3,960.0	26.33	258.03	3,701.5	-314.3	-1,161.9	1,203.3	0.00	0.00	0.00
4,000.0	26.33	258.03	3,737.3	-318.0	-1,179.2	1,221.0	0.00	0.00	0.00
4,040.0	26.33	258.03	3,773.2	-321.7	-1,196.6	1,238.8	0.00	0.00	0.00

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Project:	SEC.1-T4N-R65W	MD Reference:	WELL @ 4768.0ft (Original Well Elev)
Site:	Weidenkeller PC G01-30D Pad Sec.1-T4N-R65W	North Reference:	True
Well:	Weidenkeller PC G01-31D	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Noble Weidenkeller PC G01-31D 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	26.33	258.03	3,809.0	-325.3	-1,213.9	1,256.5	0.00	0.00	0.00
4,120.0	26.33	258.03	3,844.9	-329.0	-1,231.3	1,274.2	0.00	0.00	0.00
4,160.0	26.33	258.03	3,880.7	-332.7	-1,248.6	1,292.0	0.00	0.00	0.00
4,200.0	26.33	258.03	3,916.6	-336.4	-1,266.0	1,309.7	0.00	0.00	0.00
4,240.0	26.33	258.03	3,952.4	-340.1	-1,283.4	1,327.4	0.00	0.00	0.00
4,280.0	26.33	258.03	3,988.3	-343.7	-1,300.7	1,345.2	0.00	0.00	0.00
4,320.0	26.33	258.03	4,024.1	-347.4	-1,318.1	1,362.9	0.00	0.00	0.00
4,360.0	26.33	258.03	4,060.0	-351.1	-1,335.4	1,380.6	0.00	0.00	0.00
4,400.0	26.33	258.03	4,095.8	-354.8	-1,352.8	1,398.4	0.00	0.00	0.00
4,440.0	26.33	258.03	4,131.7	-358.5	-1,370.1	1,416.1	0.00	0.00	0.00
4,480.0	26.33	258.03	4,167.5	-362.1	-1,387.5	1,433.8	0.00	0.00	0.00
4,520.0	26.33	258.03	4,203.4	-365.8	-1,404.8	1,451.6	0.00	0.00	0.00
4,560.0	26.33	258.03	4,239.2	-369.5	-1,422.2	1,469.3	0.00	0.00	0.00
4,600.0	26.33	258.03	4,275.1	-373.2	-1,439.6	1,487.0	0.00	0.00	0.00
4,640.0	26.33	258.03	4,310.9	-376.9	-1,456.9	1,504.8	0.00	0.00	0.00
4,680.0	26.33	258.03	4,346.8	-380.5	-1,474.3	1,522.5	0.00	0.00	0.00
4,720.0	26.33	258.03	4,382.6	-384.2	-1,491.6	1,540.2	0.00	0.00	0.00
4,760.0	26.33	258.03	4,418.5	-387.9	-1,509.0	1,558.0	0.00	0.00	0.00
4,800.0	26.33	258.03	4,454.3	-391.6	-1,526.3	1,575.7	0.00	0.00	0.00
4,840.0	26.33	258.03	4,490.2	-395.3	-1,543.7	1,593.4	0.00	0.00	0.00
4,880.0	26.33	258.03	4,526.0	-398.9	-1,561.0	1,611.1	0.00	0.00	0.00
4,920.0	26.33	258.03	4,561.9	-402.6	-1,578.4	1,628.9	0.00	0.00	0.00
4,960.0	26.33	258.03	4,597.7	-406.3	-1,595.8	1,646.6	0.00	0.00	0.00
5,000.0	26.33	258.03	4,633.6	-410.0	-1,613.1	1,664.3	0.00	0.00	0.00
5,040.0	26.33	258.03	4,669.4	-413.7	-1,630.5	1,682.1	0.00	0.00	0.00
5,080.0	26.33	258.03	4,705.3	-417.3	-1,647.8	1,699.8	0.00	0.00	0.00
5,120.0	26.33	258.03	4,741.1	-421.0	-1,665.2	1,717.5	0.00	0.00	0.00
5,160.0	26.33	258.03	4,777.0	-424.7	-1,682.5	1,735.3	0.00	0.00	0.00
5,200.0	26.33	258.03	4,812.8	-428.4	-1,699.9	1,753.0	0.00	0.00	0.00
5,218.5	26.33	258.03	4,829.4	-430.1	-1,707.9	1,761.2	0.00	0.00	0.00
5,240.0	25.90	258.03	4,848.7	-432.0	-1,717.2	1,770.7	2.00	-2.00	0.00
5,280.0	25.10	258.03	4,884.8	-435.6	-1,734.0	1,787.9	2.00	-2.00	0.00
5,320.0	24.30	258.03	4,921.1	-439.1	-1,750.4	1,804.6	2.00	-2.00	0.00
5,360.0	23.50	258.03	4,957.7	-442.4	-1,766.2	1,820.8	2.00	-2.00	0.00
5,400.0	22.70	258.03	4,994.5	-445.7	-1,781.6	1,836.5	2.00	-2.00	0.00
5,440.0	21.90	258.03	5,031.5	-448.8	-1,796.4	1,851.6	2.00	-2.00	0.00
5,480.0	21.10	258.03	5,068.7	-451.9	-1,810.8	1,866.3	2.00	-2.00	0.00
5,520.0	20.30	258.03	5,106.1	-454.8	-1,824.6	1,880.4	2.00	-2.00	0.00
5,560.0	19.50	258.03	5,143.8	-457.6	-1,837.9	1,894.0	2.00	-2.00	0.00
5,600.0	18.70	258.03	5,181.6	-460.4	-1,850.7	1,907.1	2.00	-2.00	0.00
5,640.0	17.90	258.03	5,219.5	-463.0	-1,863.0	1,919.7	2.00	-2.00	0.00
5,680.0	17.10	258.03	5,257.7	-465.5	-1,874.8	1,931.7	2.00	-2.00	0.00
5,720.0	16.30	258.03	5,296.0	-467.8	-1,886.0	1,943.2	2.00	-2.00	0.00
5,760.0	15.50	258.03	5,334.5	-470.1	-1,896.7	1,954.1	2.00	-2.00	0.00
5,800.0	14.70	258.03	5,373.1	-472.3	-1,906.9	1,964.5	2.00	-2.00	0.00
5,840.0	13.90	258.03	5,411.8	-474.3	-1,916.6	1,974.4	2.00	-2.00	0.00
5,880.0	13.10	258.03	5,450.7	-476.3	-1,925.7	1,983.7	2.00	-2.00	0.00
5,920.0	12.30	258.03	5,489.8	-478.1	-1,934.3	1,992.5	2.00	-2.00	0.00
5,960.0	11.50	258.03	5,528.9	-479.8	-1,942.4	2,000.8	2.00	-2.00	0.00
6,000.0	10.70	258.03	5,568.2	-481.4	-1,949.9	2,008.5	2.00	-2.00	0.00
6,040.0	9.90	258.03	5,607.5	-482.9	-1,956.9	2,015.6	2.00	-2.00	0.00
6,080.0	9.10	258.03	5,647.0	-484.2	-1,963.4	2,022.2	2.00	-2.00	0.00
6,120.0	8.30	258.03	5,686.5	-485.5	-1,969.3	2,028.3	2.00	-2.00	0.00

Database:	EDM den0-adp01 Server Data	Local Co-ordinate Reference:	Well Weidenkeller PC G01-31D
Company:	NOBLE ENERGY INC WELD COUNTY CO	TVD Reference:	WELL @ 4768.0ft (Original Well Elev)
Project:	SEC.1-T4N-R65W	MD Reference:	WELL @ 4768.0ft (Original Well Elev)
Site:	Weidenkeller PC G01-30D Pad Sec.1-T4N-R65W	North Reference:	True
Well:	Weidenkeller PC G01-31D	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Noble Weidenkeller PC G01-31D 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	7.50	258.03	5,726.1	-486.6	-1,974.7	2,033.8	2.00	-2.00	0.00
6,200.0	6.70	258.03	5,765.8	-487.7	-1,979.5	2,038.7	2.00	-2.00	0.00
6,240.0	5.90	258.03	5,805.6	-488.6	-1,983.8	2,043.1	2.00	-2.00	0.00
6,280.0	5.10	258.03	5,845.4	-489.4	-1,987.5	2,046.9	2.00	-2.00	0.00
6,320.0	4.30	258.03	5,885.2	-490.1	-1,990.8	2,050.2	2.00	-2.00	0.00
6,360.0	3.50	258.03	5,925.2	-490.6	-1,993.4	2,052.9	2.00	-2.00	0.00
6,400.0	2.70	258.03	5,965.1	-491.1	-1,995.5	2,055.1	2.00	-2.00	0.00
6,440.0	1.90	258.03	6,005.1	-491.4	-1,997.1	2,056.7	2.00	-2.00	0.00
6,480.0	1.10	258.03	6,045.1	-491.6	-1,998.1	2,057.7	2.00	-2.00	0.00
6,520.0	0.30	258.03	6,085.0	-491.7	-1,998.6	2,058.2	2.00	-2.00	0.00
6,535.0	0.00	0.00	6,100.0	-491.7	-1,998.6	2,058.2	2.00	-2.00	0.00
Target BHL 1400'FNL & 75'FWL									
6,560.0	0.00	0.00	6,125.0	-491.7	-1,998.6	2,058.2	0.00	0.00	0.00
6,600.0	0.00	0.00	6,165.0	-491.7	-1,998.6	2,058.2	0.00	0.00	0.00
6,640.0	0.00	0.00	6,205.0	-491.7	-1,998.6	2,058.2	0.00	0.00	0.00
6,680.0	0.00	0.00	6,245.0	-491.7	-1,998.6	2,058.2	0.00	0.00	0.00
6,720.0	0.00	0.00	6,285.0	-491.7	-1,998.6	2,058.2	0.00	0.00	0.00
6,760.0	0.00	0.00	6,325.0	-491.7	-1,998.6	2,058.2	0.00	0.00	0.00
6,800.0	0.00	0.00	6,365.0	-491.7	-1,998.6	2,058.2	0.00	0.00	0.00
6,840.0	0.00	0.00	6,405.0	-491.7	-1,998.6	2,058.2	0.00	0.00	0.00
6,880.0	0.00	0.00	6,445.0	-491.7	-1,998.6	2,058.2	0.00	0.00	0.00
6,920.0	0.00	0.00	6,485.0	-491.7	-1,998.6	2,058.2	0.00	0.00	0.00
6,960.0	0.00	0.00	6,525.0	-491.7	-1,998.6	2,058.2	0.00	0.00	0.00
7,000.0	0.00	0.00	6,565.0	-491.7	-1,998.6	2,058.2	0.00	0.00	0.00
7,040.0	0.00	0.00	6,605.0	-491.7	-1,998.6	2,058.2	0.00	0.00	0.00
7,080.0	0.00	0.00	6,645.0	-491.7	-1,998.6	2,058.2	0.00	0.00	0.00
7,120.0	0.00	0.00	6,685.0	-491.7	-1,998.6	2,058.2	0.00	0.00	0.00
7,160.0	0.00	0.00	6,725.0	-491.7	-1,998.6	2,058.2	0.00	0.00	0.00
7,163.0	0.00	0.00	6,728.0	-491.7	-1,998.6	2,058.2	0.00	0.00	0.00
Niobrara - Target Circle 1400'FNL & 75'FWL									
7,200.0	0.00	0.00	6,765.0	-491.7	-1,998.6	2,058.2	0.00	0.00	0.00
7,240.0	0.00	0.00	6,805.0	-491.7	-1,998.6	2,058.2	0.00	0.00	0.00
7,280.0	0.00	0.00	6,845.0	-491.7	-1,998.6	2,058.2	0.00	0.00	0.00
7,320.0	0.00	0.00	6,885.0	-491.7	-1,998.6	2,058.2	0.00	0.00	0.00
7,360.0	0.00	0.00	6,925.0	-491.7	-1,998.6	2,058.2	0.00	0.00	0.00
7,400.0	0.00	0.00	6,965.0	-491.7	-1,998.6	2,058.2	0.00	0.00	0.00
7,440.0	0.00	0.00	7,005.0	-491.7	-1,998.6	2,058.2	0.00	0.00	0.00
7,480.0	0.00	0.00	7,045.0	-491.7	-1,998.6	2,058.2	0.00	0.00	0.00
7,493.0	0.00	0.00	7,058.0	-491.7	-1,998.6	2,058.2	0.00	0.00	0.00
Codell									
7,520.0	0.00	0.00	7,085.0	-491.7	-1,998.6	2,058.2	0.00	0.00	0.00
7,560.0	0.00	0.00	7,125.0	-491.7	-1,998.6	2,058.2	0.00	0.00	0.00
7,600.0	0.00	0.00	7,165.0	-491.7	-1,998.6	2,058.2	0.00	0.00	0.00
7,640.0	0.00	0.00	7,205.0	-491.7	-1,998.6	2,058.2	0.00	0.00	0.00
Hardline 75'W of BHL									

Database:	EDM den0-adp01 Server Data	Local Co-ordinate Reference:	Well Weidenkeller PC G01-31D
Company:	NOBLE ENERGY INC WELD COUNTY CO	TVD Reference:	WELL @ 4768.0ft (Original Well Elev)
Project:	SEC.1-T4N-R65W	MD Reference:	WELL @ 4768.0ft (Original Well Elev)
Site:	Weidenkeller PC G01-30D Pad Sec.1-T4N-R65W	North Reference:	True
Well:	Weidenkeller PC G01-31D	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Noble Weidenkeller PC G01-31D Plan #1 (8-06		

Targets									
Target Name									
- hit/miss target	Dip Angle	Dip Dir.	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
- Shape	(°)	(°)	(ft)	(ft)	(ft)	(ft)	(ft)		
Hardline 75'W of BHL	0.00	0.00	7,208.0	-591.7	-2,073.6	1,369,496.78	3,245,041.36	40° 20' 39.608 N	104° 37' 15.164 W
- plan misses target center by 125.0ft at 7640.0ft MD (7205.0 TVD, -491.7 N, -1998.6 E)									
- Polygon									
Point 1			7,208.0	0.0	0.0	1,369,496.78	3,245,041.36		
Point 2			7,208.0	200.0	0.0	1,369,696.76	3,245,039.36		
Target BHL 1400'FNL	0.00	0.00	6,100.0	-491.7	-1,998.6	1,369,597.52	3,245,115.31	40° 20' 40.596 N	104° 37' 14.196 W
- plan hits target center									
- Point									
Target Circle 1400'FN	0.00	0.00	6,728.0	-491.7	-1,998.6	1,369,597.52	3,245,115.31	40° 20' 40.596 N	104° 37' 14.196 W
- plan hits target center									
- 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 (°)
	7,163.0	6,728.0	Niobrara		0.00	
	7,493.0	7,058.0	Codell		0.00	