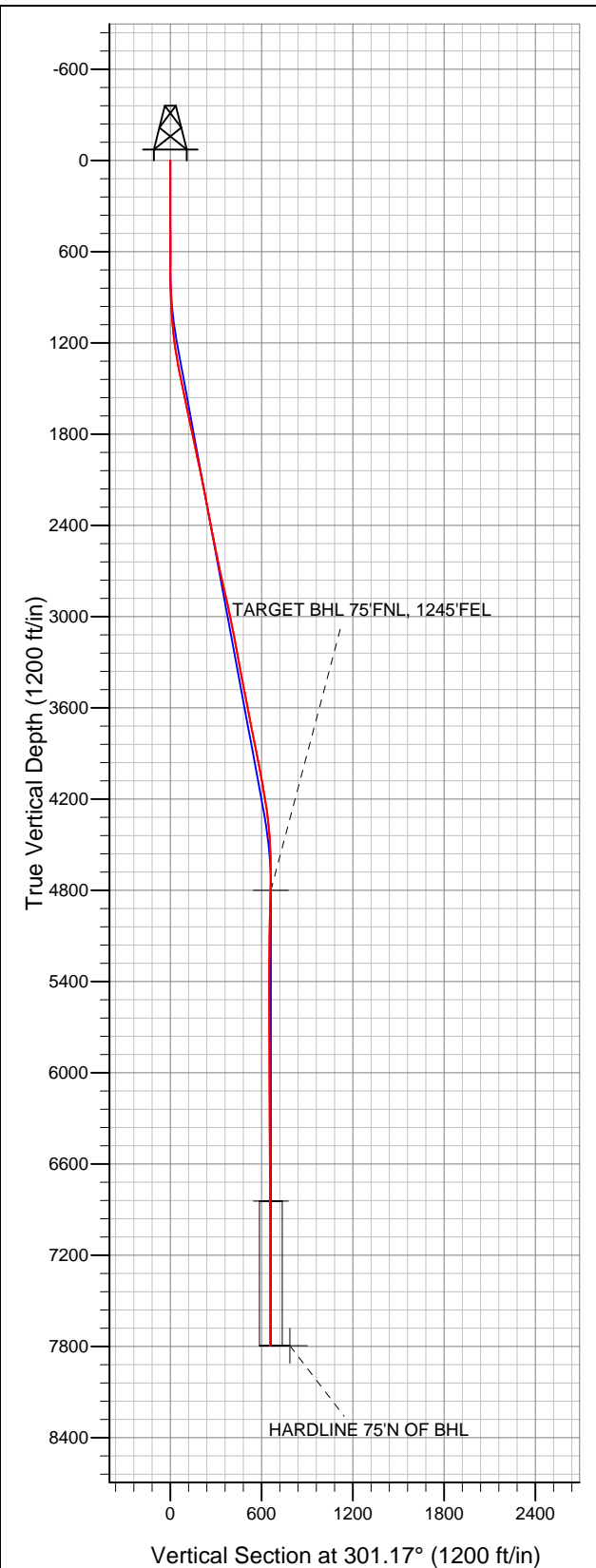


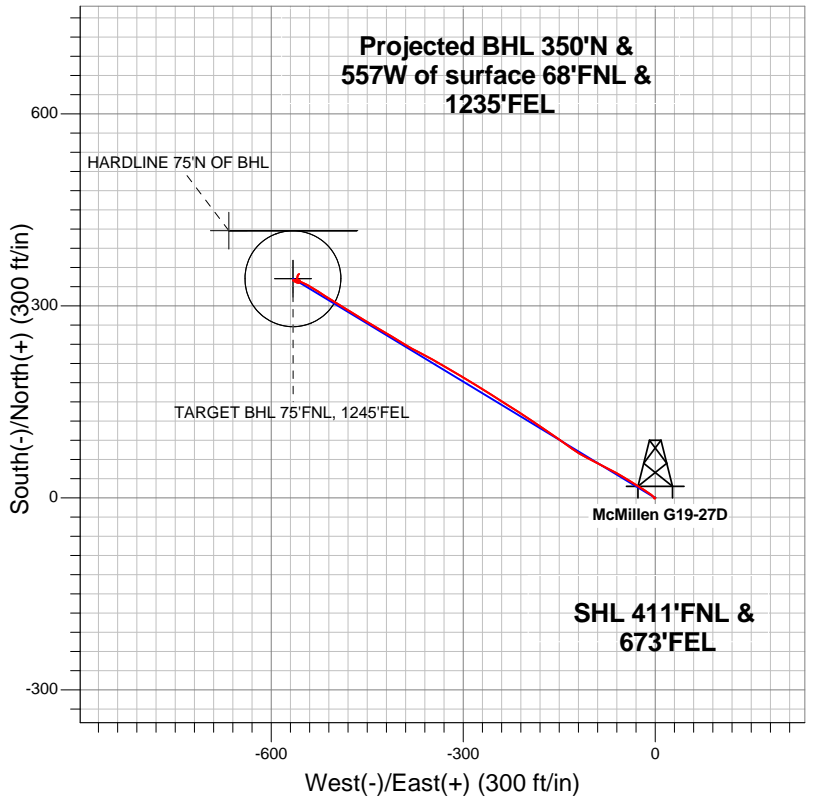
Well Name: McMillen G19-27D

Surface Location: McMillen G19-27D Pad Sec.19-T4N-R65W
 North American Datum 1983 US State Plane 1983Colorado Northern Zone
 Ground Elevation: 4737.0

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.0	0.0	1354608.83	3223474.86	40.304030	-104.698730	
		Original Well Elev				
		WELL @ 4750.0ft (Original Well Elev)				



NOBLE ENERGY INC WELD COUNTY CO



LEGEND

- Wellbore #1
- McMillen G19-27D, Wellbore #1, Noble McMillen G19-27D Plan #2 (7-19-12) R V0
- Survey #1

Final Survey Plot

Projected Final Survey -
 7856'MD & 7794'TVD @ 657'VS
 0.40 deg Inc 67.40 deg AZ

Project: SEC.19-T4N-R65W
 Site: McMillen G19-27D Pad Sec.19-T4N-R65W
 Well: McMillen G19-27D
 Plan: Wellbore #1



NOBLE ENERGY INC WELD COUNTY CO

SEC.19-T4N-R65W

McMillen G19-27D Pad Sec.19-T4N-R65W

McMillen G19-27D

Wellbore #1

Survey: Survey #1

Standard Survey Report

27 July, 2012



Company:	NOBLE ENERGY INC WELD COUNTY CO	Local Co-ordinate Reference:	Well McMillen G19-27D
Project:	SEC.19-T4N-R65W	TVD Reference:	WELL @ 4750.0ft (Original Well Elev)
Site:	McMillen G19-27D Pad Sec.19-T4N-R65W	MD Reference:	WELL @ 4750.0ft (Original Well Elev)
Well:	McMillen G19-27D	North Reference:	True
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	Landmark

Project	SEC.19-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	McMillen G19-27D Pad Sec.19-T4N-R65W		
Site Position:		Northing:	1,354,608.84 ft
From:	Lat/Long	Easting:	3,223,474.86 ft
Position Uncertainty:	0.0 ft	Slot Radius:	"
		Latitude:	40.304030
		Longitude:	-104.698730
		Grid Convergence:	0.52 °

Well	McMillen G19-27D		
Well Position	+N/-S	0.0 ft	Northing: 1,354,608.83 ft
	+E/-W	0.0 ft	Easting: 3,223,474.86 ft
Position Uncertainty	0.0 ft	Wellhead Elevation:	ft
		Latitude:	40.304030
		Longitude:	-104.698730
		Ground Level:	4,737.0 ft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	7/19/2012	8.67	66.95	52,973

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 (°)	
	4,800.0	0.0	0.0	301.17	

Survey Program	Date	7/27/2012			
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
136.0	7,856.0	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	
136.0	0.30	194.80	136.0	-0.3	-0.1	-0.1	0.22	0.22	0.00	
353.0	0.40	268.10	353.0	-0.9	-1.0	0.4	0.20	0.05	33.78	
584.0	0.10	21.30	584.0	-0.8	-1.7	1.1	0.19	-0.13	49.00	
686.0	0.30	55.80	686.0	-0.5	-1.5	1.0	0.22	0.20	33.82	
814.0	1.10	323.90	814.0	0.7	-1.9	2.0	0.90	0.63	-71.80	
942.0	2.50	310.30	941.9	3.5	-4.8	5.9	1.14	1.09	-10.63	
1,071.0	4.80	303.80	1,070.6	8.3	-11.4	14.0	1.81	1.78	-5.04	
1,199.0	7.70	302.40	1,197.9	15.9	-23.1	28.0	2.27	2.27	-1.09	
1,327.0	10.00	302.40	1,324.3	26.4	-39.7	47.7	1.80	1.80	0.00	
1,455.0	11.80	298.00	1,450.0	38.5	-60.7	71.8	1.55	1.41	-3.44	
1,584.0	12.00	297.50	1,576.3	50.9	-84.2	98.4	0.17	0.16	-0.39	
1,712.0	11.80	297.50	1,701.5	63.1	-107.6	124.7	0.16	-0.16	0.00	

Company:	NOBLE ENERGY INC WELD COUNTY CO	Local Co-ordinate Reference:	Well McMillen G19-27D
Project:	SEC.19-T4N-R65W	TVD Reference:	WELL @ 4750.0ft (Original Well Elev)
Site:	McMillen G19-27D Pad Sec.19-T4N-R65W	MD Reference:	WELL @ 4750.0ft (Original Well Elev)
Well:	McMillen G19-27D	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)
1,840.0	12.10	305.20	1,826.7	76.9	-130.2	151.2	1.27	0.23	6.02
1,968.0	11.70	305.80	1,952.0	92.2	-151.7	177.5	0.33	-0.31	0.47
2,097.0	11.80	303.60	2,078.3	107.1	-173.3	203.7	0.36	0.08	-1.71
2,225.0	11.00	304.00	2,203.8	121.2	-194.3	229.0	0.63	-0.63	0.31
2,353.0	10.90	302.20	2,329.4	134.5	-214.7	253.3	0.28	-0.08	-1.41
2,481.0	10.80	303.30	2,455.1	147.5	-234.9	277.4	0.18	-0.08	0.86
2,610.0	11.80	302.60	2,581.6	161.3	-256.1	302.6	0.78	0.78	-0.54
2,738.0	12.20	300.50	2,706.8	175.2	-278.8	329.2	0.46	0.31	-1.64
2,866.0	12.60	301.90	2,831.9	189.4	-302.3	356.7	0.39	0.31	1.09
2,994.0	12.00	299.90	2,956.9	203.4	-325.7	384.0	0.57	-0.47	-1.56
3,123.0	11.30	299.20	3,083.3	216.3	-348.4	410.0	0.55	-0.54	-0.54
3,251.0	10.60	296.20	3,208.9	227.6	-369.9	434.3	0.71	-0.55	-2.34
3,379.0	10.50	302.10	3,334.8	239.0	-390.3	457.7	0.85	-0.08	4.61
3,507.0	11.30	301.20	3,460.5	251.7	-410.9	481.9	0.64	0.63	-0.70
3,636.0	11.00	299.80	3,587.0	264.3	-432.4	506.8	0.31	-0.23	-1.09
3,764.0	10.80	301.40	3,712.7	276.7	-453.3	531.0	0.28	-0.16	1.25
3,892.0	11.30	301.40	3,838.3	289.4	-474.2	555.6	0.39	0.39	0.00
4,020.0	11.30	301.90	3,963.9	302.6	-495.6	580.6	0.08	0.00	0.39
4,149.0	10.00	302.80	4,090.6	315.4	-515.7	604.5	1.02	-1.01	0.70
4,277.0	9.10	302.10	4,216.9	326.7	-533.6	625.7	0.71	-0.70	-0.55
4,405.0	6.80	294.50	4,343.6	335.3	-549.1	643.3	1.97	-1.80	-5.94
4,533.0	3.50	289.60	4,471.1	339.7	-559.7	654.7	2.60	-2.58	-3.83
4,662.0	1.50	251.30	4,600.0	340.5	-565.0	659.7	1.94	-1.55	-29.69
4,790.0	0.60	116.30	4,728.0	339.7	-566.0	660.1	1.54	-0.70	-105.47
4,862.0	0.88	119.25	4,800.0	339.2	-565.1	659.1	0.39	0.39	4.10
TARGET BHL 75'FNL, 1245'FEL									
4,918.0	1.10	120.50	4,855.9	338.8	-564.3	658.2	0.39	0.39	2.23
5,046.0	1.10	118.00	4,983.9	337.6	-562.2	655.7	0.04	0.00	-1.95
5,175.0	1.00	112.60	5,112.9	336.5	-560.0	653.4	0.11	-0.08	-4.19
5,303.0	0.60	114.50	5,240.9	335.8	-558.4	651.6	0.31	-0.31	1.48
5,431.0	0.40	86.40	5,368.9	335.6	-557.3	650.6	0.24	-0.16	-21.95
5,559.0	0.40	43.00	5,496.9	335.9	-556.6	650.1	0.23	0.00	-33.91
5,688.0	0.70	18.20	5,625.9	337.0	-556.0	650.2	0.29	0.23	-19.22
5,816.0	0.80	355.50	5,753.9	338.6	-555.8	650.9	0.24	0.08	-17.73
5,944.0	0.40	342.30	5,881.9	340.0	-556.1	651.7	0.33	-0.31	-10.31
6,072.0	0.40	271.50	6,009.9	340.4	-556.6	652.5	0.36	0.00	-55.31
6,201.0	0.30	264.40	6,138.9	340.4	-557.4	653.1	0.08	-0.08	-5.50
6,329.0	0.40	289.10	6,266.8	340.5	-558.2	653.8	0.14	0.08	19.30
6,457.0	0.40	329.70	6,394.8	341.0	-558.8	654.7	0.22	0.00	31.72
6,585.0	0.40	331.80	6,522.8	341.8	-559.3	655.4	0.01	0.00	1.64
6,714.0	0.40	357.30	6,651.8	342.7	-559.5	656.1	0.14	0.00	19.77
6,842.0	0.30	349.20	6,779.8	343.4	-559.6	656.5	0.09	-0.08	-6.33
6,907.2	0.29	6.46	6,845.0	343.8	-559.6	656.7	0.14	-0.02	26.50
TARGET CIRCLE 75'FNL, 1245'FEL									
6,970.0	0.30	23.10	6,907.8	344.1	-559.5	656.8	0.14	0.02	26.47
7,098.0	0.40	27.50	7,035.8	344.8	-559.2	656.9	0.08	0.08	3.44
7,227.0	0.40	9.20	7,164.8	345.6	-558.9	657.1	0.10	0.00	-14.19
7,355.0	0.50	1.10	7,292.8	346.6	-558.8	657.5	0.09	0.08	-6.33
7,483.0	0.40	9.70	7,420.8	347.6	-558.7	658.0	0.09	-0.08	6.72
7,611.0	0.60	49.30	7,548.8	348.5	-558.1	657.9	0.30	0.16	30.94
7,740.0	0.40	46.50	7,677.8	349.2	-557.3	657.6	0.16	-0.16	-2.17
7,811.0	0.40	67.40	7,748.8	349.5	-556.9	657.4	0.20	0.00	29.44
7,856.0	0.40	67.40	7,793.8	349.6	-556.6	657.2	0.00	0.00	0.00
HARDLINE 75'N OF BHL									

Company:	NOBLE ENERGY INC WELD COUNTY CO	Local Co-ordinate Reference:	Well McMillen G19-27D
Project:	SEC.19-T4N-R65W	TVD Reference:	WELL @ 4750.0ft (Original Well Elev)
Site:	McMillen G19-27D Pad Sec.19-T4N-R65W	MD Reference:	WELL @ 4750.0ft (Original Well Elev)
Well:	McMillen G19-27D	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)

Checked By: _____	Approved By: _____	Date: _____
-------------------	--------------------	-------------