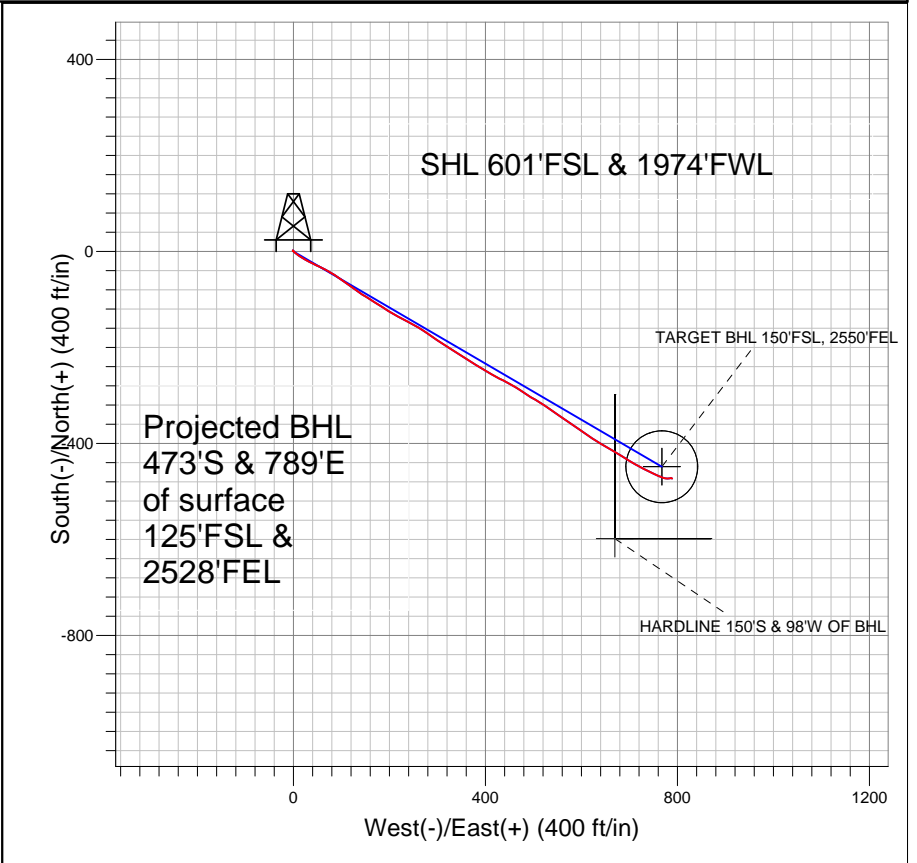





NOBLE ENERGY INC WELD COUNTY CO



LEGEND	
	Dinnel C27-28D, Wellbore #1, Noble Dinnel C27-28D Plan #2 (05-10-10) V0
	Wellbore #1
	Survey #1

Final Survey Plot

Projected Final Survey -
 7107'MD & 7000'TVD @ 920' VS
 0.3 deg Inc 71.0 deg AZ

Project: SEC.22-T4N-R64W
 Site: Dinnel C27-28D Pad Sec.22-T4N-R64W
 Well: Dinnel C27-28D
 Plan: Wellbore #1



Directional

NOBLE ENERGY INC WELD COUNTY CO

SEC.22-T4N-R64W

Dinnel C27-28D Pad Sec.22-T4N-R64W

Dinnel C27-28D

Wellbore #1

Survey: Survey #1

Standard Survey Report

29 October, 2010



Company:	NOBLE ENERGY INC WELD COUNTY CO	Local Co-ordinate Reference:	Well Dinnel C27-28D
Project:	SEC.22-T4N-R64W	TVD Reference:	WELL @ 4684.0ft (Original Well Elev)
Site:	Dinnel C27-28D Pad Sec.22-T4N-R64W	MD Reference:	WELL @ 4684.0ft (Original Well Elev)
Well:	Dinnel C27-28D	North Reference:	True
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	Landmark

Project	SEC.22-T4N-R64W, Weld County, Colorado		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	Colorado Northern Zone		Using geodetic scale factor

Site	Dinnel C27-28D Pad Sec.22-T4N-R64W		
Site Position:		Northing:	1,350,792.19 ft
From:	Lat/Long	Easting:	3,267,973.41 ft
Position Uncertainty:	0.0 ft	Slot Radius:	"
		Latitude:	40° 17' 32.424 N
		Longitude:	104° 32' 21.624 W
		Grid Convergence:	0.62 °

Well	Dinnel C27-28D		
Well Position	+N-S	0.0 ft	Northing: 1,350,792.18 ft
	+E-W	0.0 ft	Easting: 3,267,973.41 ft
Position Uncertainty		0.0 ft	Wellhead Elevation: ft
			Latitude: 40° 17' 32.424 N
			Longitude: 104° 32' 21.624 W
			Ground Level: 4,671.0 ft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	10/25/2010	8.82	67.02	53,168

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	120.95	

Survey Program	Date	10/29/2010			
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
734.0	7,107.0	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	
734.0	0.40	345.90	734.0	2.5	-0.6	-1.8	0.05	0.05	0.00	
820.0	0.60	211.50	820.0	2.4	-0.9	-2.0	1.08	0.23	-156.28	
905.0	2.40	135.90	905.0	0.7	0.1	-0.3	2.73	2.12	-88.94	
991.0	4.70	132.40	990.8	-2.9	3.9	4.9	2.69	2.67	-4.07	
1,076.0	5.50	126.70	1,075.5	-7.7	9.8	12.3	1.11	0.94	-6.71	
1,162.0	6.80	119.40	1,161.0	-12.7	17.5	21.5	1.76	1.51	-8.49	
1,247.0	8.80	120.20	1,245.2	-18.4	27.5	33.1	2.36	2.35	0.94	
1,333.0	10.50	117.60	1,330.0	-25.4	40.1	47.5	2.04	1.98	-3.02	
1,418.0	12.00	114.80	1,413.3	-32.7	55.0	64.0	1.88	1.76	-3.29	
1,503.0	12.00	116.70	1,496.5	-40.3	70.9	81.6	0.46	0.00	2.24	
1,589.0	13.10	123.10	1,580.4	-49.7	87.1	100.2	2.06	1.28	7.44	
1,674.0	13.50	125.40	1,663.1	-60.7	103.3	119.8	0.78	0.47	2.71	

Company:	NOBLE ENERGY INC WELD COUNTY CO	Local Co-ordinate Reference:	Well Dinnel C27-28D
Project:	SEC.22-T4N-R64W	TVD Reference:	WELL @ 4684.0ft (Original Well Elev)
Site:	Dinnel C27-28D Pad Sec.22-T4N-R64W	MD Reference:	WELL @ 4684.0ft (Original Well Elev)
Well:	Dinnel C27-28D	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)	
1,760.0	13.10	127.50	1,746.8	-72.4	119.2	139.5	0.73	-0.47	2.44	
1,845.0	13.50	125.40	1,829.5	-84.0	134.9	158.9	0.74	0.47	-2.47	
1,931.0	13.40	120.30	1,913.2	-94.9	151.7	178.9	1.38	-0.12	-5.93	
2,016.0	14.40	122.30	1,995.7	-105.5	169.1	199.3	1.31	1.18	2.35	
2,102.0	14.90	123.30	2,078.9	-117.3	187.4	221.0	0.65	0.58	1.16	
2,187.0	14.10	119.90	2,161.2	-128.4	205.5	242.3	1.37	-0.94	-4.00	
2,273.0	14.20	120.30	2,244.6	-139.0	223.7	263.3	0.16	0.12	0.47	
2,358.0	14.70	115.10	2,326.9	-148.8	242.5	284.5	1.64	0.59	-6.12	
2,444.0	14.20	121.90	2,410.2	-159.0	261.3	305.9	2.06	-0.58	7.91	
2,529.0	15.20	125.30	2,492.4	-171.0	279.3	327.4	1.55	1.18	4.00	
2,615.0	17.90	124.40	2,574.8	-185.0	299.4	351.9	3.15	3.14	-1.05	
2,700.0	17.80	122.10	2,655.7	-199.2	321.1	377.9	0.84	-0.12	-2.71	
2,786.0	17.20	122.20	2,737.8	-213.0	343.0	403.7	0.70	-0.70	0.12	
2,872.0	16.40	122.20	2,820.1	-226.3	364.1	428.6	0.93	-0.93	0.00	
2,957.0	14.60	122.10	2,902.0	-238.3	383.3	451.3	2.12	-2.12	-0.12	
3,043.0	15.50	120.10	2,985.0	-249.9	402.4	473.6	1.21	1.05	-2.33	
3,128.0	13.40	119.80	3,067.4	-260.5	420.8	494.8	2.47	-2.47	-0.35	
3,214.0	12.20	116.30	3,151.2	-269.4	437.6	513.9	1.66	-1.40	-4.07	
3,300.0	13.10	118.10	3,235.1	-278.1	454.3	532.7	1.14	1.05	2.09	
3,385.0	12.70	123.90	3,318.0	-287.8	470.6	551.6	1.59	-0.47	6.82	
3,471.0	13.00	123.40	3,401.8	-298.4	486.5	570.7	0.37	0.35	-0.58	
3,556.0	13.10	118.30	3,484.6	-308.2	503.0	589.9	1.36	0.12	-6.00	
3,642.0	13.70	125.80	3,568.3	-318.8	519.8	609.8	2.14	0.70	8.72	
3,728.0	14.20	124.00	3,651.8	-330.7	536.8	630.5	0.77	0.58	-2.09	
3,813.0	15.30	123.90	3,734.0	-342.7	554.8	652.1	1.29	1.29	-0.12	
3,899.0	17.20	125.00	3,816.5	-356.4	574.6	676.1	2.24	2.21	1.28	
3,984.0	15.90	124.70	3,898.0	-370.2	594.5	700.2	1.53	-1.53	-0.35	
4,070.0	16.40	124.80	3,980.6	-383.8	614.1	724.1	0.58	0.58	0.12	
4,156.0	16.20	121.70	4,063.2	-397.1	634.3	748.2	1.04	-0.23	-3.60	
4,241.0	14.40	119.00	4,145.1	-408.4	653.7	770.6	2.28	-2.12	-3.18	
4,327.0	12.50	121.00	4,228.8	-418.4	671.0	790.6	2.27	-2.21	2.33	
4,412.0	10.50	122.40	4,312.1	-427.3	685.4	807.6	2.38	-2.35	1.65	
4,498.0	11.20	121.20	4,396.5	-435.8	699.2	823.8	0.86	0.81	-1.40	
4,584.0	9.90	119.50	4,481.1	-443.8	712.7	839.5	1.55	-1.51	-1.98	
4,669.0	8.50	117.50	4,565.0	-450.3	724.7	853.1	1.69	-1.65	-2.35	
4,755.0	7.50	115.10	4,650.1	-455.6	735.4	865.0	1.23	-1.16	-2.79	
4,840.0	6.10	115.80	4,734.5	-459.9	744.5	875.0	1.65	-1.65	0.82	
4,926.0	5.80	118.50	4,820.1	-464.0	752.4	883.9	0.48	-0.35	3.14	
5,012.0	4.30	113.50	4,905.7	-467.3	759.2	891.5	1.82	-1.74	-5.81	
5,098.0	2.60	109.10	4,991.6	-469.3	764.0	896.6	2.00	-1.98	-5.12	
5,183.0	2.20	109.30	5,076.5	-470.4	767.4	900.0	0.47	-0.47	0.24	
5,269.0	2.10	110.40	5,162.4	-471.5	770.4	903.2	0.13	-0.12	1.28	
5,354.0	1.70	110.80	5,247.4	-472.5	773.0	906.0	0.47	-0.47	0.47	
5,525.0	1.30	87.70	5,418.3	-473.4	777.3	910.1	0.42	-0.23	-13.51	
5,697.0	0.90	90.80	5,590.3	-473.3	780.6	912.9	0.24	-0.23	1.80	
5,868.0	0.70	78.70	5,761.3	-473.1	783.0	914.8	0.15	-0.12	-7.08	
6,039.0	0.40	79.30	5,932.3	-472.8	784.6	916.1	0.18	-0.18	0.35	
6,210.0	0.40	63.60	6,103.3	-472.4	785.7	916.8	0.06	0.00	-9.18	
6,382.0	0.40	86.30	6,275.3	-472.1	786.9	917.6	0.09	0.00	13.20	
6,553.0	0.40	157.90	6,446.3	-472.6	787.7	918.6	0.27	0.00	41.87	
6,724.0	0.20	25.60	6,617.3	-472.9	788.1	919.1	0.32	-0.12	-77.37	
6,895.0	0.30	154.10	6,788.3	-473.0	788.4	919.4	0.26	0.06	75.15	
7,060.0	0.30	71.00	6,953.3	-473.3	789.0	920.0	0.24	0.00	-50.36	
7,107.0	0.30	71.00	7,000.3	-473.2	789.2	920.2	0.00	0.00	0.00	

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Checked By: _____ Approved By: _____ Date: _____