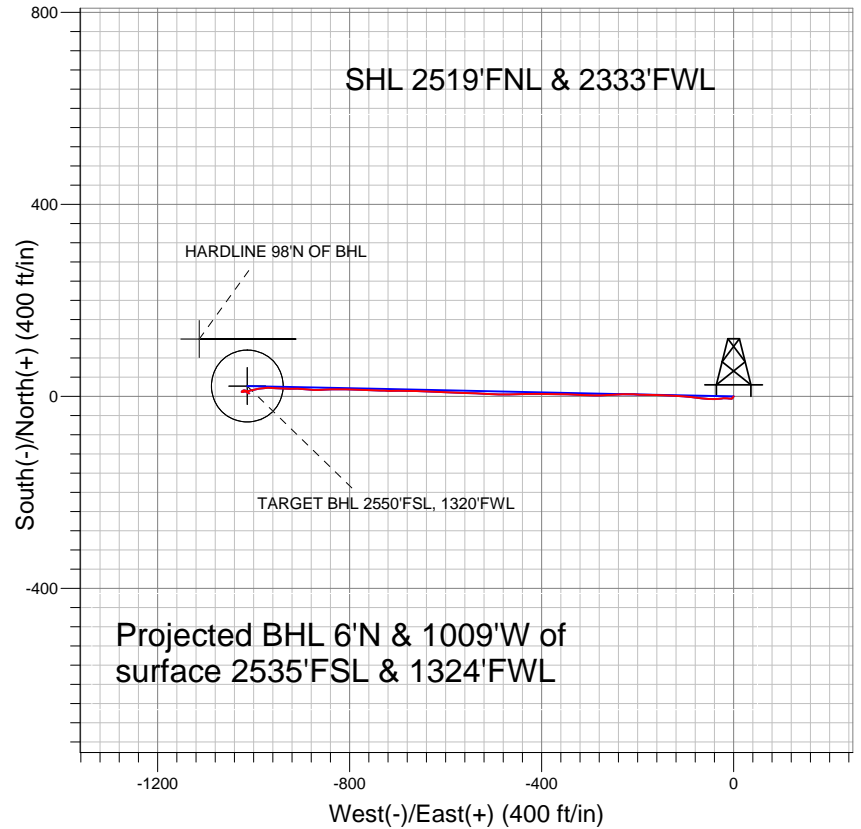
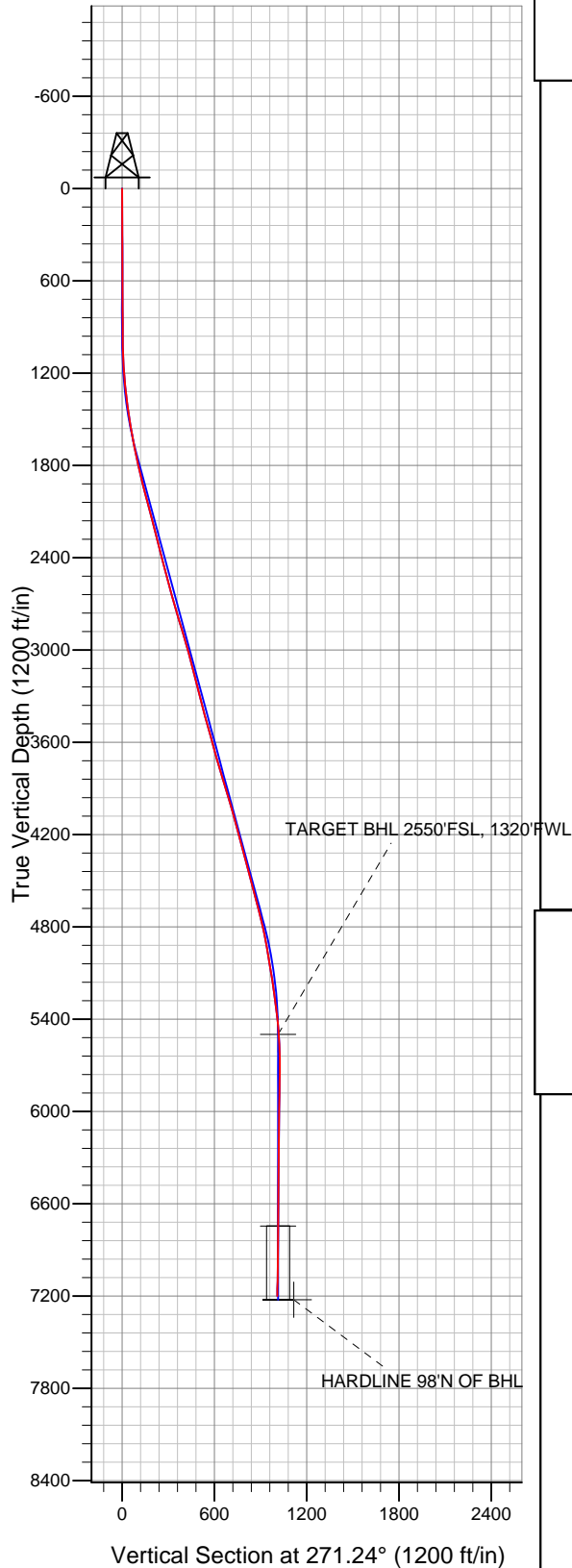


NOBLE ENERGY INC WELD COUNTY CO



LEGEND

- ▲ Smith PC D06-20D, Wellbore #1, Noble Smith PC D06-20D Plan #2 (09-02-10) V0
- Wellbore #1
- Survey #1

Final Survey Plot

Projected Final Survey -
 7325'MD & 7201'TVD @ 1009' VS
 0.7 deg Inc 93.9 deg AZ

Project: SEC.6-T3N-R64W
 Site: Shelton PC D06-32D Pad Sec.6-T3N-R64W
 Well: Smith PC D06-20D
 Plan: Wellbore #1



Directional

NOBLE ENERGY INC WELD COUNTY CO

SEC.6-T3N-R64W

Shelton PC D06-32D Pad Sec.6-T3N-R64W

Smith PC D06-20D

Wellbore #1

Survey: Survey #1

Standard Survey Report

11 February, 2011



Company:	NOBLE ENERGY INC WELD COUNTY CO	Local Co-ordinate Reference:	Well Smith PC D06-20D
Project:	SEC.6-T3N-R64W	TVD Reference:	WELL @ 4836.0ft (Original Well Elev)
Site:	Shelton PC D06-32D Pad Sec.6-T3N-R64W	MD Reference:	WELL @ 4836.0ft (Original Well Elev)
Well:	Smith PC D06-20D	North Reference:	True
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	Landmark

Project	SEC.6-T3N-R64W, 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	Shelton PC D06-32D Pad Sec.6-T3N-R64W		
Site Position:		Northing:	1,336,650.48 ft
From:	Lat/Long	Easting:	3,252,810.93 ft
Position Uncertainty:	0.0 ft	Slot Radius:	"
		Latitude:	40° 15' 14.256 N
		Longitude:	104° 35' 39.156 W
		Grid Convergence:	0.59 °

Well	Smith PC D06-20D		
Well Position	+N/-S	0.0 ft	Northing: 1,336,650.72 ft
	+E/-W	0.0 ft	Easting: 3,252,836.05 ft
Position Uncertainty	0.0 ft	Wellhead Elevation:	ft
		Latitude:	40° 15' 14.256 N
		Longitude:	104° 35' 38.832 W
		Ground Level:	4,823.0 ft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	2/8/2012	8.67	66.94	53,004

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	271.24	

Survey Program	Date	2/11/2011			
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
780.0	7,325.0	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	
780.0	0.60	219.10	780.0	-3.2	-2.6	2.5	0.08	0.08	0.00	
873.0	0.50	221.80	873.0	-3.8	-3.2	3.1	0.11	-0.11	2.90	
966.0	0.50	206.00	966.0	-4.5	-3.6	3.5	0.15	0.00	-16.99	
1,060.0	1.90	282.10	1,060.0	-4.6	-5.3	5.2	1.96	1.49	80.96	
1,154.0	2.90	273.40	1,153.9	-4.1	-9.2	9.1	1.13	1.06	-9.26	
1,247.0	5.00	271.60	1,246.6	-3.8	-15.6	15.5	2.26	2.26	-1.94	
1,340.0	7.10	264.20	1,339.1	-4.3	-25.4	25.3	2.40	2.26	-7.96	
1,433.0	8.00	266.90	1,431.3	-5.2	-37.6	37.4	1.04	0.97	2.90	
1,526.0	9.40	274.10	1,523.3	-5.0	-51.6	51.5	1.90	1.51	7.74	
1,620.0	10.50	275.70	1,615.8	-3.6	-67.8	67.7	1.21	1.17	1.70	
1,714.0	10.90	277.80	1,708.2	-1.6	-85.1	85.0	0.59	0.43	2.23	
1,807.0	12.80	274.40	1,799.2	0.4	-104.1	104.1	2.18	2.04	-3.66	

Company:	NOBLE ENERGY INC WELD COUNTY CO	Local Co-ordinate Reference:	Well Smith PC D06-20D
Project:	SEC.6-T3N-R64W	TVD Reference:	WELL @ 4836.0ft (Original Well Elev)
Site:	Shelton PC D06-32D Pad Sec.6-T3N-R64W	MD Reference:	WELL @ 4836.0ft (Original Well Elev)
Well:	Smith PC D06-20D	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)
1,901.0	13.90	273.40	1,890.7	1.9	-125.7	125.8	1.20	1.17	-1.06
1,994.0	14.50	271.00	1,980.8	2.7	-148.5	148.6	0.90	0.65	-2.58
2,087.0	14.90	271.70	2,070.8	3.3	-172.1	172.2	0.47	0.43	0.75
2,181.0	14.50	271.10	2,161.7	3.9	-196.0	196.0	0.46	-0.43	-0.64
2,274.0	15.10	271.70	2,251.6	4.5	-219.7	219.8	0.67	0.65	0.65
2,367.0	14.60	266.90	2,341.5	4.2	-243.5	243.6	1.43	-0.54	-5.16
2,460.0	14.00	265.60	2,431.6	2.7	-266.5	266.4	0.73	-0.65	-1.40
2,554.0	14.20	271.60	2,522.8	2.1	-289.3	289.3	1.57	0.21	6.38
2,647.0	15.30	273.30	2,612.7	3.2	-313.0	313.0	1.27	1.18	1.83
2,742.0	17.10	271.40	2,704.0	4.2	-339.4	339.5	1.97	1.89	-2.00
2,835.0	16.60	271.30	2,793.0	4.9	-366.4	366.4	0.54	-0.54	-0.11
2,928.0	16.10	270.50	2,882.2	5.3	-392.6	392.6	0.59	-0.54	-0.86
3,022.0	16.40	270.30	2,972.5	5.5	-418.9	418.9	0.32	0.32	-0.21
3,116.0	14.70	267.80	3,063.0	5.1	-444.1	444.1	1.94	-1.81	-2.66
3,209.0	13.40	268.10	3,153.2	4.3	-466.6	466.6	1.40	-1.40	0.32
3,303.0	14.90	271.50	3,244.4	4.2	-489.6	489.6	1.82	1.60	3.62
3,396.0	14.30	274.30	3,334.4	5.4	-513.0	513.0	1.00	-0.65	3.01
3,490.0	14.90	271.30	3,425.3	6.5	-536.7	536.7	1.03	0.64	-3.19
3,583.0	16.20	272.20	3,514.9	7.3	-561.6	561.6	1.42	1.40	0.97
3,676.0	15.00	271.30	3,604.5	8.1	-586.6	586.6	1.32	-1.29	-0.97
3,771.0	15.70	273.80	3,696.1	9.2	-611.7	611.7	1.01	0.74	2.63
3,866.0	16.60	273.10	3,787.4	10.8	-638.1	638.2	0.97	0.95	-0.74
3,960.0	16.90	271.30	3,877.4	11.8	-665.1	665.2	0.64	0.32	-1.91
4,053.0	16.80	269.10	3,966.4	11.9	-692.1	692.2	0.69	-0.11	-2.37
4,146.0	16.30	270.90	4,055.5	11.9	-718.6	718.7	0.77	-0.54	1.94
4,239.0	14.20	272.30	4,145.3	12.6	-743.0	743.1	2.29	-2.26	1.51
4,332.0	14.90	272.50	4,235.3	13.6	-766.4	766.5	0.75	0.75	0.22
4,425.0	14.70	272.00	4,325.2	14.5	-790.1	790.2	0.26	-0.22	-0.54
4,519.0	15.50	270.80	4,415.9	15.1	-814.6	814.7	0.91	0.85	-1.28
4,613.0	15.30	266.90	4,506.6	14.6	-839.5	839.7	1.12	-0.21	-4.15
4,707.0	14.50	269.50	4,597.4	13.8	-863.7	863.8	1.11	-0.85	2.77
4,800.0	13.80	275.40	4,687.6	14.8	-886.4	886.5	1.72	-0.75	6.34
4,893.0	13.60	271.30	4,778.0	16.0	-908.3	908.5	1.07	-0.22	-4.41
4,986.0	11.10	270.50	4,868.8	16.4	-928.2	928.4	2.69	-2.69	-0.86
5,080.0	9.00	270.60	4,961.3	16.5	-944.6	944.8	2.23	-2.23	0.11
5,173.0	10.00	277.30	5,053.1	17.6	-959.9	960.1	1.60	1.08	7.20
5,266.0	8.90	264.70	5,144.8	18.0	-975.1	975.3	2.51	-1.18	-13.55
5,359.0	8.00	258.90	5,236.8	16.1	-988.6	988.7	1.33	-0.97	-6.24
5,453.0	7.30	259.50	5,330.0	13.7	-1,000.9	1,001.0	0.75	-0.74	0.64
5,546.0	5.70	255.50	5,422.4	11.5	-1,011.2	1,011.2	1.79	-1.72	-4.30
5,623.4	4.28	263.11	5,499.4	10.2	-1,017.8	1,017.7	2.03	-1.84	9.84
TARGET BHL 2550'FSL, 1320'FWL									
5,639.0	4.00	265.30	5,515.0	10.1	-1,018.9	1,018.9	2.03	-1.76	13.98
5,732.0	1.90	262.70	5,607.9	9.6	-1,023.6	1,023.6	2.26	-2.26	-2.80
5,826.0	0.70	41.40	5,701.9	9.8	-1,024.8	1,024.8	2.63	-1.28	147.55
5,919.0	1.00	40.90	5,794.9	10.9	-1,023.9	1,023.9	0.32	0.32	-0.54
6,012.0	1.00	67.20	5,887.9	11.8	-1,022.6	1,022.6	0.49	0.00	28.28
6,105.0	0.80	73.70	5,980.9	12.3	-1,021.3	1,021.3	0.24	-0.22	6.99
6,200.0	0.70	71.70	6,075.9	12.7	-1,020.1	1,020.1	0.11	-0.11	-2.11
6,293.0	0.60	95.60	6,168.8	12.8	-1,019.0	1,019.1	0.31	-0.11	25.70
6,386.0	0.60	117.30	6,261.8	12.5	-1,018.1	1,018.2	0.24	0.00	23.33
6,479.0	0.60	111.60	6,354.8	12.1	-1,017.2	1,017.3	0.06	0.00	-6.13
6,572.0	0.60	131.50	6,447.8	11.6	-1,016.4	1,016.4	0.22	0.00	21.40
6,666.0	0.80	131.40	6,541.8	10.9	-1,015.6	1,015.6	0.21	0.21	-0.11

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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)	
6,760.0	0.90	139.90	6,635.8	9.9	-1,014.6	1,014.6	0.17	0.11	9.04	
6,854.0	0.70	132.90	6,729.8	8.9	-1,013.7	1,013.7	0.24	-0.21	-7.45	
6,870.1	0.68	133.50	6,745.9	8.8	-1,013.6	1,013.5	0.12	-0.11	3.74	
TARGET CIRCLE 2550'FSL, 1320'FWL										
6,948.0	0.60	136.90	6,823.8	8.2	-1,012.9	1,012.9	0.12	-0.11	4.36	
7,043.0	0.70	126.50	6,918.8	7.5	-1,012.1	1,012.1	0.16	0.11	-10.95	
7,136.0	0.70	121.50	7,011.8	6.8	-1,011.2	1,011.1	0.07	0.00	-5.38	
7,230.0	0.70	92.80	7,105.8	6.5	-1,010.1	1,010.0	0.37	0.00	-30.53	
7,278.0	0.70	93.90	7,153.8	6.5	-1,009.5	1,009.4	0.03	0.00	2.29	
7,325.0	0.70	93.90	7,200.8	6.4	-1,009.0	1,008.9	0.00	0.00	0.00	
HARDLINE 98°N OF BHL										

Checked By: _____ Approved By: _____ Date: _____