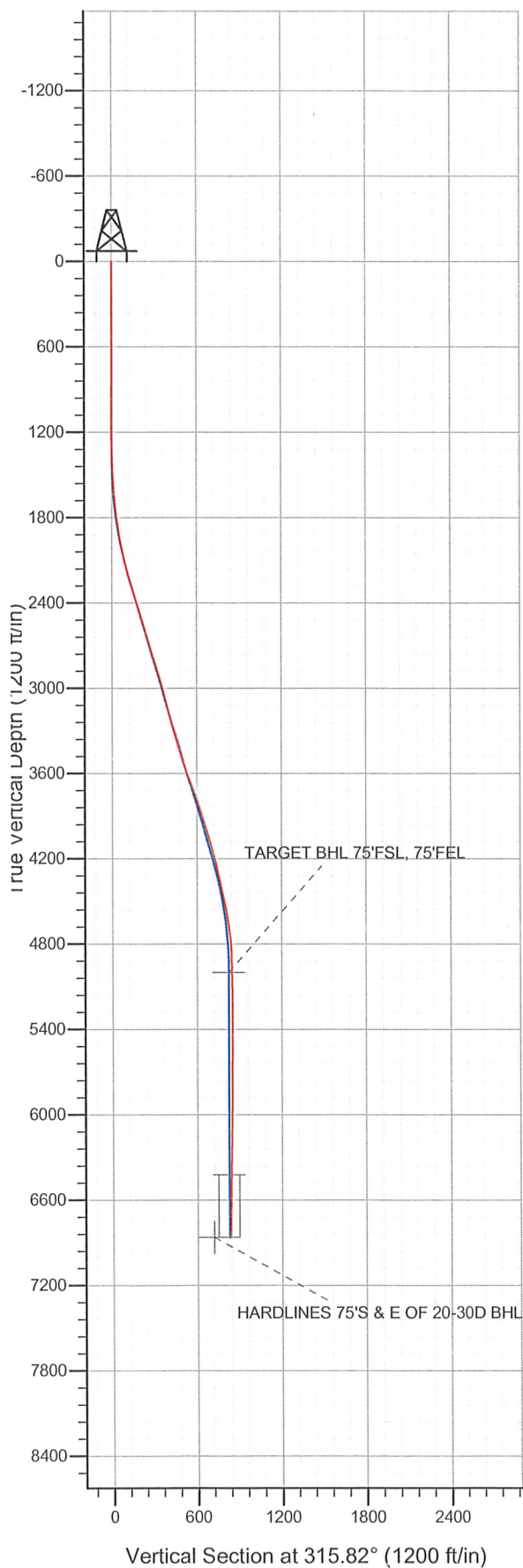
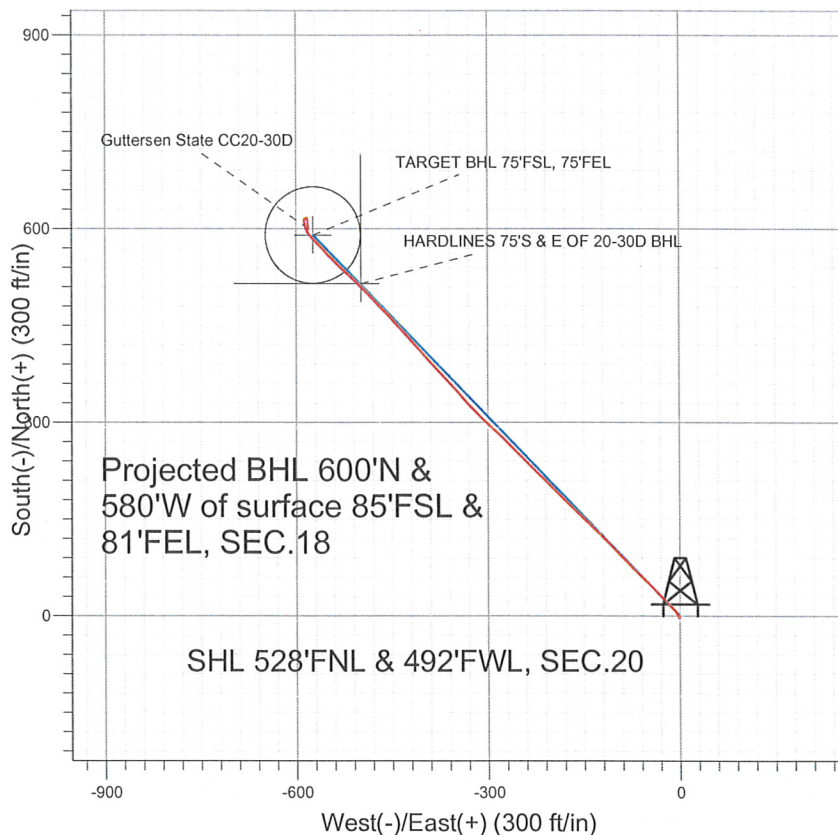


Well Name: **Guttersen State CC20-30D**
 Surface Location: Guttersen State CC20-31D Pad Sec.20-T4N-R63W
 North American Datum 1983 US State Plane 1983 Colorado Northern Zone
 Ground Elevation: 4690.0
 +N/-S +E/-W Northing Easting Latitude Longitude Slot
 0.0 0.0 1355025.81 3287468.93 40.303360 -104.469280
 Original Well Elev WELL @ 4703.0ft (Original Well Elev)



NOBLE ENERGY INC WELD COUNTY CO



LEGEND

- Guttersen State CC20-30D, Wellbore #1, Noble Guttersen State CC20-30D Plan #1 10-14-09
- Wellbore #1
- Survey #1

Final Survey Plot

Projected Final Survey -
 6980'MD & 6866'TVD @ 834'VS
 0.7 deg Inc 172.0 deg AZ

Project: SEC.20-T4N-R63W
 Site: Guttersen State CC20-31D Pad Sec.20-T4N-R63W
 Well: Guttersen State CC20-30D
 Plan: Wellbore #1



Directional

NOBLE ENERGY INC WELD COUNTY CO

SEC.20-T4N-R63W

Guttersen State CC20-31D Pad Sec.20-T4N-R63W

Guttersen State CC20-30D

Wellbore #1

Survey: Survey #1

Standard Survey Report

14 July, 2011



Company: NOBLE ENERGY INC WELD COUNTY CO
Project: SEC.20-T4N-R63W
Site: Guttersen State CC20-31D Pad
 Sec.20-T4N-R63W
Well: Guttersen State CC20-30D
Wellbore: Wellbore #1
Design: Wellbore #1

Local Co-ordinate Reference: Well Guttersen State CC20-30D
TVD Reference: WELL @ 4703.0ft (Original Well Elev)
MD Reference: WELL @ 4703.0ft (Original Well Elev)
North Reference: True
Survey Calculation Method: Minimum Curvature
Database: Landmark

Project	SEC.20-T4N-R63W, 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 Guttersen State CC20-31D Pad Sec.20-T4N-R63W

Site Position:		Northing:	1,355,000.33 ft	Latitude:	40.303290
From:	Lat/Long	Easting:	3,287,469.23 ft	Longitude:	-104.469280
Position Uncertainty:	0.0 ft	Slot Radius:	"	Grid Convergence:	0.67 °

Well Guttersen State CC20-30D

Well Position	+N/-S	0.0 ft	Northing:	1,355,025.81 ft	Latitude:	40.303360
	+E/-W	0.0 ft	Easting:	3,287,468.93 ft	Longitude:	-104.469280
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	4,690.0 ft

Wellbore Wellbore #1

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF200510	10/14/2009	8.88	67.09	53,308

Design Wellbore #1

Audit Notes:

Version:	1.0	Phase:	ACTUAL	Tie On Depth:	0.0
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Vertical Section:	Depth From (TVD)	+N/-S	+E/-W	Direction
	(ft)	(ft)	(ft)	(°)
	0.0	0.0	0.0	315.82

Survey Program Date 7/14/2011

From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description
690.0	6,980.0	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
690.0	0.30	227.40	690.0	-1.2	-1.3	0.0	0.04	0.04	0.00
783.0	0.40	223.10	783.0	-1.6	-1.7	0.0	0.11	0.11	-4.62
877.0	0.30	118.00	877.0	-2.0	-1.7	-0.2	0.59	-0.11	-111.81
970.0	0.30	125.60	970.0	-2.2	-1.3	-0.7	0.04	0.00	8.17
1,063.0	0.10	298.80	1,063.0	-2.3	-1.2	-0.8	0.43	-0.22	186.24
1,156.0	0.10	330.10	1,156.0	-2.2	-1.3	-0.7	0.06	0.00	33.66
1,249.0	0.10	10.70	1,249.0	-2.1	-1.3	-0.6	0.07	0.00	43.66
1,342.0	0.50	345.80	1,342.0	-1.6	-1.4	-0.2	0.44	0.43	-26.77
1,436.0	2.10	335.60	1,436.0	0.4	-2.2	1.8	1.71	1.70	-10.85
1,529.0	3.40	326.50	1,528.9	4.2	-4.5	6.1	1.47	1.40	-9.78
1,622.0	4.80	317.50	1,621.6	9.4	-8.6	12.7	1.65	1.51	-9.68

Company: NOBLE ENERGY INC WELD COUNTY CO
Project: SEC.20-T4N-R63W
Site: Guttersen State CC20-31D Pad
 Sec.20-T4N-R63W
Well: Guttersen State CC20-30D
Wellbore: Wellbore #1
Design: Wellbore #1

Local Co-ordinate Reference: Well Guttersen State CC20-30D
TVD Reference: WELL @ 4703.0ft (Original Well Elev)
MD Reference: WELL @ 4703.0ft (Original Well Elev)
North Reference: True
Survey Calculation Method: Minimum Curvature
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)
1,715.0	6.50	314.10	1,714.2	15.9	-15.0	21.9	1.86	1.83	-3.66
1,809.0	7.70	318.80	1,807.4	24.4	-23.0	33.5	1.42	1.28	5.00
1,902.0	9.30	313.20	1,899.4	34.2	-32.6	47.2	1.94	1.72	-6.02
1,995.0	11.60	313.90	1,990.9	45.8	-44.8	64.1	2.48	2.47	0.75
2,088.0	13.50	315.20	2,081.6	60.0	-59.2	84.3	2.07	2.04	1.40
2,182.0	14.20	316.00	2,172.9	76.1	-74.9	106.8	0.77	0.74	0.85
2,276.0	16.60	315.00	2,263.5	93.9	-92.4	131.7	2.57	2.55	-1.06
2,369.0	17.10	316.60	2,352.5	113.2	-111.2	158.7	0.73	0.54	1.72
2,462.0	17.30	314.30	2,441.4	132.8	-130.5	186.2	0.76	0.22	-2.47
2,556.0	17.00	312.00	2,531.2	151.8	-150.7	213.9	0.79	-0.32	-2.45
2,648.0	17.50	313.90	2,619.1	170.3	-170.7	241.1	0.82	0.54	2.07
2,742.0	17.00	316.00	2,708.8	190.0	-190.4	269.0	0.85	-0.53	2.23
2,835.0	17.50	315.50	2,797.6	209.8	-209.7	296.6	0.56	0.54	-0.54
2,928.0	16.10	313.50	2,886.7	228.6	-228.8	323.4	1.63	-1.51	-2.15
3,022.0	16.70	315.10	2,976.9	247.2	-247.8	350.0	0.80	0.64	1.70
3,116.0	15.20	316.00	3,067.2	265.6	-265.9	375.8	1.62	-1.60	0.96
3,210.0	14.00	314.10	3,158.2	282.4	-282.6	399.5	1.37	-1.28	-2.02
3,304.0	15.70	311.40	3,249.1	298.7	-300.3	423.5	1.95	1.81	-2.87
3,398.0	16.20	315.20	3,339.4	316.4	-319.1	449.3	1.23	0.53	4.04
3,492.0	16.50	319.40	3,429.6	335.9	-337.0	475.7	1.30	0.32	4.47
3,586.0	18.20	316.50	3,519.4	356.6	-355.8	503.7	2.03	1.81	-3.09
3,680.0	19.70	317.80	3,608.3	379.0	-376.6	534.3	1.66	1.60	1.38
3,773.0	20.70	316.60	3,695.5	402.6	-398.4	566.4	1.16	1.08	-1.29
3,869.0	19.80	318.70	3,785.6	427.1	-420.8	599.6	1.20	-0.94	2.19
3,961.0	17.30	318.20	3,872.8	449.0	-440.2	628.8	2.72	-2.72	-0.54
4,055.0	18.10	315.90	3,962.4	469.9	-459.7	657.4	1.13	0.85	-2.45
4,148.0	16.60	315.90	4,051.1	489.9	-479.0	685.1	1.61	-1.61	0.00
4,242.0	15.00	315.30	4,141.6	508.1	-496.9	710.7	1.71	-1.70	-0.64
4,335.0	13.60	313.70	4,231.7	524.3	-513.2	733.7	1.56	-1.51	-1.72
4,430.0	13.40	313.10	4,324.1	539.5	-529.4	755.8	0.26	-0.21	-0.63
4,523.0	12.30	315.20	4,414.7	553.9	-544.2	776.5	1.28	-1.18	2.26
4,616.0	11.20	316.70	4,505.8	567.5	-557.4	795.4	1.23	-1.18	1.61
4,711.0	10.50	315.70	4,599.1	580.4	-569.8	813.3	0.76	-0.74	-1.05
4,804.0	8.00	324.30	4,690.9	591.7	-579.4	828.2	3.06	-2.69	9.25
4,898.0	5.40	340.20	4,784.2	601.2	-584.8	838.7	3.37	-2.77	16.91
4,992.0	2.90	352.20	4,878.0	607.7	-586.6	844.6	2.80	-2.66	12.77
5,085.0	1.50	352.20	4,970.9	611.3	-587.1	847.5	1.51	-1.51	0.00
5,113.7	1.19	353.66	4,999.6	611.9	-587.2	848.0	1.08	-1.07	5.10
TARGET BHL 75'FSL, 75'FEL									
5,179.0	0.50	3.70	5,064.9	612.9	-587.2	848.8	1.08	-1.06	15.37
5,273.0	0.40	358.20	5,158.9	613.6	-587.2	849.3	0.12	-0.11	-5.85
5,367.0	0.40	20.40	5,252.9	614.3	-587.1	849.7	0.16	0.00	23.62
5,460.0	0.20	58.50	5,345.9	614.6	-586.8	849.8	0.29	-0.22	40.97
5,554.0	0.40	72.40	5,439.9	614.8	-586.4	849.6	0.22	0.21	14.79
5,647.0	0.40	51.10	5,532.9	615.1	-585.8	849.4	0.16	0.00	-22.90
5,740.0	0.40	55.40	5,625.9	615.5	-585.3	849.3	0.03	0.00	4.62
5,833.0	0.60	59.80	5,718.9	616.0	-584.6	849.2	0.22	0.22	4.73
5,926.0	0.80	52.60	5,811.9	616.6	-583.7	849.0	0.23	0.22	-7.74
6,019.0	0.70	107.50	5,904.9	616.8	-582.6	848.4	0.75	-0.11	59.03
6,112.0	0.80	171.80	5,997.9	616.0	-582.0	847.4	0.86	0.11	69.14
6,205.0	1.70	181.50	6,090.8	614.0	-581.9	845.9	0.99	0.97	10.43
6,300.0	1.50	178.50	6,185.8	611.3	-581.9	844.0	0.23	-0.21	-3.16
6,393.0	1.40	175.40	6,278.8	609.0	-581.8	842.2	0.14	-0.11	-3.33

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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)
6,487.0	1.30	175.20	6,372.8	606.8	-581.6	840.5	0.11	-0.11	-0.21
6,536.6	1.14	173.31	6,422.3	605.7	-581.5	839.7	0.33	-0.32	-3.82
TARGET CIRCLE 20-30D									
6,581.0	1.00	171.10	6,466.7	604.9	-581.4	839.0	0.33	-0.32	-4.97
6,674.0	0.90	164.90	6,559.7	603.4	-581.1	837.7	0.15	-0.11	-6.67
6,767.0	0.70	158.20	6,652.7	602.2	-580.7	836.5	0.24	-0.22	-7.20
6,861.0	0.60	160.30	6,746.7	601.2	-580.3	835.6	0.11	-0.11	2.23
6,935.0	0.70	172.00	6,820.7	600.3	-580.1	834.8	0.22	0.14	15.81
6,978.5	0.70	172.00	6,864.2	599.8	-580.1	834.4	0.00	0.00	0.00
HARDLINES 75'S & E OF 20-30D BHL									
6,980.0	0.70	172.00	6,865.7	599.8	-580.0	834.4	0.00	0.00	0.00

Checked By: _____ Approved By: _____ Date: _____