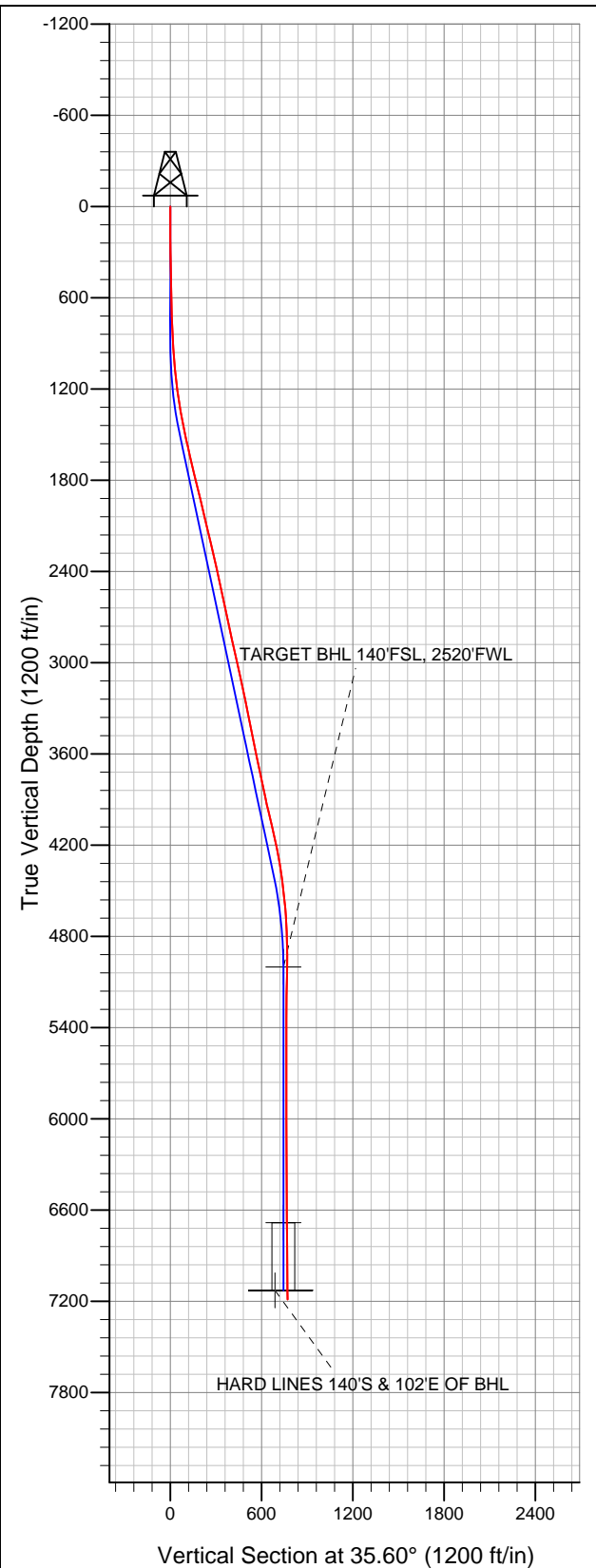




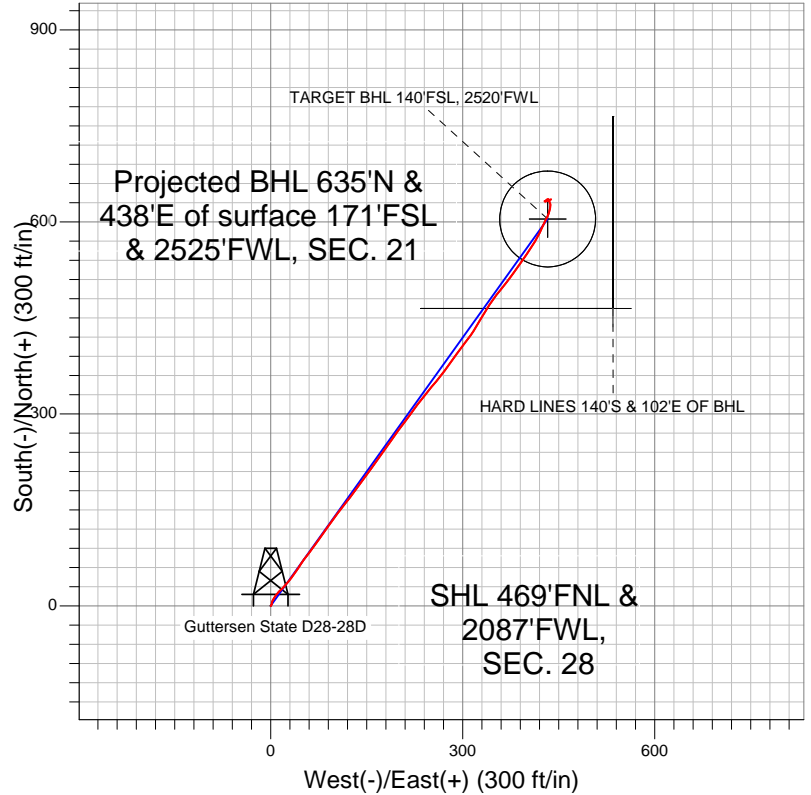
Well Name: Guttersen State D28-28D

Surface Location: Guttersen State D28-28D Pad Sec.28-T3N-R64W
North American Datum 1983 US State Plane 1983Colorado Northern Zone
Ground Elevation: 4790.0

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.0	0.0	1317977.20	3263046.63	40.202410	-104.558250	
Original Well Elev			WELL @ 4803.0ft (Original Well Elev)			



NOBLE ENERGY INC WELD COUNTY CO



- LEGEND
- Wellbore #1
 - Guttersen State D28-28D, Wellbore #1, Noble Guttersen State D28-28D Plan #1 (4-26-12) R V0
 - Survey #1

Final Survey Plot

Projected Final Survey -
7265'MD & 7188'TVD @ 772°VS
0.90 deg Inc 68.70 deg AZ

Project: SEC.28-T3N-R64W
Site: Guttersen State D28-28D Pad Sec.28-T3N-R64W
Well: Guttersen State D28-28D
Plan: Wellbore #1



NOBLE ENERGY INC WELD COUNTY CO

SEC.28-T3N-R64W

Guttersen State D28-28D Pad Sec.28-T3N-R64W

Guttersen State D28-28D

Wellbore #1

Survey: Survey #1

Standard Survey Report

01 May, 2012



Company:	NOBLE ENERGY INC WELD COUNTY CO	Local Co-ordinate Reference:	Well Gutteresen State D28-28D
Project:	SEC.28-T3N-R64W	TVD Reference:	WELL @ 4803.0ft (Original Well Elev)
Site:	Gutteresen State D28-28D Pad Sec.28-T3N-R64W	MD Reference:	WELL @ 4803.0ft (Original Well Elev)
Well:	Gutteresen State D28-28D	North Reference:	True
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	Landmark

Project	SEC.28-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		Guttersen State D28-28D Pad Sec.28-T3N-R64W			
Site Position:		Northing:	1,317,977.21 ft	Latitude:	40.202410
From:	Lat/Long	Easting:	3,263,046.63 ft	Longitude:	-104.558250
Position Uncertainty:	0.0 ft	Slot Radius:	"	Grid Convergence:	0.61 °

Well	Guttersen State D28-28D					
Well Position	+N-S	0.0 ft	Northing:	1,317,977.20 ft	Latitude:	40.202410
	+E-W	0.0 ft	Easting:	3,263,046.63 ft	Longitude:	-104.558250
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	4,790.0 ft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	4/26/2012	8.62	66.90	52,959

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 (°)	
	5,000.0	0.0	0.0	35.60	

Survey Program	Date 5/1/2012				
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
110.0	7,265.0	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	
110.0	0.30	91.80	110.0	0.0	0.3	0.2	0.27	0.27	0.00	
205.0	0.40	13.20	205.0	0.3	0.6	0.6	0.47	0.11	-82.74	
300.0	1.20	31.50	300.0	1.5	1.2	1.9	0.87	0.84	19.26	
395.0	1.00	8.80	395.0	3.1	1.9	3.6	0.50	-0.21	-23.89	
490.0	1.10	6.30	490.0	4.9	2.1	5.2	0.12	0.11	-2.63	
585.0	1.20	16.90	584.9	6.7	2.5	6.9	0.25	0.11	11.16	
680.0	1.80	28.80	679.9	9.0	3.5	9.3	0.71	0.63	12.53	
742.0	2.40	30.60	741.9	11.0	4.6	11.6	0.97	0.97	2.90	
849.0	2.20	33.20	848.8	14.6	6.9	15.9	0.21	-0.19	2.43	
931.0	3.40	38.90	930.7	17.8	9.3	19.9	1.50	1.46	6.95	
1,013.0	4.70	43.10	1,012.5	22.2	13.1	25.6	1.63	1.59	5.12	

Company:	NOBLE ENERGY INC WELD COUNTY CO	Local Co-ordinate Reference:	Well Guttersen State D28-28D
Project:	SEC.28-T3N-R64W	TVD Reference:	WELL @ 4803.0ft (Original Well Elev)
Site:	Guttersen State D28-28D Pad Sec.28-T3N-R64W	MD Reference:	WELL @ 4803.0ft (Original Well Elev)
Well:	Guttersen State D28-28D	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)
1,094.0	5.90	46.20	1,093.1	27.5	18.4	33.0	1.52	1.48	3.83
1,176.0	7.50	41.00	1,174.6	34.4	24.9	42.5	2.08	1.95	-6.34
1,258.0	8.80	36.70	1,255.7	43.5	32.2	54.1	1.75	1.59	-5.24
1,339.0	9.60	35.20	1,335.7	54.0	39.8	67.0	1.03	0.99	-1.85
1,421.0	10.70	32.50	1,416.4	66.0	47.8	81.5	1.46	1.34	-3.29
1,503.0	11.70	37.30	1,496.8	79.0	56.9	97.4	1.67	1.22	5.85
1,585.0	13.10	36.60	1,576.9	93.1	67.5	115.0	1.72	1.71	-0.85
1,667.0	12.70	36.60	1,656.9	107.8	78.4	133.3	0.49	-0.49	0.00
1,749.0	13.30	33.90	1,736.8	122.9	89.1	151.7	1.04	0.73	-3.29
1,830.0	13.70	35.90	1,815.5	138.4	99.9	170.6	0.76	0.49	2.47
1,912.0	14.30	39.20	1,895.1	154.1	112.0	190.5	1.22	0.73	4.02
1,994.0	13.10	37.30	1,974.8	169.3	124.0	209.9	1.56	-1.46	-2.32
2,076.0	13.40	36.20	2,054.6	184.4	135.2	228.6	0.48	0.37	-1.34
2,158.0	13.50	35.90	2,134.3	199.8	146.5	247.7	0.15	0.12	-0.37
2,239.0	13.30	34.50	2,213.1	215.1	157.3	266.5	0.47	-0.25	-1.73
2,321.0	13.00	37.10	2,293.0	230.3	168.2	285.1	0.81	-0.37	3.17
2,403.0	12.80	36.20	2,372.9	244.9	179.1	303.4	0.35	-0.24	-1.10
2,484.0	12.50	33.40	2,451.9	259.5	189.3	321.2	0.84	-0.37	-3.46
2,566.0	12.00	37.10	2,532.1	273.7	199.3	338.6	1.13	-0.61	4.51
2,648.0	11.90	38.00	2,612.3	287.2	209.6	355.5	0.26	-0.12	1.10
2,730.0	11.80	33.80	2,692.5	300.8	219.5	372.4	1.06	-0.12	-5.12
2,811.0	12.00	38.30	2,771.8	314.3	229.3	389.0	1.17	0.25	5.56
2,893.0	12.80	38.20	2,851.9	328.1	240.2	406.6	0.98	0.98	-0.12
2,975.0	12.80	39.60	2,931.9	342.3	251.6	424.8	0.38	0.00	1.71
3,057.0	13.10	38.30	3,011.8	356.6	263.2	443.1	0.51	0.37	-1.59
3,139.0	12.30	38.00	3,091.8	370.7	274.3	461.1	0.98	-0.98	-0.37
3,220.0	11.60	33.40	3,171.0	384.3	284.1	477.9	1.46	-0.86	-5.68
3,302.0	11.60	36.40	3,251.3	397.8	293.5	494.4	0.74	0.00	3.66
3,384.0	11.30	38.30	3,331.7	410.8	303.4	510.6	0.59	-0.37	2.32
3,466.0	11.10	36.00	3,412.1	423.5	313.0	526.6	0.60	-0.24	-2.80
3,548.0	11.30	30.80	3,492.6	436.8	321.8	542.5	1.26	0.24	-6.34
3,629.0	11.90	29.20	3,571.9	450.9	329.9	558.7	0.84	0.74	-1.98
3,711.0	12.10	33.10	3,652.1	465.4	338.7	575.6	1.02	0.24	4.76
3,793.0	12.00	34.80	3,732.3	479.6	348.3	592.8	0.45	-0.12	2.07
3,875.0	11.70	40.00	3,812.6	493.0	358.5	609.6	1.35	-0.37	6.34
3,956.0	12.30	37.80	3,891.8	506.1	369.1	626.4	0.93	0.74	-2.72
4,038.0	13.60	35.70	3,971.7	520.9	380.1	644.7	1.69	1.59	-2.56
4,120.0	12.90	35.50	4,051.5	536.1	391.0	663.5	0.86	-0.85	-0.24
4,202.0	12.30	32.90	4,131.6	550.9	401.1	681.4	1.01	-0.73	-3.17
4,283.0	12.10	33.60	4,210.7	565.2	410.4	698.5	0.31	-0.25	0.86
4,365.0	10.20	25.60	4,291.2	578.9	418.3	714.3	2.98	-2.32	-9.76
4,447.0	8.40	26.00	4,372.1	590.9	424.1	727.3	2.20	-2.20	0.49
4,529.0	7.00	26.20	4,453.4	600.7	428.9	738.2	1.71	-1.71	0.24
4,611.0	6.50	25.70	4,534.8	609.4	433.2	747.7	0.61	-0.61	-0.61
4,692.0	5.60	10.90	4,615.4	617.4	435.9	755.8	2.21	-1.11	-18.27
4,774.0	4.50	6.90	4,697.0	624.5	437.0	762.2	1.41	-1.34	-4.88
4,856.0	3.30	335.70	4,778.8	629.9	436.4	766.2	2.92	-1.46	-38.05
4,938.0	2.10	348.90	4,860.8	633.5	435.2	768.4	1.64	-1.46	16.10
5,077.0	1.46	251.13	4,999.7	635.4	433.0	768.7	1.95	-0.46	-70.35
TARGET BHL 140'FSL, 2520'FWL									
5,101.0	1.80	239.60	5,023.7	635.2	432.4	768.2	1.95	1.41	-47.99
5,265.0	0.90	224.30	5,187.7	632.9	429.3	764.5	0.59	-0.55	-9.33
5,429.0	0.10	305.70	5,351.7	632.1	428.3	763.3	0.54	-0.49	49.63

Company:	NOBLE ENERGY INC WELD COUNTY CO	Local Co-ordinate Reference:	Well Gutteresen State D28-28D
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Well:	Gutteresen State D28-28D	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)
5,592.0	0.20	30.80	5,514.7	632.4	428.3	763.5	0.13	0.06	52.21
5,755.0	0.20	138.50	5,677.6	632.4	428.6	763.8	0.20	0.00	66.07
5,919.0	0.30	115.70	5,841.6	632.0	429.2	763.8	0.08	0.06	-13.90
6,082.0	0.10	32.40	6,004.6	632.0	429.7	764.0	0.19	-0.12	-51.10
6,246.0	0.50	67.70	6,168.6	632.4	430.4	764.7	0.26	0.24	21.52
6,409.0	0.40	100.20	6,331.6	632.5	431.6	765.6	0.17	-0.06	19.94
6,573.0	0.40	66.60	6,495.6	632.7	432.7	766.3	0.14	0.00	-20.49
6,736.0	0.40	49.90	6,658.6	633.3	433.7	767.4	0.07	0.00	-10.25
6,760.2	0.40	50.95	6,682.9	633.4	433.8	767.5	0.03	0.00	4.32
TARGET CIRCLE 140°FSL, 2520°FSL									
6,900.0	0.40	57.00	6,822.6	633.9	434.6	768.4	0.03	0.00	4.33
7,063.0	0.50	76.80	6,985.6	634.4	435.8	769.5	0.11	0.06	12.15
7,205.9	0.87	69.09	7,128.5	634.9	437.4	770.9	0.26	0.26	-5.40
HARD LINES 140°S & 102°E OF BHL									
7,219.0	0.90	68.70	7,141.6	635.0	437.6	771.0	0.26	0.26	-2.99
7,265.0	0.90	68.70	7,187.6	635.3	438.2	771.7	0.00	0.00	0.00

Checked By: _____	Approved By: _____	Date: _____
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