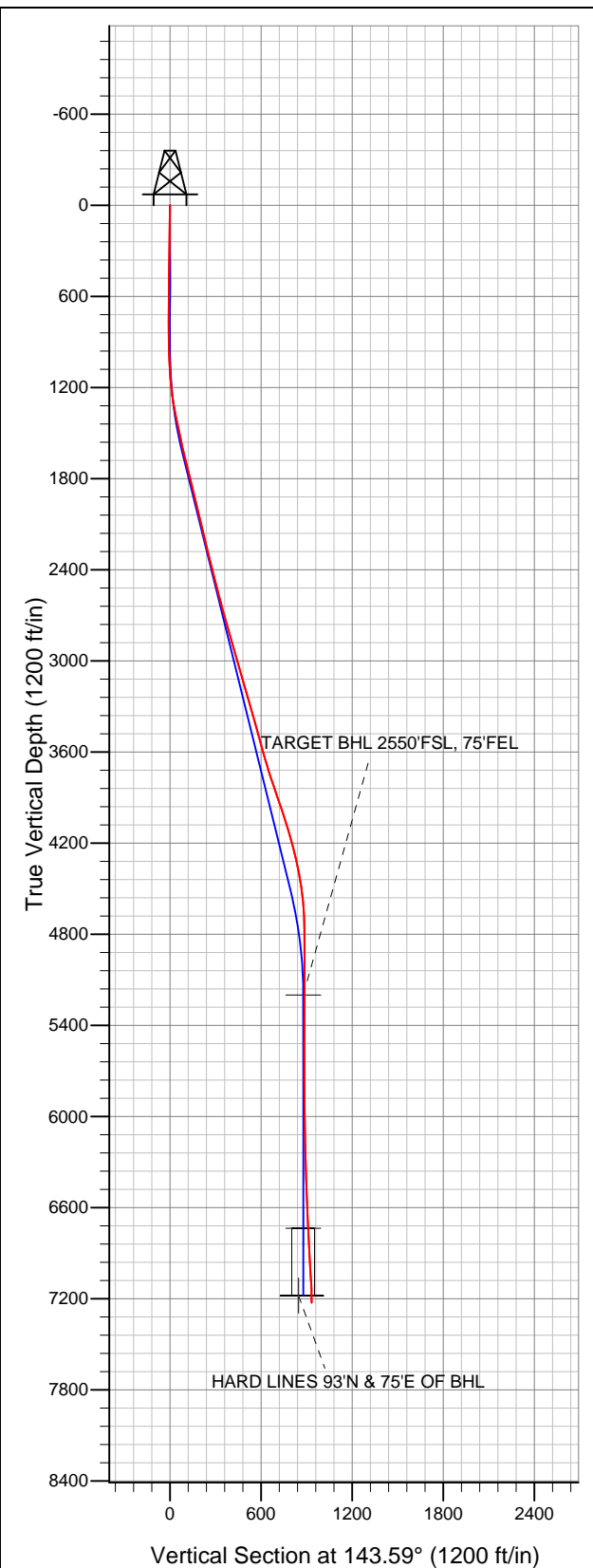




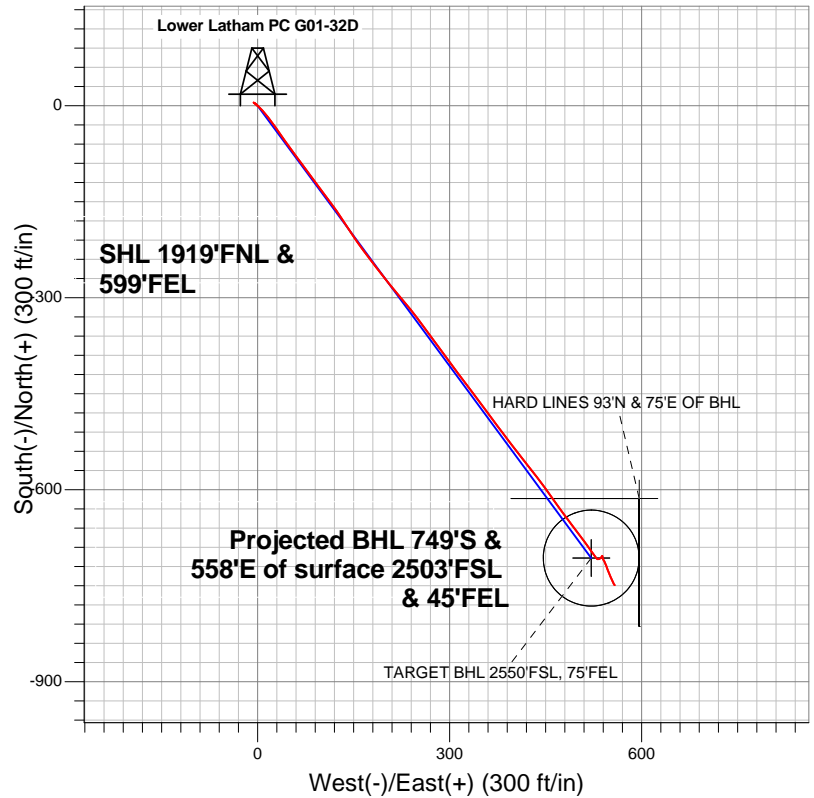
Well Name: Lower Latham PC G01-32D

Surface Location: Lower Latham PC G02-22D Pad Sec.2-T4N-R65W
North American Datum 1983 US State Plane 1983Colorado Northern Zone
Ground Elevation: 4692.0

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.0	0.0	1369073.50	3244440.34	40.343190	-104.623050	
Original Well Elev				WELL @ 4705.0ft (Original Well Elev)		



NOBLE ENERGY INC WELD COUNTY CO



LEGEND

- Wellbore #1
- Lower Latham PC G01-32D, Wellbore #1, Noble Lower Latham PC G01-32D Plan #2 (8-22-12) R V0
- Survey #1

Final Survey Plot

Projected Final Survey -
7342'MD & 7227'TVD @ 934'VS
1.10 deg Inc 127.10 deg AZ

Project: SEC.2-T4N-R65W (Grid North)
Site: Lower Latham PC G02-22D Pad Sec.2-T4N-R65W
Well: Lower Latham PC G01-32D
Plan: Wellbore #1



NOBLE ENERGY INC WELD COUNTY CO

SEC.2-T4N-R65W (Grid North)

Lower Latham PC G02-22D Pad Sec.2-T4N-R65W

Lower Latham PC G01-32D

Wellbore #1

Survey: Survey #1

Standard Survey Report

28 August, 2012



Company:	NOBLE ENERGY INC WELD COUNTY CO	Local Co-ordinate Reference:	Well Lower Latham PC G01-32D
Project:	SEC.2-T4N-R65W (Grid North)	TVD Reference:	WELL @ 4705.0ft (Original Well Elev)
Site:	Lower Latham PC G02-22D Pad Sec.2-T4N-R65W	MD Reference:	WELL @ 4705.0ft (Original Well Elev)
Well:	Lower Latham PC G01-32D	North Reference:	True
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	Landmark

Project	SEC.2-T4N-R65W (Grid North)		
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	Lower Latham PC G02-22D Pad Sec.2-T4N-R65W				
Site Position:		Northing:	1,369,073.30ft	Latitude:	40.343190
From:	Lat/Long	Easting:	3,244,418.04ft	Longitude:	-104.623130
Position Uncertainty:	0.0 ft	Slot Radius:	"	Grid Convergence:	0.57 °

Well	Lower Latham PC G01-32D					
Well Position	+N-S	0.0 ft	Northing:	1,369,073.50 ft	Latitude:	40.343190
	+E-W	0.0 ft	Easting:	3,244,440.34 ft	Longitude:	-104.623050
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	4,692.0 ft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	8/22/2012	8.62	66.99	52,993

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 (°)	
	5,200.0	0.0	0.0	143.59	

Survey Program	Date	8/28/2012			
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
107.0	7,342.0	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	
107.0	0.90	308.10	107.0	0.5	-0.7	-0.8	0.84	0.84	0.00	
196.0	1.10	307.80	196.0	1.5	-1.9	-2.3	0.22	0.22	-0.34	
285.0	0.90	307.10	285.0	2.4	-3.1	-3.8	0.23	-0.22	-0.79	
402.0	0.60	308.60	402.0	3.4	-4.3	-5.3	0.26	-0.26	1.28	
530.0	0.50	299.50	530.0	4.0	-5.3	-6.4	0.10	-0.08	-7.11	
657.0	0.30	322.40	656.9	4.6	-6.0	-7.3	0.20	-0.16	18.03	
700.0	0.20	332.70	699.9	4.7	-6.1	-7.5	0.25	-0.23	23.95	
769.0	0.10	305.30	768.9	4.9	-6.2	-7.6	0.17	-0.14	-39.71	
897.0	0.50	115.30	896.9	4.7	-5.8	-7.2	0.47	0.31	132.81	
1,026.0	2.70	131.10	1,025.9	2.5	-3.0	-3.8	1.72	1.71	12.25	
1,154.0	5.10	132.20	1,153.6	-3.3	3.5	4.7	1.88	1.88	0.86	

Company:	NOBLE ENERGY INC WELD COUNTY CO	Local Co-ordinate Reference:	Well Lower Latham PC G01-32D
Project:	SEC.2-T4N-R65W (Grid North)	TVD Reference:	WELL @ 4705.0ft (Original Well Elev)
Site:	Lower Latham PC G02-22D Pad Sec.2-T4N-R65W	MD Reference:	WELL @ 4705.0ft (Original Well Elev)
Well:	Lower Latham PC G01-32D	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)
1,283.0	8.40	142.00	1,281.7	-14.6	13.5	19.8	2.70	2.56	7.60
1,411.0	11.90	144.30	1,407.7	-32.7	27.0	42.3	2.75	2.73	1.80
1,539.0	12.40	144.50	1,532.8	-54.6	42.7	69.3	0.39	0.39	0.16
1,668.0	13.90	144.60	1,658.4	-78.5	59.7	98.6	1.16	1.16	0.08
1,796.0	13.50	142.50	1,782.8	-102.9	77.7	128.9	0.50	-0.31	-1.64
1,925.0	13.90	143.80	1,908.1	-127.4	96.0	159.5	0.39	0.31	1.01
2,053.0	13.90	143.40	2,032.3	-152.1	114.2	190.2	0.08	0.00	-0.31
2,181.0	13.00	145.90	2,156.8	-176.4	131.5	220.0	0.84	-0.70	1.95
2,310.0	13.50	147.10	2,282.4	-201.0	147.8	249.5	0.44	0.39	0.93
2,438.0	14.50	143.20	2,406.6	-226.4	165.5	280.4	1.07	0.78	-3.05
2,567.0	14.50	142.70	2,531.5	-252.2	185.0	312.7	0.10	0.00	-0.39
2,695.0	15.10	141.00	2,655.2	-277.9	205.2	345.4	0.58	0.47	-1.33
2,823.0	16.20	139.40	2,778.5	-304.4	227.3	379.9	0.92	0.86	-1.25
2,952.0	15.70	143.20	2,902.5	-332.0	249.5	415.3	0.90	-0.39	2.95
3,080.0	16.30	143.60	3,025.6	-360.4	270.5	450.6	0.48	0.47	0.31
3,209.0	16.00	143.80	3,149.5	-389.3	291.7	486.5	0.24	-0.23	0.16
3,337.0	15.90	143.20	3,272.6	-417.6	312.7	521.6	0.15	-0.08	-0.47
3,465.0	15.90	142.40	3,395.7	-445.5	333.9	556.7	0.17	0.00	-0.63
3,594.0	15.30	143.80	3,519.9	-473.2	354.7	591.4	0.55	-0.47	1.09
3,722.0	16.00	143.40	3,643.2	-501.0	375.2	625.9	0.55	0.55	-0.31
3,851.0	18.10	142.00	3,766.5	-531.1	398.1	663.7	1.66	1.63	-1.09
3,979.0	19.70	142.00	3,887.6	-563.8	423.6	705.2	1.25	1.25	0.00
4,107.0	17.90	144.10	4,008.7	-596.7	448.5	746.4	1.50	-1.41	1.64
4,236.0	16.50	144.30	4,132.0	-627.6	470.8	784.5	1.09	-1.09	0.16
4,364.0	13.80	142.90	4,255.5	-654.6	490.6	818.0	2.13	-2.11	-1.09
4,493.0	11.40	143.20	4,381.4	-677.1	507.5	846.1	1.86	-1.86	0.23
4,621.0	8.00	144.50	4,507.5	-694.4	520.3	867.7	2.66	-2.66	1.02
4,749.0	3.50	145.20	4,634.9	-704.9	527.7	880.5	3.52	-3.52	0.55
4,878.0	1.30	100.90	4,763.8	-708.4	531.4	885.5	2.11	-1.71	-34.34
5,006.0	1.00	59.90	4,891.7	-708.1	533.8	886.7	0.67	-0.23	-32.03
5,135.0	1.00	51.70	5,020.7	-706.9	535.6	886.8	0.11	0.00	-6.36
5,263.0	0.70	37.10	5,148.7	-705.5	537.0	886.5	0.29	-0.23	-11.41
5,314.2	0.62	39.97	5,199.9	-705.1	537.3	886.4	0.17	-0.16	5.60
TARGET BHL 2550'FSL, 75'FEL									
5,391.0	0.50	46.00	5,276.7	-704.5	537.8	886.2	0.17	-0.15	7.85
5,520.0	0.30	25.50	5,405.7	-703.8	538.4	886.0	0.19	-0.16	-15.89
5,648.0	0.20	319.00	5,533.7	-703.4	538.4	885.6	0.22	-0.08	-51.95
5,777.0	0.20	176.50	5,662.7	-703.4	538.3	885.6	0.29	0.00	-110.47
5,905.0	0.40	159.20	5,790.7	-704.1	538.4	886.2	0.17	0.16	-13.52
6,033.0	0.50	172.90	5,918.7	-705.0	538.7	887.1	0.11	0.08	10.70
6,162.0	1.00	158.50	6,047.7	-706.6	539.1	888.7	0.41	0.39	-11.16
6,290.0	1.60	151.80	6,175.6	-709.3	540.4	891.6	0.48	0.47	-5.23
6,419.0	1.20	161.50	6,304.6	-712.1	541.7	894.6	0.36	-0.31	7.52
6,547.0	1.60	148.20	6,432.6	-714.9	543.0	897.7	0.40	0.31	-10.39
6,675.0	2.40	160.50	6,560.5	-719.0	544.9	902.0	0.71	0.63	9.61
6,804.0	3.10	159.60	6,689.3	-724.8	547.0	908.0	0.54	0.54	-0.70
6,849.1	3.21	159.15	6,734.4	-727.1	547.9	910.4	0.24	0.23	-0.99
TARGET CIRCLE 2550'FSL & 75'FEL									
6,932.0	3.40	158.40	6,817.1	-731.5	549.6	915.0	0.24	0.23	-0.91
7,061.0	3.40	155.20	6,945.9	-738.6	552.6	922.4	0.15	0.00	-2.48
7,189.0	3.00	157.30	7,073.7	-745.1	555.5	929.4	0.33	-0.31	1.64
7,292.0	1.17	130.50	7,176.7	-748.3	557.3	933.0	1.97	-1.78	-26.01
HARD LINES 93°N & 75°E OF BHL									

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7,297.0	1.10	127.10	7,181.6	-748.3	557.4	933.1	1.97	-1.42	-68.41
7,342.0	1.10	127.10	7,226.6	-748.9	558.1	933.9	0.00	0.00	0.00

Checked By: _____	Approved By: _____	Date: _____
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