

Well Name: Lower Latham PC G02-22D

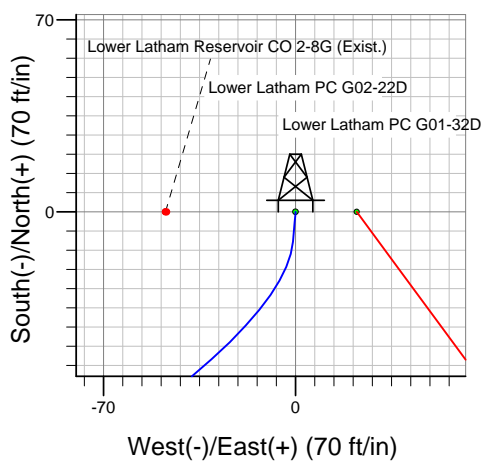
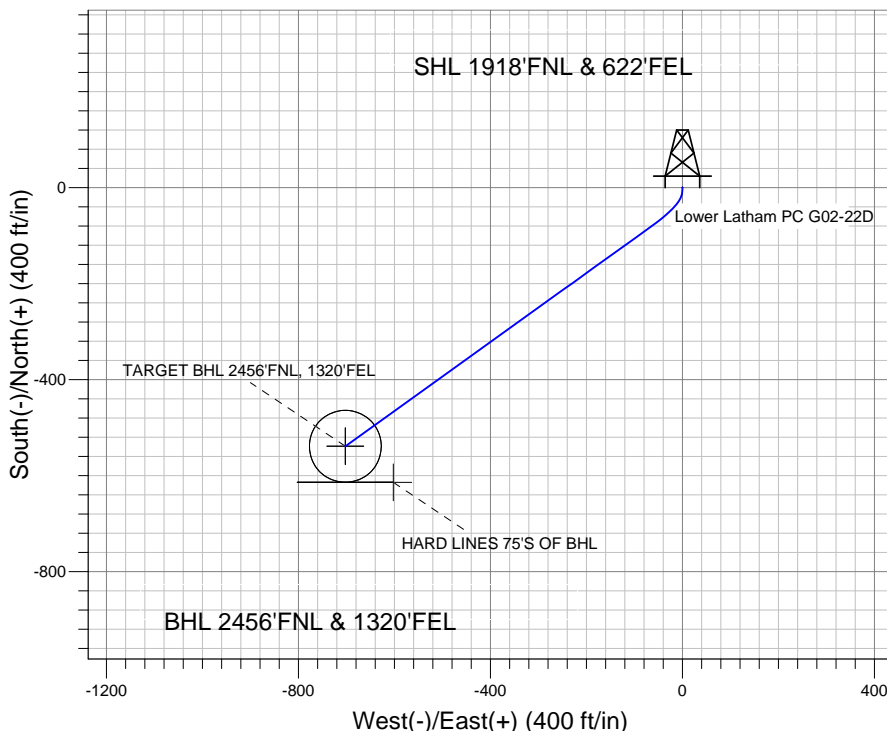
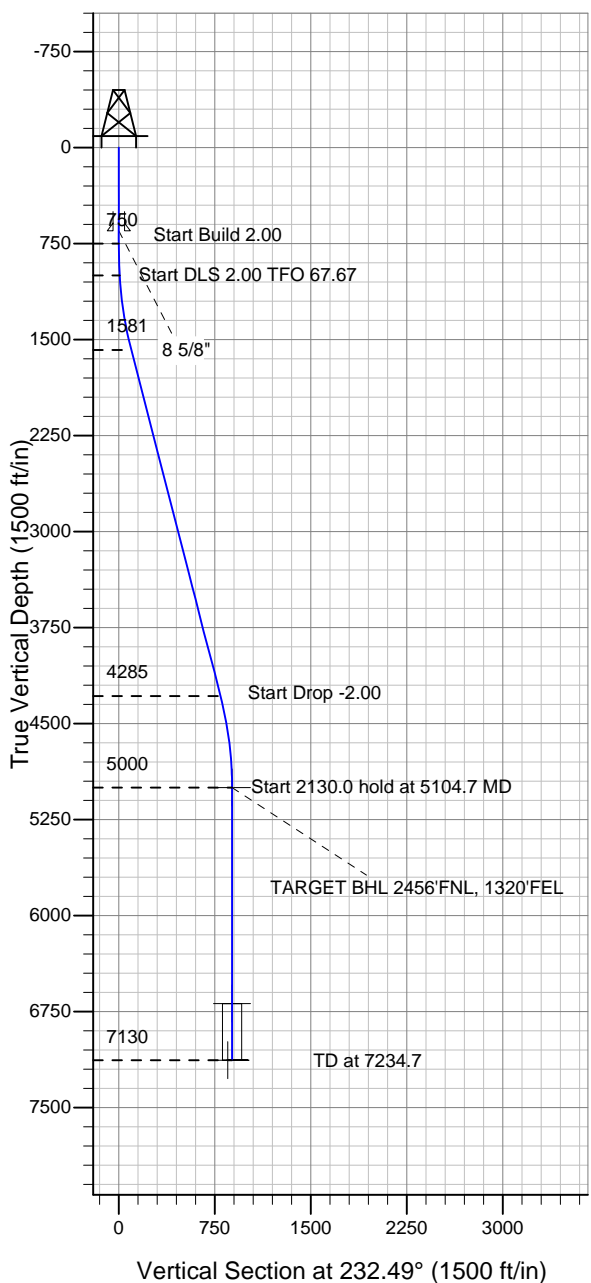
Surface Location: Lower Latham PC G02-22D Pad Sec.2-T4N-R65W
 North American Datum 1983 US State Plane 1983 Colorado Northern Zone

Ground Elevation: 4692.0

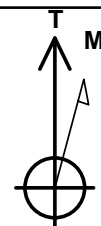
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.0	0.0	1369073.29	3244418.04	40.343190	-104.623130	

Original Well Elev WELL @ 4705.0ft (Original Well Elev)

NOBLE ENERGY INC WELD COUNTY CO



Lower Latham PC G02-22D Pad Sec.2-T4N-R65W
 Lower Latham PC G02-22D
 Noble Lower Latham PC G02-22D Plan #1 (4-14-11)
 11:55, April 25 2011



Azimuths to True North
 Magnetic North: 8.80°

Magnetic Field
 Strength: 53134.8snT
 Dip Angle: 67.03°
 Date: 4/18/2011
 Model: IGRF2010

WELLBORE TARGET DETAILS (LAT/LONG)

Name	TVD	+N/-S	+E/-W	Latitude	Longitude	Shape
TARGET BHL 2456'FNL, 1320'FEL	5000.0	-539.2	-702.5	40.341710	-104.625650	Point
TARGET CIRCLE 2456'FNL & 1320'FEL	6687.0	-539.2	-702.5	40.341710	-104.625650	Circle (Radius: 75.0)
HARD LINES 75'S OF BHL	7130.0	-614.2	-602.5	40.341504	-104.625291	Polygon

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	DLeg	TFace	VSec	Target
1	0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0	
2	750.0	0.00	0.00	750.0	0.0	0.0	0.00	0.00	0.0	
3	1000.0	5.00	185.00	999.7	-10.9	-1.0	2.00	185.00	7.4	
4	1590.0	14.45	234.29	1581.3	-79.7	-63.2	2.00	67.67	98.6	
5	4382.2	14.45	234.29	4285.2	-486.3	-628.9	0.00	0.00	795.0	
6	5104.7	0.00	0.00	5000.0	-539.2	-702.5	2.00	180.00	885.5	TARGET BHL 2456'FNL, 1320'FEL
7	7234.7	0.00	0.00	7130.0	-539.2	-702.5	0.00	0.00	885.5	



Directional

NOBLE ENERGY INC WELD COUNTY CO

SEC.2-T4N-R65W

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

Lower Latham PC G02-22D

Wellbore #1

Plan: Noble Lower Latham PC G02-22D Plan #1 (4-14-11)

Standard Planning Report

25 April, 2011



Database:	Landmark	Local Co-ordinate Reference:	Well Lower Latham PC G02-22D
Company:	NOBLE ENERGY INC WELD COUNTY CO	TVD Reference:	WELL @ 4705.0ft (Original Well Elev)
Project:	SEC.2-T4N-R65W	MD Reference:	WELL @ 4705.0ft (Original Well Elev)
Site:	Lower Latham PC G02-22D Pad Sec.2-T4N-R65W	North Reference:	True
Well:	Lower Latham PC G02-22D	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Noble Lower Latham PC G02-22D Plan #1 (4-1		

Project	SEC.2-T4N-R65W		
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 G02-22D					
Well Position	+N/-S	0.0 ft	Northing:	1,369,073.29 ft	Latitude:	40.343190
	+E/-W	0.0 ft	Easting:	3,244,418.04 ft	Longitude:	-104.623130
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	4/18/2011	8.81	67.03	53,135

Design	Noble Lower Latham PC G02-22D Plan #1 (4-14-11)			
Audit Notes:				
Version:	Phase:	PROTOTYPE	Tie On Depth:	0.0
Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)
	0.0	0.0	0.0	232.49

Plan Sections										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	
750.0	0.00	0.00	750.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,000.0	5.00	185.00	999.7	-10.9	-1.0	2.00	2.00	0.00	185.00	
1,590.0	14.45	234.29	1,581.3	-79.7	-63.2	2.00	1.60	8.36	67.67	
4,382.2	14.45	234.29	4,285.2	-486.3	-628.9	0.00	0.00	0.00	0.00	
5,104.7	0.00	0.00	5,000.0	-539.2	-702.5	2.00	-2.00	0.00	180.00	TARGET BHL 2456
7,234.7	0.00	0.00	7,130.0	-539.2	-702.5	0.00	0.00	0.00	0.00	

Database:	Landmark	Local Co-ordinate Reference:	Well Lower Latham PC G02-22D
Company:	NOBLE ENERGY INC WELD COUNTY CO	TVD Reference:	WELL @ 4705.0ft (Original Well Elev)
Project:	SEC.2-T4N-R65W	MD Reference:	WELL @ 4705.0ft (Original Well Elev)
Site:	Lower Latham PC G02-22D Pad Sec.2-T4N-R65W	North Reference:	True
Well:	Lower Latham PC G02-22D	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Noble Lower Latham PC G02-22D Plan #1 (4-1)		

Planned 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
40.0	0.00	0.00	40.0	0.0	0.0	0.0	0.00	0.00	0.00
80.0	0.00	0.00	80.0	0.0	0.0	0.0	0.00	0.00	0.00
120.0	0.00	0.00	120.0	0.0	0.0	0.0	0.00	0.00	0.00
160.0	0.00	0.00	160.0	0.0	0.0	0.0	0.00	0.00	0.00
200.0	0.00	0.00	200.0	0.0	0.0	0.0	0.00	0.00	0.00
240.0	0.00	0.00	240.0	0.0	0.0	0.0	0.00	0.00	0.00
280.0	0.00	0.00	280.0	0.0	0.0	0.0	0.00	0.00	0.00
320.0	0.00	0.00	320.0	0.0	0.0	0.0	0.00	0.00	0.00
360.0	0.00	0.00	360.0	0.0	0.0	0.0	0.00	0.00	0.00
400.0	0.00	0.00	400.0	0.0	0.0	0.0	0.00	0.00	0.00
440.0	0.00	0.00	440.0	0.0	0.0	0.0	0.00	0.00	0.00
480.0	0.00	0.00	480.0	0.0	0.0	0.0	0.00	0.00	0.00
520.0	0.00	0.00	520.0	0.0	0.0	0.0	0.00	0.00	0.00
560.0	0.00	0.00	560.0	0.0	0.0	0.0	0.00	0.00	0.00
600.0	0.00	0.00	600.0	0.0	0.0	0.0	0.00	0.00	0.00
640.0	0.00	0.00	640.0	0.0	0.0	0.0	0.00	0.00	0.00
650.0	0.00	0.00	650.0	0.0	0.0	0.0	0.00	0.00	0.00
8 5/8"									
680.0	0.00	0.00	680.0	0.0	0.0	0.0	0.00	0.00	0.00
720.0	0.00	0.00	720.0	0.0	0.0	0.0	0.00	0.00	0.00
750.0	0.00	0.00	750.0	0.0	0.0	0.0	0.00	0.00	0.00
760.0	0.20	185.00	760.0	0.0	0.0	0.0	2.00	2.00	0.00
800.0	1.00	185.00	800.0	-0.4	0.0	0.3	2.00	2.00	0.00
840.0	1.80	185.00	840.0	-1.4	-0.1	1.0	2.00	2.00	0.00
880.0	2.60	185.00	880.0	-2.9	-0.3	2.0	2.00	2.00	0.00
920.0	3.40	185.00	919.9	-5.0	-0.4	3.4	2.00	2.00	0.00
960.0	4.20	185.00	959.8	-7.7	-0.7	5.2	2.00	2.00	0.00
1,000.0	5.00	185.00	999.7	-10.9	-1.0	7.4	2.00	2.00	0.00
1,040.0	5.36	192.95	1,039.5	-14.4	-1.5	10.0	2.00	0.89	19.88
1,080.0	5.80	199.81	1,079.3	-18.1	-2.6	13.1	2.00	1.11	17.14
1,120.0	6.31	205.62	1,119.1	-22.0	-4.3	16.8	2.00	1.29	14.53
1,160.0	6.88	210.52	1,158.8	-26.1	-6.4	21.0	2.00	1.42	12.25
1,200.0	7.49	214.65	1,198.5	-30.3	-9.1	25.7	2.00	1.53	10.32
1,240.0	8.14	218.15	1,238.2	-34.7	-12.4	30.9	2.00	1.61	8.74
1,280.0	8.81	221.12	1,277.7	-39.2	-16.1	36.6	2.00	1.67	7.44
1,320.0	9.50	223.68	1,317.2	-43.9	-20.4	42.9	2.00	1.72	6.38
1,360.0	10.20	225.88	1,356.6	-48.7	-25.2	49.7	2.00	1.76	5.52
1,400.0	10.92	227.81	1,395.9	-53.7	-30.6	57.0	2.00	1.80	4.81
1,440.0	11.65	229.49	1,435.2	-58.9	-36.5	64.8	2.00	1.82	4.22
1,480.0	12.39	230.98	1,474.3	-64.2	-42.9	73.1	2.00	1.84	3.72
1,520.0	13.13	232.30	1,513.3	-69.7	-49.8	82.0	2.00	1.86	3.31
1,560.0	13.88	233.49	1,552.2	-75.3	-57.3	91.3	2.00	1.88	2.96
1,590.0	14.45	234.29	1,581.3	-79.7	-63.2	98.6	2.00	1.89	2.69
1,600.0	14.45	234.29	1,591.0	-81.1	-65.2	101.1	0.00	0.00	0.00
1,640.0	14.45	234.29	1,629.7	-87.0	-73.3	111.1	0.00	0.00	0.00
1,680.0	14.45	234.29	1,668.4	-92.8	-81.4	121.1	0.00	0.00	0.00
1,720.0	14.45	234.29	1,707.2	-98.6	-89.5	131.1	0.00	0.00	0.00
1,760.0	14.45	234.29	1,745.9	-104.4	-97.6	141.0	0.00	0.00	0.00
1,800.0	14.45	234.29	1,784.6	-110.3	-105.7	151.0	0.00	0.00	0.00
1,840.0	14.45	234.29	1,823.4	-116.1	-113.8	161.0	0.00	0.00	0.00
1,880.0	14.45	234.29	1,862.1	-121.9	-121.9	171.0	0.00	0.00	0.00
1,920.0	14.45	234.29	1,900.8	-127.7	-130.0	180.9	0.00	0.00	0.00

Database:	Landmark	Local Co-ordinate Reference:	Well Lower Latham PC G02-22D
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Project:	SEC.2-T4N-R65W	MD Reference:	WELL @ 4705.0ft (Original Well Elev)
Site:	Lower Latham PC G02-22D Pad Sec.2-T4N-R65W	North Reference:	True
Well:	Lower Latham PC G02-22D	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Noble Lower Latham PC G02-22D Plan #1 (4-1)		

Planned 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)
1,960.0	14.45	234.29	1,939.6	-133.6	-138.1	190.9	0.00	0.00	0.00
2,000.0	14.45	234.29	1,978.3	-139.4	-146.3	200.9	0.00	0.00	0.00
2,040.0	14.45	234.29	2,017.1	-145.2	-154.4	210.9	0.00	0.00	0.00
2,080.0	14.45	234.29	2,055.8	-151.0	-162.5	220.8	0.00	0.00	0.00
2,120.0	14.45	234.29	2,094.5	-156.9	-170.6	230.8	0.00	0.00	0.00
2,160.0	14.45	234.29	2,133.3	-162.7	-178.7	240.8	0.00	0.00	0.00
2,200.0	14.45	234.29	2,172.0	-168.5	-186.8	250.8	0.00	0.00	0.00
2,240.0	14.45	234.29	2,210.7	-174.3	-194.9	260.7	0.00	0.00	0.00
2,280.0	14.45	234.29	2,249.5	-180.2	-203.0	270.7	0.00	0.00	0.00
2,320.0	14.45	234.29	2,288.2	-186.0	-211.1	280.7	0.00	0.00	0.00
2,360.0	14.45	234.29	2,326.9	-191.8	-219.2	290.7	0.00	0.00	0.00
2,400.0	14.45	234.29	2,365.7	-197.6	-227.3	300.6	0.00	0.00	0.00
2,440.0	14.45	234.29	2,404.4	-203.5	-235.4	310.6	0.00	0.00	0.00
2,480.0	14.45	234.29	2,443.1	-209.3	-243.5	320.6	0.00	0.00	0.00
2,520.0	14.45	234.29	2,481.9	-215.1	-251.6	330.6	0.00	0.00	0.00
2,560.0	14.45	234.29	2,520.6	-220.9	-259.7	340.5	0.00	0.00	0.00
2,600.0	14.45	234.29	2,559.3	-226.8	-267.8	350.5	0.00	0.00	0.00
2,640.0	14.45	234.29	2,598.1	-232.6	-275.9	360.5	0.00	0.00	0.00
2,680.0	14.45	234.29	2,636.8	-238.4	-284.0	370.5	0.00	0.00	0.00
2,720.0	14.45	234.29	2,675.5	-244.2	-292.1	380.4	0.00	0.00	0.00
2,760.0	14.45	234.29	2,714.3	-250.0	-300.2	390.4	0.00	0.00	0.00
2,800.0	14.45	234.29	2,753.0	-255.9	-308.3	400.4	0.00	0.00	0.00
2,840.0	14.45	234.29	2,791.8	-261.7	-316.4	410.4	0.00	0.00	0.00
2,880.0	14.45	234.29	2,830.5	-267.5	-324.5	420.3	0.00	0.00	0.00
2,920.0	14.45	234.29	2,869.2	-273.3	-332.6	430.3	0.00	0.00	0.00
2,960.0	14.45	234.29	2,908.0	-279.2	-340.8	440.3	0.00	0.00	0.00
3,000.0	14.45	234.29	2,946.7	-285.0	-348.9	450.3	0.00	0.00	0.00
3,040.0	14.45	234.29	2,985.4	-290.8	-357.0	460.2	0.00	0.00	0.00
3,080.0	14.45	234.29	3,024.2	-296.6	-365.1	470.2	0.00	0.00	0.00
3,120.0	14.45	234.29	3,062.9	-302.5	-373.2	480.2	0.00	0.00	0.00
3,160.0	14.45	234.29	3,101.6	-308.3	-381.3	490.2	0.00	0.00	0.00
3,200.0	14.45	234.29	3,140.4	-314.1	-389.4	500.1	0.00	0.00	0.00
3,240.0	14.45	234.29	3,179.1	-319.9	-397.5	510.1	0.00	0.00	0.00
3,280.0	14.45	234.29	3,217.8	-325.8	-405.6	520.1	0.00	0.00	0.00
3,320.0	14.45	234.29	3,256.6	-331.6	-413.7	530.1	0.00	0.00	0.00
3,360.0	14.45	234.29	3,295.3	-337.4	-421.8	540.0	0.00	0.00	0.00
3,400.0	14.45	234.29	3,334.0	-343.2	-429.9	550.0	0.00	0.00	0.00
3,440.0	14.45	234.29	3,372.8	-349.1	-438.0	560.0	0.00	0.00	0.00
3,480.0	14.45	234.29	3,411.5	-354.9	-446.1	570.0	0.00	0.00	0.00
3,520.0	14.45	234.29	3,450.2	-360.7	-454.2	579.9	0.00	0.00	0.00
3,560.0	14.45	234.29	3,489.0	-366.5	-462.3	589.9	0.00	0.00	0.00
3,600.0	14.45	234.29	3,527.7	-372.4	-470.4	599.9	0.00	0.00	0.00
3,640.0	14.45	234.29	3,566.5	-378.2	-478.5	609.9	0.00	0.00	0.00
3,680.0	14.45	234.29	3,605.2	-384.0	-486.6	619.8	0.00	0.00	0.00
3,720.0	14.45	234.29	3,643.9	-389.8	-494.7	629.8	0.00	0.00	0.00
3,760.0	14.45	234.29	3,682.7	-395.7	-502.8	639.8	0.00	0.00	0.00
3,800.0	14.45	234.29	3,721.4	-401.5	-510.9	649.8	0.00	0.00	0.00
3,840.0	14.45	234.29	3,760.1	-407.3	-519.0	659.7	0.00	0.00	0.00
3,880.0	14.45	234.29	3,798.9	-413.1	-527.2	669.7	0.00	0.00	0.00
3,920.0	14.45	234.29	3,837.6	-419.0	-535.3	679.7	0.00	0.00	0.00
3,960.0	14.45	234.29	3,876.3	-424.8	-543.4	689.7	0.00	0.00	0.00
4,000.0	14.45	234.29	3,915.1	-430.6	-551.5	699.6	0.00	0.00	0.00
4,040.0	14.45	234.29	3,953.8	-436.4	-559.6	709.6	0.00	0.00	0.00

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Company:	NOBLE ENERGY INC WELD COUNTY CO	TVD Reference:	WELL @ 4705.0ft (Original Well Elev)
Project:	SEC.2-T4N-R65W	MD Reference:	WELL @ 4705.0ft (Original Well Elev)
Site:	Lower Latham PC G02-22D Pad Sec.2-T4N-R65W	North Reference:	True
Well:	Lower Latham PC G02-22D	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Noble Lower Latham PC G02-22D Plan #1 (4-1)		

Planned 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)
4,080.0	14.45	234.29	3,992.5	-442.3	-567.7	719.6	0.00	0.00	0.00
4,120.0	14.45	234.29	4,031.3	-448.1	-575.8	729.6	0.00	0.00	0.00
4,160.0	14.45	234.29	4,070.0	-453.9	-583.9	739.6	0.00	0.00	0.00
4,200.0	14.45	234.29	4,108.7	-459.7	-592.0	749.5	0.00	0.00	0.00
4,240.0	14.45	234.29	4,147.5	-465.6	-600.1	759.5	0.00	0.00	0.00
4,280.0	14.45	234.29	4,186.2	-471.4	-608.2	769.5	0.00	0.00	0.00
4,320.0	14.45	234.29	4,224.9	-477.2	-616.3	779.5	0.00	0.00	0.00
4,360.0	14.45	234.29	4,263.7	-483.0	-624.4	789.4	0.00	0.00	0.00
4,382.2	14.45	234.29	4,285.2	-486.3	-628.9	795.0	0.00	0.00	0.00
4,400.0	14.09	234.29	4,302.4	-488.8	-632.5	799.4	2.00	-2.00	0.00
4,440.0	13.29	234.29	4,341.3	-494.4	-640.2	808.8	2.00	-2.00	0.00
4,480.0	12.49	234.29	4,380.3	-499.6	-647.4	817.7	2.00	-2.00	0.00
4,520.0	11.69	234.29	4,419.4	-504.5	-654.2	826.1	2.00	-2.00	0.00
4,560.0	10.89	234.29	4,458.6	-509.0	-660.6	833.9	2.00	-2.00	0.00
4,600.0	10.09	234.29	4,497.9	-513.3	-666.5	841.2	2.00	-2.00	0.00
4,640.0	9.29	234.29	4,537.4	-517.2	-671.9	848.0	2.00	-2.00	0.00
4,680.0	8.49	234.29	4,576.9	-520.8	-677.0	854.1	2.00	-2.00	0.00
4,720.0	7.69	234.29	4,616.5	-524.1	-681.5	859.8	2.00	-2.00	0.00
4,760.0	6.89	234.29	4,656.2	-527.1	-685.7	864.8	2.00	-2.00	0.00
4,800.0	6.09	234.29	4,695.9	-529.7	-689.3	869.4	2.00	-2.00	0.00
4,840.0	5.29	234.29	4,735.7	-532.0	-692.6	873.3	2.00	-2.00	0.00
4,880.0	4.49	234.29	4,775.6	-534.0	-695.3	876.7	2.00	-2.00	0.00
4,920.0	3.69	234.29	4,815.5	-535.7	-697.6	879.6	2.00	-2.00	0.00
4,960.0	2.89	234.29	4,855.4	-537.0	-699.5	881.9	2.00	-2.00	0.00
5,000.0	2.09	234.29	4,895.4	-538.0	-700.9	883.6	2.00	-2.00	0.00
5,040.0	1.29	234.29	4,935.3	-538.7	-701.9	884.8	2.00	-2.00	0.00
5,080.0	0.49	234.29	4,975.3	-539.1	-702.4	885.4	2.00	-2.00	0.00
5,104.7	0.00	0.00	5,000.0	-539.2	-702.5	885.5	2.00	-2.00	0.00
TARGET BHL 2456'FNL, 1320'FEL									
5,120.0	0.00	0.00	5,015.3	-539.2	-702.5	885.5	0.00	0.00	0.00
5,160.0	0.00	0.00	5,055.3	-539.2	-702.5	885.5	0.00	0.00	0.00
5,200.0	0.00	0.00	5,095.3	-539.2	-702.5	885.5	0.00	0.00	0.00
5,240.0	0.00	0.00	5,135.3	-539.2	-702.5	885.5	0.00	0.00	0.00
5,280.0	0.00	0.00	5,175.3	-539.2	-702.5	885.5	0.00	0.00	0.00
5,320.0	0.00	0.00	5,215.3	-539.2	-702.5	885.5	0.00	0.00	0.00
5,360.0	0.00	0.00	5,255.3	-539.2	-702.5	885.5	0.00	0.00	0.00
5,400.0	0.00	0.00	5,295.3	-539.2	-702.5	885.5	0.00	0.00	0.00
5,440.0	0.00	0.00	5,335.3	-539.2	-702.5	885.5	0.00	0.00	0.00
5,480.0	0.00	0.00	5,375.3	-539.2	-702.5	885.5	0.00	0.00	0.00
5,520.0	0.00	0.00	5,415.3	-539.2	-702.5	885.5	0.00	0.00	0.00
5,560.0	0.00	0.00	5,455.3	-539.2	-702.5	885.5	0.00	0.00	0.00
5,600.0	0.00	0.00	5,495.3	-539.2	-702.5	885.5	0.00	0.00	0.00
5,640.0	0.00	0.00	5,535.3	-539.2	-702.5	885.5	0.00	0.00	0.00
5,680.0	0.00	0.00	5,575.3	-539.2	-702.5	885.5	0.00	0.00	0.00
5,720.0	0.00	0.00	5,615.3	-539.2	-702.5	885.5	0.00	0.00	0.00
5,760.0	0.00	0.00	5,655.3	-539.2	-702.5	885.5	0.00	0.00	0.00
5,800.0	0.00	0.00	5,695.3	-539.2	-702.5	885.5	0.00	0.00	0.00
5,840.0	0.00	0.00	5,735.3	-539.2	-702.5	885.5	0.00	0.00	0.00
5,880.0	0.00	0.00	5,775.3	-539.2	-702.5	885.5	0.00	0.00	0.00
5,920.0	0.00	0.00	5,815.3	-539.2	-702.5	885.5	0.00	0.00	0.00
5,960.0	0.00	0.00	5,855.3	-539.2	-702.5	885.5	0.00	0.00	0.00
6,000.0	0.00	0.00	5,895.3	-539.2	-702.5	885.5	0.00	0.00	0.00
6,040.0	0.00	0.00	5,935.3	-539.2	-702.5	885.5	0.00	0.00	0.00

Database:	Landmark	Local Co-ordinate Reference:	Well Lower Latham PC G02-22D
Company:	NOBLE ENERGY INC WELD COUNTY CO	TVD Reference:	WELL @ 4705.0ft (Original Well Elev)
Project:	SEC.2-T4N-R65W	MD Reference:	WELL @ 4705.0ft (Original Well Elev)
Site:	Lower Latham PC G02-22D Pad Sec.2-T4N-R65W	North Reference:	True
Well:	Lower Latham PC G02-22D	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Noble Lower Latham PC G02-22D Plan #1 (4-1)		

Planned 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)
6,080.0	0.00	0.00	5,975.3	-539.2	-702.5	885.5	0.00	0.00	0.00
6,120.0	0.00	0.00	6,015.3	-539.2	-702.5	885.5	0.00	0.00	0.00
6,160.0	0.00	0.00	6,055.3	-539.2	-702.5	885.5	0.00	0.00	0.00
6,200.0	0.00	0.00	6,095.3	-539.2	-702.5	885.5	0.00	0.00	0.00
6,240.0	0.00	0.00	6,135.3	-539.2	-702.5	885.5	0.00	0.00	0.00
6,280.0	0.00	0.00	6,175.3	-539.2	-702.5	885.5	0.00	0.00	0.00
6,320.0	0.00	0.00	6,215.3	-539.2	-702.5	885.5	0.00	0.00	0.00
6,360.0	0.00	0.00	6,255.3	-539.2	-702.5	885.5	0.00	0.00	0.00
6,400.0	0.00	0.00	6,295.3	-539.2	-702.5	885.5	0.00	0.00	0.00
6,440.0	0.00	0.00	6,335.3	-539.2	-702.5	885.5	0.00	0.00	0.00
6,480.0	0.00	0.00	6,375.3	-539.2	-702.5	885.5	0.00	0.00	0.00
6,520.0	0.00	0.00	6,415.3	-539.2	-702.5	885.5	0.00	0.00	0.00
6,560.0	0.00	0.00	6,455.3	-539.2	-702.5	885.5	0.00	0.00	0.00
6,600.0	0.00	0.00	6,495.3	-539.2	-702.5	885.5	0.00	0.00	0.00
6,640.0	0.00	0.00	6,535.3	-539.2	-702.5	885.5	0.00	0.00	0.00
6,680.0	0.00	0.00	6,575.3	-539.2	-702.5	885.5	0.00	0.00	0.00
6,720.0	0.00	0.00	6,615.3	-539.2	-702.5	885.5	0.00	0.00	0.00
6,760.0	0.00	0.00	6,655.3	-539.2	-702.5	885.5	0.00	0.00	0.00
6,791.7	0.00	0.00	6,687.0	-539.2	-702.5	885.5	0.00	0.00	0.00
NIOBRARA - TARGET CIRCLE 2456'FNL & 1320'FEL									
6,800.0	0.00	0.00	6,695.3	-539.2	-702.5	885.5	0.00	0.00	0.00
6,840.0	0.00	0.00	6,735.3	-539.2	-702.5	885.5	0.00	0.00	0.00
6,880.0	0.00	0.00	6,775.3	-539.2	-702.5	885.5	0.00	0.00	0.00
6,920.0	0.00	0.00	6,815.3	-539.2	-702.5	885.5	0.00	0.00	0.00
6,960.0	0.00	0.00	6,855.3	-539.2	-702.5	885.5	0.00	0.00	0.00
7,000.0	0.00	0.00	6,895.3	-539.2	-702.5	885.5	0.00	0.00	0.00
7,040.0	0.00	0.00	6,935.3	-539.2	-702.5	885.5	0.00	0.00	0.00
7,080.0	0.00	0.00	6,975.3	-539.2	-702.5	885.5	0.00	0.00	0.00
7,084.7	0.00	0.00	6,980.0	-539.2	-702.5	885.5	0.00	0.00	0.00
CODELL									
7,120.0	0.00	0.00	7,015.3	-539.2	-702.5	885.5	0.00	0.00	0.00
7,160.0	0.00	0.00	7,055.3	-539.2	-702.5	885.5	0.00	0.00	0.00
7,200.0	0.00	0.00	7,095.3	-539.2	-702.5	885.5	0.00	0.00	0.00
7,234.7	0.00	0.00	7,130.0	-539.2	-702.5	885.5	0.00	0.00	0.00
HARD LINES 75'S OF BHL									

Database:	Landmark	Local Co-ordinate Reference:	Well Lower Latham PC G02-22D
Company:	NOBLE ENERGY INC WELD COUNTY CO	TVD Reference:	WELL @ 4705.0ft (Original Well Elev)
Project:	SEC.2-T4N-R65W	MD Reference:	WELL @ 4705.0ft (Original Well Elev)
Site:	Lower Latham PC G02-22D Pad Sec.2-T4N-R65W	North Reference:	True
Well:	Lower Latham PC G02-22D	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Noble Lower Latham PC G02-22D Plan #1 (4-1)		

Targets
Target Name

- hit/miss target	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
- Shape									
HARD LINES 75'S OF	0.00	0.00	7,130.0	-614.2	-602.5	1,368,453.19	3,243,821.67	40.341504	-104.625291
- plan misses target center by 125.0ft at 7234.7ft MD (7130.0 TVD, -539.2 N, -702.5 E)									
- Polygon									
Point 1			7,130.0	0.0	0.0	1,368,453.19	3,243,821.67		
Point 2			7,130.0	0.0	-200.0	1,368,451.21	3,243,621.69		
TARGET BHL 2456'F	0.00	0.00	5,000.0	-539.2	-702.5	1,368,527.23	3,243,720.96	40.341710	-104.625650
- plan hits target center									
- Point									
TARGET CIRCLE 24'	0.00	0.00	6,687.0	-539.2	-702.5	1,368,527.23	3,243,720.96	40.341710	-104.625650
- plan hits target center									
- Circle (radius 75.0)									

Casing Points

Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (")	Hole Diameter (")
650.0	650.0	8 5/8"	8-5/8	12-1/4

Formations

Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
6,791.7	6,687.0	NIOBRARA		0.00	
7,084.7	6,980.0	CODELL		0.00	