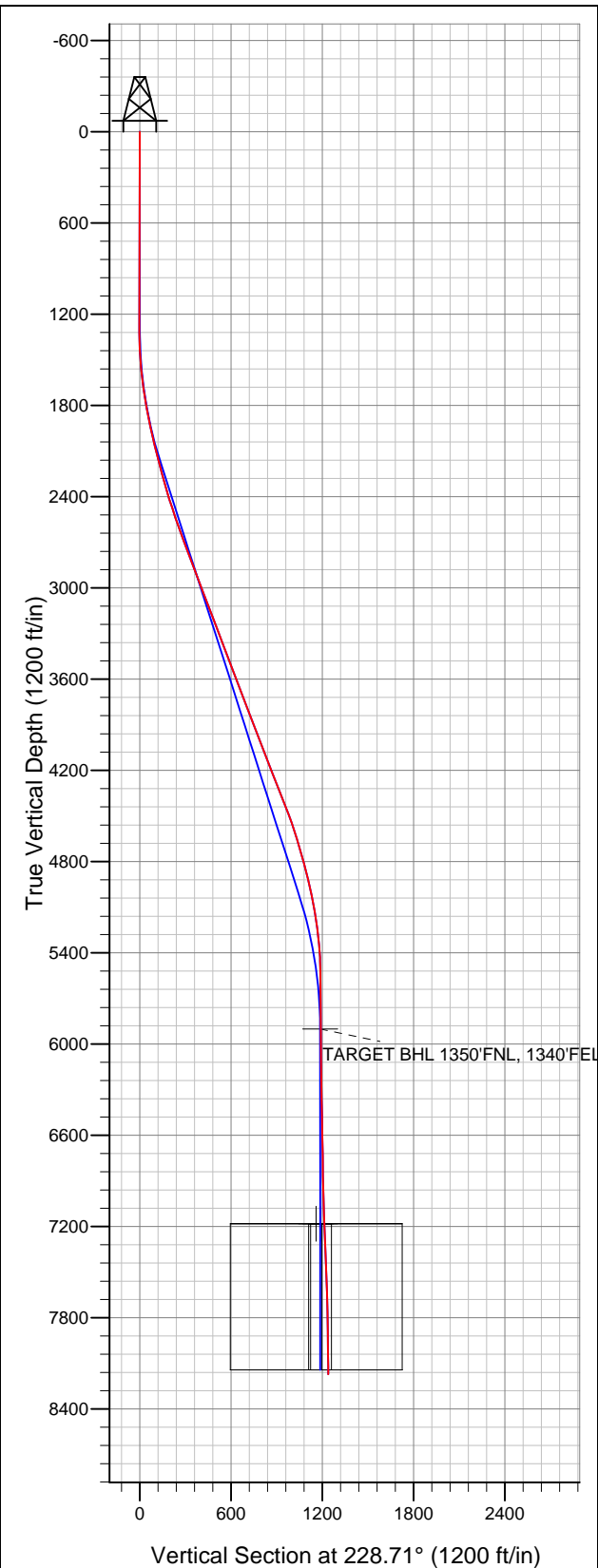




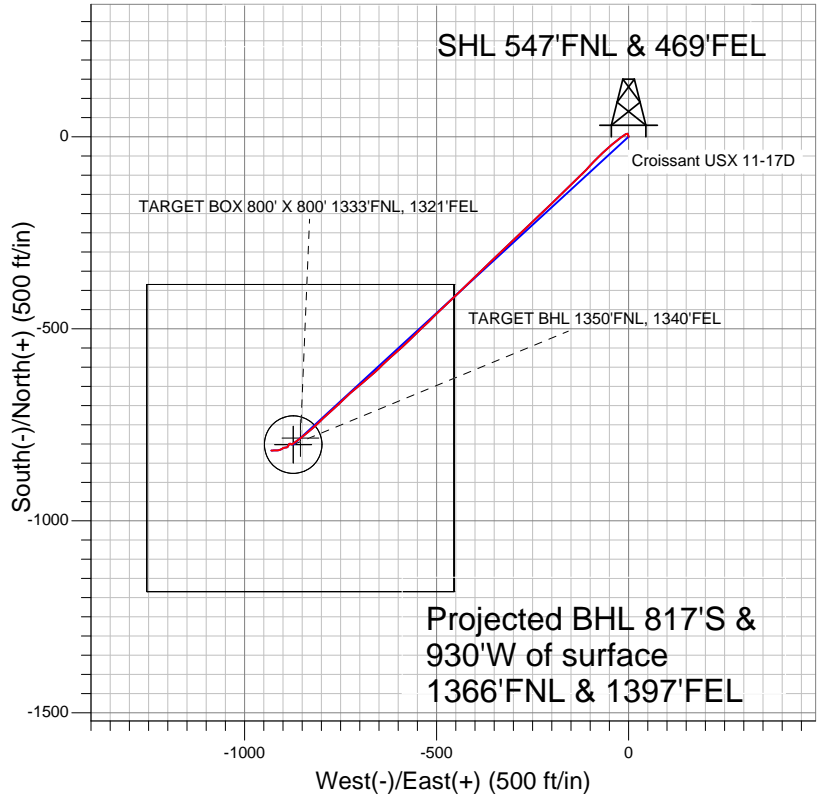
Well Name: Croissant USX 11-17D

Surface Location: Croissant USX WW11-02D Pad Sec.11-T1N-R66W
North American Datum 1983 US State Plane 1983Wyoming Western Zone
Ground Elevation: 5076.0

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.0	0.0	217070.87	4121357.31	40.071650	-104.736530	
Original Well EleWELL @ 5089.0ft (Original Well Elev)						



NOBLE ENERGY INC WELD COUNTY CO



LEGEND

- △ Croissant USX 11-17D, Wellbore #1, Noble Croissant USX WW11-17D Plan #1 (7-05-11) V0
- Wellbore #1
- Survey #1

Final Survey Plot

Projected Final Survey -
8363'MD & 8171'TVD @ 1238' VS
0.5 deg Inc 260.1 deg AZ

Project: SEC.11-T1N-R66W
Site: Croissant USX WW11-02D Pad Sec.11-T1N-R66W
Well: Croissant USX 11-17D
Plan: Wellbore #1



NOBLE ENERGY INC WELD COUNTY CO

SEC.11-T1N-R66W

Croissant USX WW11-02D Pad Sec.11-T1N-R66W

Croissant USX 11-17D

Wellbore #1

Survey: Survey #1

Standard Survey Report

21 September, 2011



Company:	NOBLE ENERGY INC WELD COUNTY CO	Local Co-ordinate Reference:	Well Croissant USX 11-17D
Project:	SEC.11-T1N-R66W	TVD Reference:	WELL @ 5089.0ft (Original Well Elev)
Site:	Croissant USX WW11-02D Pad Sec.11-T1N-R66W	MD Reference:	WELL @ 5089.0ft (Original Well Elev)
Well:	Croissant USX 11-17D	North Reference:	True
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	Landmark

Project	SEC.11-T1N-R66W, 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:	Wyoming Western Zone		Using geodetic scale factor

Site		Croissant USX WW11-02D Pad Sec.11-T1N-R66W			
Site Position:		Northing:		217,092.74 ft	
From:		Easting:		4,121,355.93 ft	
Position Uncertainty:		Slot Radius:		Grid Convergence:	
Lat/Long		0.0 ft		"	
				°	

Well	Croissant USX 11-17D					
Well Position	+N-S	0.0 ft	Northing:	217,070.87 ft	Latitude:	40.071650
	+E-W	0.0 ft	Easting:	4,121,357.31 ft	Longitude:	-104.736530
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	5,076.0 ft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	7/5/2011	8.81	66.79	52,954

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	228.71	

Survey Program	Date	9/21/2011			
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
1,279.0	8,363.0	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
1,279.0	0.70	348.50	1,279.0	7.7	-1.6	-3.9	0.05	0.05	0.00
1,408.0	2.60	253.30	1,407.9	7.6	-4.5	-1.6	2.13	1.47	-73.80
1,536.0	4.90	238.50	1,535.6	3.9	-12.0	6.4	1.93	1.80	-11.56
1,664.0	7.30	232.10	1,662.9	-4.0	-23.0	19.9	1.95	1.88	-5.00
1,793.0	10.20	230.60	1,790.4	-16.2	-38.3	39.5	2.25	2.25	-1.16
1,921.0	11.90	228.30	1,916.0	-32.2	-56.9	64.1	1.37	1.33	-1.80
2,050.0	14.00	225.50	2,041.7	-52.0	-78.0	92.9	1.70	1.63	-2.17
2,178.0	14.10	222.30	2,165.9	-74.4	-99.5	123.9	0.61	0.08	-2.50
2,306.0	15.60	224.50	2,289.6	-98.2	-122.1	156.5	1.25	1.17	1.72
2,435.0	17.50	227.70	2,413.3	-123.6	-148.6	193.2	1.63	1.47	2.48
2,563.0	18.80	225.80	2,534.9	-151.0	-177.6	233.1	1.12	1.02	-1.48

Company:	NOBLE ENERGY INC WELD COUNTY CO	Local Co-ordinate Reference:	Well Croissant USX 11-17D
Project:	SEC.11-T1N-R66W	TVD Reference:	WELL @ 5089.0ft (Original Well Elev)
Site:	Croissant USX WW11-02D Pad Sec.11-T1N-R66W	MD Reference:	WELL @ 5089.0ft (Original Well Elev)
Well:	Croissant USX 11-17D	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)
2,692.0	20.10	224.70	2,656.5	-181.2	-208.1	276.0	1.05	1.01	-0.85
2,820.0	20.60	226.80	2,776.6	-212.3	-240.0	320.4	0.69	0.39	1.64
2,948.0	21.00	225.90	2,896.2	-243.6	-272.9	365.8	0.40	0.31	-0.70
3,077.0	20.50	227.00	3,016.8	-275.1	-306.0	411.5	0.49	-0.39	0.85
3,205.0	21.50	226.60	3,136.3	-306.5	-339.5	457.3	0.79	0.78	-0.31
3,334.0	20.40	225.20	3,256.8	-338.6	-372.6	503.4	0.94	-0.85	-1.09
3,462.0	20.90	226.20	3,376.6	-370.1	-404.9	548.5	0.48	0.39	0.78
3,590.0	21.10	226.30	3,496.1	-401.9	-438.0	594.3	0.16	0.16	0.08
3,719.0	21.10	226.50	3,616.4	-433.9	-471.7	640.7	0.06	0.00	0.16
3,847.0	20.10	225.50	3,736.3	-465.2	-504.1	685.7	0.83	-0.78	-0.78
3,976.0	21.00	227.00	3,857.0	-496.5	-536.8	730.9	0.81	0.70	1.16
4,104.0	21.50	224.90	3,976.3	-528.7	-570.1	777.3	0.71	0.39	-1.64
4,232.0	21.30	229.50	4,095.5	-560.4	-604.3	823.9	1.32	-0.16	3.59
4,361.0	21.10	224.80	4,215.8	-592.1	-638.5	870.5	1.33	-0.16	-3.64
4,489.0	21.90	230.50	4,334.9	-623.7	-673.2	917.4	1.75	0.63	4.45
4,618.0	21.30	229.20	4,454.9	-654.3	-709.5	964.8	0.59	-0.47	-1.01
4,746.0	18.30	226.00	4,575.3	-683.4	-741.5	1,008.2	2.49	-2.34	-2.50
4,874.0	16.40	227.70	4,697.4	-709.6	-769.4	1,046.3	1.54	-1.48	1.33
5,003.0	14.90	227.20	4,821.7	-733.1	-795.0	1,081.1	1.17	-1.16	-0.39
5,131.0	13.70	226.80	4,945.7	-754.6	-818.1	1,112.7	0.94	-0.94	-0.31
5,260.0	10.50	231.60	5,071.8	-772.4	-838.5	1,139.7	2.60	-2.48	3.72
5,388.0	8.20	233.30	5,198.1	-785.1	-855.0	1,160.5	1.81	-1.80	1.33
5,516.0	5.90	232.00	5,325.1	-794.6	-867.5	1,176.1	1.80	-1.80	-1.02
5,645.0	1.80	237.00	5,453.8	-799.8	-874.4	1,184.8	3.19	-3.18	3.88
5,773.0	0.80	269.00	5,581.8	-800.9	-877.0	1,187.4	0.94	-0.78	25.00
5,902.0	0.90	296.80	5,710.8	-800.5	-878.8	1,188.5	0.33	0.08	21.55
6,030.0	0.70	296.30	5,838.8	-799.7	-880.4	1,189.2	0.16	-0.16	-0.39
6,091.2	0.51	295.20	5,899.9	-799.4	-880.9	1,189.4	0.31	-0.31	-1.80
TARGET BHL 1350'FNL, 1340'FEL									
6,158.0	0.30	292.40	5,966.7	-799.2	-881.4	1,189.6	0.31	-0.31	-4.19
6,287.0	0.80	243.70	6,095.7	-799.5	-882.5	1,190.6	0.50	0.39	-37.75
6,415.0	1.00	221.30	6,223.7	-800.7	-884.0	1,192.6	0.31	0.16	-17.50
6,544.0	1.20	201.20	6,352.7	-802.8	-885.3	1,194.9	0.33	0.16	-15.58
6,672.0	1.20	198.70	6,480.7	-805.3	-886.2	1,197.3	0.04	0.00	-1.95
6,800.0	1.10	238.90	6,608.6	-807.2	-887.7	1,199.6	0.62	-0.08	31.41
6,929.0	1.20	249.90	6,737.6	-808.3	-890.0	1,202.1	0.19	0.08	8.53
7,057.0	1.20	259.70	6,865.6	-809.0	-892.6	1,204.5	0.16	0.00	7.66
7,186.0	1.50	258.40	6,994.6	-809.6	-895.6	1,207.1	0.23	0.23	-1.01
7,314.0	1.60	248.10	7,122.5	-810.6	-898.8	1,210.3	0.23	0.08	-8.05
7,370.6	1.99	242.73	7,179.1	-811.4	-900.5	1,212.0	0.75	0.69	-9.48
TARGET BOX 800' X 800' 1333'FNL, 1321'FEL									
7,371.4	2.00	242.67	7,179.9	-811.4	-900.5	1,212.0	0.75	0.70	-7.59
TARGET CIRCLE 1350'FNL, 1340'FEL									
7,442.0	2.50	238.40	7,250.4	-812.7	-902.9	1,214.7	0.75	0.71	-6.05
7,571.0	2.70	250.60	7,379.3	-815.2	-908.1	1,220.3	0.46	0.16	9.46
7,699.0	3.10	269.70	7,507.1	-816.2	-914.5	1,225.7	0.81	0.31	14.92
7,828.0	1.90	269.20	7,636.0	-816.3	-920.1	1,230.0	0.93	-0.93	-0.39
7,956.0	1.50	266.10	7,764.0	-816.4	-923.9	1,232.9	0.32	-0.31	-2.42
8,084.0	1.20	261.80	7,891.9	-816.7	-926.9	1,235.4	0.25	-0.23	-3.36
8,213.0	0.70	269.30	8,020.9	-816.9	-929.0	1,237.1	0.40	-0.39	5.81
8,313.0	0.50	260.10	8,120.9	-817.0	-930.0	1,237.9	0.22	-0.20	-9.20
8,363.0	0.50	260.10	8,170.9	-817.1	-930.5	1,238.3	0.00	0.00	0.00

Company:	NOBLE ENERGY INC WELD COUNTY CO	Local Co-ordinate Reference:	Well Croissant USX 11-17D
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Well:	Croissant USX 11-17D	North Reference:	True
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	Landmark

Checked By: _____	Approved By: _____	Date: _____
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