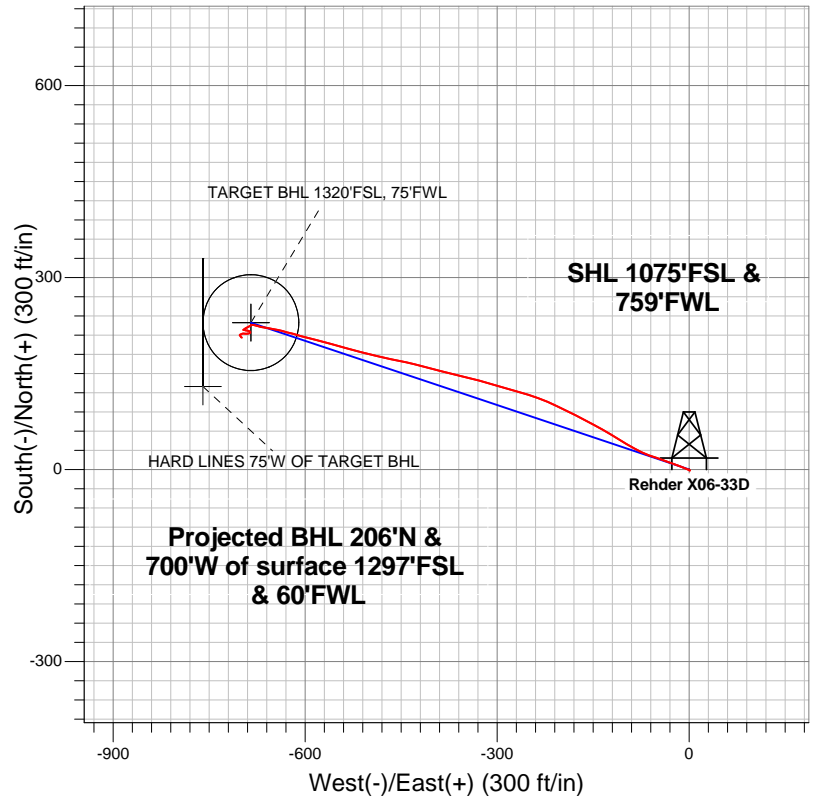


# Well Name: Rehder X06-33D




Surface Location: Rehder X06-33D Pad Sec.6-T2N-R65W  
North American Datum 1983 US State Plane 1983Colorado Northern Zone  
Ground Elevation: 4979.0

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.0	0.0	1303261.66	3219914.13	40.163170	-104.713130	
Original Well Elev				WELL @ 4992.0ft (Original Well Elev)		

## NOBLE ENERGY INC WELD COUNTY CO



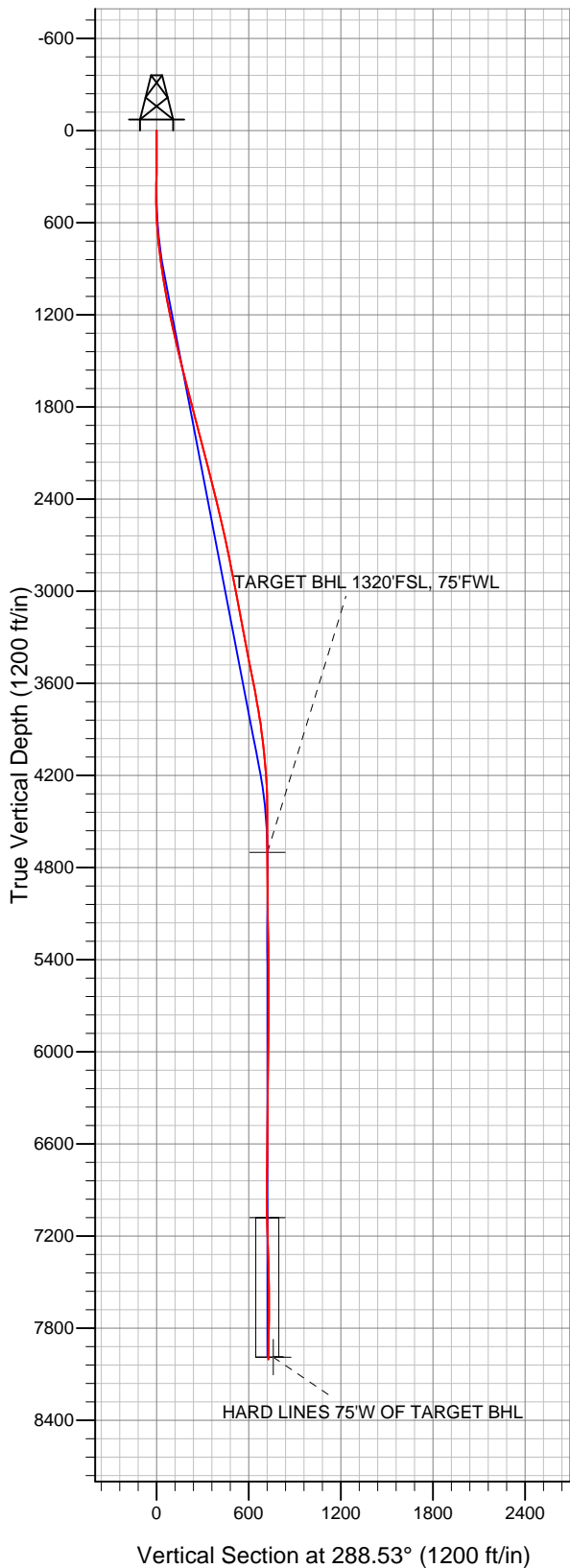
### LEGEND

-  Wellbore #1
-  Rehder X06-33D, Wellbore #1, Noble Rehder X06-33D Plan #2 (3-12-12) V0
-  Survey #1

## Final Survey Plot

Projected Final Survey -  
8080'MD & 8004'TVD @ 729'VS  
0.80 deg Inc 121.90 deg AZ

Project: Sec.6-T2N-R65W  
Site: Rehder X06-33D Pad Sec.6-T2N-R65W  
Well: Rehder X06-33D  
Plan: Wellbore #1





# **NOBLE ENERGY INC WELD COUNTY CO**

**Sec.6-T2N-R65W**

**Rehder X06-33D Pad Sec.6-T2N-R65W**

**Rehder X06-33D**

**Wellbore #1**

**Survey: Survey #1**

## **Standard Survey Report**

**18 June, 2012**



<b>Company:</b>	NOBLE ENERGY INC WELD COUNTY CO	<b>Local Co-ordinate Reference:</b>	Well Rehder X06-33D
<b>Project:</b>	Sec.6-T2N-R65W	<b>TVD Reference:</b>	WELL @ 4992.0ft (Original Well Elev)
<b>Site:</b>	Rehder X06-33D Pad Sec.6-T2N-R65W	<b>MD Reference:</b>	WELL @ 4992.0ft (Original Well Elev)
<b>Well:</b>	Rehder X06-33D	<b>North Reference:</b>	True
<b>Wellbore:</b>	Wellbore #1	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	Wellbore #1	<b>Database:</b>	Landmark

<b>Project</b>	Sec.6-T2N-R65W, Weld County, Colorado		
<b>Map System:</b>	US State Plane 1983	<b>System Datum:</b>	Mean Sea Level
<b>Geo Datum:</b>	North American Datum 1983		Using Well Reference Point
<b>Map Zone:</b>	Colorado Northern Zone		Using geodetic scale factor

<b>Site</b>	Rehder X06-33D Pad Sec.6-T2N-R65W		
<b>Site Position:</b>		<b>Northing:</b>	1,303,261.68ft
<b>From:</b>	Lat/Long	<b>Easting:</b>	3,219,914.13ft
<b>Position Uncertainty:</b>	0.0 ft	<b>Slot Radius:</b>	"
		<b>Latitude:</b>	40.163170
		<b>Longitude:</b>	-104.713130
		<b>Grid Convergence:</b>	0.51 °

<b>Well</b>	Rehder X06-33D		
<b>Well Position</b>	<b>+N/-S</b>	0.0 ft	<b>Northing:</b> 1,303,261.66 ft
	<b>+E/-W</b>	0.0 ft	<b>Easting:</b> 3,219,914.13 ft
<b>Position Uncertainty</b>	0.0 ft	<b>Wellhead Elevation:</b>	ft
		<b>Latitude:</b>	40.163170
		<b>Longitude:</b>	-104.713130
		<b>Ground Level:</b>	4,979.0 ft

<b>Wellbore</b>	Wellbore #1				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	IGRF2010	6/6/2012	8.68	66.83	52,908

<b>Design</b>	Wellbore #1				
<b>Audit Notes:</b>					
<b>Version:</b>	1.0	<b>Phase:</b>	ACTUAL	<b>Tie On Depth:</b>	0.0
<b>Vertical Section:</b>	<b>Depth From (TVD) (ft)</b>	<b>+N/-S (ft)</b>	<b>+E/-W (ft)</b>	<b>Direction (°)</b>	
	4,700.0	0.0	0.0	288.53	

<b>Survey Program</b>	<b>Date</b>	6/18/2012			
<b>From (ft)</b>	<b>To (ft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Description</b>	
103.0	8,080.0	Survey #1 (Wellbore #1)	MWD	MWD - Standard	

<b>Survey</b>										
<b>Measured Depth (ft)</b>	<b>Inclination (°)</b>	<b>Azimuth (°)</b>	<b>Vertical Depth (ft)</b>	<b>+N/-S (ft)</b>	<b>+E/-W (ft)</b>	<b>Vertical Section (ft)</b>	<b>Dogleg Rate (°/100ft)</b>	<b>Build Rate (°/100ft)</b>	<b>Turn Rate (°/100ft)</b>	
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00	
103.0	0.20	191.80	103.0	-0.2	0.0	0.0	0.19	0.19	0.00	
193.0	0.30	234.40	193.0	-0.5	-0.3	0.1	0.23	0.11	47.33	
283.0	0.40	154.90	283.0	-0.9	-0.3	0.0	0.50	0.11	-88.33	
371.0	1.20	107.60	371.0	-1.4	0.7	-1.1	1.11	0.91	-53.75	
498.0	1.00	301.20	498.0	-1.3	1.0	-1.4	1.72	-0.16	-131.02	
626.0	3.90	290.80	625.9	0.9	-4.0	4.1	2.28	2.27	-8.13	
754.0	7.00	292.60	753.3	5.4	-15.3	16.2	2.43	2.42	1.41	
881.0	7.50	288.30	879.2	11.0	-30.3	32.2	0.58	0.39	-3.39	
995.0	9.10	289.60	992.0	16.3	-45.9	48.7	1.41	1.40	1.14	
1,031.0	10.30	288.10	1,027.5	18.3	-51.6	54.7	3.41	3.33	-4.17	
1,160.0	11.40	294.30	1,154.2	27.1	-74.2	79.0	1.24	0.85	4.81	
1,288.0	12.60	301.70	1,279.4	39.7	-97.6	105.1	1.52	0.94	5.78	

<b>Company:</b>	NOBLE ENERGY INC WELD COUNTY CO	<b>Local Co-ordinate Reference:</b>	Well Rehder X06-33D
<b>Project:</b>	Sec.6-T2N-R65W	<b>TVD Reference:</b>	WELL @ 4992.0ft (Original Well Elev)
<b>Site:</b>	Rehder X06-33D Pad Sec.6-T2N-R65W	<b>MD Reference:</b>	WELL @ 4992.0ft (Original Well Elev)
<b>Well:</b>	Rehder X06-33D	<b>North Reference:</b>	True
<b>Wellbore:</b>	Wellbore #1	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	Wellbore #1	<b>Database:</b>	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)
1,416.0	13.50	300.80	1,404.1	54.6	-122.3	133.3	0.72	0.70	-0.70
1,544.0	14.40	298.40	1,528.4	69.9	-149.1	163.6	0.84	0.70	-1.88
1,673.0	14.60	297.10	1,653.2	84.9	-177.7	195.5	0.30	0.16	-1.01
1,801.0	14.40	295.60	1,777.2	99.1	-206.4	227.2	0.33	-0.16	-1.17
1,929.0	14.40	289.80	1,901.2	111.4	-235.8	259.0	1.13	0.00	-4.53
2,057.0	14.90	285.70	2,025.0	121.2	-266.6	291.3	0.90	0.39	-3.20
2,186.0	14.20	286.80	2,149.9	130.3	-297.7	323.7	0.58	-0.54	0.85
2,314.0	14.40	285.00	2,273.9	139.0	-328.1	355.3	0.38	0.16	-1.41
2,442.0	13.90	282.90	2,398.0	146.5	-358.5	386.4	0.56	-0.39	-1.64
2,570.0	13.20	284.00	2,522.4	153.5	-387.6	416.3	0.58	-0.55	0.86
2,699.0	12.60	285.40	2,648.2	160.8	-415.5	445.0	0.52	-0.47	1.09
2,827.0	11.80	282.40	2,773.3	167.3	-441.7	472.0	0.80	-0.63	-2.34
2,955.0	10.90	282.00	2,898.8	172.6	-466.4	497.0	0.71	-0.70	-0.31
3,083.0	10.50	282.00	3,024.6	177.6	-489.6	520.7	0.31	-0.31	0.00
3,212.0	11.00	285.00	3,151.3	183.2	-513.0	544.6	0.58	0.39	2.33
3,340.0	10.80	285.40	3,277.0	189.5	-536.3	568.8	0.17	-0.16	0.31
3,468.0	10.90	286.80	3,402.7	196.2	-559.5	592.8	0.22	0.08	1.09
3,596.0	11.00	282.90	3,528.4	202.4	-583.0	617.1	0.58	0.08	-3.05
3,725.0	11.00	286.10	3,655.0	208.6	-606.8	641.6	0.47	0.00	2.48
3,853.0	9.60	284.10	3,780.9	214.6	-628.9	664.5	1.13	-1.09	-1.56
3,981.0	7.60	282.00	3,907.5	219.0	-647.5	683.5	1.58	-1.56	-1.64
4,109.0	6.00	277.30	4,034.6	221.6	-662.4	698.5	1.32	-1.25	-3.67
4,238.0	4.80	288.70	4,163.0	224.2	-674.2	710.5	1.24	-0.93	8.84
4,366.0	2.40	269.70	4,290.8	225.9	-682.0	718.4	2.07	-1.88	-14.84
4,494.0	0.30	211.70	4,418.7	225.6	-684.8	721.0	1.76	-1.64	-45.31
4,622.0	0.10	221.60	4,546.7	225.2	-685.1	721.1	0.16	-0.16	7.73
4,751.0	0.20	174.80	4,675.7	224.9	-685.2	721.1	0.12	0.08	-36.28
4,775.3	0.18	192.60	4,700.0	224.8	-685.2	721.1	0.25	-0.07	73.35
<b>TARGET BHL 1320'FSL, 75'FWL</b>									
4,879.0	0.30	253.20	4,803.7	224.6	-685.5	721.3	0.25	0.11	58.42
5,007.0	0.60	242.60	4,931.7	224.2	-686.4	722.0	0.24	0.23	-8.28
5,135.0	1.30	240.90	5,059.7	223.1	-688.2	723.5	0.55	0.55	-1.33
5,264.0	2.00	242.10	5,188.6	221.4	-691.5	726.0	0.54	0.54	0.93
5,392.0	1.10	229.80	5,316.6	219.5	-694.4	728.2	0.75	-0.70	-9.61
5,520.0	0.60	241.60	5,444.6	218.4	-695.9	729.3	0.41	-0.39	9.22
5,648.0	0.20	251.80	5,572.6	218.0	-696.7	729.9	0.32	-0.31	7.97
5,777.0	0.10	68.10	5,701.6	218.0	-696.9	730.0	0.23	-0.08	136.67
5,905.0	0.70	79.30	5,829.6	218.2	-696.0	729.2	0.47	0.47	8.75
6,033.0	0.40	132.30	5,957.6	218.0	-694.9	728.2	0.44	-0.23	41.41
6,161.0	0.80	98.30	6,085.6	217.6	-693.7	726.9	0.41	0.31	-26.56
6,290.0	0.70	98.50	6,214.6	217.4	-692.0	725.2	0.08	-0.08	0.16
6,418.0	0.50	102.00	6,342.5	217.1	-690.7	723.9	0.16	-0.16	2.73
6,546.0	0.40	109.90	6,470.5	216.9	-689.7	722.9	0.09	-0.08	6.17
6,674.0	0.60	103.40	6,598.5	216.6	-688.6	721.8	0.16	0.16	-5.08
6,803.0	0.70	115.40	6,727.5	216.1	-687.3	720.3	0.13	0.08	9.30
6,931.0	0.80	129.40	6,855.5	215.2	-685.9	718.7	0.16	0.08	10.94
7,059.0	1.00	220.00	6,983.5	213.7	-685.9	718.3	1.01	0.16	70.78
7,155.3	1.56	250.04	7,079.8	212.6	-687.7	719.6	0.89	0.58	31.20
<b>TARGET CIRCLE 1320'FSL &amp; 75'FWL</b>									
7,187.0	1.80	255.30	7,111.5	212.4	-688.6	720.4	0.89	0.75	16.58
7,316.0	2.90	276.20	7,240.4	212.2	-693.8	725.2	1.07	0.85	16.20
7,444.0	1.20	250.70	7,368.3	212.1	-698.3	729.5	1.48	-1.33	-19.92
7,572.0	1.00	237.00	7,496.3	211.1	-700.5	731.2	0.26	-0.16	-10.70
7,700.0	0.50	237.50	7,624.2	210.2	-701.9	732.3	0.39	-0.39	0.39

<b>Company:</b>	NOBLE ENERGY INC WELD COUNTY CO	<b>Local Co-ordinate Reference:</b>	Well Rehder X06-33D
<b>Project:</b>	Sec.6-T2N-R65W	<b>TVD Reference:</b>	WELL @ 4992.0ft (Original Well Elev)
<b>Site:</b>	Rehder X06-33D Pad Sec.6-T2N-R65W	<b>MD Reference:</b>	WELL @ 4992.0ft (Original Well Elev)
<b>Well:</b>	Rehder X06-33D	<b>North Reference:</b>	True
<b>Wellbore:</b>	Wellbore #1	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	Wellbore #1	<b>Database:</b>	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)	
7,829.0	1.00	137.20	7,753.2	209.0	-701.6	731.6	0.93	0.39	-77.75	
7,957.0	1.00	156.50	7,881.2	207.2	-700.4	729.9	0.26	0.00	15.08	
7,995.0	0.80	121.90	7,919.2	206.7	-700.0	729.4	1.50	-0.53	-91.05	
8,063.6	0.80	121.90	7,987.8	206.2	-699.2	728.5	0.00	0.00	0.00	
HARD LINES 75°W OF TARGET BHL										
8,080.0	0.80	121.90	8,004.2	206.1	-699.0	728.3	0.00	0.00	0.00	

Checked By: _____	Approved By: _____	Date: _____
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