



Project: SEC.3-T6N-R64W  
Site: Rogers, Egge, and Orr Pad Sec.3-T6N-R64W  
Well: Rogers USX A03-09D  
Plan: Wellbore #1



**Directional**

**NOBLE ENERGY INC WELD  
COUNTY CO**

**SEC.3-T6N-R64W**

**Rogers, Egge, and Orr Pad Sec.3-T6N-R64W**

**Rogers USX A03-09D**

**Wellbore #1**

**Survey: Survey #1**

**Standard Survey Report**

**29 August, 2011**





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**Wellbore:** Wellbore #1  
**Design:** Wellbore #1

**Local Co-ordinate Reference:** Well Rogers USX A03-09D  
**TVD Reference:** WELL @ 4781.0ft (Original Well Elev)  
**MD Reference:** WELL @ 4781.0ft (Original Well Elev)  
**North Reference:** True  
**Survey Calculation Method:** Minimum Curvature  
**Database:** Landmark

<b>Project</b>	SEC.3-T6N-R64W, 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

**Site** Rogers, Egge, and Orr Pad Sec.3-T6N-R64W

**Site Position:** Northing: 1,431,606.73ft Latitude: 40.514140  
**From:** Lat/Long Easting: 3,268,766.21ft Longitude: -104.533340  
**Position Uncertainty:** 0.0 ft Slot Radius: " Grid Convergence: 0.62 °

**Well** Rogers USX A03-09D  
**Well Position** +N/-S 0.0 ft Northing: 1,431,606.73 ft Latitude: 40.514140  
 +E/-W 0.0 ft Easting: 3,268,766.21 ft Longitude: -104.533340  
**Position Uncertainty** 0.0 ft Wellhead Elevation: ft Ground Level: 4,768.0 ft

**Wellbore** Wellbore #1

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	8/11/2011	8.73	67.18	53,200

**Design** Wellbore #1

**Audit Notes:**

**Version:** 1.0 **Phase:** ACTUAL **Tie On Depth:** 0.0

**Vertical Section:** Depth From (TVD) +N/-S +E/-W Direction  
 (ft) (ft) (ft) (°)  
 0.0 0.0 0.0 101.53

**Survey Program** Date 8/29/2011

From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description
290.0	7,365.0	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
290.0	1.70	96.60	290.0	-0.5	4.3	4.3	0.59	0.59	0.00
403.0	1.90	103.50	402.9	-1.1	7.8	7.8	0.26	0.18	6.11
485.0	1.80	94.00	484.9	-1.5	10.4	10.5	0.39	-0.12	-11.59
567.0	1.70	92.20	566.8	-1.7	12.9	12.9	0.14	-0.12	-2.20
648.0	1.70	84.60	647.8	-1.6	15.3	15.3	0.28	0.00	-9.38
730.0	1.80	100.30	729.7	-1.7	17.7	17.7	0.60	0.12	19.15
794.0	2.00	97.30	793.7	-2.0	19.8	19.8	0.35	0.31	-4.69
1,001.0	2.10	94.70	1,000.6	-2.8	27.2	27.2	0.07	0.05	-1.26
1,083.0	2.00	98.00	1,082.5	-3.1	30.1	30.1	0.19	-0.12	4.02
1,164.0	2.50	90.00	1,163.5	-3.3	33.3	33.3	0.73	0.62	-9.88
1,246.0	3.90	100.00	1,245.3	-3.8	37.8	37.8	1.83	1.71	12.20
1,328.0	4.60	100.50	1,327.1	-4.9	43.8	43.9	0.85	0.85	0.61

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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)
1,410.0	5.70	106.30	1,408.8	-6.6	50.9	51.2	1.48	1.34	7.07
1,491.0	7.20	107.50	1,489.3	-9.3	59.6	60.3	1.86	1.85	1.48
1,573.0	9.00	105.10	1,570.4	-12.5	70.7	71.8	2.23	2.20	-2.93
1,655.0	10.20	96.80	1,651.3	-15.0	84.1	85.4	2.23	1.46	-10.12
1,736.0	11.60	97.70	1,730.8	-17.0	99.3	100.7	1.74	1.73	1.11
1,818.0	11.80	99.30	1,811.1	-19.4	115.8	117.3	0.46	0.24	1.95
1,900.0	13.20	100.20	1,891.2	-22.5	133.3	135.1	1.72	1.71	1.10
1,982.0	14.60	99.30	1,970.8	-25.8	152.7	154.7	1.73	1.71	-1.10
2,063.0	15.50	101.40	2,049.0	-29.6	173.4	175.8	1.30	1.11	2.59
2,145.0	17.10	100.90	2,127.7	-34.0	195.9	198.8	1.96	1.95	-0.61
2,227.0	17.20	104.20	2,206.1	-39.3	219.5	223.0	1.19	0.12	4.02
2,309.0	16.90	104.60	2,284.5	-45.2	242.8	247.0	0.39	-0.37	0.49
2,390.0	16.40	99.50	2,362.1	-50.1	265.5	270.2	1.91	-0.62	-6.30
2,472.0	15.40	96.60	2,440.9	-53.3	287.7	292.6	1.56	-1.22	-3.54
2,554.0	15.50	98.00	2,520.0	-56.0	309.4	314.4	0.47	0.12	1.71
2,636.0	16.90	103.30	2,598.7	-60.3	331.8	337.2	2.48	1.71	6.46
2,717.0	17.90	101.40	2,676.0	-65.5	355.5	361.4	1.42	1.23	-2.35
2,799.0	18.40	104.70	2,753.9	-71.3	380.4	386.9	1.39	0.61	4.02
2,881.0	18.30	103.80	2,831.8	-77.6	405.4	412.7	0.37	-0.12	-1.10
2,963.0	19.00	103.50	2,909.4	-83.8	430.9	438.9	0.86	0.85	-0.37
3,044.0	19.50	104.70	2,985.9	-90.3	456.8	465.6	0.79	0.62	1.48
3,126.0	18.40	103.10	3,063.5	-96.7	482.6	492.2	1.48	-1.34	-1.95
3,208.0	17.90	100.20	3,141.4	-101.9	507.6	517.7	1.26	-0.61	-3.54
3,290.0	17.90	101.00	3,219.4	-106.5	532.4	542.9	0.30	0.00	0.98
3,371.0	15.30	97.20	3,297.0	-110.2	555.2	566.1	3.48	-3.21	-4.69
3,453.0	13.80	97.90	3,376.4	-112.9	575.7	586.6	1.84	-1.83	0.85
3,535.0	12.80	105.60	3,456.2	-116.7	594.1	605.4	2.48	-1.22	9.39
3,616.0	12.40	104.40	3,535.3	-121.3	611.2	623.1	0.59	-0.49	-1.48
3,698.0	12.20	108.90	3,615.4	-126.3	627.9	640.5	1.19	-0.24	5.49
3,780.0	14.70	115.30	3,695.1	-133.5	645.5	659.2	3.54	3.05	7.80
3,862.0	15.90	114.60	3,774.2	-142.7	665.1	680.2	1.48	1.46	-0.85
3,943.0	16.50	115.60	3,852.0	-152.3	685.6	702.2	0.82	0.74	1.23
4,025.0	15.70	113.50	3,930.8	-161.7	706.2	724.3	1.21	-0.98	-2.56
4,107.0	16.40	107.50	4,009.6	-169.6	727.5	746.7	2.19	0.85	-7.32
4,189.0	15.70	102.60	4,088.4	-175.5	749.3	769.3	1.86	-0.85	-5.98
4,270.0	16.90	97.90	4,166.2	-179.5	771.7	792.0	2.20	1.48	-5.80
4,352.0	17.50	97.70	4,244.5	-182.8	795.7	816.2	0.74	0.73	-0.24
4,434.0	19.40	104.40	4,322.3	-187.9	821.1	842.1	3.47	2.32	8.17
4,516.0	19.30	100.00	4,399.7	-193.6	847.7	869.3	1.78	-0.12	-5.37
4,597.0	20.70	97.20	4,475.8	-197.7	875.1	896.9	2.09	1.73	-3.46
4,679.0	22.80	93.50	4,551.9	-200.5	905.3	927.1	3.06	2.56	-4.51
4,761.0	23.10	92.40	4,627.4	-202.1	937.2	958.7	0.64	0.37	-1.34
4,843.0	20.60	94.70	4,703.5	-204.0	967.7	988.9	3.22	-3.05	2.80
4,924.0	18.90	99.80	4,779.8	-207.4	994.8	1,016.2	2.99	-2.10	6.30
5,006.0	17.80	104.60	4,857.6	-212.8	1,020.0	1,042.0	2.28	-1.34	5.85
5,088.0	16.60	103.80	4,936.0	-218.8	1,043.5	1,066.2	1.49	-1.46	-0.98
5,170.0	17.20	102.30	5,014.4	-224.2	1,066.8	1,090.0	0.90	0.73	-1.83
5,251.0	18.90	102.10	5,091.4	-229.5	1,091.3	1,115.1	2.10	2.10	-0.25
5,333.0	17.10	103.80	5,169.4	-235.1	1,116.0	1,140.5	2.29	-2.20	2.07
5,415.0	14.30	97.90	5,248.3	-239.4	1,137.7	1,162.6	3.93	-3.41	-7.20
5,497.0	11.30	96.50	5,328.3	-241.7	1,155.7	1,180.7	3.68	-3.66	-1.71
5,578.0	9.50	95.60	5,408.0	-243.2	1,170.3	1,195.3	2.23	-2.22	-1.11
5,660.0	7.70	95.60	5,489.0	-244.4	1,182.5	1,207.5	2.20	-2.20	0.00
5,742.0	5.50	86.60	5,570.5	-244.7	1,191.9	1,216.7	2.96	-2.68	-10.98



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5,823.0	3.60	78.00	5,651.2	-244.0	1,198.2	1,222.8	2.49	-2.35	-10.62
5,905.0	1.10	56.00	5,733.2	-243.0	1,201.4	1,225.7	3.19	-3.05	-26.83
5,971.8	0.69	344.41	5,799.9	-242.3	1,201.8	1,226.0	1.64	-0.62	-107.22
<b>TARGET BHL 2000'FSL, 660'FEL</b>									
5,987.0	0.80	327.10	5,815.1	-242.1	1,201.8	1,225.9	1.64	0.75	-113.67
6,069.0	0.50	350.50	5,897.1	-241.2	1,201.4	1,225.4	0.48	-0.37	28.54
6,150.0	0.70	6.60	5,978.1	-240.4	1,201.4	1,225.2	0.32	0.25	19.88
6,232.0	0.70	18.40	6,060.1	-239.4	1,201.6	1,225.2	0.18	0.00	14.39
6,314.0	0.60	5.40	6,142.1	-238.5	1,201.8	1,225.2	0.22	-0.12	-15.85
6,396.0	0.90	9.10	6,224.1	-237.5	1,201.9	1,225.1	0.37	0.37	4.51
6,477.0	0.80	2.20	6,305.1	-236.3	1,202.1	1,225.0	0.18	-0.12	-8.52
6,559.0	1.10	350.80	6,387.1	-234.9	1,202.0	1,224.7	0.43	0.37	-13.90
6,641.0	1.50	352.40	6,469.1	-233.1	1,201.7	1,224.0	0.49	0.49	1.95
6,723.0	2.00	346.60	6,551.0	-230.6	1,201.2	1,223.1	0.65	0.61	-7.07
6,804.0	1.90	342.70	6,632.0	-228.0	1,200.5	1,221.8	0.21	-0.12	-4.81
6,832.5	2.04	342.50	6,660.4	-227.0	1,200.2	1,221.4	0.49	0.49	-0.69
<b>LEGAL BOX 400' X 400' 1991'FSL &amp; 656'FEL</b>									
6,832.8	2.04	342.50	6,660.8	-227.0	1,200.2	1,221.3	0.49	0.49	-0.64
<b>TARGET CIRCLE 2000'FSL &amp; 660'FEL</b>									
6,886.0	2.30	342.20	6,713.9	-225.1	1,199.6	1,220.4	0.49	0.49	-0.57
6,968.0	2.60	341.90	6,795.9	-221.8	1,198.5	1,218.6	0.37	0.37	-0.37
7,050.0	3.00	334.80	6,877.8	-218.1	1,197.0	1,216.4	0.64	0.49	-8.66
7,131.0	2.20	319.00	6,958.7	-215.0	1,195.1	1,213.9	1.32	-0.99	-19.51
7,213.0	1.70	308.80	7,040.6	-213.0	1,193.1	1,211.6	0.74	-0.61	-12.44
7,295.0	1.70	302.00	7,122.6	-211.6	1,191.1	1,209.4	0.25	0.00	-8.29
7,320.0	1.60	302.10	7,147.6	-211.2	1,190.5	1,208.7	0.40	-0.40	0.40
7,365.0	1.60	303.50	7,192.6	-210.6	1,189.5	1,207.5	0.09	0.00	3.11

Checked By: \_\_\_\_\_ Approved By: \_\_\_\_\_ Date: \_\_\_\_\_