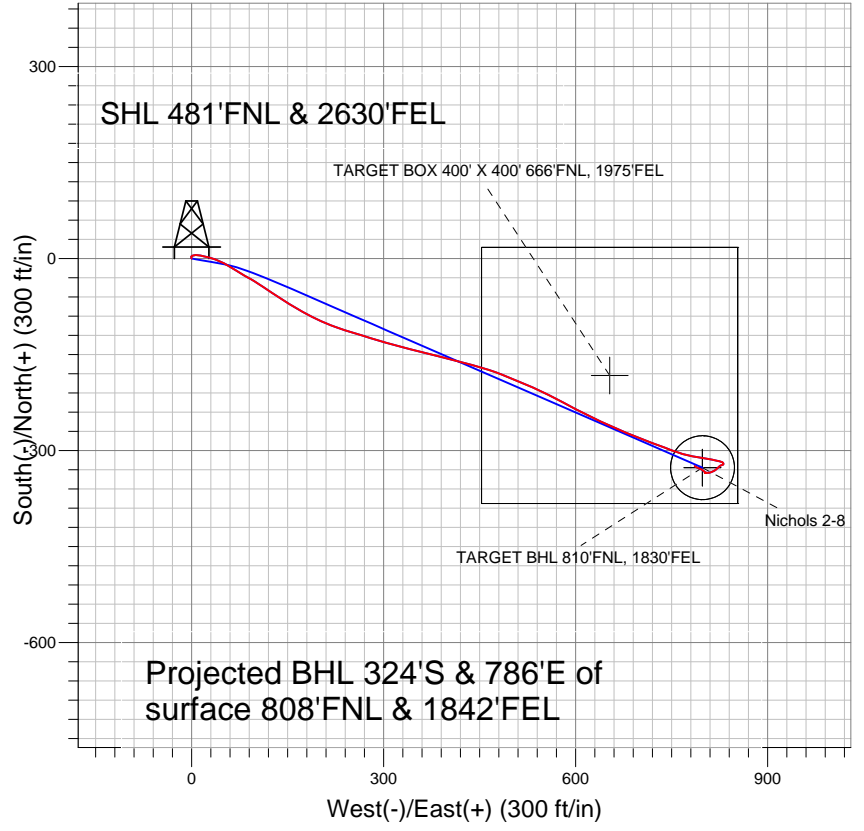
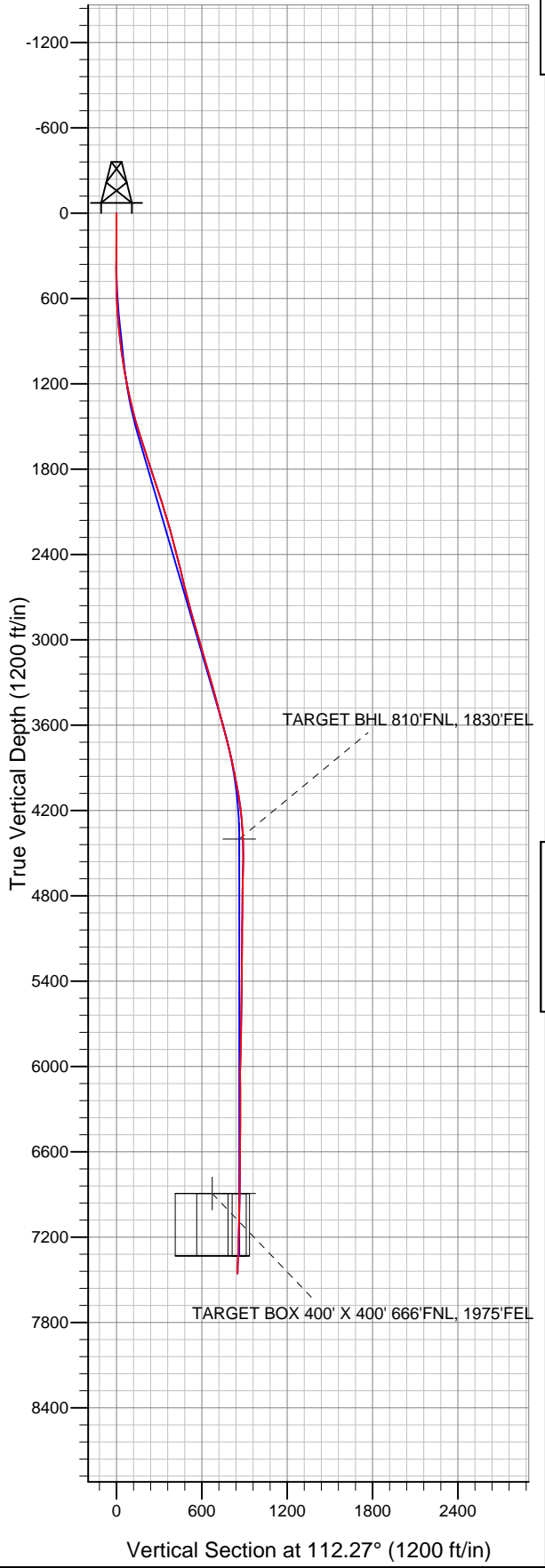


Anadarko, Weld County CO



LEGEND

- ▲ Nichols 2-8, Wellbore #1, Plan #1 (5-9-11) V0
- Wellbore #1
- Survey #1

Final Survey Plot

Projected Final Survey -
7570'MD & 7455'TVD @ 850'VS
1.8 deg Inc 300.6 deg AZ

Project: SEC.8-T2N-R65W
Site: Nichols 28-8 Pad Sec.8-T2N-R65W
Well: Nichols 2-8
Plan: Wellbore #1



Directional

Anadarko, Weld County CO

SEC.8-T2N-R65W

Nichols 28-8 Pad Sec.8-T2N-R65W

Nichols 2-8

Wellbore #1

Survey: Survey #1

Standard Survey Report

06 July, 2011



Company:	Anadarko, Weld County CO	Local Co-ordinate Reference:	Well Nichols 2-8
Project:	SEC.8-T2N-R65W	TVD Reference:	WELL @ 4837.0ft (Original Well Elev)
Site:	Nichols 28-8 Pad Sec.8-T2N-R65W	MD Reference:	WELL @ 4837.0ft (Original Well Elev)
Well:	Nichols 2-8	North Reference:	True
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	Landmark

Project	SEC.8-T2N-R65W, 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:	Colorado Northern Zone		Using geodetic scale factor

Site	Nichols 28-8 Pad Sec.8-T2N-R65W				
Site Position:		Northing:	1,301,878.60ft	Latitude:	40.159197
From:	Lat/Long	Easting:	3,227,041.06ft	Longitude:	-104.687676
Position Uncertainty:	0.0 ft	Slot Radius:	"	Grid Convergence:	0.52 °

Well	Nichols 2-8					
Well Position	+N/-S	0.0 ft	Northing:	1,301,878.58 ft	Latitude:	40.159197
	+E/-W	0.0 ft	Easting:	3,227,041.06 ft	Longitude:	-104.687676
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	4,822.0 ft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	5/25/2011	8.81	66.87	53,019

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	112.27	

Survey Program	Date	7/6/2011			
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
144.0	7,570.0	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	
144.0	0.70	336.00	144.0	0.8	-0.4	-0.6	0.49	0.49	0.00	
233.0	0.50	349.30	233.0	1.7	-0.7	-1.2	0.27	-0.22	14.94	
324.0	0.60	332.20	324.0	2.5	-0.9	-1.8	0.21	0.11	-18.79	
415.0	0.60	44.40	415.0	3.3	-0.8	-2.0	0.78	0.00	79.34	
507.0	1.50	60.30	507.0	4.2	0.5	-1.1	1.02	0.98	17.28	
599.0	2.90	79.40	598.9	5.2	3.9	1.6	1.70	1.52	20.76	
691.0	4.20	96.60	690.7	5.3	9.5	6.8	1.81	1.41	18.70	
796.0	5.60	103.00	795.3	3.7	18.3	15.6	1.43	1.33	6.10	
848.0	5.70	103.30	847.1	2.5	23.3	20.6	0.20	0.19	0.58	
945.0	7.30	108.30	943.5	-0.5	33.9	31.5	1.75	1.65	5.15	
1,040.0	8.80	113.60	1,037.5	-5.3	46.2	44.8	1.76	1.58	5.58	
1,136.0	9.60	123.60	1,132.3	-12.7	59.6	60.0	1.86	0.83	10.42	

Company:	Anadarko, Weld County CO	Local Co-ordinate Reference:	Well Nichols 2-8
Project:	SEC.8-T2N-R65W	TVD Reference:	WELL @ 4837.0ft (Original Well Elev)
Site:	Nichols 28-8 Pad Sec.8-T2N-R65W	MD Reference:	WELL @ 4837.0ft (Original Well Elev)
Well:	Nichols 2-8	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)	
1,231.0	11.50	121.00	1,225.7	-22.0	74.4	77.1	2.06	2.00	-2.74	
1,326.0	13.20	119.00	1,318.5	-32.1	92.0	97.3	1.84	1.79	-2.11	
1,421.0	15.10	124.00	1,410.6	-44.3	111.7	120.2	2.38	2.00	5.26	
1,516.0	17.20	124.00	1,501.8	-59.1	133.6	146.0	2.21	2.21	0.00	
1,611.0	18.20	120.60	1,592.3	-74.5	158.0	174.5	1.51	1.05	-3.58	
1,706.0	18.50	118.00	1,682.5	-89.1	184.1	204.1	0.92	0.32	-2.74	
1,801.0	17.90	112.10	1,772.8	-101.7	210.9	233.7	2.04	-0.63	-6.21	
1,897.0	18.20	108.10	1,864.1	-111.9	238.9	263.4	1.33	0.31	-4.17	
1,992.0	18.20	106.00	1,954.3	-120.6	267.2	293.0	0.69	0.00	-2.21	
2,087.0	17.50	105.90	2,044.7	-128.6	295.2	321.9	0.74	-0.74	-0.11	
2,182.0	16.80	106.40	2,135.5	-136.4	322.1	349.8	0.75	-0.74	0.53	
2,278.0	15.90	104.90	2,227.6	-143.7	348.2	376.6	1.04	-0.94	-1.56	
2,375.0	15.20	103.10	2,321.1	-150.0	373.4	402.4	0.88	-0.72	-1.86	
2,470.0	14.40	103.00	2,412.9	-155.5	397.0	426.3	0.84	-0.84	-0.11	
2,565.0	13.80	105.90	2,505.1	-161.2	419.4	449.2	0.98	-0.63	3.05	
2,660.0	13.80	105.60	2,597.3	-167.4	441.2	471.8	0.08	0.00	-0.32	
2,756.0	14.00	106.90	2,690.5	-173.8	463.4	494.7	0.39	0.21	1.35	
2,851.0	14.80	112.40	2,782.5	-181.8	485.6	518.3	1.67	0.84	5.79	
2,946.0	16.00	112.60	2,874.1	-191.4	508.9	543.5	1.26	1.26	0.21	
3,041.0	15.90	113.80	2,965.5	-201.7	532.9	569.6	0.36	-0.11	1.26	
3,137.0	16.50	116.30	3,057.6	-213.1	557.1	596.3	0.96	0.63	2.60	
3,232.0	16.30	117.70	3,148.8	-225.2	581.0	623.1	0.47	-0.21	1.47	
3,327.0	16.30	117.90	3,240.0	-237.7	604.6	649.6	0.06	0.00	0.21	
3,422.0	15.50	116.40	3,331.3	-249.6	627.8	675.5	0.95	-0.84	-1.58	
3,517.0	15.10	113.20	3,423.0	-260.1	650.5	700.6	0.98	-0.42	-3.37	
3,612.0	14.80	113.00	3,514.7	-269.7	673.1	725.1	0.32	-0.32	-0.21	
3,708.0	15.10	111.80	3,607.5	-279.1	696.0	749.8	0.45	0.31	-1.25	
3,802.0	14.20	110.40	3,698.4	-287.7	718.1	773.6	1.03	-0.96	-1.49	
3,897.0	13.30	110.70	3,790.7	-295.6	739.3	796.2	0.95	-0.95	0.32	
3,993.0	12.00	109.40	3,884.4	-302.8	759.0	817.2	1.39	-1.35	-1.35	
4,088.0	11.60	102.20	3,977.4	-308.1	777.7	836.4	1.60	-0.42	-7.58	
4,183.0	10.30	97.20	4,070.6	-311.2	795.4	854.1	1.69	-1.37	-5.26	
4,278.0	7.90	102.60	4,164.4	-313.7	810.2	868.7	2.68	-2.53	5.68	
4,373.0	5.10	101.90	4,258.8	-316.0	820.7	879.3	2.95	-2.95	-0.74	
4,468.0	3.30	108.50	4,353.6	-317.7	827.5	886.2	1.96	-1.89	6.95	
4,513.7	2.39	125.89	4,399.2	-318.7	829.5	888.4	2.72	-1.99	38.09	
TARGET BHL 810'FNL, 1830'FEL										
4,564.0	1.90	160.80	4,449.5	-320.1	830.6	890.0	2.72	-0.98	69.34	
4,659.0	1.10	246.00	4,544.5	-322.0	830.3	890.4	2.23	-0.84	89.68	
4,754.0	1.40	255.90	4,639.4	-322.6	828.3	888.8	0.39	0.32	10.42	
4,849.0	1.50	242.00	4,734.4	-323.5	826.1	887.1	0.38	0.11	-14.63	
4,944.0	1.50	227.60	4,829.4	-324.9	824.1	885.8	0.40	0.00	-15.16	
5,040.0	1.80	227.30	4,925.3	-326.8	822.1	884.6	0.31	0.31	-0.31	
5,135.0	1.50	224.40	5,020.3	-328.7	820.1	883.5	0.33	-0.32	-3.05	
5,229.0	1.40	228.10	5,114.3	-330.3	818.4	882.5	0.15	-0.11	3.94	
5,324.0	1.10	240.40	5,209.2	-331.6	816.7	881.5	0.42	-0.32	12.95	
5,419.0	0.70	249.30	5,304.2	-332.2	815.4	880.5	0.44	-0.42	9.37	
5,515.0	0.70	244.90	5,400.2	-332.7	814.3	879.6	0.06	0.00	-4.58	
5,610.0	0.80	252.80	5,495.2	-333.1	813.2	878.7	0.15	0.11	8.32	
5,705.0	0.90	245.20	5,590.2	-333.6	811.8	877.7	0.16	0.11	-8.00	
5,800.0	1.10	251.50	5,685.2	-334.2	810.3	876.5	0.24	0.21	6.63	
5,895.0	1.20	260.50	5,780.2	-334.7	808.5	875.0	0.22	0.11	9.47	
5,990.0	1.70	272.90	5,875.1	-334.8	806.1	872.8	0.62	0.53	13.05	
6,085.0	1.70	272.80	5,970.1	-334.6	803.3	870.2	0.00	0.00	-0.11	

Company:	Anadarko, Weld County CO	Local Co-ordinate Reference:	Well Nichols 2-8
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Well:	Nichols 2-8	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)	
6,181.0	0.40	115.70	6,066.1	-334.7	802.1	869.1	2.16	-1.35	-163.65	
6,276.0	0.30	146.50	6,161.1	-335.1	802.6	869.7	0.22	-0.11	32.42	
6,371.0	0.10	354.60	6,256.1	-335.2	802.7	869.9	0.41	-0.21	-159.90	
6,466.0	0.20	307.80	6,351.1	-335.0	802.6	869.7	0.16	0.11	-49.26	
6,561.0	0.30	303.50	6,446.1	-334.8	802.2	869.2	0.11	0.11	-4.53	
6,657.0	0.50	325.60	6,542.1	-334.3	801.8	868.7	0.26	0.21	23.02	
6,752.0	0.60	326.00	6,637.1	-333.5	801.3	867.9	0.11	0.11	0.42	
6,847.0	0.70	319.90	6,732.1	-332.7	800.6	867.0	0.13	0.11	-6.42	
6,942.0	0.80	320.30	6,827.1	-331.7	799.8	865.9	0.11	0.11	0.42	
7,007.0	0.80	311.19	6,892.1	-331.1	799.2	865.0	0.20	-0.01	-14.01	
TARGET CIRCLE 810'FNL, 1830'FEL										
7,009.8	0.80	310.79	6,894.9	-331.0	799.2	865.0	0.20	0.01	-14.03	
TARGET BOX 400' X 400' 666'FNL, 1975'FEL										
7,037.0	0.80	307.00	6,922.0	-330.8	798.9	864.6	0.20	0.02	-13.96	
7,132.0	1.30	295.50	7,017.0	-329.9	797.4	862.9	0.57	0.53	-12.11	
7,227.0	1.50	291.40	7,112.0	-329.0	795.2	860.6	0.24	0.21	-4.32	
7,323.0	1.60	293.20	7,208.0	-328.0	792.8	858.0	0.12	0.10	1.88	
7,418.0	2.00	297.20	7,302.9	-326.8	790.1	855.0	0.44	0.42	4.21	
7,520.0	1.80	300.60	7,404.9	-325.1	787.2	851.7	0.22	-0.20	3.33	
7,570.0	1.80	300.60	7,454.8	-324.3	785.8	850.1	0.00	0.00	0.00	

Checked By: _____ Approved By: _____ Date: _____