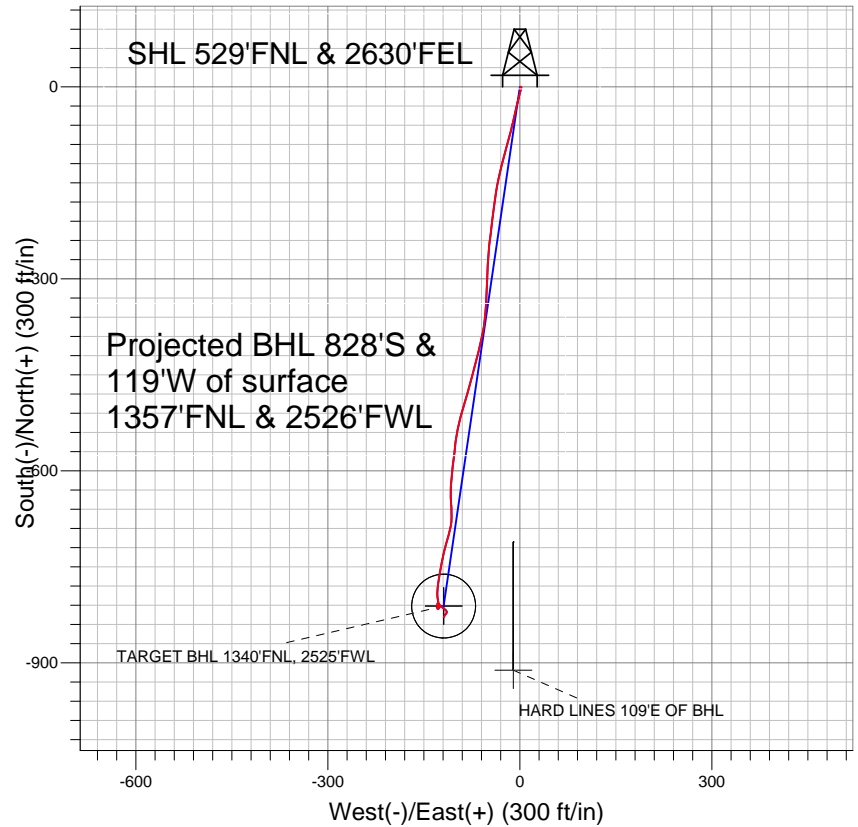


Anadarko, Weld County CO

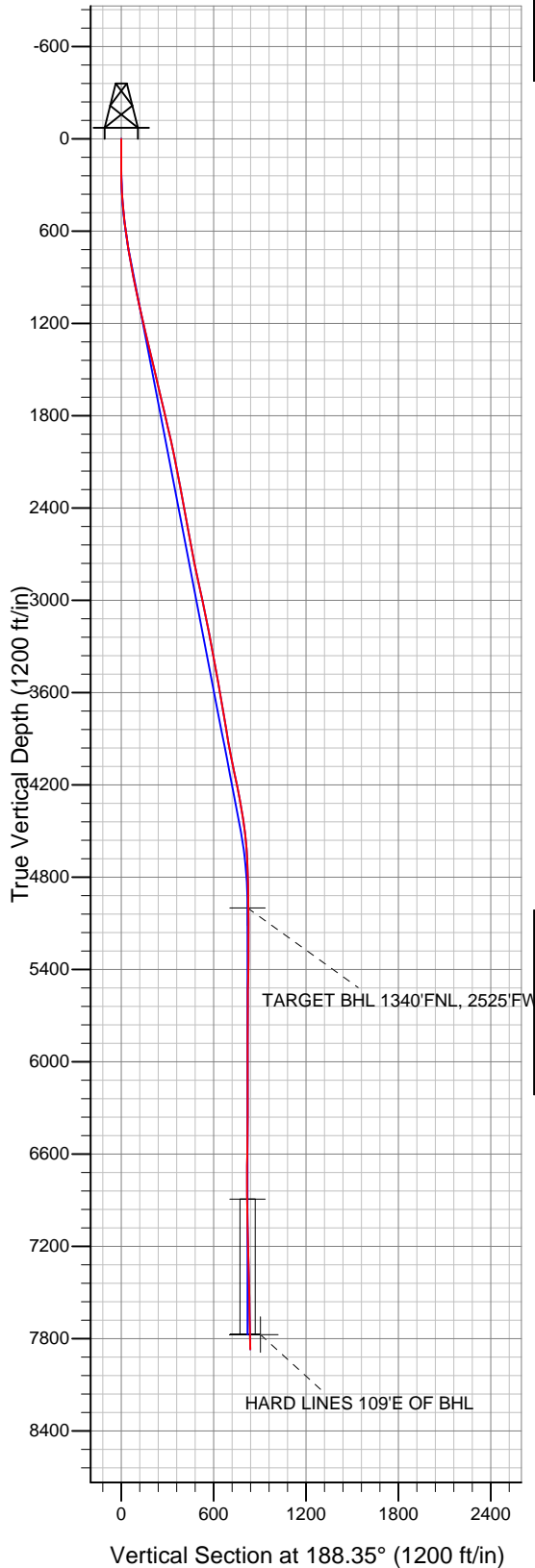


LEGEND

- Nichols 21-8, Wellbore #1, Plan #1 (5-09-11) V0
- Wellbore #1
- Survey #1

Final Survey Plot

Projected Final Survey -
 7950'MD & 7869'TVD @ 837'VS
 0.8 deg Inc 198.9 deg AZ



Project: SEC.8-T2N-R65W
 Site: Nichols 28-8 Pad Sec.8-T2N-R65W
 Well: Nichols 21-8
 Plan: Wellbore #1



Directional

Anadarko, Weld County CO

SEC.8-T2N-R65W

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

Nichols 21-8

Wellbore #1

Survey: Survey #1

Standard Survey Report

23 June, 2011

Company:	Anadarko, Weld County CO	Local Co-ordinate Reference:	Well Nichols 21-8
Project:	SEC.8-T2N-R65W	TVD Reference:	WELL @ 4838.0ft (Original Well Elev)
Site:	Nichols 28-8 Pad Sec.8-T2N-R65W	MD Reference:	WELL @ 4838.0ft (Original Well Elev)
Well:	Nichols 21-8	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
From:	Lat/Long	Easting:	3,227,041.06ft
Position Uncertainty:	0.0 ft	Slot Radius:	"
		Latitude:	40.159197
		Longitude:	-104.687676
		Grid Convergence:	0.52 °

Well	Nichols 21-8		
Well Position	+N/-S	0.0 ft	Northing:
	+E/-W	0.0 ft	Easting:
Position Uncertainty	0.0 ft	Wellhead Elevation:	ft
		Latitude:	40.159065
		Longitude:	-104.687677
		Ground Level:	4,823.0 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:
Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)
	0.0	0.0	0.0	188.35

Survey Program	Date	6/23/2011		
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description
144.0	7,950.0	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	1.00	89.20	144.0	0.0	1.3	-0.2	0.69	0.69	0.00	
233.0	0.70	173.90	233.0	-0.5	2.1	0.2	1.31	-0.34	95.17	
324.0	2.50	192.70	323.9	-3.0	1.7	2.7	2.03	1.98	20.66	
415.0	4.40	195.50	414.8	-8.3	0.3	8.2	2.10	2.09	3.08	
507.0	6.10	193.50	506.4	-16.5	-1.7	16.5	1.86	1.85	-2.17	
599.0	7.80	192.50	597.7	-27.3	-4.2	27.6	1.85	1.85	-1.09	
691.0	9.50	193.30	688.7	-40.8	-7.3	41.4	1.85	1.85	0.87	
783.0	10.40	193.40	779.3	-56.3	-11.0	57.3	0.98	0.98	0.11	
797.0	10.30	193.40	793.0	-58.7	-11.6	59.8	0.71	-0.71	0.00	
854.0	10.10	193.40	849.1	-68.5	-13.9	69.8	0.35	-0.35	0.00	
950.0	11.50	196.10	943.4	-85.9	-18.5	87.7	1.55	1.46	2.81	
1,045.0	12.20	195.80	1,036.4	-104.7	-23.9	107.0	0.74	0.74	-0.32	

Company:	Anadarko, Weld County CO	Local Co-ordinate Reference:	Well Nichols 21-8
Project:	SEC.8-T2N-R65W	TVD Reference:	WELL @ 4838.0ft (Original Well Elev)
Site:	Nichols 28-8 Pad Sec.8-T2N-R65W	MD Reference:	WELL @ 4838.0ft (Original Well Elev)
Well:	Nichols 21-8	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)
1,140.0	12.90	193.00	1,129.1	-124.7	-29.0	127.5	0.98	0.74	-2.95
1,235.0	12.60	192.20	1,221.8	-145.1	-33.6	148.5	0.37	-0.32	-0.84
1,330.0	13.30	188.40	1,314.4	-166.1	-37.4	169.7	1.16	0.74	-4.00
1,425.0	13.20	187.20	1,406.9	-187.6	-40.3	191.5	0.31	-0.11	-1.26
1,521.0	12.80	187.10	1,500.4	-209.1	-43.0	213.1	0.42	-0.42	-0.10
1,616.0	14.10	187.60	1,592.8	-231.0	-45.8	235.2	1.37	1.37	0.53
1,711.0	13.30	185.40	1,685.1	-253.3	-48.4	257.7	1.00	-0.84	-2.32
1,806.0	13.70	183.00	1,777.5	-275.4	-50.0	279.8	0.72	0.42	-2.53
1,901.0	12.80	182.10	1,869.9	-297.2	-51.0	301.4	0.97	-0.95	-0.95
1,996.0	12.70	182.70	1,962.6	-318.1	-51.9	322.3	0.17	-0.11	0.63
2,092.0	12.00	183.70	2,056.4	-338.6	-53.0	342.7	0.76	-0.73	1.04
2,187.0	10.90	184.10	2,149.5	-357.4	-54.3	361.5	1.16	-1.16	0.42
2,282.0	10.00	190.10	2,242.9	-374.5	-56.4	378.7	1.49	-0.95	6.32
2,379.0	10.90	191.70	2,338.3	-391.8	-59.7	396.3	0.97	0.93	1.65
2,474.0	10.50	193.70	2,431.6	-409.0	-63.6	413.9	0.57	-0.42	2.11
2,570.0	10.90	192.80	2,526.0	-426.4	-67.7	431.7	0.45	0.42	-0.94
2,665.0	10.50	197.20	2,619.3	-443.4	-72.2	449.2	0.96	-0.42	4.63
2,760.0	10.70	195.10	2,712.7	-460.2	-77.1	466.5	0.46	0.21	-2.21
2,855.0	11.80	195.00	2,805.9	-478.1	-81.9	484.9	1.16	1.16	-0.11
2,951.0	11.90	195.90	2,899.8	-497.1	-87.1	504.4	0.22	0.10	0.94
3,046.0	12.10	195.80	2,992.8	-516.1	-92.5	524.0	0.21	0.21	-0.11
3,141.0	12.30	191.60	3,085.6	-535.6	-97.3	544.0	0.96	0.21	-4.42
3,236.0	10.80	186.30	3,178.7	-554.3	-100.3	563.0	1.93	-1.58	-5.58
3,331.0	11.00	186.50	3,272.0	-572.2	-102.3	581.0	0.21	0.21	0.21
3,427.0	10.30	186.80	3,366.3	-589.8	-104.4	598.7	0.73	-0.73	0.31
3,522.0	10.30	187.20	3,459.8	-606.6	-106.4	615.7	0.08	0.00	0.42
3,617.0	10.20	182.30	3,553.3	-623.5	-107.8	632.5	0.92	-0.11	-5.16
3,712.0	10.20	177.80	3,646.8	-640.3	-107.8	649.2	0.84	0.00	-4.74
3,807.0	9.20	176.40	3,740.4	-656.3	-107.0	664.9	1.08	-1.05	-1.47
3,902.0	9.80	180.40	3,834.1	-671.9	-106.6	680.3	0.94	0.63	4.21
3,997.0	9.80	192.10	3,927.7	-687.9	-108.4	696.4	2.09	0.00	12.32
4,092.0	11.30	195.90	4,021.1	-704.8	-112.6	713.7	1.74	1.58	4.00
4,188.0	12.30	194.40	4,115.1	-723.7	-117.7	733.2	1.09	1.04	-1.56
4,283.0	11.60	190.80	4,208.0	-742.9	-122.0	752.8	1.08	-0.74	-3.79
4,378.0	10.20	190.00	4,301.3	-760.6	-125.3	770.7	1.48	-1.47	-0.84
4,473.0	9.10	188.30	4,395.0	-776.3	-127.8	786.6	1.20	-1.16	-1.79
4,568.0	7.40	179.70	4,489.0	-789.9	-128.9	800.2	2.21	-1.79	-9.05
4,663.0	5.20	173.30	4,583.4	-800.3	-128.4	810.4	2.43	-2.32	-6.74
4,758.0	2.60	158.60	4,678.2	-806.5	-127.1	816.4	2.91	-2.74	-15.47
4,854.0	3.20	177.30	4,774.1	-811.2	-126.1	821.0	1.16	0.63	19.48
4,949.0	0.40	202.70	4,869.0	-814.2	-126.1	823.9	2.99	-2.95	26.74
5,044.0	0.70	228.80	4,964.0	-814.9	-126.7	824.6	0.40	0.32	27.47
5,079.9	0.66	232.12	4,999.9	-815.2	-127.0	825.0	0.16	-0.11	9.24
TARGET BHL 1340'FNL, 2525'FWL									
5,139.0	0.60	238.50	5,059.0	-815.5	-127.6	825.4	0.16	-0.10	10.80
5,234.0	0.40	264.00	5,154.0	-815.8	-128.3	825.8	0.31	-0.21	26.84
5,329.0	0.20	351.60	5,249.0	-815.7	-128.7	825.7	0.46	-0.21	92.21
5,424.0	0.60	3.40	5,344.0	-815.0	-128.7	825.1	0.43	0.42	12.42
5,519.0	1.00	3.70	5,439.0	-813.7	-128.6	823.8	0.42	0.42	0.32
5,614.0	0.70	352.60	5,534.0	-812.3	-128.6	822.4	0.36	-0.32	-11.68
5,709.0	0.40	354.10	5,629.0	-811.4	-128.7	821.5	0.32	-0.32	1.58
5,805.0	0.20	20.10	5,725.0	-810.9	-128.7	821.0	0.25	-0.21	27.08
5,900.0	0.20	112.90	5,820.0	-810.8	-128.5	820.9	0.30	0.00	97.68
5,995.0	0.00	182.80	5,915.0	-810.9	-128.3	820.9	0.21	-0.21	0.00

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Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
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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)
6,090.0	0.10	299.20	6,010.0	-810.8	-128.4	820.9	0.11	0.11	0.00
6,185.0	0.10	301.00	6,105.0	-810.8	-128.6	820.8	0.00	0.00	1.89
6,280.0	0.30	323.70	6,200.0	-810.5	-128.8	820.6	0.22	0.21	23.89
6,376.0	0.40	345.10	6,296.0	-810.0	-129.0	820.1	0.17	0.10	22.29
6,471.0	0.30	2.80	6,391.0	-809.4	-129.1	819.6	0.15	-0.11	18.63
6,566.0	0.40	12.10	6,486.0	-808.9	-129.0	819.0	0.12	0.11	9.79
6,661.0	0.50	14.10	6,581.0	-808.1	-128.8	818.3	0.11	0.11	2.11
6,756.0	0.40	40.60	6,676.0	-807.5	-128.5	817.6	0.24	-0.11	27.89
6,851.0	0.30	111.70	6,771.0	-807.3	-128.1	817.3	0.44	-0.11	74.84
6,947.0	0.50	124.20	6,867.0	-807.6	-127.5	817.6	0.23	0.21	13.02
6,973.2	0.66	129.26	6,893.1	-807.8	-127.3	817.7	0.65	0.62	19.34
TARGET CIRCLE 1340'FNL & 2525'FWL									
7,073.0	1.30	136.70	6,992.9	-809.0	-126.0	818.7	0.65	0.64	7.45
7,137.0	1.80	139.00	7,056.9	-810.3	-124.9	819.8	0.79	0.78	3.59
7,232.0	3.40	126.10	7,151.8	-813.1	-121.6	822.1	1.78	1.68	-13.58
7,327.0	2.90	128.80	7,246.7	-816.2	-117.5	824.6	0.55	-0.53	2.84
7,422.0	1.80	148.30	7,341.6	-819.0	-114.8	827.0	1.42	-1.16	20.53
7,518.0	1.40	190.40	7,437.6	-821.4	-114.2	829.3	1.26	-0.42	43.85
7,613.0	1.50	225.70	7,532.5	-823.4	-115.3	831.5	0.93	0.11	37.16
7,708.0	1.00	223.70	7,627.5	-824.9	-116.8	833.1	0.53	-0.53	-2.11
7,803.0	1.10	204.50	7,722.5	-826.3	-117.8	834.7	0.38	0.11	-20.21
7,854.1	0.94	201.99	7,773.6	-827.2	-118.1	835.6	0.32	-0.31	-4.90
HARD LINES 109'E OF BHL									
7,900.0	0.80	198.90	7,819.5	-827.8	-118.4	836.2	0.32	-0.31	-6.74
7,950.0	0.80	198.90	7,869.5	-828.5	-118.6	836.9	0.00	0.00	0.00

Checked By: _____ Approved By: _____ Date: _____