

Well Name: **Nichols 24-6**

Surface Location: Nichols 20-6 Pad Sec.6-T2N-R65W
 North American Datum 1983 US State Plane 1983 Colorado Northern Zone

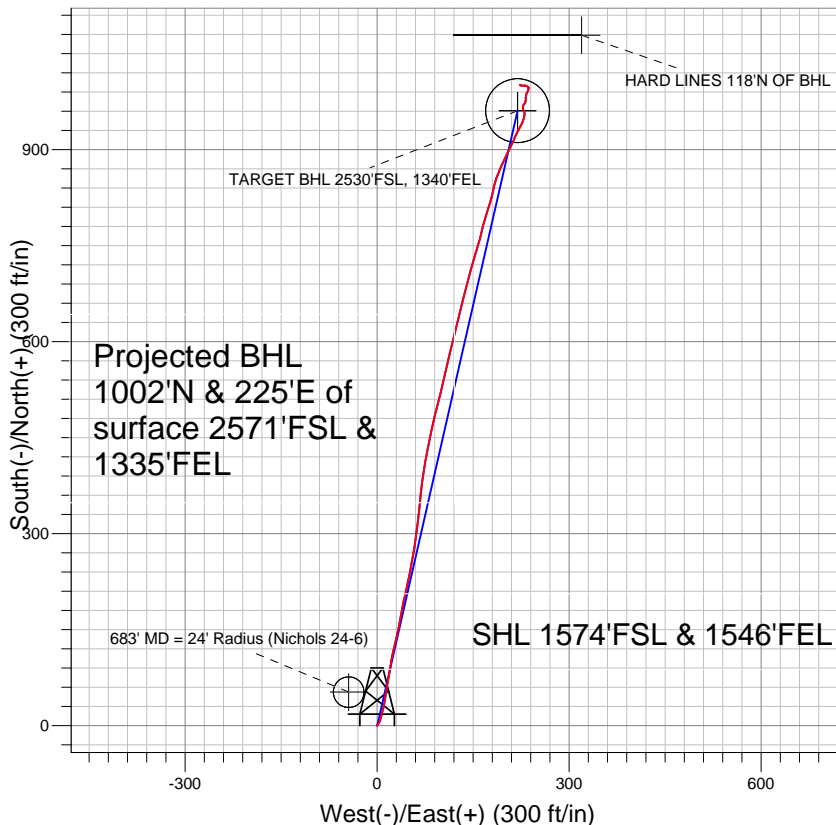
Ground Elevation: 4933.0

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.0	0.0	1303854.88	3222865.57	40.164726	-104.702551

Original Well Elev WELL @ 4948.0ft (Original Well Elev)

Slot

Anadarko, Weld County CO



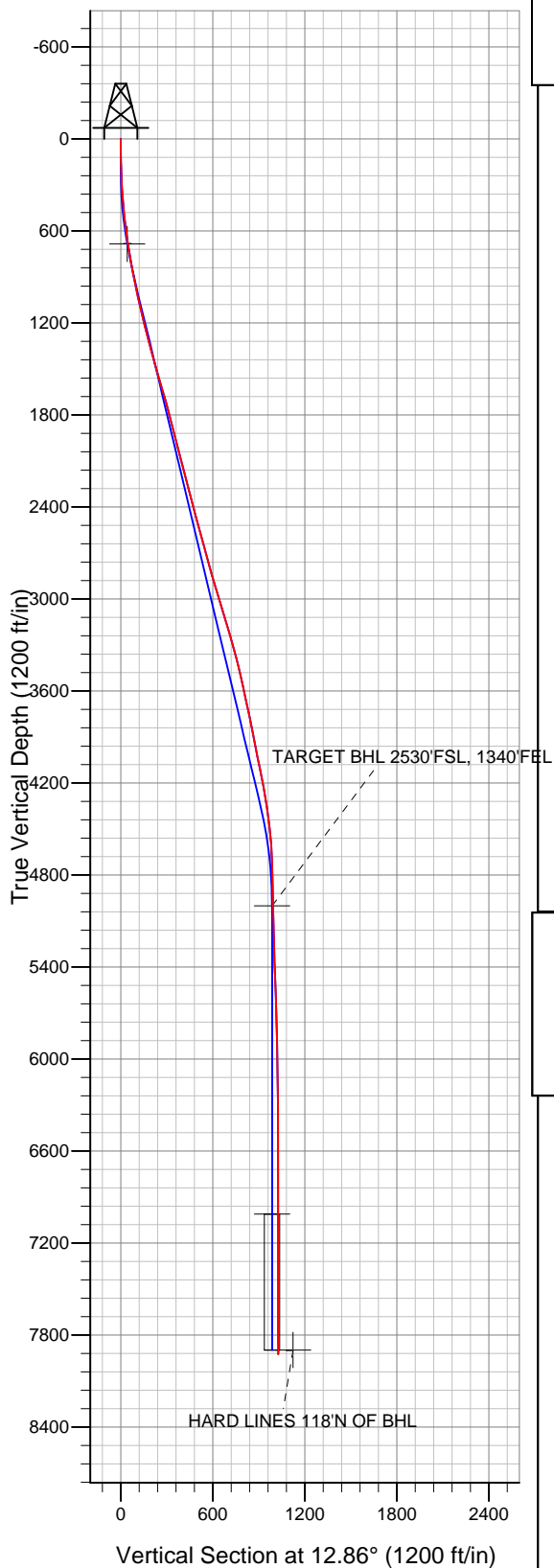
LEGEND

- ✕ Nichols 24-6, Wellbore #1, Plan #1 (4-11-11) V0
- Wellbore #1
- Survey #1

Final Survey Plot

Projected Final Survey -
 8042'MD & 7924'TVD @ 1027'VS
 0.4 deg Inc 76.2 deg AZ

Project: SEC.6-T2N-R65W
 Site: Nichols 20-6 Pad Sec.6-T2N-R65W
 Well: Nichols 24-6
 Plan: Wellbore #1





Anadarko, Weld County CO

SEC.6-T2N-R65W

Nichols 20-6 Pad Sec.6-T2N-R65W

Nichols 24-6

Wellbore #1

Survey: Survey #1

Standard Survey Report

19 May, 2011



Company:	Anadarko, Weld County CO	Local Co-ordinate Reference:	Well Nichols 24-6
Project:	SEC.6-T2N-R65W	TVD Reference:	WELL @ 4948.0ft (Original Well Elev)
Site:	Nichols 20-6 Pad Sec.6-T2N-R65W	MD Reference:	WELL @ 4948.0ft (Original Well Elev)
Well:	Nichols 24-6	North Reference:	True
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	Landmark

Project	SEC.6-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 20-6 Pad Sec.6-T2N-R65W		
Site Position:		Northing:	1,303,855.91 ft
From:	Lat/Long	Easting:	3,222,897.70 ft
Position Uncertainty:	0.0 ft	Slot Radius:	"
		Latitude:	40.164728
		Longitude:	-104.702436
		Grid Convergence:	0.52 °

Well	Nichols 24-6		
Well Position	+N/-S	0.0 ft	Northing: 1,303,854.88 ft
	+E/-W	0.0 ft	Easting: 3,222,865.57 ft
Position Uncertainty	0.0 ft	Wellhead Elevation:	ft
		Latitude:	40.164726
		Longitude:	-104.702551
		Ground Level:	4,933.0 ft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	4/11/2011	8.83	66.88	53,032

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	12.86	

Survey Program	Date	5/19/2011			
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
144.0	8,042.0	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	1.30	30.80	144.0	1.4	0.8	1.6	0.90	0.90	0.00	
233.0	2.10	38.80	232.9	3.5	2.4	4.0	0.94	0.90	8.99	
324.0	3.00	20.40	323.9	7.1	4.3	7.8	1.32	0.99	-20.22	
415.0	4.40	13.80	414.7	12.7	5.9	13.7	1.61	1.54	-7.25	
507.0	6.00	15.20	506.3	20.8	8.0	22.0	1.74	1.74	1.52	
599.0	7.50	11.70	597.6	31.3	10.5	32.8	1.69	1.63	-3.80	
686.0	9.39	9.50	683.7	43.8	12.8	45.6	2.20	2.17	-2.53	
683' MD = 24' Radius (Nichols 24-6)										
691.0	9.50	9.40	688.6	44.7	13.0	46.4	2.20	2.18	-2.00	
800.0	10.90	8.70	795.9	63.7	16.0	65.7	1.29	1.28	-0.64	
872.0	10.80	10.60	866.6	77.1	18.3	79.2	0.52	-0.14	2.64	
967.0	11.40	8.00	959.8	95.1	21.2	97.5	0.82	0.63	-2.74	

Company:	Anadarko, Weld County CO	Local Co-ordinate Reference:	Well Nichols 24-6
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Site:	Nichols 20-6 Pad Sec.6-T2N-R65W	MD Reference:	WELL @ 4948.0ft (Original Well Elev)
Well:	Nichols 24-6	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)
1,063.0	12.60	12.70	1,053.7	114.7	24.8	117.4	1.61	1.25	4.90
1,158.0	13.30	13.50	1,146.3	135.5	29.6	138.7	0.76	0.74	0.84
1,253.0	13.80	11.10	1,238.7	157.2	34.4	160.9	0.79	0.53	-2.53
1,348.0	15.00	10.10	1,330.7	180.4	38.7	184.5	1.29	1.26	-1.05
1,443.0	16.20	13.40	1,422.2	205.4	43.9	210.1	1.57	1.26	3.47
1,570.0	15.60	10.50	1,544.3	239.5	51.2	244.8	0.78	-0.47	-2.28
1,666.0	16.50	10.10	1,636.6	265.6	55.9	271.4	0.94	0.94	-0.42
1,760.0	15.40	7.70	1,727.0	291.1	59.9	297.1	1.36	-1.17	-2.55
1,856.0	14.60	7.40	1,819.7	315.7	63.2	321.9	0.84	-0.83	-0.31
1,951.0	14.60	5.10	1,911.6	339.5	65.8	345.6	0.61	0.00	-2.42
2,046.0	14.80	6.90	2,003.5	363.5	68.3	369.6	0.52	0.21	1.89
2,141.0	14.20	7.20	2,095.5	387.1	71.2	393.2	0.64	-0.63	0.32
2,245.0	14.40	10.50	2,196.3	412.5	75.2	418.8	0.81	0.19	3.17
2,341.0	14.60	11.60	2,289.2	436.1	79.8	442.9	0.35	0.21	1.15
2,436.0	15.80	11.20	2,380.9	460.5	84.7	467.8	1.27	1.26	-0.42
2,531.0	15.30	13.50	2,472.4	485.3	90.2	493.2	0.84	-0.53	2.42
2,626.0	15.00	15.60	2,564.1	509.4	96.4	518.0	0.66	-0.32	2.21
2,722.0	14.80	11.70	2,656.9	533.3	102.2	542.7	1.06	-0.21	-4.06
2,817.0	14.90	14.50	2,748.7	557.1	107.7	567.1	0.76	0.11	2.95
2,912.0	15.70	12.40	2,840.4	581.4	113.5	592.1	1.02	0.84	-2.21
3,007.0	17.10	13.90	2,931.5	607.5	119.7	618.9	1.54	1.47	1.58
3,102.0	17.70	14.60	3,022.1	635.1	126.7	647.3	0.67	0.63	0.74
3,198.0	16.60	13.00	3,113.9	662.6	133.4	675.6	1.25	-1.15	-1.67
3,293.0	16.30	14.20	3,205.0	688.7	139.7	702.5	0.48	-0.32	1.26
3,388.0	15.60	16.00	3,296.3	713.9	146.5	728.6	0.90	-0.74	1.89
3,483.0	15.20	17.50	3,387.9	738.1	153.8	753.8	0.59	-0.42	1.58
3,578.0	12.80	15.10	3,480.1	760.1	160.3	776.7	2.60	-2.53	-2.53
3,674.0	12.20	13.20	3,573.8	780.3	165.4	797.5	0.76	-0.63	-1.98
3,768.0	12.00	17.50	3,665.7	799.2	170.6	817.2	0.98	-0.21	4.57
3,863.0	12.00	17.60	3,758.7	818.1	176.5	836.8	0.02	0.00	0.11
3,959.0	11.70	10.80	3,852.6	837.1	181.4	856.5	1.49	-0.31	-7.08
4,054.0	10.80	20.20	3,945.8	855.0	186.3	875.0	2.15	-0.95	9.89
4,149.0	11.10	22.90	4,039.1	871.7	192.9	892.8	0.63	0.32	2.84
4,244.0	12.30	26.20	4,132.1	889.2	200.9	911.7	1.45	1.26	3.47
4,339.0	11.00	25.80	4,225.1	906.5	209.3	930.3	1.37	-1.37	-0.42
4,435.0	9.10	24.70	4,319.7	921.6	216.5	946.7	1.99	-1.98	-1.15
4,530.0	7.40	25.80	4,413.7	934.0	222.3	960.0	1.80	-1.79	1.16
4,625.0	6.40	26.20	4,508.0	944.2	227.3	971.1	1.05	-1.05	0.42
4,720.0	4.10	10.00	4,602.6	952.3	230.2	979.7	2.86	-2.42	-17.05
4,815.0	2.90	347.20	4,697.4	958.0	230.3	985.2	1.91	-1.26	-24.00
4,910.0	1.50	317.60	4,792.3	961.3	228.9	988.1	1.85	-1.47	-31.16
5,006.0	0.70	0.70	4,888.3	962.8	228.1	989.4	1.14	-0.83	44.90
5,101.0	2.60	352.60	4,983.3	965.5	227.8	992.0	2.01	2.00	-8.53
5,117.6	2.39	355.06	4,999.8	966.2	227.7	992.7	1.43	-1.28	14.85
TARGET BHL 2530'FSL, 1340'FEL									
5,195.0	1.50	15.40	5,077.2	968.8	227.8	995.2	1.43	-1.15	26.27
5,290.0	1.30	54.60	5,172.2	970.6	229.1	997.3	1.01	-0.21	41.26
5,385.0	1.70	34.40	5,267.2	972.4	230.7	999.4	0.69	0.42	-21.26
5,481.0	1.50	16.10	5,363.1	974.8	231.9	1,002.0	0.57	-0.21	-19.06
5,576.0	2.00	359.20	5,458.1	977.6	232.2	1,004.8	0.75	0.53	-17.79
5,671.0	2.00	2.20	5,553.0	981.0	232.2	1,008.0	0.11	0.00	3.16
5,766.0	1.90	11.60	5,648.0	984.2	232.6	1,011.3	0.35	-0.11	9.89
5,861.0	1.80	20.50	5,742.9	987.1	233.5	1,014.3	0.32	-0.11	9.37
5,956.0	1.80	20.90	5,837.9	989.9	234.5	1,017.3	0.01	0.00	0.42

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Survey

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6,051.0	1.80	33.70	5,932.8	992.5	235.9	1,020.1	0.42	0.00	13.47
6,147.0	0.70	333.10	6,028.8	994.3	236.5	1,022.0	1.64	-1.15	-63.13
6,242.0	0.50	7.10	6,123.8	995.2	236.2	1,022.9	0.42	-0.21	35.79
6,337.0	0.40	41.50	6,218.8	995.9	236.5	1,023.6	0.30	-0.11	36.21
6,432.0	0.30	65.60	6,313.8	996.2	237.0	1,024.0	0.19	-0.11	25.37
6,527.0	0.50	329.50	6,408.8	996.7	237.0	1,024.4	0.64	0.21	-101.16
6,623.0	1.00	316.50	6,504.8	997.7	236.2	1,025.2	0.55	0.52	-13.54
6,718.0	1.50	308.10	6,599.8	999.0	234.6	1,026.2	0.56	0.53	-8.84
6,813.0	1.20	279.20	6,694.7	1,000.0	232.7	1,026.7	0.77	-0.32	-30.42
6,908.0	1.40	284.00	6,789.7	1,000.4	230.6	1,026.6	0.24	0.21	5.05
7,003.0	0.50	226.00	6,884.7	1,000.4	229.1	1,026.3	1.28	-0.95	-61.05
7,098.0	0.50	262.70	6,979.7	1,000.1	228.4	1,025.8	0.33	0.00	38.63
7,128.4	0.56	267.50	7,010.1	1,000.0	228.2	1,025.7	0.25	0.20	15.79
TARGET CIRCLE 2530'FSL & 1340'FEL									
7,193.0	0.70	274.80	7,074.7	1,000.1	227.4	1,025.6	0.25	0.22	11.30
7,289.0	0.70	285.10	7,170.7	1,000.3	226.3	1,025.5	0.13	0.00	10.73
7,384.0	0.60	273.20	7,265.7	1,000.4	225.2	1,025.5	0.18	-0.11	-12.53
7,479.0	0.50	276.50	7,360.7	1,000.5	224.3	1,025.3	0.11	-0.11	3.47
7,574.0	0.30	290.20	7,455.7	1,000.6	223.7	1,025.3	0.23	-0.21	14.42
7,669.0	0.30	299.60	7,550.7	1,000.9	223.2	1,025.4	0.05	0.00	9.89
7,765.0	0.10	14.90	7,646.7	1,001.1	223.0	1,025.6	0.30	-0.21	78.44
7,860.0	0.40	57.00	7,741.7	1,001.3	223.3	1,025.9	0.35	0.32	44.32
7,955.0	0.40	76.20	7,836.7	1,001.6	223.9	1,026.3	0.14	0.00	20.21
7,992.0	0.40	76.20	7,873.7	1,001.6	224.2	1,026.4	0.00	0.00	0.00
HARD LINES 118'N OF BHL									
8,042.0	0.40	76.20	7,923.7	1,001.7	224.5	1,026.6	0.00	0.00	0.00

Checked By: _____ Approved By: _____ Date: _____