

Well Name: **Nichols 23-6**

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

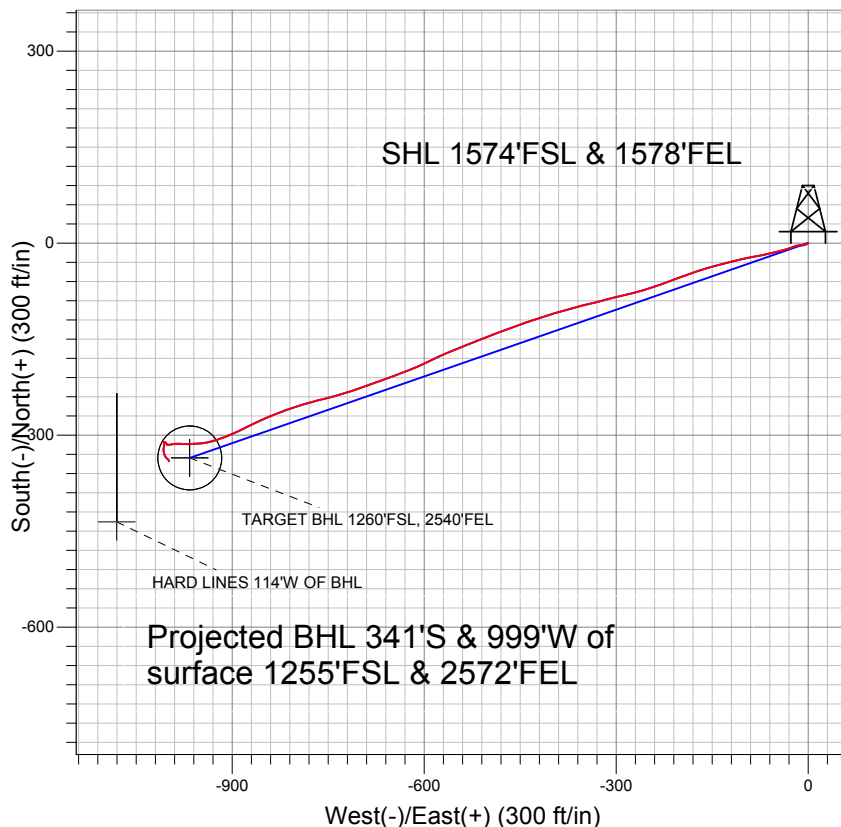
Ground Elevation: 4934.0

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.0	0.0	1303853.86	3222833.43	40.164724	-104.702666

Original Well Elev WELL @ 4949.0ft (Original Well Elev)

Slot

Anadarko, Weld County CO



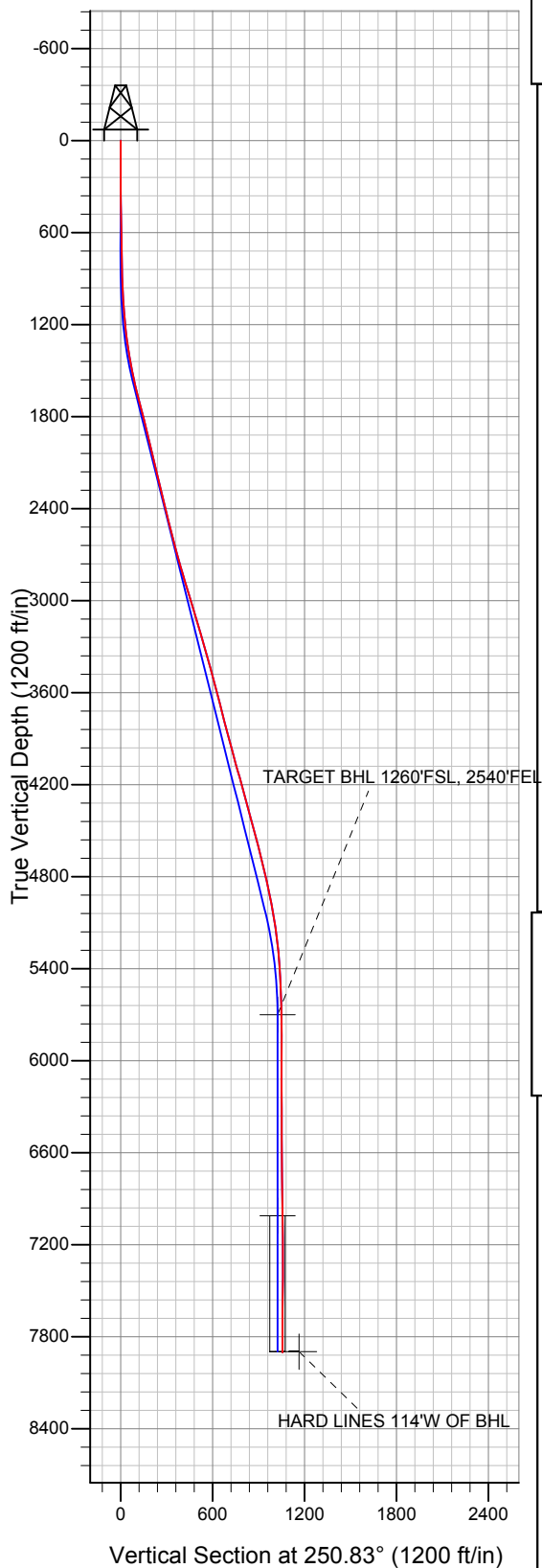
LEGEND

- Nichols 23-6, Wellbore #1, Plan #1 (4-11-11) V0
- Wellbore #1
- Survey #1

Final Survey Plot

Projected Final Survey -
 8031'MD & 7903'TVD @ 1055'VS
 0.7 deg Inc 161.0 deg AZ

Project: SEC.6-T2N-R65W
 Site: Nichols 20-6 Pad Sec.6-T2N-R65W
 Well: Nichols 23-6
 Plan: Wellbore #1





Directional

Anadarko, Weld County CO

SEC.6-T2N-R65W

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

Nichols 23-6

Wellbore #1

Survey: Survey #1

Standard Survey Report

10 May, 2011

Company:	Anadarko, Weld County CO	Local Co-ordinate Reference:	Well Nichols 23-6
Project:	SEC.6-T2N-R65W	TVD Reference:	WELL @ 4949.0ft (Original Well Elev)
Site:	Nichols 20-6 Pad Sec.6-T2N-R65W	MD Reference:	WELL @ 4949.0ft (Original Well Elev)
Well:	Nichols 23-6	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	Latitude:	40.164728
From:	Lat/Long	Easting:	3,222,897.70 ft	Longitude:	-104.702436
Position Uncertainty:	0.0 ft	Slot Radius:	"	Grid Convergence:	0.52 °

Well	Nichols 23-6					
Well Position	+N/-S	0.0 ft	Northing:	1,303,853.86 ft	Latitude:	40.164724
	+E/-W	0.0 ft	Easting:	3,222,833.43 ft	Longitude:	-104.702666
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	4,934.0 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	250.83	

Survey Program	Date 5/10/2011				
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
144.0	8,031.0	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	0.00	316.40	144.0	0.0	0.0	0.0	0.00	0.00	0.00	
233.0	0.00	23.10	233.0	0.0	0.0	0.0	0.00	0.00	0.00	
324.0	0.20	234.50	324.0	-0.1	-0.1	0.2	0.22	0.22	0.00	
415.0	0.60	223.10	415.0	-0.5	-0.6	0.7	0.45	0.44	-12.53	
507.0	0.70	237.30	507.0	-1.2	-1.4	1.7	0.21	0.11	15.43	
599.0	0.90	245.30	599.0	-1.8	-2.5	3.0	0.25	0.22	8.70	
691.0	1.20	250.40	691.0	-2.4	-4.1	4.6	0.34	0.33	5.54	
819.0	1.50	253.30	818.9	-3.3	-6.9	7.7	0.24	0.23	2.27	
885.0	1.60	271.30	884.9	-3.6	-8.7	9.4	0.75	0.15	27.27	
980.0	2.50	267.10	979.8	-3.7	-12.1	12.6	0.96	0.95	-4.42	
1,076.0	4.00	259.70	1,075.7	-4.4	-17.5	17.9	1.62	1.56	-7.71	
1,171.0	5.50	246.00	1,170.4	-6.8	-24.9	25.7	1.97	1.58	-14.42	

Company:	Anadarko, Weld County CO	Local Co-ordinate Reference:	Well Nichols 23-6
Project:	SEC.6-T2N-R65W	TVD Reference:	WELL @ 4949.0ft (Original Well Elev)
Site:	Nichols 20-6 Pad Sec.6-T2N-R65W	MD Reference:	WELL @ 4949.0ft (Original Well Elev)
Well:	Nichols 23-6	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)
1,266.0	6.90	255.00	1,264.8	-10.1	-34.6	36.0	1.79	1.47	9.47
1,361.0	8.80	256.10	1,358.9	-13.4	-47.1	48.9	2.01	2.00	1.16
1,456.0	10.80	256.80	1,452.5	-17.1	-62.9	65.0	2.11	2.11	0.74
1,552.0	11.90	260.10	1,546.6	-20.9	-81.4	83.7	1.33	1.15	3.44
1,647.0	14.00	257.70	1,639.2	-25.0	-102.2	104.8	2.28	2.21	-2.53
1,742.0	14.60	255.50	1,731.3	-30.5	-125.1	128.1	0.85	0.63	-2.32
1,837.0	14.20	254.70	1,823.3	-36.5	-147.9	151.7	0.47	-0.42	-0.84
1,932.0	13.80	252.30	1,915.5	-43.1	-169.9	174.6	0.74	-0.42	-2.53
2,007.0	14.50	249.70	1,988.2	-49.0	-187.3	193.0	1.26	0.93	-3.47
2,154.0	13.30	249.20	2,130.9	-61.4	-220.3	228.3	0.82	-0.82	-0.34
2,249.0	12.60	251.80	2,223.5	-68.5	-240.4	249.6	0.96	-0.74	2.74
2,347.0	13.10	254.10	2,319.0	-74.9	-261.2	271.3	0.73	0.51	2.35
2,442.0	14.40	257.10	2,411.3	-80.5	-283.1	293.8	1.56	1.37	3.16
2,537.0	14.60	255.80	2,503.3	-86.1	-306.2	317.5	0.40	0.21	-1.37
2,632.0	14.90	255.30	2,595.1	-92.1	-329.6	341.6	0.34	0.32	-0.53
2,727.0	15.00	256.40	2,686.9	-98.1	-353.4	366.0	0.32	0.11	1.16
2,823.0	15.40	254.60	2,779.6	-104.4	-377.8	391.1	0.64	0.42	-1.88
2,918.0	16.90	253.60	2,870.8	-111.7	-403.2	417.5	1.61	1.58	-1.05
3,013.0	16.90	250.30	2,961.7	-120.2	-429.4	445.1	1.01	0.00	-3.47
3,109.0	16.90	250.40	3,053.6	-129.6	-455.7	473.0	0.03	0.00	0.10
3,203.0	16.70	249.30	3,143.6	-139.0	-481.2	500.2	0.40	-0.21	-1.17
3,299.0	16.30	248.90	3,235.6	-148.7	-506.7	527.4	0.43	-0.42	-0.42
3,394.0	16.20	247.70	3,326.8	-158.5	-531.4	554.0	0.37	-0.11	-1.26
3,489.0	15.30	248.50	3,418.2	-168.1	-555.3	579.7	0.97	-0.95	0.84
3,584.0	14.90	244.80	3,510.0	-177.9	-578.0	604.4	1.10	-0.42	-3.89
3,679.0	14.10	243.70	3,601.9	-188.3	-599.4	628.0	0.89	-0.84	-1.16
3,774.0	14.20	248.60	3,694.1	-197.6	-620.7	651.1	1.26	0.11	5.16
3,869.0	15.40	249.70	3,785.9	-206.3	-643.3	675.4	1.30	1.26	1.16
3,965.0	15.40	250.90	3,878.5	-214.9	-667.3	700.9	0.33	0.00	1.25
4,060.0	14.80	248.90	3,970.2	-223.4	-690.6	725.6	0.84	-0.63	-2.11
4,155.0	15.20	253.00	4,061.9	-231.4	-713.8	750.2	1.19	0.42	4.32
4,250.0	16.70	253.30	4,153.3	-238.9	-738.8	776.3	1.58	1.58	0.32
4,345.0	15.40	256.90	4,244.6	-245.7	-764.2	802.5	1.72	-1.37	3.79
4,440.0	14.10	253.40	4,336.5	-251.9	-787.5	826.6	1.66	-1.37	-3.68
4,536.0	14.90	250.40	4,429.4	-259.4	-810.4	850.6	1.14	0.83	-3.13
4,631.0	14.60	248.40	4,521.3	-267.9	-833.0	874.8	0.62	-0.32	-2.11
4,726.0	14.50	246.00	4,613.2	-277.1	-855.0	898.6	0.64	-0.11	-2.53
4,821.0	15.20	243.10	4,705.0	-287.6	-877.0	922.8	1.07	0.74	-3.05
4,916.0	13.90	246.60	4,797.0	-297.7	-898.6	946.5	1.65	-1.37	3.68
5,011.0	11.30	249.90	4,889.7	-305.5	-917.8	967.2	2.84	-2.74	3.47
5,107.0	10.20	256.10	4,984.0	-310.8	-934.9	985.1	1.66	-1.15	6.46
5,202.0	9.00	266.30	5,077.7	-313.3	-950.4	1,000.6	2.19	-1.26	10.74
5,296.0	8.20	267.30	5,170.6	-314.0	-964.5	1,014.1	0.87	-0.85	1.06
5,391.0	6.40	274.50	5,264.9	-313.9	-976.5	1,025.5	2.12	-1.89	7.58
5,487.0	4.70	269.50	5,360.4	-313.6	-985.8	1,034.1	1.84	-1.77	-5.21
5,582.0	3.30	253.70	5,455.2	-314.4	-992.3	1,040.5	1.86	-1.47	-16.63
5,677.0	2.50	267.60	5,550.1	-315.2	-997.0	1,045.2	1.12	-0.84	14.63
5,772.0	2.00	280.00	5,645.0	-315.0	-1,000.7	1,048.7	0.73	-0.53	13.05
5,826.6	0.47	269.47	5,699.6	-314.9	-1,001.9	1,049.7	2.83	-2.81	-19.29
TARGET BHL 1260'FSL, 2540'FEL									
5,867.0	0.70	112.20	5,740.0	-314.9	-1,001.8	1,049.7	2.83	0.58	-389.28
5,962.0	0.10	42.80	5,835.0	-315.1	-1,001.2	1,049.2	0.71	-0.63	-73.05
6,057.0	0.50	305.60	5,930.0	-314.8	-1,001.5	1,049.3	0.55	0.42	-102.32
6,152.0	0.60	317.30	6,025.0	-314.2	-1,002.2	1,049.8	0.16	0.11	12.32

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Survey

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6,248.0	0.70	319.60	6,121.0	-313.4	-1,002.9	1,050.2	0.11	0.10	2.40
6,343.0	0.80	319.80	6,216.0	-312.4	-1,003.7	1,050.6	0.11	0.11	0.21
6,438.0	0.90	311.30	6,310.9	-311.4	-1,004.7	1,051.2	0.17	0.11	-8.95
6,533.0	0.40	126.60	6,405.9	-311.1	-1,005.0	1,051.4	1.37	-0.53	184.53
6,629.0	0.10	340.50	6,501.9	-311.3	-1,004.7	1,051.2	0.51	-0.31	-152.19
6,723.0	0.70	295.40	6,595.9	-310.9	-1,005.3	1,051.6	0.67	0.64	-47.98
6,819.0	0.80	281.10	6,691.9	-310.6	-1,006.5	1,052.6	0.22	0.10	-14.90
6,914.0	1.30	157.20	6,786.9	-311.4	-1,006.7	1,053.1	1.97	0.53	-130.42
7,009.0	1.90	174.40	6,881.9	-314.0	-1,006.1	1,053.4	0.80	0.63	18.11
7,104.0	2.20	193.30	6,976.8	-317.3	-1,006.4	1,054.8	0.77	0.32	19.89
7,137.6	2.34	191.97	7,010.4	-318.6	-1,006.7	1,055.5	0.45	0.42	-3.97
TARGET CIRCLE 1260'FSL & 2540'FEL									
7,199.0	2.60	189.90	7,071.7	-321.2	-1,007.2	1,056.8	0.45	0.42	-3.36
7,295.0	2.60	168.20	7,167.6	-325.5	-1,007.1	1,058.1	1.02	0.00	-22.60
7,390.0	2.30	167.00	7,262.6	-329.5	-1,006.2	1,058.6	0.32	-0.32	-1.26
7,485.0	2.00	154.10	7,357.5	-332.8	-1,005.1	1,058.6	0.60	-0.32	-13.58
7,580.0	1.50	137.80	7,452.4	-335.2	-1,003.5	1,058.0	0.74	-0.53	-17.16
7,675.0	1.30	122.80	7,547.4	-336.7	-1,001.8	1,056.8	0.44	-0.21	-15.79
7,770.0	0.90	133.60	7,642.4	-337.8	-1,000.3	1,055.8	0.47	-0.42	11.37
7,866.0	0.80	150.70	7,738.4	-338.9	-999.5	1,055.3	0.28	-0.10	17.81
7,961.0	0.70	161.90	7,833.4	-340.1	-999.0	1,055.2	0.19	-0.11	11.79
8,025.4	0.70	161.07	7,897.8	-340.8	-998.7	1,055.2	0.02	0.00	-1.29
HARD LINES 114'W OF BHL									
8,031.0	0.70	161.00	7,903.4	-340.9	-998.7	1,055.2	0.02	0.00	-1.29

Checked By: _____ Approved By: _____ Date: _____