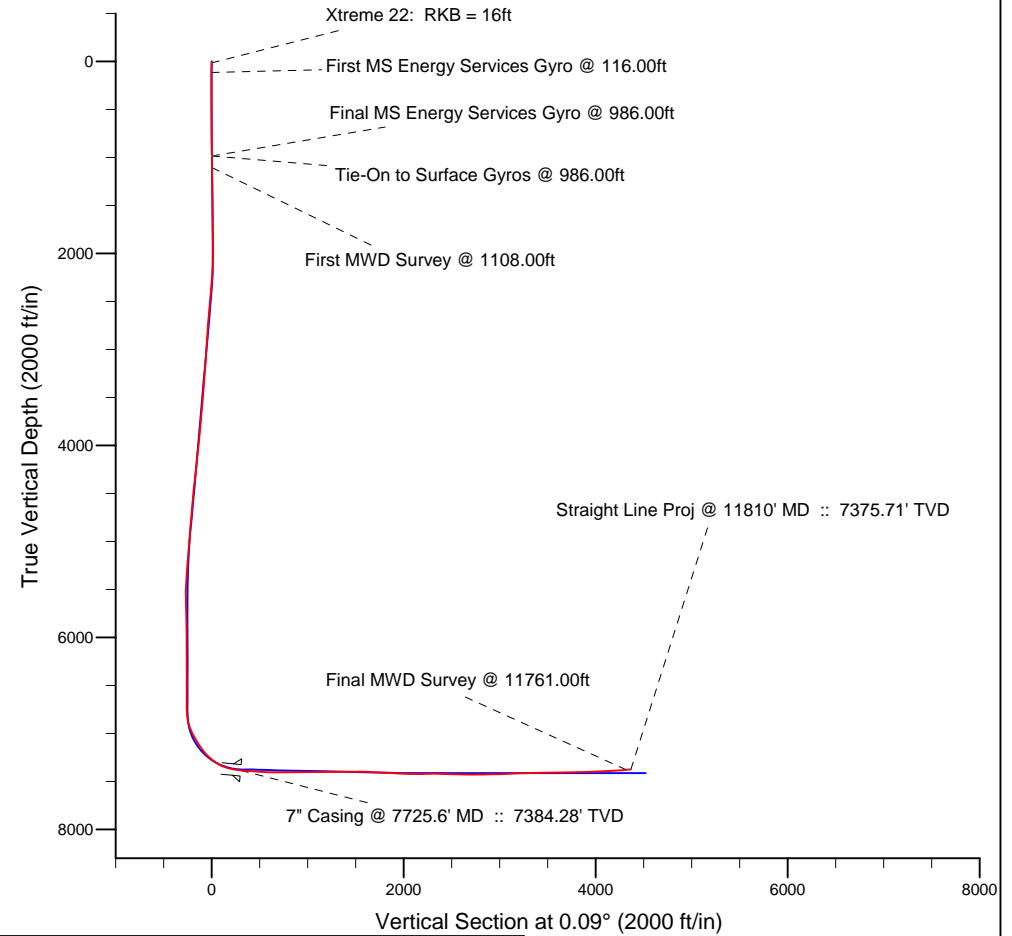
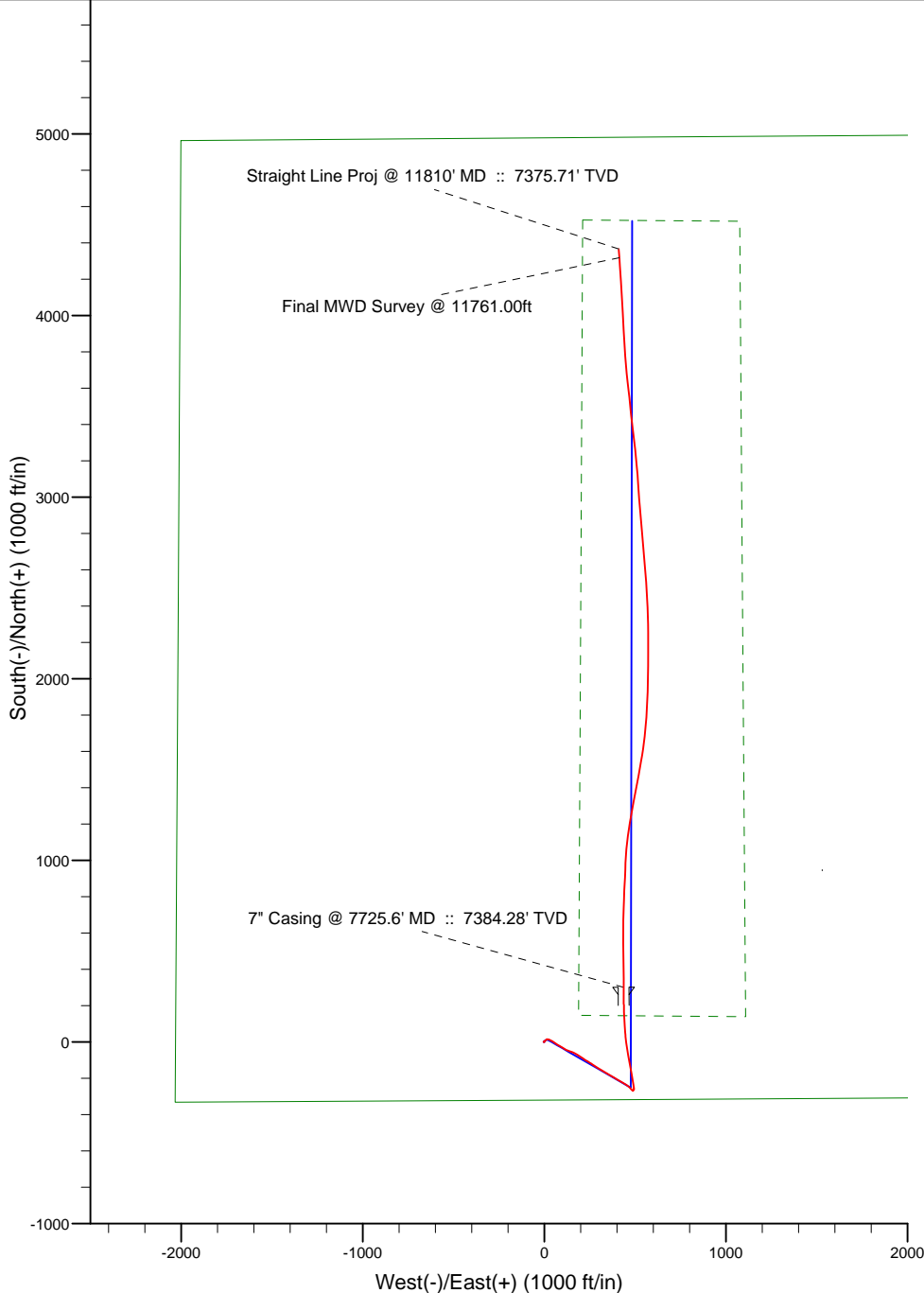


Project: Weld County, CO (NAD 83)
 Site: Sec. 24-T2N-R66W
 Well: Wishbone 3N-E24HZ
 Wellbore: Plan C 0
 Design: Actual Field Surveys



LEGEND

- ▣ Wishbone 3N-E24HZ, Plan C 0, Plan C 0 - PROPOSAL V0
- ▣ Actual Field Surveys



7" Casing: ~619.09' FSL, ~2466.27' FWL
 Lat/Long: 40.118240 N, -104.726150 E
 State Planes - CO Northern: 1,286,863.31' N, 3,216,418.29' E
 Location: Sec. 24-T2N-R66W

BHL: ~614.15' FNL, ~2414.28' FWL
 Lat/Long: 40.129400 N, -104.726252 E
 State Planes - CO Northern: 1,290,928.08' N, 3,216,354.37' E
 Location: Sec. 24-T2N-R66W

WELL DETAILS: Wishbone 3N-E24HZ	
Ground Level:	5085.00
RKB=16 @ 5101.00ft (Xtreme 22)	
Design: Actual Field Surveys (Wishbone 3N-E24HZ/Plan C 0)	
Created By: Fred Hartmann	Date: 06/26/2013
Reviewed: _____	Date: _____

Anadarko Petroleum Corp.

Weld County, CO (NAD 83)

Sec. 24-T2N-R66W

Wishbone 3N-E24HZ

Plan C 0

Design: Actual Field Surveys

Sperry Drilling Services

Standard Report

26 June, 2013

Well Coordinates: 1,286,557.75 N, 3,215,983.19 E (40° 07' 02.68" N, 104° 43' 39.77" W)

Ground Level: 5,085.00 ft

Local Coordinate Origin: Centered on Well Wishbone 3N-E24HZ

Viewing Datum: RKB=16 @ 5101.00ft (Xtreme 22)

TVDs to System: N

North Reference: True

Unit System: API - US Survey Feet - Custom

Geodetic Scale Factor Applied

Version: 2003.16 Build: 43I

HALLIBURTON

Design Report for Wishbone 3N-E24HZ - Actual Field Surveys

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
16.00	0.00	0.00	16.00	0.00	0.00	0.00	0.00
Xtreme 22: RKB = 16ft							
116.00	0.41	253.43	116.00	-0.10	-0.34	-0.10	0.41
First MS Energy Services Gyro @ 116.00ft							
216.00	0.17	279.35	216.00	-0.18	-0.83	-0.18	0.27
316.00	0.45	280.82	316.00	-0.08	-1.36	-0.08	0.28
416.00	0.28	270.16	415.99	-0.01	-1.99	-0.01	0.18
516.00	0.50	284.06	515.99	0.10	-2.66	0.09	0.24
616.00	0.26	288.18	615.99	0.28	-3.30	0.27	0.24
716.00	0.35	20.80	715.99	0.63	-3.41	0.63	0.45
816.00	0.70	14.26	815.98	1.51	-3.15	1.50	0.35
916.00	1.02	41.30	915.97	2.77	-2.41	2.77	0.51
986.00	0.94	56.12	985.96	3.56	-1.52	3.56	0.38
Final MS Energy Services Gyro @ 986.00ft - Tie-On to Surface Gyros @ 986.00ft							
1,108.00	1.30	62.20	1,107.94	4.76	0.53	4.76	0.31
First MWD Survey @ 1108.00ft							
1,394.00	0.74	50.72	1,393.89	7.44	4.83	7.45	0.21
1,678.00	1.33	52.62	1,677.85	10.61	8.87	10.62	0.21
1,862.00	1.90	43.49	1,861.77	14.12	12.67	14.14	0.34
1,954.00	3.24	94.27	1,953.69	15.03	16.31	15.05	2.73
2,045.00	4.53	101.72	2,044.48	14.11	22.39	14.14	1.52
2,137.00	6.15	111.56	2,136.08	11.56	30.53	11.61	2.02
2,228.00	7.96	120.88	2,226.39	6.53	40.48	6.60	2.35
2,319.00	8.71	125.15	2,316.43	-0.67	51.52	-0.59	1.07
2,410.00	9.07	123.26	2,406.33	-8.57	63.15	-8.47	0.51
2,502.00	9.76	120.97	2,497.09	-16.56	75.90	-16.44	0.85
2,594.00	8.76	118.05	2,587.89	-23.87	88.77	-23.73	1.20
2,686.00	10.64	124.21	2,678.58	-31.94	101.98	-31.78	2.33
2,777.00	8.64	116.69	2,768.29	-39.73	115.03	-39.55	2.59
2,868.00	9.51	116.40	2,858.15	-46.14	127.87	-45.94	0.96
2,959.00	7.65	104.09	2,948.14	-50.96	140.48	-50.74	2.86
3,051.00	9.05	111.25	3,039.16	-55.08	153.17	-54.84	1.89
3,142.00	10.01	118.89	3,128.91	-61.49	166.76	-61.23	1.74
3,234.00	8.61	118.46	3,219.69	-68.64	179.82	-68.35	1.52
3,326.00	10.11	124.16	3,310.47	-76.45	192.56	-76.15	1.91
3,417.00	9.16	124.11	3,400.18	-85.00	205.16	-84.68	1.04
3,509.00	7.28	121.28	3,491.24	-92.13	216.21	-91.79	2.09
3,601.00	8.18	125.97	3,582.40	-99.00	226.49	-98.65	1.19
3,693.00	9.14	120.57	3,673.35	-106.57	238.08	-106.19	1.37
3,785.00	10.77	120.55	3,763.96	-114.65	251.77	-114.26	1.77
3,876.00	9.28	123.73	3,853.57	-123.05	265.20	-122.63	1.75
3,967.00	9.71	126.27	3,943.32	-131.66	277.49	-131.23	0.66
4,058.00	10.82	120.55	4,032.87	-140.54	291.03	-140.09	1.65
4,150.00	11.76	120.73	4,123.09	-149.72	306.53	-149.24	1.02
4,242.00	8.77	121.97	4,213.61	-158.23	320.54	-157.73	3.26
4,333.00	14.19	120.83	4,302.75	-167.63	336.01	-167.10	5.96
4,419.00	14.13	119.80	4,386.14	-178.25	354.17	-177.69	0.30
4,505.00	11.54	119.83	4,469.98	-187.74	370.75	-187.16	3.01
4,590.00	8.46	121.71	4,553.68	-195.26	383.45	-194.66	3.64

Design Report for Wishbone 3N-E24HZ - Actual Field Surveys

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)
4,676.00	10.16	123.30	4,638.55	-202.75	395.17	-202.13	2.00
4,762.00	10.08	118.77	4,723.21	-210.54	408.10	-209.90	0.93
4,847.00	8.72	117.16	4,807.07	-217.06	420.36	-216.40	1.63
4,933.00	9.65	120.05	4,891.96	-223.64	432.40	-222.97	1.21
5,019.00	9.58	122.72	4,976.76	-231.12	444.66	-230.42	0.52
5,105.00	8.26	125.08	5,061.71	-238.54	455.73	-237.83	1.59
5,191.00	6.63	131.09	5,146.99	-245.36	464.53	-244.63	2.10
5,276.00	5.96	135.15	5,231.47	-251.71	471.34	-250.97	0.95
5,362.00	5.63	138.25	5,317.03	-258.02	477.30	-257.27	0.53
5,448.00	5.04	133.78	5,402.66	-263.78	482.84	-263.02	0.84
5,533.00	1.98	138.31	5,487.49	-267.46	486.51	-266.70	3.61
5,619.00	1.11	65.60	5,573.47	-268.23	488.26	-267.46	2.28
5,705.00	1.20	34.32	5,659.45	-267.14	489.52	-266.37	0.73
5,790.00	1.88	40.63	5,744.42	-265.35	490.93	-264.58	0.82
5,876.00	1.46	26.62	5,830.38	-263.30	492.34	-262.52	0.68
6,133.00	0.44	324.71	6,087.35	-259.56	493.24	-258.79	0.51
6,391.00	0.15	118.34	6,345.35	-258.92	492.97	-258.14	0.22
6,648.00	0.31	128.04	6,602.34	-259.50	493.81	-258.73	0.06
6,748.00	0.07	244.82	6,702.34	-259.70	493.97	-258.92	0.35
6,777.00	0.11	300.57	6,731.34	-259.69	493.93	-258.91	0.31
6,819.00	2.45	0.93	6,773.33	-258.77	493.91	-258.00	5.71
6,862.00	5.96	356.68	6,816.21	-255.62	493.79	-254.85	8.19
6,905.00	10.15	350.93	6,858.78	-249.65	493.07	-248.88	9.91
6,948.00	15.11	353.21	6,900.72	-240.34	491.80	-239.57	11.59
6,990.00	20.43	353.16	6,940.70	-227.62	490.28	-226.85	12.67
7,033.00	25.77	349.71	6,980.24	-210.95	487.72	-210.19	12.81
7,076.00	29.51	348.28	7,018.33	-191.38	483.90	-190.62	8.83
7,119.00	31.42	348.87	7,055.39	-170.01	479.58	-169.26	4.50
7,162.00	30.54	348.29	7,092.26	-148.32	475.20	-147.57	2.16
7,205.00	34.00	349.94	7,128.61	-125.77	470.88	-125.03	8.30
7,247.00	36.12	350.47	7,162.99	-102.00	466.78	-101.27	5.10
7,290.00	40.31	351.49	7,196.77	-75.73	462.62	-75.01	9.85
7,333.00	45.58	351.11	7,228.23	-46.79	458.19	-46.07	12.27
7,376.00	48.79	350.98	7,257.45	-15.63	453.28	-14.92	7.47
7,419.00	52.31	354.04	7,284.77	17.28	448.97	17.98	9.86
7,462.00	57.01	355.95	7,309.64	52.21	445.93	52.91	11.51
7,504.00	62.44	355.71	7,330.81	88.37	443.29	89.07	12.94
7,547.00	69.15	356.78	7,348.43	127.49	440.73	128.18	15.77
7,590.00	74.12	357.76	7,361.97	168.24	438.80	168.93	11.76
7,633.00	78.93	0.03	7,371.99	210.03	438.00	210.72	12.31
7,687.00	83.52	359.76	7,380.23	263.38	437.90	264.07	8.51
7,725.60	84.42	359.83	7,384.28	301.77	437.76	302.46	2.34
7" Casing @ 7725.6' MD :: 7384.28' TVD							
7,774.00	85.55	359.92	7,388.51	349.98	437.66	350.67	2.34
7,860.00	85.42	358.64	7,395.28	435.71	436.58	436.39	1.49
7,946.00	87.03	359.15	7,400.94	521.50	434.93	522.18	1.96
8,032.00	88.52	0.19	7,404.28	607.43	434.43	608.11	2.11
8,117.00	90.99	2.45	7,404.65	692.40	436.39	693.08	3.94
8,203.00	89.88	0.82	7,403.99	778.36	438.84	779.04	2.29
8,289.00	91.05	3.44	7,403.29	864.28	442.04	864.98	3.34
8,374.00	90.06	2.09	7,402.47	949.18	446.14	949.88	1.97

Design Report for Wishbone 3N-E24HZ - Actual Field Surveys

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)
8,460.00	90.06	3.62	7,402.38	1,035.07	450.42	1,035.77	1.78
8,546.00	90.19	7.06	7,402.19	1,120.68	458.42	1,121.40	4.00
8,632.00	90.25	10.06	7,401.86	1,205.71	471.22	1,206.45	3.49
8,717.00	90.19	10.39	7,401.54	1,289.36	486.31	1,290.13	0.39
8,803.00	90.43	10.51	7,401.07	1,373.94	501.91	1,374.72	0.31
8,889.00	90.62	10.16	7,400.28	1,458.54	517.34	1,459.35	0.46
8,974.00	90.99	10.55	7,399.09	1,542.14	532.62	1,542.98	0.63
9,103.00	86.42	5.94	7,402.01	1,669.71	551.10	1,670.57	5.03
9,146.00	86.22	5.91	7,404.77	1,712.39	555.53	1,713.26	0.47
9,231.00	86.29	3.87	7,410.32	1,796.90	562.76	1,797.78	2.40
9,317.00	86.60	2.40	7,415.65	1,882.60	567.46	1,883.49	1.74
9,403.00	88.02	1.16	7,419.69	1,968.46	570.13	1,969.35	2.19
9,488.00	89.20	0.92	7,421.75	2,053.42	571.67	2,054.31	1.42
9,574.00	89.63	0.35	7,422.63	2,139.41	572.62	2,140.31	0.83
9,660.00	91.98	359.96	7,421.42	2,225.39	572.85	2,226.29	2.77
9,746.00	90.06	358.05	7,419.89	2,311.36	571.36	2,312.25	3.15
9,831.00	87.84	357.51	7,421.45	2,396.28	568.07	2,397.16	2.69
9,917.00	87.78	356.52	7,424.73	2,482.09	563.59	2,482.98	1.15
10,003.00	88.58	356.23	7,427.46	2,567.88	558.16	2,568.75	0.99
10,088.00	89.07	354.95	7,429.21	2,652.61	551.62	2,653.47	1.61
10,174.00	90.12	354.82	7,429.81	2,738.26	543.96	2,739.11	1.23
10,260.00	92.41	355.76	7,427.92	2,823.94	536.90	2,824.78	2.88
10,346.00	90.31	354.49	7,425.87	2,909.60	529.59	2,910.43	2.85
10,431.00	90.93	355.74	7,424.95	2,994.29	522.35	2,995.10	1.64
10,517.00	92.60	356.26	7,422.31	3,080.03	516.36	3,080.84	2.03
10,603.00	92.10	354.62	7,418.78	3,165.68	509.53	3,166.48	1.99
10,689.00	91.92	354.29	7,415.76	3,251.23	501.22	3,252.01	0.44
10,774.00	92.16	353.49	7,412.74	3,335.69	492.18	3,336.46	0.98
10,860.00	92.10	353.17	7,409.54	3,421.05	482.20	3,421.80	0.38
10,945.00	91.36	354.05	7,406.97	3,505.48	472.74	3,506.22	1.35
11,031.00	90.68	352.95	7,405.44	3,590.91	463.01	3,591.64	1.50
11,116.00	90.12	354.54	7,404.85	3,675.40	453.75	3,676.11	1.98
11,202.00	90.19	356.48	7,404.62	3,761.14	447.02	3,761.83	2.26
11,288.00	90.56	356.39	7,404.05	3,846.97	441.67	3,847.66	0.44
11,373.00	93.03	356.83	7,401.39	3,931.77	436.64	3,932.45	2.95
11,459.00	92.84	357.24	7,396.99	4,017.54	432.20	4,018.22	0.52
11,545.00	92.72	356.88	7,392.82	4,103.33	427.80	4,103.99	0.44
11,630.00	93.34	356.13	7,388.32	4,188.05	422.62	4,188.71	1.14
11,716.00	94.27	355.76	7,382.62	4,273.64	416.55	4,274.29	1.16
11,761.00	94.20	355.45	7,379.29	4,318.39	413.12	4,319.03	0.70
Final MWD Survey @ 11761.00ft							
11,810.00	94.20	355.45	7,375.71	4,367.10	409.24	4,367.74	0.00
Straight Line Proj @ 11810' MD :: 7375.71' TVD							

Design Report for Wishbone 3N-E24HZ - Actual Field Surveys**Design Annotations**

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
16.00	16.00	0.00	0.00	Xtreme 22: RKB = 16ft
116.00	116.00	-0.10	-0.34	First MS Energy Services Gyro @ 116.00ft
986.00	985.96	3.56	-1.52	Final MS Energy Services Gyro @ 986.00ft
986.00	985.96	3.56	-1.52	Tie-On to Surface Gyros @ 986.00ft
1,108.00	1,107.94	4.76	0.53	First MWD Survey @ 1108.00ft
11,761.00	7,379.29	4,318.39	413.12	Final MWD Survey @ 11761.00ft
11,810.00	7,375.71	4,367.10	409.24	Straight Line Proj @ 11810' MD :: 7375.71' TVD

Vertical Section Information

Angle Type	Target	Azimuth (°)	Origin Type	Origin		Start TVD (ft)
				+N/_S (ft)	+E/-W (ft)	
User	No Target (Freehand)	0.09	Slot	0.00	0.00	0.00

Survey tool program

From (ft)	To (ft)	Survey/Plan	Survey Tool
16.00	986.00	MS Energy Services - Surface Gyros	NS-GYRO-MS
986.00	7,687.00	MWD Surveys - Vert/Build	MWD+SC
7,774.00	11,761.00	MWD Surveys - Lateral	MWD+SC

Casing Details

Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (")	Hole Diameter (")
7,725.60	7,384.28	7" Casing @ 7725.6' MD :: 7384.28' TVD	7	8-3/4

Design Report for Wishbone 3N-E24HZ - Actual Field Surveys**Targets**

Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
Wishbone 3N-E24H; - actual wellpath misses target center by 175.88ft at 11810.00ft MD (7375.71 TVD, 4367.10 N, 409.24 E) - Point	0.00	0.00	7,413.00	4,521.98	483.76	1,291,083.60	3,216,427.53	40.129825	-104.725985
Wishbone 3N-E24H; - actual wellpath hits target center - Point	0.00	0.00	0.00	0.00	0.00	1,286,557.75	3,215,983.19	40.117412	-104.727715
Wishbone 3N-E24H; - actual wellpath misses target center by 91.13ft at 9431.98ft MD (7420.59 TVD, 1997.42 N, 570.69 E) - Point	0.00	0.00	7,413.00	1,999.25	479.90	1,288,561.02	3,216,445.64	40.122900	-104.725999
Wishbone 3N-E24H; - actual wellpath hits target center - Polygon	0.00	0.00	0.00	0.00	0.00	1,286,557.75	3,215,983.19	40.117412	-104.727715
Point 1			-2,001.81	4,963.49	1,291,503.42	3,213,938.31			
Point 2			-2,016.72	2,315.85	1,288,855.86	3,213,946.46			
Point 3			-2,032.40	-331.94	1,286,208.14	3,213,953.84			
Point 4			644.37	-316.14	1,286,247.25	3,216,630.26			
Point 5			3,320.02	-299.99	1,286,286.70	3,219,305.56			
Point 6			3,308.04	2,341.20	1,288,927.58	3,219,270.58			
Point 7			3,296.23	5,002.43	1,291,588.50	3,219,235.60			
Point 8			647.09	4,983.05	1,291,546.05	3,216,586.83			
Point 9			-2,001.81	4,963.49	1,291,503.42	3,213,938.31			
Wishbone 3N-E24H; - actual wellpath hits target center - Polygon	0.00	0.00	0.00	0.00	0.00	1,286,557.75	3,215,983.19	40.117412	-104.727715
Point 1			211.56	4,526.81	1,291,086.05	3,216,155.31			
Point 2			200.64	2,337.39	1,288,896.71	3,216,163.46			
Point 3			188.95	147.85	1,286,707.24	3,216,170.84			
Point 4			1,108.67	139.84	1,286,707.24	3,217,090.56			
Point 5			1,092.76	2,329.62	1,288,896.71	3,217,055.58			
Point 6			1,076.85	4,519.27	1,291,086.05	3,217,020.60			
Point 7			211.56	4,526.81	1,291,086.05	3,216,155.31			

North Reference Sheet for Sec. 24-T2N-R66W - Wishbone 3N-E24HZ - Plan C 0

All data is in US Feet unless otherwise stated. Directions and Coordinates are relative to True North Reference.

Vertical Depths are relative to RKB=16 @ 5101.00ft (Xtreme 22). Northing and Easting are relative to Wishbone 3N-E24HZ

Coordinate System is US State Plane 1983, Colorado Northern Zone using datum North American Datum 1983, ellipsoid GRS 1980

Projection method is Lambert Conformal Conic (2 parallel)

Central Meridian is -105.500000°, Longitude Origin:0.000000°, Latitude Origin:40.783333°

False Easting: 3,000,000.00ft, False Northing: 1,000,000.00ft, Scale Reduction: 0.99995954

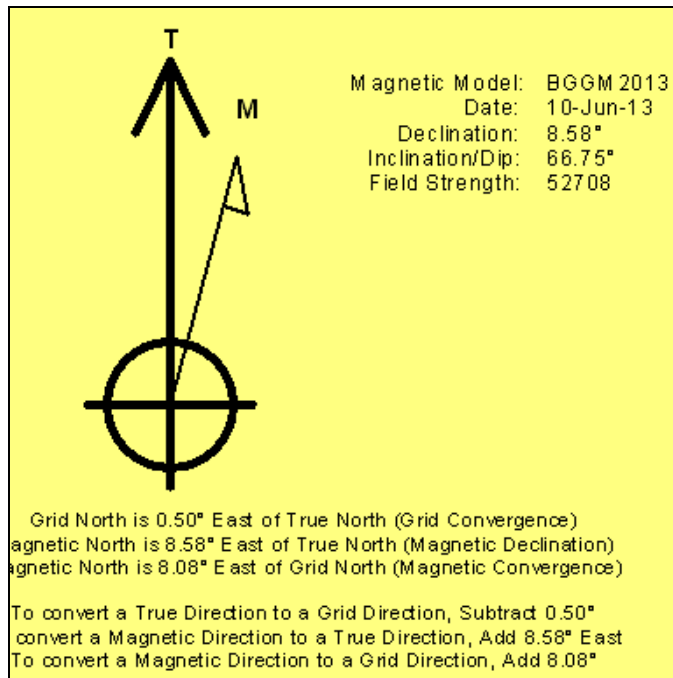
Grid Coordinates of Well: 1,286,557.75 ft N, 3,215,983.19 ft E

Geographical Coordinates of Well: 40° 07' 02.68" N, 104° 43' 39.77" W

Grid Convergence at Surface is: 0.50°

Based upon Minimum Curvature type calculations, at a Measured Depth of 11,810.00ft the Bottom Hole Displacement is 4,386.24ft in the Direction of 5.35° (True).

Magnetic Convergence at surface is: -8.08° (10 June 2013, , BGGM2013)



Anadarko Petroleum Corp.

Weld County, CO (NAD 83)

Sec. 24-T2N-R66W

Wishbone 3N-E24HZ

Plan C 0

Design: Actual Field Surveys

Sperry Drilling Services Geodetic Report

26 June, 2013

Well Coordinates: 1,286,557.75 N, 3,215,983.19 E (40° 07' 02.68" N, 104° 43' 39.77" W)

Ground Level: 5,085.00 ft

Local Coordinate Origin:	Centered on Well Wishbone 3N-E24HZ
Viewing Datum:	RKB=16 @ 5101.00ft (Xtreme 22)
TVDs to System:	N
North Reference:	True
Unit System:	API - US Survey Feet - Custom

Geodetic Scale Factor Applied

Version: 2003.16 Build: 431

HALLIBURTON

Design Report for Wishbone 3N-E24HZ - Actual Field Surveys

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	Local Coordinates		Geographic Coordinates		UTM Coordinates	
				+N/-S (ft)	+E/-W (ft)	Latitude (ft)	Longitude (ft)	Northing (ft)	Easting (ft)
0.00	0.00	0.00	0.00	0.00	0.00	40.117412	-104.727715	1,286,557.75	3,215,983.19
16.00	0.00	0.00	16.00	0.00	0.00	40.117412	-104.727715	1,286,557.75	3,215,983.19
116.00	0.41	253.43	116.00	-0.10	-0.34	40.117412	-104.727716	1,286,557.65	3,215,982.85
216.00	0.17	279.35	216.00	-0.18	-0.83	40.117411	-104.727718	1,286,557.57	3,215,982.36
316.00	0.45	280.82	316.00	-0.08	-1.36	40.117412	-104.727720	1,286,557.66	3,215,981.83
416.00	0.28	270.16	415.99	-0.01	-1.99	40.117412	-104.727722	1,286,557.73	3,215,981.20
516.00	0.50	284.06	515.99	0.10	-2.66	40.117412	-104.727725	1,286,557.83	3,215,980.53
616.00	0.26	288.18	615.99	0.28	-3.30	40.117413	-104.727727	1,286,558.00	3,215,979.89
716.00	0.35	20.80	715.99	0.63	-3.41	40.117414	-104.727727	1,286,558.35	3,215,979.78
816.00	0.70	14.26	815.98	1.51	-3.15	40.117416	-104.727726	1,286,559.23	3,215,980.03
916.00	1.02	41.30	915.97	2.77	-2.41	40.117420	-104.727724	1,286,560.50	3,215,980.76
986.00	0.94	56.12	985.96	3.56	-1.52	40.117422	-104.727720	1,286,561.30	3,215,981.64
1,108.00	1.30	62.20	1,107.94	4.76	0.53	40.117425	-104.727713	1,286,562.52	3,215,983.68
1,394.00	0.74	50.72	1,393.89	7.44	4.83	40.117432	-104.727698	1,286,565.24	3,215,987.96
1,678.00	1.33	52.62	1,677.85	10.61	8.87	40.117441	-104.727683	1,286,568.44	3,215,991.97
1,862.00	1.90	43.49	1,861.77	14.12	12.67	40.117451	-104.727670	1,286,571.98	3,215,995.73
1,954.00	3.24	94.27	1,953.69	15.03	16.31	40.117453	-104.727657	1,286,572.92	3,215,999.37
2,045.00	4.53	101.72	2,044.48	14.11	22.39	40.117451	-104.727635	1,286,572.05	3,216,005.46
2,137.00	6.15	111.56	2,136.08	11.56	30.53	40.117444	-104.727606	1,286,569.58	3,216,013.62
2,228.00	7.96	120.88	2,226.39	6.53	40.48	40.117430	-104.727570	1,286,564.64	3,216,023.61
2,319.00	8.71	125.15	2,316.43	-0.67	51.52	40.117410	-104.727531	1,286,557.53	3,216,034.71
2,410.00	9.07	123.26	2,406.33	-8.57	63.15	40.117388	-104.727489	1,286,549.73	3,216,046.41
2,502.00	9.76	120.97	2,497.09	-16.56	75.90	40.117367	-104.727444	1,286,541.86	3,216,059.23
2,594.00	8.76	118.05	2,587.89	-23.87	88.77	40.117346	-104.727398	1,286,534.66	3,216,072.16
2,686.00	10.64	124.21	2,678.58	-31.94	101.98	40.117324	-104.727350	1,286,526.71	3,216,085.44
2,777.00	8.64	116.69	2,768.29	-39.73	115.03	40.117303	-104.727304	1,286,519.03	3,216,098.56
2,868.00	9.51	116.40	2,858.15	-46.14	127.87	40.117285	-104.727258	1,286,512.73	3,216,111.46
2,959.00	7.65	104.09	2,948.14	-50.96	140.48	40.117272	-104.727213	1,286,508.02	3,216,124.11
3,051.00	9.05	111.25	3,039.16	-55.08	153.17	40.117261	-104.727167	1,286,504.02	3,216,136.83
3,142.00	10.01	118.89	3,128.91	-61.49	166.76	40.117243	-104.727119	1,286,497.72	3,216,150.48
3,234.00	8.61	118.46	3,219.69	-68.64	179.82	40.117224	-104.727072	1,286,490.69	3,216,163.59
3,326.00	10.11	124.16	3,310.47	-76.45	192.56	40.117202	-104.727027	1,286,482.98	3,216,176.40
3,417.00	9.16	124.11	3,400.18	-85.00	205.16	40.117179	-104.726981	1,286,474.55	3,216,189.08
3,509.00	7.28	121.28	3,491.24	-92.13	216.21	40.117159	-104.726942	1,286,467.51	3,216,200.19
3,601.00	8.18	125.97	3,582.40	-99.00	226.49	40.117140	-104.726905	1,286,460.73	3,216,210.52
3,693.00	9.14	120.57	3,673.35	-106.57	238.08	40.117119	-104.726864	1,286,453.27	3,216,222.18
3,785.00	10.77	120.55	3,763.96	-114.65	251.77	40.117097	-104.726815	1,286,445.30	3,216,235.94
3,876.00	9.28	123.73	3,853.57	-123.05	265.20	40.117074	-104.726767	1,286,437.02	3,216,249.44
3,967.00	9.71	126.27	3,943.32	-131.66	277.49	40.117051	-104.726723	1,286,428.52	3,216,261.80
4,058.00	10.82	120.55	4,032.87	-140.54	291.03	40.117026	-104.726674	1,286,419.75	3,216,275.42
4,150.00	11.76	120.73	4,123.09	-149.72	306.53	40.117001	-104.726619	1,286,410.71	3,216,291.00
4,242.00	8.77	121.97	4,213.61	-158.23	320.54	40.116978	-104.726569	1,286,402.33	3,216,305.08

Design Report for Wishbone 3N-E24HZ - Actual Field Surveys

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	Local Coordinates		Geographic Coordinates		UTM Coordinates	
				+N/-S (ft)	+E/-W (ft)	Latitude (ft)	Longitude (ft)	Northing (ft)	Easting (ft)
4,333.00	14.19	120.83	4,302.75	-167.63	336.01	40.116952	-104.726514	1,286,393.07	3,216,320.64
4,419.00	14.13	119.80	4,386.14	-178.25	354.17	40.116923	-104.726449	1,286,382.61	3,216,338.89
4,505.00	11.54	119.83	4,469.98	-187.74	370.75	40.116897	-104.726389	1,286,373.25	3,216,355.54
4,590.00	8.46	121.71	4,553.68	-195.26	383.45	40.116876	-104.726344	1,286,365.85	3,216,368.31
4,676.00	10.16	123.30	4,638.55	-202.75	395.17	40.116855	-104.726302	1,286,358.46	3,216,380.09
4,762.00	10.08	118.77	4,723.21	-210.54	408.10	40.116834	-104.726256	1,286,350.79	3,216,393.10
4,847.00	8.72	117.16	4,807.07	-217.06	420.36	40.116816	-104.726212	1,286,344.37	3,216,405.41
4,933.00	9.65	120.05	4,891.96	-223.64	432.40	40.116798	-104.726169	1,286,337.89	3,216,417.50
5,019.00	9.58	122.72	4,976.76	-231.12	444.66	40.116778	-104.726125	1,286,330.52	3,216,429.83
5,105.00	8.26	125.08	5,061.71	-238.54	455.73	40.116757	-104.726086	1,286,323.20	3,216,440.97
5,191.00	6.63	131.09	5,146.99	-245.36	464.53	40.116738	-104.726054	1,286,316.46	3,216,449.82
5,276.00	5.96	135.15	5,231.47	-251.71	471.34	40.116721	-104.726030	1,286,310.17	3,216,456.69
5,362.00	5.63	138.25	5,317.03	-258.02	477.30	40.116704	-104.726008	1,286,303.91	3,216,462.70
5,448.00	5.04	133.78	5,402.66	-263.78	482.84	40.116688	-104.725989	1,286,298.20	3,216,468.29
5,533.00	1.98	138.31	5,487.49	-267.46	486.51	40.116678	-104.725976	1,286,294.55	3,216,471.99
5,619.00	1.11	65.60	5,573.47	-268.23	488.26	40.116676	-104.725969	1,286,293.80	3,216,473.75
5,705.00	1.20	34.32	5,659.45	-267.14	489.52	40.116679	-104.725965	1,286,294.90	3,216,475.00
5,790.00	1.88	40.63	5,744.42	-265.35	490.93	40.116684	-104.725960	1,286,296.70	3,216,476.40
5,876.00	1.46	26.62	5,830.38	-263.30	492.34	40.116689	-104.725955	1,286,298.76	3,216,477.79
6,133.00	0.44	324.71	6,087.35	-259.56	493.24	40.116699	-104.725951	1,286,302.50	3,216,478.65
6,391.00	0.15	118.34	6,345.35	-258.92	492.97	40.116701	-104.725952	1,286,303.15	3,216,478.37
6,648.00	0.31	128.04	6,602.34	-259.50	493.81	40.116700	-104.725949	1,286,302.57	3,216,479.22
6,748.00	0.07	244.82	6,702.34	-259.70	493.97	40.116699	-104.725949	1,286,302.38	3,216,479.38
6,777.00	0.11	300.57	6,731.34	-259.69	493.93	40.116699	-104.725949	1,286,302.38	3,216,479.34
6,819.00	2.45	0.93	6,773.33	-258.77	493.91	40.116702	-104.725949	1,286,303.30	3,216,479.31
6,862.00	5.96	356.68	6,816.21	-255.62	493.79	40.116710	-104.725949	1,286,306.45	3,216,479.17
6,905.00	10.15	350.93	6,858.78	-249.65	493.07	40.116727	-104.725952	1,286,312.42	3,216,478.39
6,948.00	15.11	353.21	6,900.72	-240.34	491.80	40.116752	-104.725957	1,286,321.72	3,216,477.05
6,990.00	20.43	353.16	6,940.70	-227.62	490.28	40.116787	-104.725962	1,286,334.42	3,216,475.42
7,033.00	25.77	349.71	6,980.24	-210.95	487.72	40.116833	-104.725971	1,286,351.06	3,216,472.71
7,076.00	29.51	348.28	7,018.33	-191.38	483.90	40.116887	-104.725985	1,286,370.60	3,216,468.72
7,119.00	31.42	348.87	7,055.39	-170.01	479.58	40.116945	-104.726000	1,286,391.93	3,216,464.21
7,162.00	30.54	348.29	7,092.26	-148.32	475.20	40.117005	-104.726016	1,286,413.59	3,216,459.64
7,205.00	34.00	349.94	7,128.61	-125.77	470.88	40.117067	-104.726031	1,286,436.09	3,216,455.13
7,247.00	36.12	350.47	7,162.99	-102.00	466.78	40.117132	-104.726046	1,286,459.83	3,216,450.82
7,290.00	40.31	351.49	7,196.77	-75.73	462.62	40.117204	-104.726061	1,286,486.05	3,216,446.43
7,333.00	45.58	351.11	7,228.23	-46.79	458.19	40.117284	-104.726077	1,286,514.96	3,216,441.75
7,376.00	48.79	350.98	7,257.45	-15.63	453.28	40.117369	-104.726094	1,286,546.07	3,216,436.57
7,419.00	52.31	354.04	7,284.77	17.28	448.97	40.117459	-104.726110	1,286,578.94	3,216,431.98
7,462.00	57.01	355.95	7,309.64	52.21	445.93	40.117555	-104.726121	1,286,613.84	3,216,428.63
7,504.00	62.44	355.71	7,330.81	88.37	443.29	40.117655	-104.726130	1,286,649.98	3,216,425.68
7,547.00	69.15	356.78	7,348.43	127.49	440.73	40.117762	-104.726139	1,286,689.07	3,216,422.78

Design Report for Wishbone 3N-E24HZ - Actual Field Surveys

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	Local Coordinates		Geographic Coordinates		UTM Coordinates	
				+N/-S (ft)	+E/-W (ft)	Latitude (ft)	Longitude (ft)	Northing (ft)	Easting (ft)
7,590.00	74.12	357.76	7,361.97	168.24	438.80	40.117874	-104.726146	1,286,729.80	3,216,420.49
7,633.00	78.93	0.03	7,371.99	210.03	438.00	40.117989	-104.726149	1,286,771.58	3,216,419.33
7,687.00	83.52	359.76	7,380.23	263.38	437.90	40.118135	-104.726149	1,286,824.93	3,216,418.76
7,725.60	84.42	359.83	7,384.28	301.77	437.76	40.118240	-104.726150	1,286,863.31	3,216,418.29
7,774.00	85.55	359.92	7,388.51	349.98	437.66	40.118373	-104.726150	1,286,911.52	3,216,417.77
7,860.00	85.42	358.64	7,395.28	435.71	436.58	40.118608	-104.726154	1,286,997.23	3,216,415.94
7,946.00	87.03	359.15	7,400.94	521.50	434.93	40.118844	-104.726160	1,287,083.00	3,216,413.54
8,032.00	88.52	0.19	7,404.28	607.43	434.43	40.119079	-104.726162	1,287,168.92	3,216,412.30
8,117.00	90.99	2.45	7,404.65	692.40	436.39	40.119313	-104.726155	1,287,253.90	3,216,413.52
8,203.00	89.88	0.82	7,403.99	778.36	438.84	40.119549	-104.726146	1,287,339.87	3,216,415.22
8,289.00	91.05	3.44	7,403.29	864.28	442.04	40.119784	-104.726134	1,287,425.82	3,216,417.67
8,374.00	90.06	2.09	7,402.47	949.18	446.14	40.120018	-104.726120	1,287,510.74	3,216,421.03
8,460.00	90.06	3.62	7,402.38	1,035.07	450.42	40.120253	-104.726104	1,287,596.66	3,216,424.56
8,546.00	90.19	7.06	7,402.19	1,120.68	458.42	40.120488	-104.726076	1,287,682.34	3,216,431.82
8,632.00	90.25	10.06	7,401.86	1,205.71	471.22	40.120722	-104.726030	1,287,767.48	3,216,443.88
8,717.00	90.19	10.39	7,401.54	1,289.36	486.31	40.120951	-104.725976	1,287,851.25	3,216,458.24
8,803.00	90.43	10.51	7,401.07	1,373.94	501.91	40.121183	-104.725920	1,287,935.95	3,216,473.10
8,889.00	90.62	10.16	7,400.28	1,458.54	517.34	40.121416	-104.725865	1,288,020.68	3,216,487.79
8,974.00	90.99	10.55	7,399.09	1,542.14	532.62	40.121645	-104.725811	1,288,104.41	3,216,502.33
9,103.00	86.42	5.94	7,402.01	1,669.71	551.10	40.121995	-104.725744	1,288,232.13	3,216,519.71
9,146.00	86.22	5.91	7,404.77	1,712.39	555.53	40.122113	-104.725729	1,288,274.85	3,216,523.77
9,231.00	86.29	3.87	7,410.32	1,796.90	562.76	40.122345	-104.725703	1,288,359.41	3,216,530.26
9,317.00	86.60	2.40	7,415.65	1,882.60	567.46	40.122580	-104.725686	1,288,445.15	3,216,534.21
9,403.00	88.02	1.16	7,419.69	1,968.46	570.13	40.122815	-104.725676	1,288,531.02	3,216,536.13
9,488.00	89.20	0.92	7,421.75	2,053.42	571.67	40.123049	-104.725671	1,288,615.99	3,216,536.93
9,574.00	89.63	0.35	7,422.63	2,139.41	572.62	40.123285	-104.725667	1,288,701.98	3,216,537.14
9,660.00	91.98	359.96	7,421.42	2,225.39	572.85	40.123521	-104.725667	1,288,787.96	3,216,536.62
9,746.00	90.06	358.05	7,419.89	2,311.36	571.36	40.123757	-104.725672	1,288,873.91	3,216,534.38
9,831.00	87.84	357.51	7,421.45	2,396.28	568.07	40.123990	-104.725684	1,288,958.79	3,216,530.35
9,917.00	87.78	356.52	7,424.73	2,482.09	563.59	40.124225	-104.725700	1,289,044.56	3,216,525.12
10,003.00	88.58	356.23	7,427.46	2,567.88	558.16	40.124461	-104.725719	1,289,130.29	3,216,518.94
10,088.00	89.07	354.95	7,429.21	2,652.61	551.62	40.124693	-104.725742	1,289,214.96	3,216,511.67
10,174.00	90.12	354.82	7,429.81	2,738.26	543.96	40.124929	-104.725770	1,289,300.54	3,216,503.26
10,260.00	92.41	355.76	7,427.92	2,823.94	536.90	40.125164	-104.725795	1,289,386.15	3,216,495.45
10,346.00	90.31	354.49	7,425.87	2,909.60	529.59	40.125399	-104.725821	1,289,471.74	3,216,487.40
10,431.00	90.93	355.74	7,424.95	2,994.29	522.35	40.125631	-104.725847	1,289,556.35	3,216,479.43
10,517.00	92.60	356.26	7,422.31	3,080.03	516.36	40.125867	-104.725869	1,289,642.04	3,216,472.68
10,603.00	92.10	354.62	7,418.78	3,165.68	509.53	40.126102	-104.725893	1,289,727.63	3,216,465.11
10,689.00	91.92	354.29	7,415.76	3,251.23	501.22	40.126337	-104.725923	1,289,813.09	3,216,456.06
10,774.00	92.16	353.49	7,412.74	3,335.69	492.18	40.126569	-104.725955	1,289,897.47	3,216,446.28
10,860.00	92.10	353.17	7,409.54	3,421.05	482.20	40.126803	-104.725991	1,289,982.73	3,216,435.56
10,945.00	91.36	354.05	7,406.97	3,505.48	472.74	40.127035	-104.726024	1,290,067.08	3,216,425.37

Design Report for Wishbone 3N-E24HZ - Actual Field Surveys

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	Local Coordinates		Geographic Coordinates		UTM Coordinates	
				+N/-S (ft)	+E/-W (ft)	Latitude (ft)	Longitude (ft)	Northing (ft)	Easting (ft)
11,031.00	90.68	352.95	7,405.44	3,590.91	463.01	40.127269	-104.726059	1,290,152.42	3,216,414.89
11,116.00	90.12	354.54	7,404.85	3,675.40	453.75	40.127501	-104.726092	1,290,236.82	3,216,404.89
11,202.00	90.19	356.48	7,404.62	3,761.14	447.02	40.127736	-104.726116	1,290,322.49	3,216,397.42
11,288.00	90.56	356.39	7,404.05	3,846.97	441.67	40.127972	-104.726136	1,290,408.26	3,216,391.32
11,373.00	93.03	356.83	7,401.39	3,931.77	436.64	40.128205	-104.726154	1,290,493.02	3,216,385.56
11,459.00	92.84	357.24	7,396.99	4,017.54	432.20	40.128440	-104.726169	1,290,578.74	3,216,380.37
11,545.00	92.72	356.88	7,392.82	4,103.33	427.80	40.128676	-104.726185	1,290,664.48	3,216,375.22
11,630.00	93.34	356.13	7,388.32	4,188.05	422.62	40.128908	-104.726204	1,290,749.15	3,216,369.31
11,716.00	94.27	355.76	7,382.62	4,273.64	416.55	40.129143	-104.726225	1,290,834.69	3,216,362.49
11,761.00	94.20	355.45	7,379.29	4,318.39	413.12	40.129266	-104.726238	1,290,879.40	3,216,358.67
11,810.00	94.20	355.45	7,375.71	4,367.10	409.24	40.129400	-104.726252	1,290,928.08	3,216,354.37

Design Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
16.00	16.00	0.00	0.00	Xtreme 22: RKB = 16ft
116.00	116.00	-0.10	-0.34	First MS Energy Services Gyro @ 116.00ft
986.00	985.96	3.56	-1.52	Final MS Energy Services Gyro @ 986.00ft
986.00	985.96	3.56	-1.52	Tie-On to Surface Gyros @ 986.00ft
1,108.00	1,107.94	4.76	0.53	First MWD Survey @ 1108.00ft
11,761.00	7,379.29	4,318.39	413.12	Final MWD Survey @ 11761.00ft
11,810.00	7,375.71	4,367.10	409.24	Straight Line Proj @ 11810' MD :: 7375.71' TVD

Vertical Section Information

Angle Type	Target	Azimuth (°)	Origin Type	Origin +N/-S (ft)	Origin +E/-W (ft)	Start TVD (ft)
User	No Target (Freehand)	0.09	Slot	0.00	0.00	0.00

Survey tool program

From (ft)	To (ft)	Survey/Plan	Survey Tool
16.00	986.00	MS Energy Services - Surface Gyros	NS-GYRO-MS
986.00	7,687.00	MWD Surveys - Vert/Build	MWD+SC
7,774.00	11,761.00	MWD Surveys - Lateral	MWD+SC

Design Report for Wishbone 3N-E24HZ - Actual Field Surveys

Casing Details

Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (")	Hole Diameter (")
7,725.60	7,384.28	7" Casing @ 7725.6' MD :: 7384.28' TVD	7	8-3/4

Targets for Plan C 0

Shape	Target Name	TVD (ft)	Northing (ft)	Easting (ft)	+N/-S ft	+E/-W ft	Created	Updated
Point	Wishbone 3N-E24HZ_BHL	7,413.00	1,291,083.60	3,216,427.53	4,521.98	483.76	05-20-2013	06-10-2013
Point	Wishbone 3N-E24HZ_SHL	0.00	1,286,557.75	3,215,983.19	0.00	0.00	05-20-2013	05-20-2013
Point	Wishbone 3N-E24HZ_tgt1	7,413.00	1,288,561.02	3,216,445.64	1,999.25	479.90	05-23-2013	06-10-2013
Polygon	Wishbone 3N-E24HZ_Sec	0.00	1,286,557.75	3,215,983.19	0.00	0.00	05-20-2013	05-20-2013
Polygon	Wishbone 3N-E24HZ_LD	0.00	1,286,557.75	3,215,983.19	0.00	0.00	05-20-2013	05-20-2013

North Reference Sheet for Sec. 24-T2N-R66W - Wishbone 3N-E24HZ - Plan C 0

All data is in US Feet unless otherwise stated. Directions and Coordinates are relative to True North Reference.

Vertical Depths are relative to RKB=16 @ 5101.00ft (Xtreme 22). Northing and Easting are relative to Wishbone 3N-E24HZ

Coordinate System is US State Plane 1983, Colorado Northern Zone using datum North American Datum 1983, ellipsoid GRS 1980

Projection method is Lambert Conformal Conic (2 parallel)

Central Meridian is -105.500000°, Longitude Origin:0.000000°, Latitude Origin:40.783333°

False Easting: 3,000,000.00ft, False Northing: 1,000,000.00ft, Scale Reduction: 0.99995954

Grid Coordinates of Well: 1,286,557.75 ft N, 3,215,983.19 ft E

Geographical Coordinates of Well: 40° 07' 02.68" N, 104° 43' 39.77" W

Grid Convergence at Surface is: 0.50°

Based upon Minimum Curvature type calculations, at a Measured Depth of 11,810.00ft

the Bottom Hole Displacement is 4,386.24ft in the Direction of 5.35° (True).

Magnetic Convergence at surface is: -8.08° (10 June 2013, , BGGM2013)

