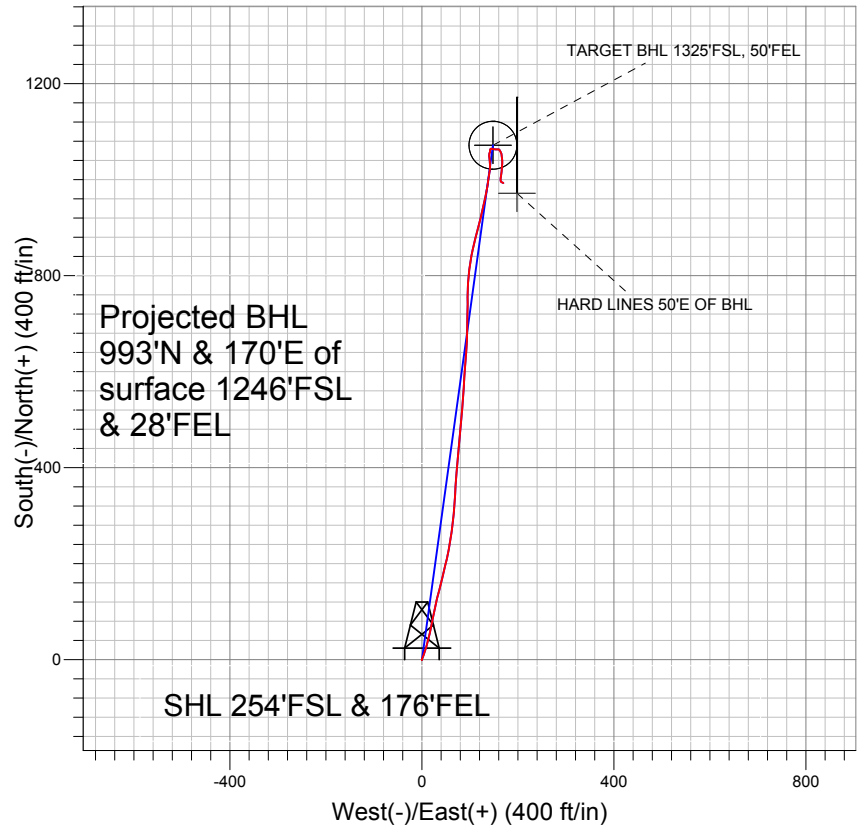


Anadarko, Weld County CO



LEGEND

- Thomason 39-9, Wellbore #1, Plan #1 (3-18-11) V0
- Wellbore #1
- Survey #1

Final Survey Plot

Projected Final Survey -
7945'MD & 7808'TVD @ 1006'VS
0.9 deg Inc 119.1 deg AZ

Project: SEC.9-T2N-R65W
Site: Thomason 16-9 Pad Sec.9-T2N-R65W
Well: Thomason 39-9
Plan: Wellbore #1



Directional

Anadarko, Weld County CO

SEC.9-T2N-R65W

Thomason 16-9 Pad Sec.9-T2N-R65W

Thomason 39-9

Wellbore #1

Survey: Survey #1

Standard Survey Report

27 April, 2011

Company:	Anadarko, Weld County CO	Local Co-ordinate Reference:	Well Thomason 39-9
Project:	SEC.9-T2N-R65W	TVD Reference:	WELL @ 4882.0ft (Original Well Elev)
Site:	Thomason 16-9 Pad Sec.9-T2N-R65W	MD Reference:	WELL @ 4882.0ft (Original Well Elev)
Well:	Thomason 39-9	North Reference:	True
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	Landmark

Project	SEC.9-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	Thomason 16-9 Pad Sec.9-T2N-R65W				
Site Position:		Northing:	1,297,390.53ft	Latitude:	40.146681
From:	Lat/Long	Easting:	3,234,713.40ft	Longitude:	-104.660379
Position Uncertainty:	0.0 ft	Slot Radius:	"	Grid Convergence:	0.54 °

Well	Thomason 39-9					
Well Position	+N/-S	0.0 ft	Northing:	1,297,390.79 ft	Latitude:	40.146681
	+E/-W	0.0 ft	Easting:	3,234,745.27 ft	Longitude:	-104.660265
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	4,867.0 ft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	3/18/2011	8.82	66.87	53,035

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	7.86	

Survey Program	Date	4/27/2011			
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
144.0	7,945.0	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	0.30	180.60	144.0	-0.4	0.0	-0.4	0.21	0.21	0.00	
233.0	0.60	346.00	233.0	-0.2	-0.1	-0.2	1.00	0.34	185.84	
324.0	2.50	30.40	324.0	2.0	0.8	2.1	2.32	2.09	48.79	
415.0	4.70	16.20	414.8	7.3	2.8	7.6	2.59	2.42	-15.60	
507.0	6.80	18.80	506.3	16.1	5.6	16.7	2.30	2.28	2.83	
599.0	8.30	16.70	597.5	27.6	9.3	28.6	1.66	1.63	-2.28	
691.0	10.20	13.70	688.3	41.9	13.1	43.3	2.13	2.07	-3.26	
735.0	11.00	11.90	731.6	49.8	14.9	51.3	1.97	1.82	-4.09	
789.0	11.30	10.50	784.5	60.0	16.9	61.8	0.75	0.56	-2.59	
881.0	11.80	12.60	874.7	78.1	20.6	80.1	0.71	0.54	2.28	
976.0	13.40	11.90	967.4	98.3	25.0	100.8	1.69	1.68	-0.74	
1,071.0	14.90	13.30	1,059.5	121.0	30.1	123.9	1.62	1.58	1.47	

Company:	Anadarko, Weld County CO	Local Co-ordinate Reference:	Well Thomason 39-9
Project:	SEC.9-T2N-R65W	TVD Reference:	WELL @ 4882.0ft (Original Well Elev)
Site:	Thomason 16-9 Pad Sec.9-T2N-R65W	MD Reference:	WELL @ 4882.0ft (Original Well Elev)
Well:	Thomason 39-9	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)
1,166.0	15.70	14.80	1,151.1	145.3	36.2	148.9	0.94	0.84	1.58
1,261.0	16.40	13.80	1,242.4	170.7	42.7	175.0	0.79	0.74	-1.05
1,356.0	16.20	13.10	1,333.6	196.7	48.9	201.5	0.30	-0.21	-0.74
1,451.0	17.70	10.50	1,424.5	223.8	54.5	229.1	1.77	1.58	-2.74
1,547.0	17.00	8.70	1,516.1	252.0	59.3	257.7	0.92	-0.73	-1.88
1,642.0	17.30	8.40	1,606.9	279.7	63.5	285.7	0.33	0.32	-0.32
1,737.0	16.70	4.20	1,697.7	307.3	66.5	313.5	1.44	-0.63	-4.42
1,832.0	16.30	2.80	1,788.8	334.2	68.2	340.4	0.59	-0.42	-1.47
1,927.0	16.40	3.70	1,880.0	360.9	69.7	367.1	0.29	0.11	0.95
2,023.0	16.60	5.40	1,972.0	388.1	71.9	394.3	0.54	0.21	1.77
2,118.0	15.60	5.00	2,063.3	414.3	74.2	420.6	1.06	-1.05	-0.42
2,213.0	15.30	4.20	2,154.9	439.6	76.3	445.9	0.39	-0.32	-0.84
2,309.0	15.10	5.90	2,247.5	464.6	78.5	471.0	0.51	-0.21	1.77
2,405.0	15.90	6.30	2,340.0	490.1	81.2	496.6	0.84	0.83	0.42
2,501.0	15.60	3.50	2,432.4	516.1	83.5	522.6	0.85	-0.31	-2.92
2,596.0	15.00	4.20	2,524.1	541.1	85.1	547.7	0.66	-0.63	0.74
2,691.0	14.20	4.20	2,616.0	565.0	86.9	571.6	0.84	-0.84	0.00
2,786.0	14.10	3.00	2,708.1	588.2	88.3	594.7	0.33	-0.11	-1.26
2,882.0	14.70	4.60	2,801.1	612.0	89.9	618.5	0.75	0.63	1.67
2,977.0	15.70	4.30	2,892.8	636.8	91.9	643.4	1.06	1.05	-0.32
3,072.0	16.10	2.80	2,984.1	662.8	93.5	669.3	0.60	0.42	-1.58
3,167.0	15.80	1.30	3,075.5	688.9	94.4	695.3	0.54	-0.32	-1.58
3,262.0	15.70	0.80	3,166.9	714.7	94.9	720.9	0.18	-0.11	-0.53
3,357.0	15.50	0.20	3,258.4	740.2	95.1	746.2	0.27	-0.21	-0.63
3,453.0	14.60	0.50	3,351.1	765.1	95.3	771.0	0.94	-0.94	0.31
3,548.0	13.70	5.00	3,443.2	788.3	96.3	794.1	1.50	-0.95	4.74
3,643.0	13.80	6.40	3,535.5	810.8	98.6	816.6	0.37	0.11	1.47
3,738.0	13.10	8.90	3,627.9	832.7	101.5	838.7	0.96	-0.74	2.63
3,833.0	14.30	12.50	3,720.2	854.8	105.7	861.2	1.55	1.26	3.79
3,928.0	14.30	14.90	3,812.3	877.6	111.3	884.5	0.62	0.00	2.53
4,023.0	14.20	13.60	3,904.3	900.2	117.0	907.8	0.35	-0.11	-1.37
4,118.0	16.20	14.10	3,996.0	924.4	123.0	932.5	2.11	2.11	0.53
4,213.0	15.30	12.80	4,087.4	949.5	129.0	958.2	1.02	-0.95	-1.37
4,309.0	12.90	10.80	4,180.5	972.4	133.8	981.5	2.55	-2.50	-2.08
4,404.0	10.70	9.00	4,273.5	991.5	137.2	1,000.9	2.35	-2.32	-1.89
4,499.0	9.30	7.90	4,367.1	1,007.8	139.6	1,017.4	1.49	-1.47	-1.16
4,594.0	8.00	6.10	4,461.0	1,022.0	141.4	1,031.7	1.40	-1.37	-1.89
4,689.0	6.40	355.50	4,555.3	1,033.8	141.7	1,043.5	2.18	-1.68	-11.16
4,785.0	4.70	350.10	4,650.8	1,043.0	140.6	1,052.5	1.85	-1.77	-5.63
4,880.0	3.90	2.40	4,745.5	1,050.1	140.0	1,059.4	1.28	-0.84	12.95
4,975.0	1.50	20.70	4,840.4	1,054.5	140.6	1,063.8	2.65	-2.53	19.26
5,038.0	1.70	23.70	4,903.4	1,056.1	141.3	1,065.5	0.34	0.32	4.76
5,165.0	0.10	227.80	5,030.4	1,057.8	142.0	1,067.2	1.41	-1.26	-122.76
5,260.0	0.40	343.50	5,125.4	1,058.0	141.8	1,067.5	0.48	0.32	121.79
5,334.7	0.71	356.37	5,200.1	1,058.7	141.7	1,068.2	0.45	0.42	17.22
TARGET BHL 1325'FSL, 50'FEL									
5,355.0	0.80	358.10	5,220.4	1,059.0	141.7	1,068.4	0.45	0.43	8.54
5,450.0	1.10	9.00	5,315.4	1,060.6	141.8	1,070.0	0.37	0.32	11.47
5,545.0	0.90	16.40	5,410.3	1,062.2	142.2	1,071.7	0.25	-0.21	7.79
5,640.0	0.80	26.70	5,505.3	1,063.5	142.7	1,073.0	0.19	-0.11	10.84
5,704.0	0.50	46.80	5,569.3	1,064.1	143.1	1,073.7	0.58	-0.47	31.41
5,831.0	0.60	103.00	5,696.3	1,064.3	144.1	1,074.0	0.41	0.08	44.25
5,926.0	0.80	104.50	5,791.3	1,064.0	145.2	1,073.9	0.21	0.21	1.58
6,021.0	1.20	98.60	5,886.3	1,063.7	146.9	1,073.8	0.43	0.42	-6.21

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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)
6,116.0	1.20	98.20	5,981.3	1,063.4	148.8	1,073.8	0.01	0.00	-0.42
6,211.0	1.20	100.10	6,076.3	1,063.1	150.8	1,073.8	0.04	0.00	2.00
6,306.0	1.50	98.70	6,171.2	1,062.8	153.0	1,073.7	0.32	0.32	-1.47
6,402.0	1.90	85.10	6,267.2	1,062.7	155.8	1,074.0	0.59	0.42	-14.17
6,497.0	1.80	88.80	6,362.1	1,062.9	158.9	1,074.6	0.16	-0.11	3.89
6,592.0	2.00	140.90	6,457.1	1,061.6	161.4	1,073.7	1.77	0.21	54.84
6,719.0	2.50	156.40	6,584.0	1,057.4	163.9	1,069.8	0.62	0.39	12.20
6,814.0	2.50	164.70	6,678.9	1,053.5	165.3	1,066.2	0.38	0.00	8.74
6,877.0	2.80	170.00	6,741.8	1,050.6	166.0	1,063.4	0.61	0.48	8.41
6,973.0	3.40	174.90	6,837.7	1,045.5	166.6	1,058.4	0.68	0.63	5.10
7,036.5	3.53	177.22	6,901.1	1,041.6	166.9	1,054.7	0.30	0.21	3.65
TARGET CIRCLE 1325'FSL & 50'FEL									
7,068.0	3.60	178.30	6,932.5	1,039.7	167.0	1,052.7	0.30	0.21	3.44
7,163.0	4.40	180.00	7,027.3	1,033.1	167.0	1,046.2	0.85	0.84	1.79
7,258.0	5.10	185.30	7,122.0	1,025.2	166.7	1,038.4	0.87	0.74	5.58
7,353.0	5.60	184.60	7,216.6	1,016.4	165.9	1,029.5	0.53	0.53	-0.74
7,448.0	6.20	189.60	7,311.1	1,006.7	164.7	1,019.8	0.83	0.63	5.26
7,543.0	3.10	180.50	7,405.7	999.1	163.8	1,012.1	3.34	-3.26	-9.58
7,639.0	1.40	135.60	7,501.7	995.6	164.6	1,008.8	2.43	-1.77	-46.77
7,734.0	1.20	118.10	7,596.6	994.3	166.3	1,007.7	0.47	-0.21	-18.42
7,829.0	1.10	117.50	7,691.6	993.5	168.0	1,007.1	0.11	-0.11	-0.63
7,895.0	0.90	119.10	7,757.6	992.9	169.0	1,006.7	0.31	-0.30	2.42
HARD LINES 50'E OF BHL									
7,945.0	0.90	119.10	7,807.6	992.5	169.7	1,006.4	0.00	0.00	0.00

Checked By: _____ Approved By: _____ Date: _____