

Well Name: **Thomason 37-9**

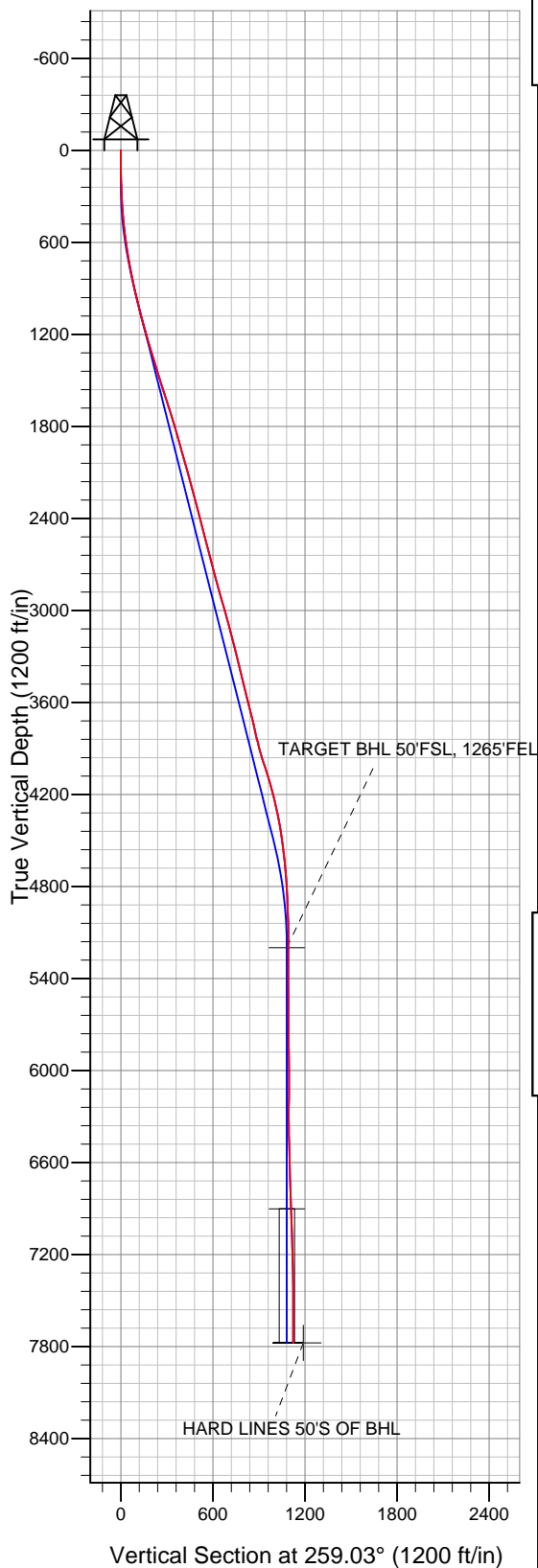
Surface Location: Thomason 16-9 Pad Sec.9-T2N-R65W
 North American Datum 1983 US State Plane 1983 Colorado Northern Zone

Ground Elevation: 4867.0

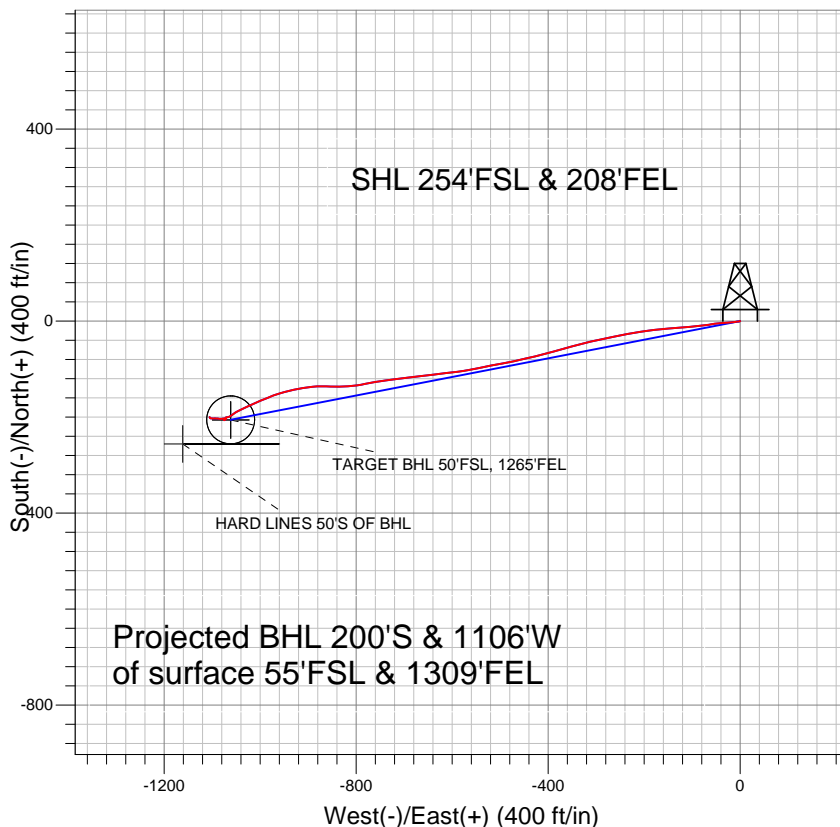
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.0	0.0	1297390.51	3234713.40	40.146681	-104.660379

Original Well Elev WELL @ 4882.0ft (Original Well Elev)

Slot



Anadarko, Weld County CO



LEGEND

- ◆ Thomason 37-9, Wellbore #1, Plan #1 (3-18-11) V0
- Wellbore #1
- Survey #1

Final Survey Plot

Projected Final Survey -
 7915'MD & 7776'TVD @ 1123'VS
 0.4 deg Inc 204.9 deg AZ

Project: SEC.9-T2N-R65W
 Site: Thomason 16-9 Pad Sec.9-T2N-R65W
 Well: Thomason 37-9
 Plan: Wellbore #1



Anadarko, Weld County CO

SEC.9-T2N-R65W

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

Thomason 37-9

Wellbore #1

Survey: Survey #1

Standard Survey Report

20 April, 2011



Company:	Anadarko, Weld County CO	Local Co-ordinate Reference:	Well Thomason 37-9
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 37-9	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 37-9					
Well Position	+N/-S	0.0 ft	Northing:	1,297,390.51 ft	Latitude:	40.146681
	+E/-W	0.0 ft	Easting:	3,234,713.40 ft	Longitude:	-104.660379
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	259.03	

Survey Program	Date	4/20/2011			
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
142.0	7,915.0	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	
142.0	0.30	226.90	142.0	-0.3	-0.3	0.3	0.21	0.21	0.00	
231.0	1.60	259.10	231.0	-0.6	-1.7	1.8	1.52	1.46	36.18	
323.0	3.40	262.70	322.9	-1.2	-5.6	5.8	1.96	1.96	3.91	
415.0	5.00	262.60	414.6	-2.1	-12.3	12.5	1.74	1.74	-0.11	
507.0	6.90	268.00	506.1	-2.8	-21.8	21.9	2.15	2.07	5.87	
599.0	7.70	264.30	597.4	-3.6	-33.5	33.5	1.01	0.87	-4.02	
691.0	9.10	262.30	688.4	-5.2	-46.8	46.9	1.55	1.52	-2.17	
770.0	10.30	263.10	766.3	-6.9	-60.0	60.2	1.53	1.52	1.01	
798.0	10.40	262.30	793.8	-7.5	-65.0	65.2	0.63	0.36	-2.86	
893.0	12.20	264.70	887.0	-9.6	-83.5	83.8	1.96	1.89	2.53	
988.0	13.90	263.40	979.5	-11.8	-104.8	105.2	1.82	1.79	-1.37	
1,083.0	15.00	266.20	1,071.5	-14.0	-128.4	128.7	1.37	1.16	2.95	

Company:	Anadarko, Weld County CO	Local Co-ordinate Reference:	Well Thomason 37-9
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 37-9	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)
1,179.0	16.00	265.90	1,164.0	-15.7	-154.0	154.2	1.05	1.04	-0.31
1,274.0	16.40	263.00	1,255.3	-18.3	-180.4	180.6	0.95	0.42	-3.05
1,369.0	17.20	260.50	1,346.2	-22.3	-207.6	208.0	1.13	0.84	-2.63
1,464.0	17.50	260.10	1,436.9	-27.0	-235.5	236.3	0.34	0.32	-0.42
1,559.0	17.90	257.80	1,527.4	-32.6	-263.8	265.2	0.85	0.42	-2.42
1,654.0	17.40	258.00	1,617.9	-38.6	-292.0	294.0	0.53	-0.53	0.21
1,750.0	16.90	257.30	1,709.6	-44.7	-319.6	322.3	0.56	-0.52	-0.73
1,845.0	16.60	253.90	1,800.6	-51.5	-346.2	349.6	1.08	-0.32	-3.58
1,940.0	16.20	253.90	1,891.7	-58.9	-371.9	376.3	0.42	-0.42	0.00
2,037.0	15.70	255.50	1,985.0	-65.9	-397.6	402.9	0.69	-0.52	1.65
2,132.0	15.40	257.30	2,076.5	-71.9	-422.4	428.4	0.60	-0.32	1.89
2,228.0	15.20	256.00	2,169.1	-77.8	-447.0	453.7	0.41	-0.21	-1.35
2,323.0	14.70	257.70	2,260.9	-83.4	-470.9	478.1	0.70	-0.53	1.79
2,418.0	15.50	259.40	2,352.6	-88.3	-495.1	502.9	0.96	0.84	1.79
2,513.0	14.70	259.50	2,444.4	-92.8	-519.5	527.6	0.84	-0.84	0.11
2,609.0	14.10	258.50	2,537.3	-97.3	-542.9	551.5	0.68	-0.63	-1.04
2,704.0	14.20	258.70	2,629.5	-101.9	-565.7	574.7	0.12	0.11	0.21
2,799.0	14.50	263.70	2,721.5	-105.5	-588.9	598.2	1.34	0.32	5.26
2,894.0	15.70	263.10	2,813.2	-108.4	-613.5	622.9	1.27	1.26	-0.63
2,989.0	16.10	262.90	2,904.6	-111.5	-639.3	648.9	0.42	0.42	-0.21
3,085.0	15.90	264.10	2,996.9	-114.5	-665.6	675.3	0.40	-0.21	1.25
3,180.0	15.30	262.80	3,088.4	-117.5	-691.0	700.7	0.73	-0.63	-1.37
3,275.0	14.40	262.60	3,180.2	-120.5	-715.2	725.0	0.95	-0.95	-0.21
3,370.0	14.20	262.00	3,272.2	-123.7	-738.4	748.5	0.26	-0.21	-0.63
3,465.0	13.50	261.10	3,364.5	-127.0	-760.9	771.2	0.77	-0.74	-0.95
3,560.0	13.40	257.10	3,456.9	-131.2	-782.6	793.3	0.98	-0.11	-4.21
3,655.0	14.80	265.00	3,549.0	-134.7	-805.4	816.3	2.50	1.47	8.32
3,750.0	14.50	267.40	3,640.9	-136.3	-829.4	840.2	0.71	-0.32	2.53
3,846.0	12.70	272.70	3,734.2	-136.4	-851.9	862.3	2.28	-1.88	5.52
3,941.0	13.50	269.90	3,826.8	-135.9	-873.4	883.3	1.07	0.84	-2.95
4,036.0	15.80	262.80	3,918.7	-137.5	-897.4	907.1	3.07	2.42	-7.47
4,131.0	17.70	259.00	4,009.7	-141.9	-924.4	934.5	2.31	2.00	-4.00
4,226.0	17.60	254.00	4,100.2	-148.6	-952.4	963.2	1.60	-0.11	-5.26
4,321.0	14.70	248.20	4,191.4	-157.1	-977.4	989.4	3.49	-3.05	-6.11
4,416.0	12.60	247.00	4,283.7	-165.6	-998.1	1,011.4	2.23	-2.21	-1.26
4,512.0	10.90	247.10	4,377.7	-173.2	-1,016.1	1,030.5	1.77	-1.77	0.10
4,607.0	8.40	243.20	4,471.4	-179.8	-1,030.6	1,046.0	2.72	-2.63	-4.11
4,702.0	7.50	244.80	4,565.5	-185.6	-1,042.4	1,058.6	0.98	-0.95	1.68
4,797.0	6.50	235.60	4,659.8	-191.3	-1,052.4	1,069.6	1.58	-1.05	-9.68
4,892.0	3.50	233.50	4,754.4	-196.0	-1,059.2	1,077.1	3.16	-3.16	-2.21
4,987.0	3.60	242.80	4,849.2	-199.1	-1,064.2	1,082.6	0.61	0.11	9.79
5,082.0	2.10	276.60	4,944.1	-200.3	-1,068.6	1,087.2	2.31	-1.58	35.58
5,177.0	2.00	233.50	5,039.0	-201.1	-1,071.6	1,090.3	1.59	-0.11	-45.37
5,272.0	1.10	129.80	5,134.0	-202.7	-1,072.3	1,091.2	2.63	-0.95	-109.16
5,338.1	0.75	135.86	5,200.1	-203.4	-1,071.5	1,090.6	0.55	-0.53	9.16
TARGET BHL 50'FSL, 1265'FEL									
5,367.0	0.60	140.70	5,229.0	-203.6	-1,071.2	1,090.4	0.55	-0.51	16.78
5,462.0	0.30	198.80	5,324.0	-204.2	-1,071.0	1,090.3	0.54	-0.32	61.16
5,558.0	0.50	242.80	5,420.0	-204.7	-1,071.5	1,090.8	0.37	0.21	45.83
5,653.0	0.50	276.80	5,515.0	-204.8	-1,072.2	1,091.6	0.31	0.00	35.79
5,748.0	0.30	245.60	5,610.0	-204.9	-1,072.9	1,092.3	0.30	-0.21	-32.84
5,843.0	0.50	213.70	5,705.0	-205.3	-1,073.3	1,092.8	0.31	0.21	-33.58
5,938.0	0.50	213.70	5,800.0	-206.0	-1,073.8	1,093.4	0.00	0.00	0.00
6,034.0	0.50	260.10	5,896.0	-206.4	-1,074.4	1,094.1	0.41	0.00	48.33

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Site:	Thomason 16-9 Pad Sec.9-T2N-R65W	MD Reference:	WELL @ 4882.0ft (Original Well Elev)
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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)	
6,129.0	0.50	278.80	5,991.0	-206.4	-1,075.3	1,094.9	0.17	0.00	19.68	
6,224.0	0.30	303.20	6,086.0	-206.2	-1,075.9	1,095.5	0.27	-0.21	25.68	
6,319.0	1.10	41.40	6,181.0	-205.4	-1,075.5	1,094.9	1.24	0.84	103.37	
6,414.0	1.10	41.90	6,276.0	-204.0	-1,074.3	1,093.5	0.01	0.00	0.53	
6,509.0	1.10	276.50	6,370.9	-203.3	-1,074.6	1,093.6	2.06	0.00	-132.00	
6,604.0	2.20	269.30	6,465.9	-203.2	-1,077.3	1,096.3	1.18	1.16	-7.58	
6,700.0	1.40	262.70	6,561.9	-203.4	-1,080.3	1,099.3	0.86	-0.83	-6.88	
6,795.0	1.40	267.70	6,656.8	-203.5	-1,082.6	1,101.6	0.13	0.00	5.26	
6,890.0	1.80	275.20	6,751.8	-203.5	-1,085.3	1,104.1	0.47	0.42	7.89	
6,985.0	1.80	273.50	6,846.7	-203.2	-1,088.2	1,107.0	0.06	0.00	-1.79	
7,040.4	1.80	274.96	6,902.1	-203.1	-1,090.0	1,108.7	0.08	0.00	2.63	
TARGET CIRCLE 50'FSL & 1265'FEL										
7,080.0	1.80	276.00	6,941.7	-203.0	-1,091.2	1,109.9	0.08	0.00	2.63	
7,176.0	2.00	267.70	7,037.6	-202.9	-1,094.4	1,113.0	0.35	0.21	-8.65	
7,270.0	1.90	267.70	7,131.6	-203.0	-1,097.6	1,116.2	0.11	-0.11	0.00	
7,366.0	2.10	278.60	7,227.5	-202.8	-1,100.9	1,119.4	0.45	0.21	11.35	
7,461.0	0.80	259.90	7,322.5	-202.7	-1,103.3	1,121.7	1.44	-1.37	-19.68	
7,556.0	0.70	342.90	7,417.5	-202.2	-1,104.1	1,122.4	1.05	-0.11	87.37	
7,683.0	1.00	328.00	7,544.5	-200.6	-1,104.9	1,122.9	0.29	0.24	-11.73	
7,810.0	0.20	142.00	7,671.5	-199.8	-1,105.4	1,123.2	0.94	-0.63	137.01	
7,865.0	0.40	204.90	7,726.5	-200.0	-1,105.4	1,123.3	0.65	0.36	114.36	
7,915.0	0.40	204.90	7,776.5	-200.4	-1,105.5	1,123.5	0.00	0.00	0.00	
HARD LINES 50'S OF BHL										

Checked By: _____	Approved By: _____	Date: _____
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