

Well Name: **Thomason 16-9**

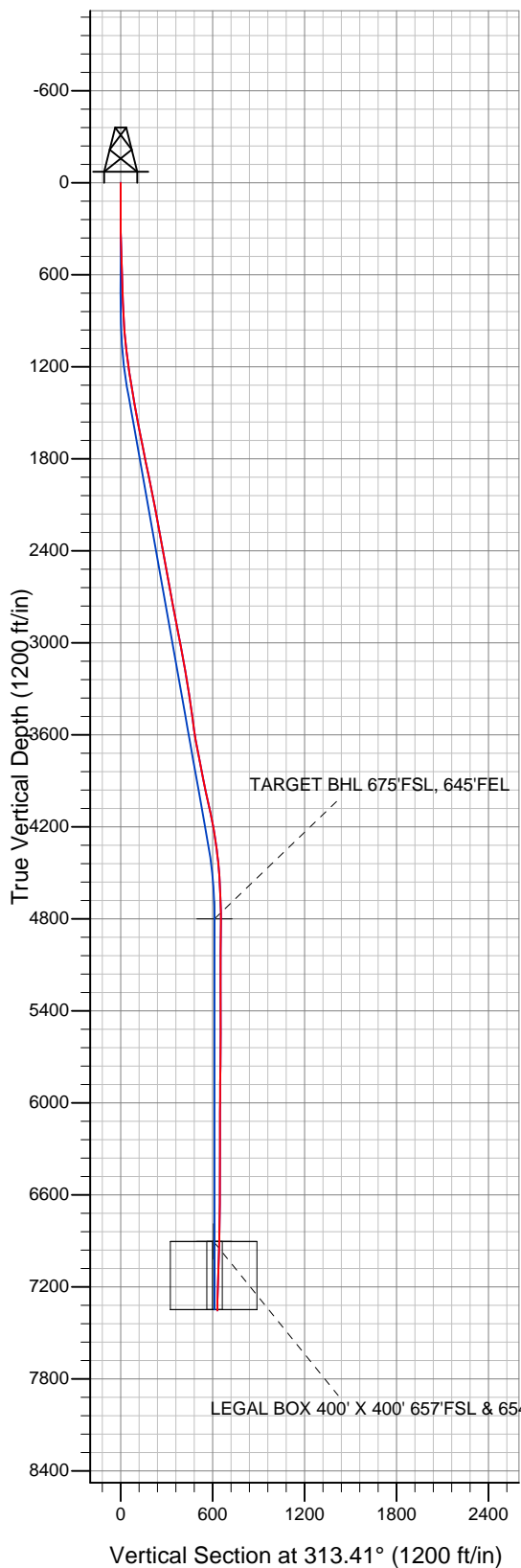
Surface Location: Thomason 16-9 Pad Sec.9-T2N-R65W
North American Datum 1983 US State Plane 1983 Colorado Northern Zone

Ground Elevation: 4867.0

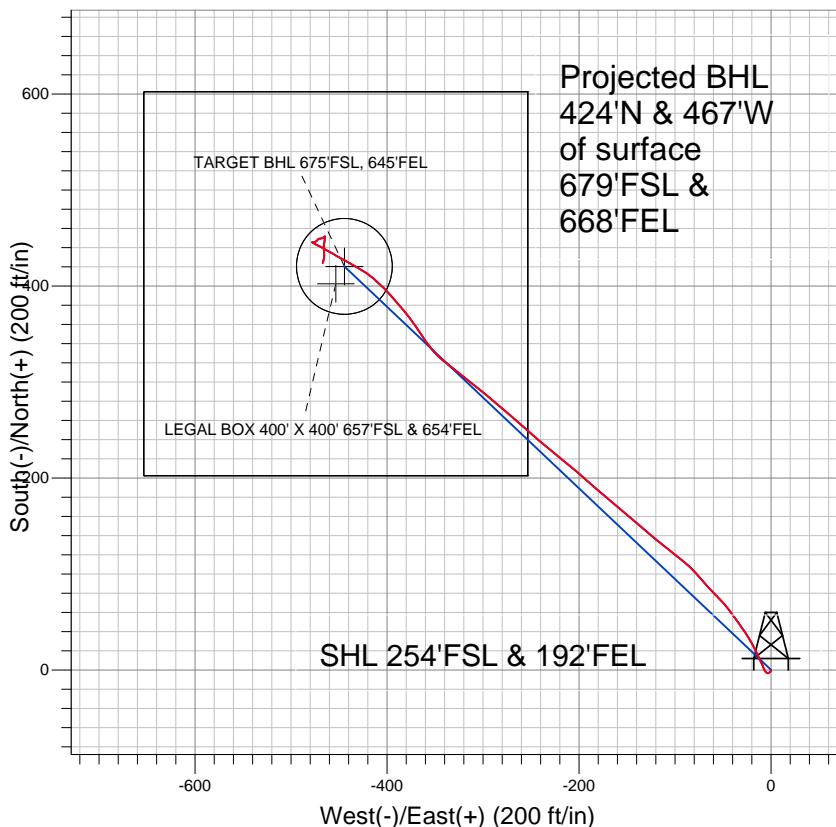
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.0	0.0	1297390.65	3234729.34	40.146681	-104.660322

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

Slot



Anadarko, Weld County CO



LEGEND

- ✕ Thomason 16-9, Wellbore #1, Plan #1 (3-18-11) V0
- Wellbore #1
- Survey #1

Final Survey Plot

Projected Final Survey -
7410'MD & 7352'TVD @ 631'VS
2.1 deg Inc 199.5 deg AZ

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



Directional

Anadarko, Weld County CO

SEC.9-T2N-R65W

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

Thomason 16-9

Wellbore #1

Survey: Survey #1

Standard Survey Report

25 April, 2011

Company:	Anadarko, Weld County CO	Local Co-ordinate Reference:	Well Thomason 16-9
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 16-9	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 16-9					
Well Position	+N/-S	0.0 ft	Northing:	1,297,390.65 ft	Latitude:	40.146681
	+E/-W	0.0 ft	Easting:	3,234,729.34 ft	Longitude:	-104.660322
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	313.41	

Survey Program	Date	4/25/2011			
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
142.0	7,410.0	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	1.20	205.60	142.0	-1.3	-0.6	-0.5	0.85	0.85	0.00	
231.0	1.20	234.70	231.0	-2.7	-1.8	-0.6	0.68	0.00	32.70	
323.0	1.10	272.10	323.0	-3.2	-3.5	0.3	0.81	-0.11	40.65	
415.0	1.60	317.10	414.9	-2.3	-5.2	2.2	1.23	0.54	48.91	
507.0	1.90	330.90	506.9	0.0	-6.8	5.0	0.56	0.33	15.00	
599.0	2.10	338.30	598.8	2.9	-8.2	8.0	0.35	0.22	8.04	
691.0	2.20	336.20	690.8	6.1	-9.5	11.1	0.14	0.11	-2.28	
730.0	2.10	340.30	729.7	7.4	-10.1	12.4	0.47	-0.26	10.51	
788.0	2.20	328.40	787.7	9.4	-11.0	14.5	0.79	0.17	-20.52	
881.0	3.70	338.00	880.6	13.7	-13.1	18.9	1.69	1.61	10.32	
976.0	4.90	333.20	975.3	20.2	-16.1	25.5	1.32	1.26	-5.05	
1,071.0	6.30	331.00	1,069.8	28.3	-20.4	34.3	1.49	1.47	-2.32	

Company:	Anadarko, Weld County CO	Local Co-ordinate Reference:	Well Thomason 16-9
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Site:	Thomason 16-9 Pad Sec.9-T2N-R65W	MD Reference:	WELL @ 4882.0ft (Original Well Elev)
Well:	Thomason 16-9	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	7.80	327.20	1,164.1	38.3	-26.4	45.5	1.65	1.58	-4.00
1,261.0	8.90	323.20	1,258.1	49.6	-34.3	59.0	1.31	1.16	-4.21
1,356.0	9.60	324.20	1,351.9	61.9	-43.4	74.1	0.76	0.74	1.05
1,452.0	10.20	315.20	1,446.5	74.5	-54.0	90.4	1.73	0.63	-9.38
1,547.0	10.50	318.00	1,539.9	86.9	-65.8	107.5	0.62	0.32	2.95
1,642.0	11.60	318.10	1,633.2	100.4	-77.9	125.6	1.16	1.16	0.11
1,737.0	11.40	309.00	1,726.3	113.4	-91.6	144.5	1.92	-0.21	-9.58
1,832.0	11.60	308.20	1,819.3	125.2	-106.4	163.4	0.27	0.21	-0.84
1,927.0	11.60	308.90	1,912.4	137.1	-121.4	182.4	0.15	0.00	0.74
2,023.0	11.30	311.30	2,006.5	149.4	-135.9	201.4	0.59	-0.31	2.50
2,118.0	11.00	311.20	2,099.7	161.5	-149.7	219.8	0.32	-0.32	-0.11
2,213.0	10.30	308.40	2,193.1	172.8	-163.2	237.3	0.92	-0.74	-2.95
2,309.0	10.40	311.30	2,287.5	183.8	-176.5	254.5	0.55	0.10	3.02
2,405.0	10.90	311.80	2,381.9	195.6	-189.7	272.2	0.53	0.52	0.52
2,501.0	10.20	310.30	2,476.2	207.1	-203.0	289.8	0.78	-0.73	-1.56
2,596.0	9.90	308.90	2,569.8	217.7	-215.8	306.3	0.41	-0.32	-1.47
2,691.0	10.30	309.70	2,663.3	228.3	-228.6	323.0	0.45	0.42	0.84
2,786.0	10.50	310.10	2,756.7	239.3	-241.8	340.1	0.22	0.21	0.42
2,882.0	11.40	311.60	2,851.0	251.2	-255.6	358.3	0.98	0.94	1.56
2,977.0	10.60	310.70	2,944.2	263.1	-269.2	376.4	0.86	-0.84	-0.95
3,072.0	10.70	310.20	3,037.6	274.5	-282.6	393.9	0.14	0.11	-0.53
3,167.0	10.50	310.80	3,131.0	285.9	-295.9	411.4	0.24	-0.21	0.63
3,262.0	10.00	308.40	3,224.5	296.6	-308.9	428.3	0.69	-0.53	-2.53
3,358.0	8.90	308.20	3,319.2	306.4	-321.3	444.0	1.15	-1.15	-0.21
3,453.0	7.70	307.00	3,413.2	314.8	-332.1	457.6	1.28	-1.26	-1.26
3,548.0	7.10	309.90	3,507.4	322.4	-341.7	469.8	0.74	-0.63	3.05
3,643.0	9.10	318.00	3,601.4	331.7	-351.2	483.1	2.42	2.11	8.53
3,738.0	11.20	325.70	3,694.9	344.9	-361.5	499.6	2.63	2.21	8.11
3,833.0	11.40	325.80	3,788.1	360.3	-371.9	517.8	0.21	0.21	0.11
3,928.0	11.30	319.60	3,881.2	375.2	-383.3	536.2	1.29	-0.11	-6.53
4,023.0	12.40	318.80	3,974.2	389.9	-396.0	555.7	1.17	1.16	-0.84
4,119.0	12.90	312.00	4,067.9	404.9	-410.8	576.6	1.64	0.52	-7.08
4,214.0	11.30	300.80	4,160.8	416.7	-426.6	596.3	2.98	-1.68	-11.79
4,309.0	8.80	299.10	4,254.3	425.0	-441.0	612.4	2.65	-2.63	-1.79
4,404.0	8.10	299.30	4,348.3	431.8	-453.2	626.0	0.74	-0.74	0.21
4,499.0	5.80	300.40	4,442.6	437.5	-463.2	637.1	2.42	-2.42	1.16
4,594.0	3.60	293.40	4,537.3	441.2	-470.0	644.6	2.39	-2.32	-7.37
4,689.0	2.40	302.60	4,632.1	443.4	-474.4	649.4	1.36	-1.26	9.68
4,785.0	1.60	302.00	4,728.1	445.2	-477.3	652.7	0.83	-0.83	-0.63
4,856.6	0.07	81.26	4,799.6	445.7	-478.1	653.6	2.31	-2.13	194.59
TARGET BHL 675°FSL, 645°FEL									
4,880.0	0.60	116.00	4,823.1	445.7	-478.0	653.5	2.31	2.25	148.26
4,975.0	0.50	119.10	4,918.1	445.3	-477.1	652.6	0.11	-0.11	3.26
5,070.0	0.90	61.30	5,013.1	445.4	-476.1	652.0	0.80	0.42	-60.84
5,165.0	1.00	64.20	5,108.0	446.1	-474.7	651.5	0.12	0.11	3.05
5,260.0	0.70	50.20	5,203.0	446.9	-473.5	651.1	0.38	-0.32	-14.74
5,355.0	0.40	46.40	5,298.0	447.5	-472.8	651.0	0.32	-0.32	-4.00
5,450.0	0.30	17.20	5,393.0	447.9	-472.5	651.1	0.21	-0.11	-30.74
5,545.0	0.30	45.20	5,488.0	448.4	-472.3	651.2	0.15	0.00	29.47
5,640.0	0.40	46.40	5,583.0	448.8	-471.9	651.2	0.11	0.11	1.26
5,735.0	0.50	57.60	5,678.0	449.2	-471.3	651.1	0.14	0.11	11.79
5,831.0	0.90	89.00	5,774.0	449.5	-470.2	650.4	0.56	0.42	32.71
5,926.0	1.00	79.20	5,869.0	449.6	-468.6	649.4	0.20	0.11	-10.32
6,021.0	0.80	66.90	5,964.0	450.0	-467.2	648.7	0.29	-0.21	-12.95

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6,116.0	0.70	45.50	6,059.0	450.7	-466.2	648.4	0.31	-0.11	-22.53
6,211.0	0.50	45.10	6,154.0	451.4	-465.5	648.3	0.21	-0.21	-0.42
6,307.0	0.30	70.60	6,250.0	451.8	-464.9	648.2	0.27	-0.21	26.56
6,402.0	0.20	187.90	6,345.0	451.7	-464.7	648.0	0.45	-0.11	123.47
6,497.0	0.30	169.90	6,440.0	451.3	-464.7	647.7	0.13	0.11	-18.95
6,592.0	0.60	177.50	6,535.0	450.5	-464.6	647.1	0.32	0.32	8.00
6,687.0	0.90	193.20	6,630.0	449.3	-464.8	646.4	0.38	0.32	16.53
6,782.0	1.20	186.40	6,724.9	447.6	-465.1	645.4	0.34	0.32	-7.16
6,878.0	1.60	191.70	6,820.9	445.3	-465.4	644.1	0.44	0.42	5.52
6,960.7	1.86	185.92	6,903.6	442.8	-465.8	642.7	0.38	0.31	-6.99
TARGET CIRCLE 675'FSL & 645'FEL									
6,961.3	1.86	185.89	6,904.2	442.8	-465.8	642.7	0.38	0.32	-5.99
LEGAL BOX 400' X 400' 657'FSL & 654'FEL									
6,973.0	1.90	185.20	6,915.9	442.4	-465.8	642.5	0.38	0.33	-5.87
7,068.0	2.70	177.50	7,010.8	438.6	-465.9	639.9	0.90	0.84	-8.11
7,163.0	2.80	175.30	7,105.7	434.1	-465.6	636.5	0.15	0.11	-2.32
7,258.0	2.50	185.00	7,200.6	429.7	-465.6	633.5	0.57	-0.32	10.21
7,353.0	2.10	199.50	7,295.5	426.0	-466.4	631.5	0.74	-0.42	15.26
7,410.0	2.10	199.50	7,352.5	424.0	-467.1	630.7	0.00	0.00	0.00

Checked By: _____ Approved By: _____ Date: _____