

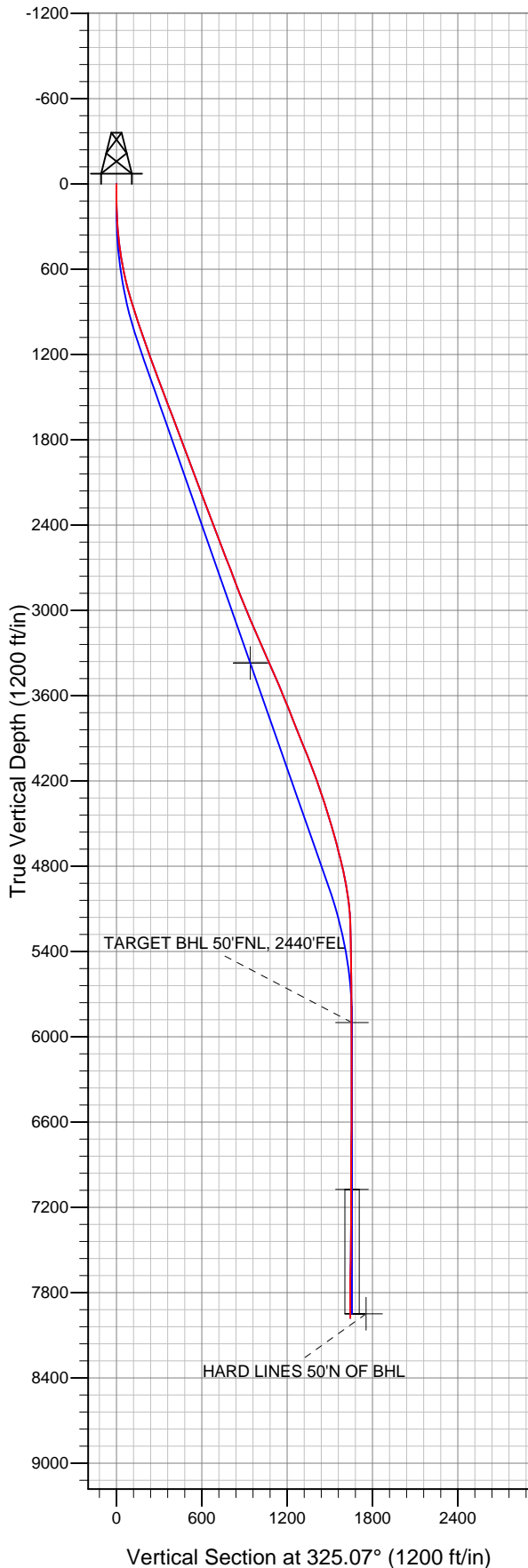
Well Name: **Walters 28-18**

Surface Location: Walters 17-18 Pad Sec.18-T2N-R65W  
North American Datum 1983 US State Plane 1983 Colorado Northern Zone

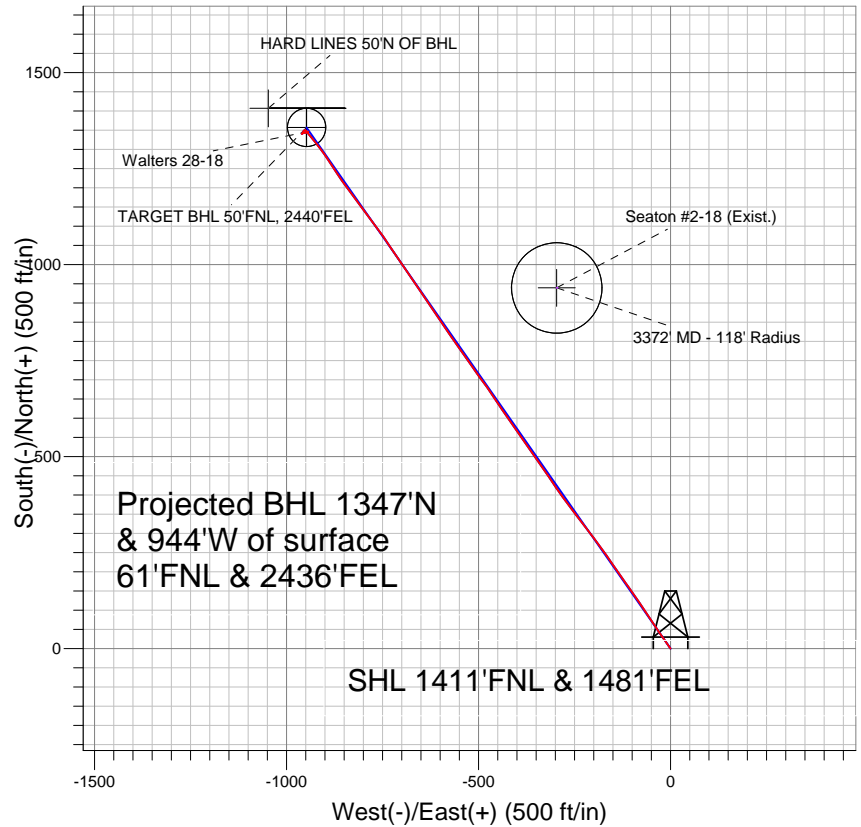
Ground Elevation: 4963.0

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.0	0.0	1295602.29	3222923.57	40.142071	-104.702609	

Original Well Elev WELL @ 4977.0ft (Original Well Elev)



## Anadarko, Weld County CO



### LEGEND

- Walters 28-18, Wellbore #1, Plan #1 (4-01-11) V0
- Seaton #2-18 (Exist.), Wellbore #1, Design #1 V0
- Wellbore #1
- Survey #1

## Final Survey Plot

Projected Final Survey -  
8264'MD & 7978'TVD @ 1644'VS  
0.6 deg Inc 43.9 deg AZ

Project: SEC.18-T2N-R65W  
Site: Walters 17-18 Pad Sec.18-T2N-R65W  
Well: Walters 28-18  
Plan: Wellbore #1



## **Anadarko, Weld County CO**

**SEC.18-T2N-R65W**

**Walters 17-18 Pad Sec.18-T2N-R65W**

**Walters 28-18**

**Wellbore #1**

**Survey: Survey #1**

## **Standard Survey Report**

**28 July, 2011**



<b>Company:</b>	Anadarko, Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Walters 28-18
<b>Project:</b>	SEC.18-T2N-R65W	<b>TVD Reference:</b>	WELL @ 4977.0ft (Original Well Elev)
<b>Site:</b>	Walters 17-18 Pad Sec.18-T2N-R65W	<b>MD Reference:</b>	WELL @ 4977.0ft (Original Well Elev)
<b>Well:</b>	Walters 28-18	<b>North Reference:</b>	True
<b>Wellbore:</b>	Wellbore #1	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	Wellbore #1	<b>Database:</b>	Landmark

<b>Project</b>	SEC.18-T2N-R65W, Weld County, Colorado		
<b>Map System:</b>	US State Plane 1983	<b>System Datum:</b>	Mean Sea Level
<b>Geo Datum:</b>	North American Datum 1983		Using Well Reference Point
<b>Map Zone:</b>	Colorado Northern Zone		Using geodetic scale factor

Site	Walters 17-18 Pad Sec.18-T2N-R65W				
Site Position:		Northing:	1,295,602.30 ft	Latitude:	40.142071
From:	Lat/Long	Easting:	3,222,923.57 ft	Longitude:	-104.702609
Position Uncertainty:	0.0 ft	Slot Radius:	"	Grid Convergence:	0.52 °

Well	Walters 28-18					
Well Position	+N/-S	0.0 ft	Northing:	1,295,602.29 ft	Latitude:	40.142071
	+E/-W	0.0 ft	Easting:	3,222,923.57 ft	Longitude:	-104.702609
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	4,963.0 ft

<b>Wellbore</b>	Wellbore #1				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	IGRF2010	4/6/2011	8.83	66.86	53,022

<b>Design</b>	Wellbore #1				
<b>Audit Notes:</b>					
<b>Version:</b>	1.0	<b>Phase:</b>	ACTUAL	<b>Tie On Depth:</b>	0.0
<b>Vertical Section:</b>	<b>Depth From (TVD) (ft)</b>	<b>+N/-S (ft)</b>	<b>+E/-W (ft)</b>	<b>Direction (°)</b>	
	0.0	0.0	0.0	325.07	

<b>Survey Program</b>	<b>Date</b>	7/28/2011			
<b>From (ft)</b>	<b>To (ft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Description</b>	
120.0	8,264.0	Survey #1 (Wellbore #1)	MWD	MWD - Standard	

<b>Survey</b>										
<b>Measured Depth (ft)</b>	<b>Inclination (°)</b>	<b>Azimuth (°)</b>	<b>Vertical Depth (ft)</b>	<b>+N/-S (ft)</b>	<b>+E/-W (ft)</b>	<b>Vertical Section (ft)</b>	<b>Dogleg Rate (°/100ft)</b>	<b>Build Rate (°/100ft)</b>	<b>Turn Rate (°/100ft)</b>	
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00	
120.0	0.30	325.60	120.0	0.3	-0.2	0.3	0.25	0.25	0.00	
212.0	2.20	318.90	212.0	1.8	-1.5	2.3	2.07	2.07	-7.28	
305.0	4.10	326.30	304.8	5.9	-4.5	7.4	2.09	2.04	7.96	
414.0	7.00	324.90	413.3	14.6	-10.5	17.9	2.66	2.66	-1.28	
503.0	8.80	325.90	501.5	24.7	-17.4	30.2	2.03	2.02	1.12	
592.0	11.10	324.40	589.1	37.3	-26.2	45.6	2.60	2.58	-1.69	
680.0	12.90	326.10	675.2	52.3	-36.6	63.9	2.08	2.05	1.93	
769.0	15.40	327.90	761.5	70.6	-48.4	85.6	2.85	2.81	2.02	
858.0	17.60	326.50	846.8	91.8	-62.2	110.8	2.51	2.47	-1.57	
986.0	18.50	324.40	968.5	124.4	-84.7	150.5	0.87	0.70	-1.64	
1,074.0	18.50	324.90	1,052.0	147.2	-100.8	178.4	0.18	0.00	0.57	
1,163.0	19.60	326.10	1,136.1	171.2	-117.3	207.5	1.31	1.24	1.35	

<b>Company:</b>	Anadarko, Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Walters 28-18
<b>Project:</b>	SEC.18-T2N-R65W	<b>TVD Reference:</b>	WELL @ 4977.0ft (Original Well Elev)
<b>Site:</b>	Walters 17-18 Pad Sec.18-T2N-R65W	<b>MD Reference:</b>	WELL @ 4977.0ft (Original Well Elev)
<b>Well:</b>	Walters 28-18	<b>North Reference:</b>	True
<b>Wellbore:</b>	Wellbore #1	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	Wellbore #1	<b>Database:</b>	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)
1,252.0	19.80	324.90	1,219.9	195.9	-134.3	237.5	0.51	0.22	-1.35
1,340.0	20.30	325.30	1,302.5	220.6	-151.5	267.6	0.59	0.57	0.45
1,429.0	20.80	324.60	1,385.9	246.2	-169.5	298.9	0.63	0.56	-0.79
1,518.0	20.70	323.70	1,469.1	271.8	-187.9	330.4	0.38	-0.11	-1.01
1,606.0	20.50	322.50	1,551.5	296.5	-206.5	361.3	0.53	-0.23	-1.36
1,695.0	21.00	323.40	1,634.7	321.7	-225.5	392.9	0.67	0.56	1.01
1,784.0	21.20	322.20	1,717.7	347.2	-244.9	424.9	0.53	0.22	-1.35
1,872.0	20.30	322.10	1,800.0	371.8	-264.0	456.0	1.02	-1.02	-0.11
1,961.0	20.10	325.10	1,883.6	396.5	-282.2	486.7	1.19	-0.22	3.37
2,050.0	20.40	325.10	1,967.1	421.8	-299.9	517.5	0.34	0.34	0.00
2,138.0	21.00	326.20	2,049.4	447.5	-317.4	548.6	0.81	0.68	1.25
2,227.0	21.00	325.70	2,132.5	473.9	-335.3	580.5	0.20	0.00	-0.56
2,315.0	20.70	324.50	2,214.7	499.6	-353.2	611.8	0.59	-0.34	-1.36
2,404.0	20.80	324.70	2,297.9	525.3	-371.5	643.4	0.14	0.11	0.22
2,493.0	20.30	324.60	2,381.3	550.8	-389.5	674.6	0.56	-0.56	-0.11
2,581.0	20.90	326.30	2,463.6	576.3	-407.1	705.6	0.96	0.68	1.93
2,670.0	21.00	325.40	2,546.8	602.6	-424.9	737.4	0.38	0.11	-1.01
2,759.0	21.20	325.30	2,629.8	629.0	-443.2	769.4	0.23	0.22	-0.11
2,847.0	21.10	326.50	2,711.9	655.3	-461.0	801.2	0.50	-0.11	1.36
2,936.0	20.80	324.50	2,795.0	681.5	-479.0	833.0	0.87	-0.34	-2.25
3,025.0	21.00	323.70	2,878.1	707.2	-497.6	864.7	0.39	0.22	-0.90
3,113.0	22.10	325.30	2,960.0	733.5	-516.4	897.0	1.42	1.25	1.82
3,202.0	23.00	325.10	3,042.2	761.6	-535.8	931.2	1.01	1.01	-0.22
3,290.0	22.90	324.80	3,123.2	789.7	-555.5	965.5	0.17	-0.11	-0.34
3,379.0	24.00	325.00	3,204.9	818.6	-575.9	1,000.9	1.24	1.24	0.22
3,468.0	23.50	326.00	3,286.3	848.2	-596.2	1,036.8	0.72	-0.56	1.12
3,507.8	23.73	326.09	3,322.8	861.4	-605.1	1,052.7	0.58	0.57	0.23
<b>3372' MD - 118' Radius</b>									
3,556.0	24.00	326.20	3,366.9	877.6	-616.0	1,072.2	0.58	0.57	0.23
3,645.0	23.50	326.60	3,448.3	907.4	-635.8	1,108.0	0.59	-0.56	0.45
3,734.0	23.20	325.10	3,530.0	936.6	-655.6	1,143.3	0.75	-0.34	-1.69
3,822.0	22.50	326.00	3,611.1	964.8	-674.9	1,177.5	0.89	-0.80	1.02
3,911.0	21.40	325.70	3,693.7	992.3	-693.6	1,210.7	1.24	-1.24	-0.34
4,000.0	21.50	326.00	3,776.5	1,019.3	-711.9	1,243.3	0.17	0.11	0.34
4,088.0	22.00	326.10	3,858.2	1,046.3	-730.1	1,275.9	0.57	0.57	0.11
4,177.0	21.70	324.70	3,940.9	1,073.6	-748.9	1,309.0	0.68	-0.34	-1.57
4,266.0	21.30	323.00	4,023.7	1,099.9	-768.1	1,341.6	0.83	-0.45	-1.91
4,354.0	21.20	323.50	4,105.7	1,125.5	-787.2	1,373.5	0.24	-0.11	0.57
4,443.0	20.70	324.00	4,188.8	1,151.1	-806.0	1,405.3	0.60	-0.56	0.56
4,531.0	18.80	322.50	4,271.6	1,175.0	-823.8	1,435.0	2.23	-2.16	-1.70
4,620.0	17.60	323.70	4,356.2	1,197.2	-840.5	1,462.8	1.41	-1.35	1.35
4,709.0	16.30	325.00	4,441.3	1,218.3	-855.6	1,488.7	1.52	-1.46	1.46
4,797.0	16.00	327.00	4,525.8	1,238.6	-869.3	1,513.2	0.72	-0.34	2.27
4,886.0	15.90	326.40	4,611.4	1,259.0	-882.8	1,537.6	0.22	-0.11	-0.67
4,975.0	14.70	326.70	4,697.2	1,278.6	-895.7	1,561.1	1.35	-1.35	0.34
5,063.0	13.70	323.70	4,782.6	1,296.3	-908.0	1,582.7	1.41	-1.14	-3.41
5,152.0	11.50	322.10	4,869.4	1,311.8	-919.7	1,602.1	2.50	-2.47	-1.80
5,241.0	9.20	320.80	4,957.0	1,324.3	-929.6	1,618.1	2.60	-2.58	-1.46
5,329.0	7.20	319.00	5,044.0	1,334.0	-937.7	1,630.6	2.29	-2.27	-2.05
5,418.0	4.70	323.70	5,132.6	1,341.1	-943.5	1,639.8	2.86	-2.81	5.28
5,506.0	2.40	330.50	5,220.4	1,345.6	-946.6	1,645.2	2.65	-2.61	7.73
5,595.0	0.50	315.80	5,309.4	1,347.5	-947.8	1,647.4	2.16	-2.13	-16.52
5,728.0	0.60	302.50	5,442.3	1,348.3	-948.8	1,648.6	0.12	0.08	-10.00
5,861.0	0.60	301.10	5,575.3	1,349.0	-949.9	1,649.9	0.01	0.00	-1.05

<b>Company:</b>	Anadarko, Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Walters 28-18
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<b>Well:</b>	Walters 28-18	<b>North Reference:</b>	True
<b>Wellbore:</b>	Wellbore #1	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	Wellbore #1	<b>Database:</b>	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)
5,994.0	0.40	287.40	5,708.3	1,349.5	-951.0	1,650.9	0.17	-0.15	-10.30
6,127.0	0.50	313.20	5,841.3	1,350.1	-951.8	1,651.9	0.17	0.08	19.40
6,185.7	0.31	287.92	5,900.0	1,350.3	-952.2	1,652.2	0.44	-0.32	-43.10
<b>TARGET BHL 50'FNL, 2440'FEL</b>									
6,260.0	0.30	223.50	5,974.3	1,350.2	-952.5	1,652.4	0.44	-0.01	-86.66
6,393.0	0.00	232.80	6,107.3	1,350.0	-952.7	1,652.3	0.23	-0.23	0.00
6,526.0	0.20	240.90	6,240.3	1,349.9	-952.9	1,652.3	0.15	0.15	0.00
6,659.0	0.40	236.50	6,373.3	1,349.5	-953.5	1,652.4	0.15	0.15	-3.31
6,792.0	0.70	244.00	6,506.3	1,348.9	-954.7	1,652.5	0.23	0.23	5.64
6,925.0	1.00	219.00	6,639.3	1,347.6	-956.1	1,652.3	0.35	0.23	-18.80
7,058.0	1.10	210.50	6,772.3	1,345.6	-957.5	1,651.4	0.14	0.08	-6.39
7,191.0	1.30	206.00	6,905.3	1,343.2	-958.8	1,650.2	0.17	0.15	-3.38
7,324.0	0.70	208.50	7,038.2	1,341.1	-959.9	1,649.1	0.45	-0.45	1.88
7,358.6	0.56	218.55	7,072.8	1,340.8	-960.1	1,648.9	0.51	-0.40	29.04
<b>TARGET CIRCLE 50'FNL &amp; 2440'FEL</b>									
7,457.0	0.40	278.80	7,171.2	1,340.4	-960.7	1,649.0	0.51	-0.16	61.24
7,590.0	1.40	58.00	7,304.2	1,341.4	-959.8	1,649.3	1.30	0.75	104.66
7,722.0	1.80	72.70	7,436.2	1,342.8	-956.4	1,648.6	0.43	0.30	11.14
7,855.0	3.00	89.20	7,569.0	1,343.5	-951.0	1,646.0	1.03	0.90	12.41
7,988.0	1.40	56.30	7,701.9	1,344.5	-946.1	1,644.0	1.49	-1.20	-24.74
8,121.0	0.40	41.80	7,834.9	1,345.7	-944.5	1,644.1	0.77	-0.75	-10.90
8,219.0	0.60	43.90	7,932.9	1,346.3	-943.9	1,644.2	0.20	0.20	2.14
<b>HARD LINES 50'N OF BHL</b>									
8,264.0	0.60	43.90	7,977.9	1,346.7	-943.6	1,644.3	0.00	0.00	0.00

Checked By: \_\_\_\_\_ Approved By: \_\_\_\_\_ Date: \_\_\_\_\_