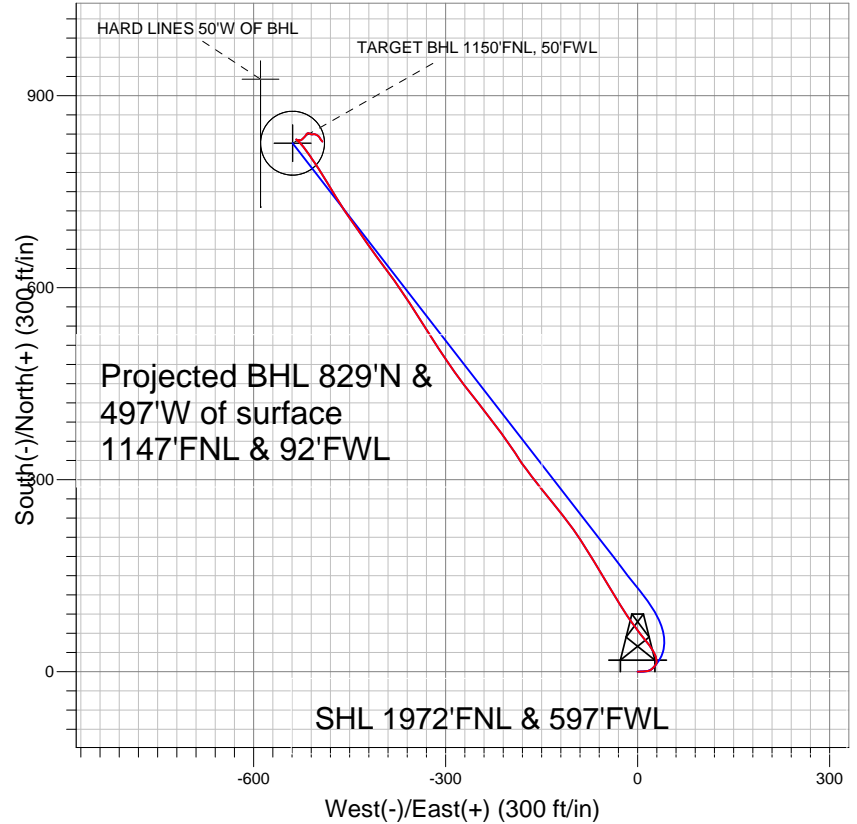


Anadarko, Weld County CO



LEGEND

- Cannon 31-3, Wellbore #1, Plan 3 (7-23-11) tied V0
- Wellbore #1
- Survey #1

Final Survey Plot

Projected Final Survey -
7915'MD & 7786'TVD @ 966'VS
1.5 deg Inc 137.1 deg AZ

Project: SEC.3-T2N-R65W
Site: Cannon 5-3 Pad Sec.3-T2N-R65W
Well: Cannon 31-3
Plan: Wellbore #1



Directional

Anadarko, Weld County CO

SEC.3-T2N-R65W

Cannon 5-3 Pad Sec.3-T2N-R65W

Cannon 31-3

Wellbore #1

Survey: Survey #1

Standard Survey Report

25 July, 2011

Company:	Anadarko, Weld County CO	Local Co-ordinate Reference:	Well Cannon 31-3
Project:	SEC.3-T2N-R65W	TVD Reference:	WELL @ 4862.0ft (Original Well Elev)
Site:	Cannon 5-3 Pad Sec.3-T2N-R65W	MD Reference:	WELL @ 4862.0ft (Original Well Elev)
Well:	Cannon 31-3	North Reference:	True
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	Landmark

Project	SEC.3-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	Cannon 5-3 Pad Sec.3-T2N-R65W				
Site Position:		Northing:	1,305,581.72 ft	Latitude:	40.169143
From:	Lat/Long	Easting:	3,235,593.03 ft	Longitude:	-104.656954
Position Uncertainty:	0.0 ft	Slot Radius:	"	Grid Convergence:	0.54 °

Well	Cannon 31-3					
Well Position	+N/-S	0.0 ft	Northing:	1,305,615.63 ft	Latitude:	40.169237
	+E/-W	0.0 ft	Easting:	3,235,559.17 ft	Longitude:	-104.657074
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	4,847.0 ft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	6/28/2011	8.78	66.88	53,018

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	326.87	

Survey Program	Date	7/25/2011			
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
144.0	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	
144.0	0.40	82.30	144.0	0.1	0.5	-0.2	0.28	0.28	0.00	
233.0	0.70	92.80	233.0	0.1	1.3	-0.7	0.35	0.34	11.80	
324.0	1.00	84.60	324.0	0.1	2.7	-1.4	0.35	0.33	-9.01	
415.0	1.10	89.50	415.0	0.2	4.4	-2.2	0.15	0.11	5.38	
507.0	1.00	85.20	507.0	0.3	6.0	-3.1	0.14	-0.11	-4.67	
599.0	1.20	84.40	598.9	0.4	7.8	-3.9	0.22	0.22	-0.87	
703.0	1.40	87.50	702.9	0.6	10.2	-5.0	0.20	0.19	2.98	
881.0	3.40	80.40	880.7	1.6	17.5	-8.3	1.13	1.12	-3.99	
976.0	6.10	41.70	975.4	5.8	23.7	-8.1	4.26	2.84	-40.74	
1,026.0	8.30	41.70	1,025.0	10.5	27.8	-6.4	4.40	4.40	0.00	
1,071.0	8.30	355.50	1,069.6	16.2	29.7	-2.7	14.43	0.00	-102.67	
1,166.0	8.70	333.40	1,163.6	29.4	26.0	10.4	3.44	0.42	-23.26	

Company:	Anadarko, Weld County CO	Local Co-ordinate Reference:	Well Cannon 31-3
Project:	SEC.3-T2N-R65W	TVD Reference:	WELL @ 4862.0ft (Original Well Elev)
Site:	Cannon 5-3 Pad Sec.3-T2N-R65W	MD Reference:	WELL @ 4862.0ft (Original Well Elev)
Well:	Cannon 31-3	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)
1,262.0	9.10	321.60	1,258.4	41.9	18.0	25.2	1.94	0.42	-12.29
1,356.0	10.90	321.80	1,351.0	54.7	7.9	41.5	1.92	1.91	0.21
1,452.0	12.40	323.60	1,445.0	70.1	-3.8	60.8	1.61	1.56	1.88
1,547.0	13.90	325.40	1,537.5	87.7	-16.4	82.4	1.64	1.58	1.89
1,642.0	15.50	329.30	1,629.4	108.0	-29.3	106.5	1.98	1.68	4.11
1,737.0	15.60	328.50	1,721.0	129.8	-42.5	131.9	0.25	0.11	-0.84
1,832.0	16.60	328.70	1,812.2	152.3	-56.2	158.3	1.05	1.05	0.21
1,928.0	17.40	329.20	1,904.0	176.4	-70.7	186.3	0.85	0.83	0.52
2,023.0	16.30	327.50	1,994.9	199.8	-85.1	213.8	1.27	-1.16	-1.79
2,118.0	16.50	324.40	2,086.1	222.0	-100.1	240.7	0.94	0.21	-3.26
2,213.0	16.40	322.00	2,177.2	243.6	-116.2	267.5	0.72	-0.11	-2.53
2,309.0	16.40	320.20	2,269.3	264.7	-133.3	294.5	0.53	0.00	-1.88
2,405.0	16.30	322.40	2,361.4	285.7	-150.1	321.4	0.65	-0.10	2.29
2,501.0	15.50	321.50	2,453.7	306.5	-166.4	347.6	0.87	-0.83	-0.94
2,596.0	14.90	324.70	2,545.4	326.4	-181.3	372.4	1.09	-0.63	3.37
2,691.0	15.00	328.30	2,637.2	346.8	-194.8	396.9	0.98	0.11	3.79
2,786.0	14.40	323.20	2,729.1	366.7	-208.4	421.0	1.50	-0.63	-5.37
2,882.0	15.60	322.60	2,821.8	386.5	-223.4	445.8	1.26	1.25	-0.63
2,977.0	15.90	322.60	2,913.3	407.0	-239.0	471.5	0.32	0.32	0.00
3,072.0	15.70	321.90	3,004.7	427.5	-254.9	497.3	0.29	-0.21	-0.74
3,167.0	16.00	322.80	3,096.1	448.0	-270.7	523.1	0.41	0.32	0.95
3,262.0	15.40	324.00	3,187.5	468.6	-286.0	548.8	0.72	-0.63	1.26
3,358.0	15.10	326.60	3,280.1	489.4	-300.4	574.0	0.78	-0.31	2.71
3,453.0	14.70	325.60	3,371.9	509.7	-314.0	598.4	0.50	-0.42	-1.05
3,548.0	14.60	328.30	3,463.9	529.8	-327.1	622.5	0.73	-0.11	2.84
3,643.0	14.50	329.20	3,555.8	550.2	-339.5	646.3	0.26	-0.11	0.95
3,738.0	13.80	324.90	3,647.9	569.7	-352.1	669.5	1.33	-0.74	-4.53
3,833.0	14.60	327.00	3,740.0	589.0	-365.2	692.8	1.00	0.84	2.21
3,928.0	14.40	324.80	3,832.0	608.7	-378.5	716.6	0.62	-0.21	-2.32
4,023.0	14.60	323.70	3,924.0	628.0	-392.4	740.4	0.36	0.21	-1.16
4,119.0	15.70	323.10	4,016.6	648.1	-407.3	765.4	1.16	1.15	-0.63
4,214.0	15.90	325.50	4,108.0	669.1	-422.4	791.2	0.72	0.21	2.53
4,309.0	14.50	325.40	4,199.7	689.7	-436.6	816.1	1.47	-1.47	-0.11
4,404.0	15.30	324.70	4,291.5	709.7	-450.6	840.6	0.86	0.84	-0.74
4,499.0	15.30	329.10	4,383.2	730.7	-464.2	865.6	1.22	0.00	4.63
4,594.0	15.60	327.50	4,474.7	752.2	-477.5	890.9	0.55	0.32	-1.68
4,689.0	14.50	328.80	4,566.5	773.1	-490.6	915.6	1.21	-1.16	1.37
4,785.0	13.10	326.80	4,659.7	792.5	-502.7	938.5	1.54	-1.46	-2.08
4,880.0	9.60	324.70	4,752.8	808.0	-513.2	957.1	3.71	-3.68	-2.21
4,975.0	6.90	323.10	4,846.8	819.0	-521.2	970.8	2.85	-2.84	-1.68
5,070.0	4.40	313.80	4,941.4	826.1	-527.3	980.0	2.79	-2.63	-9.79
5,166.0	2.60	316.40	5,037.2	830.2	-531.4	985.7	1.88	-1.88	2.71
5,260.0	0.40	242.90	5,131.1	831.6	-533.2	987.9	2.68	-2.34	-78.19
5,355.0	0.40	114.30	5,226.1	831.4	-533.2	987.6	0.76	0.00	-135.37
5,450.0	0.40	113.00	5,321.1	831.1	-532.6	987.1	0.01	0.00	-1.37
5,545.0	0.40	108.00	5,416.1	830.9	-532.0	986.5	0.04	0.00	-5.26
5,641.0	0.70	94.90	5,512.1	830.7	-531.1	985.9	0.34	0.31	-13.65
5,736.0	0.50	108.40	5,607.1	830.5	-530.1	985.2	0.26	-0.21	14.21
5,831.0	0.80	91.70	5,702.1	830.4	-529.0	984.5	0.37	0.32	-17.58
5,926.0	0.80	88.90	5,797.1	830.4	-527.7	983.8	0.04	0.00	-2.95
5,928.7	0.80	88.41	5,799.8	830.4	-527.7	983.8	0.25	-0.04	-17.96
TARGET BHL 1150'FNL, 50'FWL									
6,021.0	0.80	71.60	5,892.1	830.6	-526.4	983.3	0.25	0.00	-18.22
6,116.0	1.10	54.10	5,987.1	831.3	-525.1	983.1	0.44	0.32	-18.42

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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)
6,211.0	1.20	54.70	6,082.1	832.4	-523.5	983.2	0.11	0.11	0.63
6,307.0	1.50	43.80	6,178.0	833.9	-521.8	983.5	0.41	0.31	-11.35
6,402.0	1.50	41.30	6,273.0	835.8	-520.1	984.2	0.07	0.00	-2.63
6,497.0	1.60	35.10	6,368.0	837.8	-518.5	985.0	0.21	0.11	-6.53
6,592.0	1.50	30.80	6,462.9	839.9	-517.2	986.0	0.16	-0.11	-4.53
6,687.0	0.90	63.70	6,557.9	841.3	-515.8	986.5	0.94	-0.63	34.63
6,782.0	0.80	89.00	6,652.9	841.7	-514.5	986.0	0.41	-0.11	26.63
6,878.0	1.30	118.30	6,748.9	841.2	-512.9	984.7	0.75	0.52	30.52
6,973.0	1.10	125.10	6,843.9	840.1	-511.2	982.9	0.26	-0.21	7.16
6,982.7	1.07	121.69	6,853.6	840.0	-511.0	982.8	0.73	-0.31	-35.05
TARGET CIRCLE 1150'FNL & 50'FWL									
7,068.0	1.00	86.70	6,938.9	839.7	-509.6	981.7	0.73	-0.08	-41.03
7,163.0	1.30	81.50	7,033.8	839.9	-507.7	980.8	0.33	0.32	-5.47
7,258.0	1.40	92.50	7,128.8	840.0	-505.5	979.7	0.29	0.11	11.58
7,353.0	1.80	105.40	7,223.8	839.5	-502.9	977.9	0.56	0.42	13.58
7,449.0	1.70	120.40	7,319.7	838.4	-500.2	975.5	0.49	-0.10	15.63
7,544.0	1.70	141.00	7,414.7	836.6	-498.1	972.8	0.64	0.00	21.68
7,639.0	1.50	153.50	7,509.7	834.4	-496.7	970.2	0.42	-0.21	13.16
7,734.0	1.50	149.80	7,604.6	832.2	-495.5	967.7	0.10	0.00	-3.89
7,829.0	1.50	141.80	7,699.6	830.1	-494.1	965.2	0.22	0.00	-8.42
7,865.0	1.50	137.10	7,735.6	829.4	-493.5	964.3	0.34	0.00	-13.06
HARD LINES 50'W OF BHL									
7,915.0	1.50	137.10	7,785.6	828.5	-492.6	963.0	0.00	0.00	0.00

Checked By: _____ Approved By: _____ Date: _____