



Final Survey Plot

Projected Final Survey -
 7877'MD & 7747'TVD @ 1019' VS
 0.9 deg Inc 11.9 deg AZ

Project: SEC.10-T4N-R66W
 Site: Western 19-10 Pad Sec.10-T4N-R66W
 Well: Western 28-15
 Plan: Wellbore #1



Anadarko, Weld County CO

SEC.10-T4N-R66W

Western 19-10 Pad Sec.10-T4N-R66W

Western 28-15

Wellbore #1

Survey: Survey #1

Standard Survey Report

20 October, 2010



Company:	Anadarko, Weld County CO	Local Co-ordinate Reference:	Well Western 28-15
Project:	SEC.10-T4N-R66W	TVD Reference:	WELL @ 4737.0ft (Original Well Elev)
Site:	Western 19-10 Pad Sec.10-T4N-R66W	MD Reference:	WELL @ 4737.0ft (Original Well Elev)
Well:	Western 28-15	North Reference:	True
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	Landmark

Project	SEC.10-T4N-R66W, 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	Western 19-10 Pad Sec.10-T4N-R66W		
Site Position:		Northing:	1,360,523.58 ft
From:	Lat/Long	Easting:	3,204,827.87 ft
Position Uncertainty:	0.0 ft	Slot Radius:	"
		Latitude:	40° 19' 14.552 N
		Longitude:	104° 45' 55.476 W
		Grid Convergence:	0.47 °

Well	Western 28-15		
Well Position	+N/-S	0.0 ft	Northing: 1,360,523.57 ft
	+E/-W	0.0 ft	Easting: 3,204,827.87 ft
Position Uncertainty	0.0 ft	Wellhead Elevation:	ft
		Latitude:	40° 19' 14.552 N
		Longitude:	104° 45' 55.476 W
		Ground Level:	4,723.0 ft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	10/7/2010	8.95	67.01	53,163

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	138.06	

Survey Program	Date	10/20/2010			
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
182.0	7,877.0	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	
182.0	0.80	217.00	182.0	-1.0	-0.8	0.2	0.44	0.44	0.00	
421.0	0.60	222.20	421.0	-3.3	-2.6	0.7	0.09	-0.08	2.18	
621.0	0.70	221.60	621.0	-5.0	-4.1	0.9	0.05	0.05	-0.30	
716.0	1.20	140.70	716.0	-6.2	-3.9	2.0	1.36	0.53	-85.16	
811.0	2.90	141.00	810.9	-8.8	-1.7	5.4	1.79	1.79	0.32	
906.0	3.90	126.60	905.7	-12.6	2.4	11.0	1.38	1.05	-15.16	
1,001.0	6.20	118.60	1,000.3	-17.0	9.5	19.0	2.53	2.42	-8.42	
1,096.0	8.10	121.80	1,094.6	-23.0	19.7	30.2	2.04	2.00	3.37	
1,192.0	9.40	130.20	1,189.5	-31.6	31.4	44.5	1.90	1.35	8.75	
1,287.0	11.60	131.60	1,282.9	-42.9	44.5	61.7	2.33	2.32	1.47	
1,382.0	12.00	130.40	1,375.9	-55.7	59.1	80.9	0.49	0.42	-1.26	
1,477.0	11.90	129.10	1,468.8	-68.3	74.3	100.4	0.30	-0.11	-1.37	

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Well:	Western 28-15	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)
1,572.0	15.00	134.10	1,561.2	-83.0	90.7	122.3	3.48	3.26	5.26
1,667.0	16.00	136.40	1,652.8	-101.0	108.5	147.7	1.24	1.05	2.42
1,763.0	16.90	137.20	1,744.8	-120.9	127.2	174.9	0.97	0.94	0.83
1,858.0	16.40	138.00	1,835.8	-141.0	145.5	202.1	0.58	-0.53	0.84
1,953.0	15.40	138.40	1,927.2	-160.4	162.9	228.1	1.06	-1.05	0.42
2,048.0	16.70	135.80	2,018.5	-179.6	180.7	254.4	1.56	1.37	-2.74
2,143.0	16.20	136.50	2,109.6	-199.0	199.4	281.3	0.57	-0.53	0.74
2,238.0	14.80	132.80	2,201.2	-216.8	217.4	306.6	1.80	-1.47	-3.89
2,334.0	14.40	134.80	2,294.1	-233.6	234.9	330.7	0.67	-0.42	2.08
2,429.0	15.30	135.20	2,385.9	-250.8	252.1	355.0	0.95	0.95	0.42
2,524.0	16.50	134.90	2,477.3	-269.2	270.5	381.0	1.27	1.26	-0.32
2,619.0	19.50	136.60	2,567.6	-290.3	290.9	410.4	3.21	3.16	1.79
2,714.0	19.20	137.90	2,657.2	-313.4	312.3	441.8	0.55	-0.32	1.37
2,809.0	19.00	138.10	2,747.0	-336.5	333.1	472.9	0.22	-0.21	0.21
2,904.0	15.40	136.90	2,837.7	-357.2	352.1	501.0	3.81	-3.79	-1.26
3,000.0	17.30	140.90	2,929.8	-377.6	369.8	528.0	2.30	1.98	4.17
3,095.0	16.10	143.80	3,020.8	-399.2	386.5	555.2	1.54	-1.26	3.05
3,190.0	15.80	145.70	3,112.2	-420.5	401.5	581.1	0.63	-0.32	2.00
3,285.0	13.50	151.10	3,204.1	-440.9	414.2	604.8	2.81	-2.42	5.68
3,380.0	10.30	143.20	3,297.0	-457.4	424.6	624.0	3.77	-3.37	-8.32
3,475.0	10.00	107.90	3,390.7	-466.7	437.6	639.6	6.46	-0.32	-37.16
3,570.0	11.00	108.10	3,484.1	-472.1	454.0	654.6	1.05	1.05	0.21
3,666.0	11.70	113.30	3,578.2	-478.8	471.7	671.4	1.29	0.73	5.42
3,761.0	11.50	120.50	3,671.2	-487.4	488.7	689.2	1.54	-0.21	7.58
3,856.0	15.40	128.00	3,763.6	-500.0	506.8	710.6	4.49	4.11	7.89
3,951.0	14.50	125.80	3,855.4	-514.7	526.4	734.7	1.12	-0.95	-2.32
4,046.0	14.80	134.50	3,947.3	-530.2	544.7	758.4	2.34	0.32	9.16
4,141.0	12.80	141.40	4,039.6	-546.9	559.9	781.0	2.72	-2.11	7.26
4,237.0	11.70	150.70	4,133.4	-563.7	571.3	801.1	2.35	-1.15	9.69
4,332.0	13.90	153.50	4,226.1	-582.3	581.1	821.5	2.41	2.32	2.95
4,427.0	14.00	152.70	4,318.3	-602.7	591.5	843.7	0.23	0.11	-0.84
4,522.0	14.50	150.20	4,410.3	-623.3	602.7	866.4	0.83	0.53	-2.63
4,617.0	15.60	148.30	4,502.1	-644.5	615.3	890.6	1.27	1.16	-2.00
4,712.0	13.90	152.60	4,593.9	-665.5	627.3	914.2	2.13	-1.79	4.53
4,808.0	14.40	143.20	4,687.0	-685.3	639.7	937.3	2.45	0.52	-9.79
4,903.0	13.60	141.00	4,779.2	-703.4	653.8	960.2	1.01	-0.84	-2.32
4,997.0	12.70	145.00	4,870.8	-720.5	666.7	981.5	1.36	-0.96	4.26
5,092.0	10.50	141.80	4,963.8	-735.8	678.0	1,000.5	2.41	-2.32	-3.37
5,187.0	7.20	141.60	5,057.7	-747.3	687.1	1,015.1	3.47	-3.47	-0.21
5,283.0	5.10	144.70	5,153.1	-755.5	693.3	1,025.3	2.21	-2.19	3.23
5,378.0	3.10	144.60	5,247.9	-761.0	697.2	1,032.1	2.11	-2.11	-0.11
5,473.0	1.30	199.40	5,342.8	-764.1	698.4	1,035.1	2.72	-1.89	57.68
5,568.0	0.70	304.80	5,437.8	-764.8	697.5	1,035.1	1.72	-0.63	110.95
5,663.0	1.40	279.00	5,532.8	-764.3	695.9	1,033.6	0.87	0.74	-27.16
5,758.0	1.30	269.00	5,627.7	-764.1	693.7	1,032.0	0.27	-0.11	-10.53
5,853.0	1.70	260.70	5,722.7	-764.4	691.2	1,030.6	0.48	0.42	-8.74
5,949.0	0.80	324.50	5,818.7	-764.1	689.4	1,029.1	1.59	-0.94	66.46
6,044.0	0.90	326.00	5,913.7	-762.9	688.6	1,027.7	0.11	0.11	1.58
6,139.0	0.90	302.70	6,008.7	-761.9	687.6	1,026.3	0.38	0.00	-24.53
6,234.0	1.10	318.60	6,103.7	-760.8	686.3	1,024.6	0.36	0.21	16.74
6,330.0	0.60	300.10	6,199.6	-759.9	685.3	1,023.2	0.59	-0.52	-19.27
6,424.0	0.80	290.60	6,293.6	-759.4	684.3	1,022.2	0.25	0.21	-10.11
6,520.0	0.60	293.70	6,389.6	-758.9	683.2	1,021.1	0.21	-0.21	3.23
6,615.0	0.80	289.10	6,484.6	-758.5	682.1	1,020.1	0.22	0.21	-4.84

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6,710.0	1.10	302.70	6,579.6	-757.8	680.7	1,018.6	0.39	0.32	14.32
6,805.0	0.80	289.10	6,674.6	-757.1	679.3	1,017.2	0.39	-0.32	-14.32
6,900.0	1.00	288.40	6,769.6	-756.6	677.9	1,015.9	0.21	0.21	-0.74
6,996.0	0.80	115.70	6,865.6	-756.7	677.7	1,015.8	1.87	-0.21	-179.90
7,091.0	0.70	170.00	6,960.6	-757.5	678.4	1,016.9	0.73	-0.11	57.16
7,186.0	0.70	144.90	7,055.6	-758.6	678.8	1,017.9	0.32	0.00	-26.42
7,281.0	0.90	159.00	7,150.6	-759.7	679.4	1,019.2	0.29	0.21	14.84
7,376.0	0.80	98.90	7,245.5	-760.5	680.3	1,020.4	0.90	-0.11	-63.26
7,471.0	0.60	110.10	7,340.5	-760.8	681.5	1,021.4	0.25	-0.21	11.79
7,567.0	0.50	72.50	7,436.5	-760.9	682.3	1,022.0	0.38	-0.10	-39.17
7,662.0	0.70	346.80	7,531.5	-760.2	682.6	1,021.7	0.87	0.21	-90.21
7,757.0	1.10	278.90	7,626.5	-759.5	681.6	1,020.4	1.11	0.42	-71.47
7,833.0	0.90	11.90	7,702.5	-758.8	681.0	1,019.5	1.92	-0.26	122.37
7,877.0	0.90	11.90	7,746.5	-758.1	681.1	1,019.1	0.00	0.00	0.00

Checked By: _____ Approved By: _____ Date: _____