



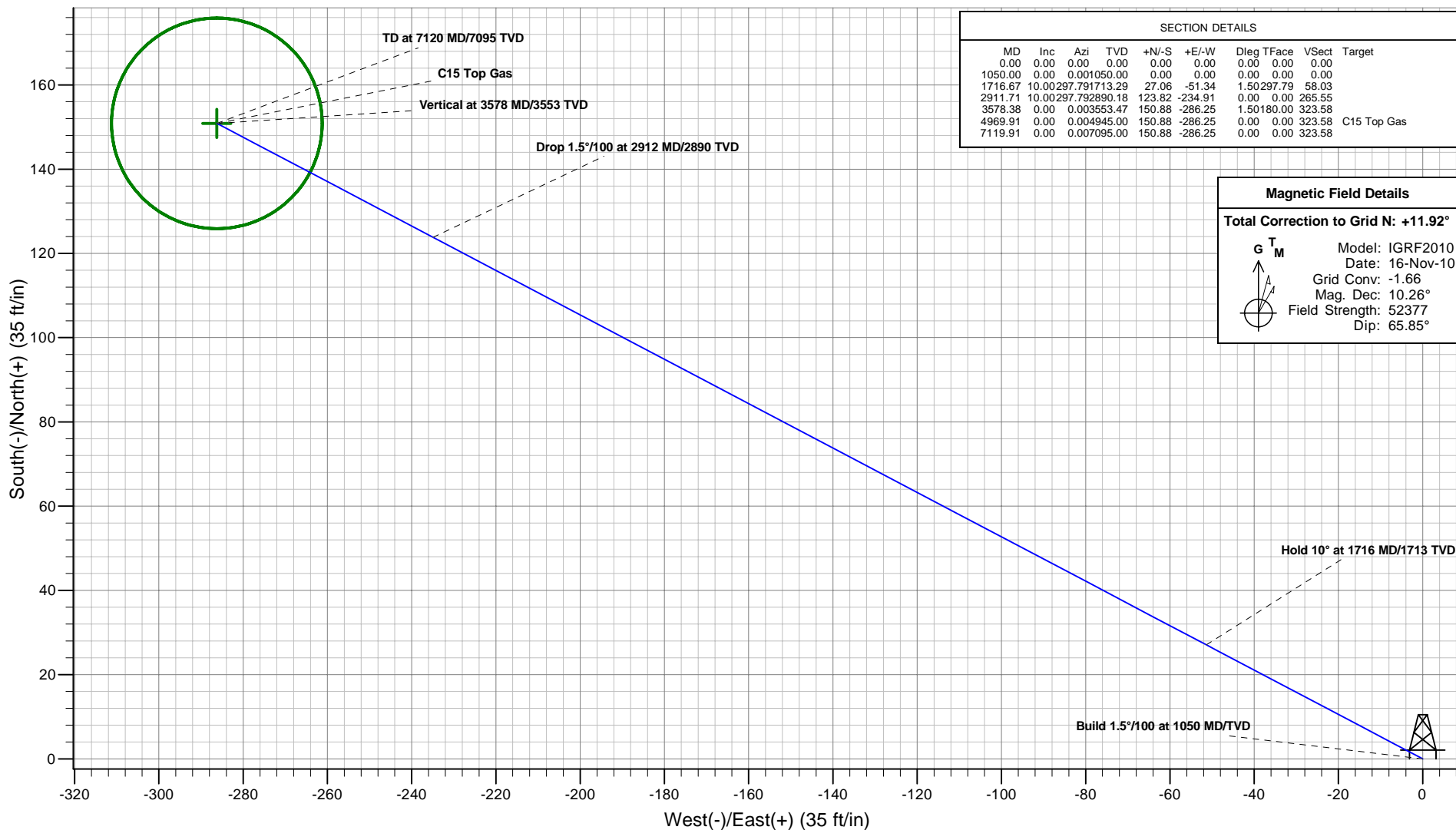
# Antero Resources

## McLin C15 (111234)



### PLAN VIEW

Project: McLin  
Site: McLin C  
Well: McLin C15 (111234)  
Wellbore: McLin C15  
Design: McLin C15 P01



SECTION DETAILS									
MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	Vsect	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
1050.00	0.00	0.001050.00	0.00	0.00	0.00	0.00	0.00	0.00	
1716.67	10.00	297.791713.29	27.06	-51.34	1.50	297.79	58.03		
2911.71	10.00	297.792890.18	123.82	-234.91	0.00	0.00	265.55		
3578.38	0.00	0.003553.47	150.88	-286.25	1.50	180.00	323.58		
4969.91	0.00	0.004945.00	150.88	-286.25	0.00	0.00	323.58		C15 Top Gas
7119.91	0.00	0.007095.00	150.88	-286.25	0.00	0.00	323.58		

Magnetic Field Details	
Total Correction to Grid N: +11.92°	
	Model: IGRF2010
	Date: 16-Nov-10
	Grid Conv: -1.66
	Mag. Dec: 10.26°
	Field Strength: 52377
	Dip: 65.85°

Plan: McLin C15 P01  
Created By: ARK Directional Services  
Date: 14:51, August 17 2010

PROJECT DETAILS: McLin  
Geodetic System: Universal Transverse Mercator  
Datum: NAD83 Colorado - HARN  
Ellipsoid: GRS 1980  
Zone: Zone 13N (108 W to 102 W)  
System Datum: Mean Sea Level

REFERENCE INFORMATION  
Co-ordinate (N/E) Reference: Well McLin C15 (111234) - Slot C15, Grid North  
Vertical (TVD) Reference: KB @ 5750.00ft (Original Well Elev)  
Section (VS) Reference: Slot - C15(0.00N, 0.00E)  
Measured Depth Reference: KB @ 5750.00ft (Original Well Elev)  
Calculation Method: Minimum Curvature

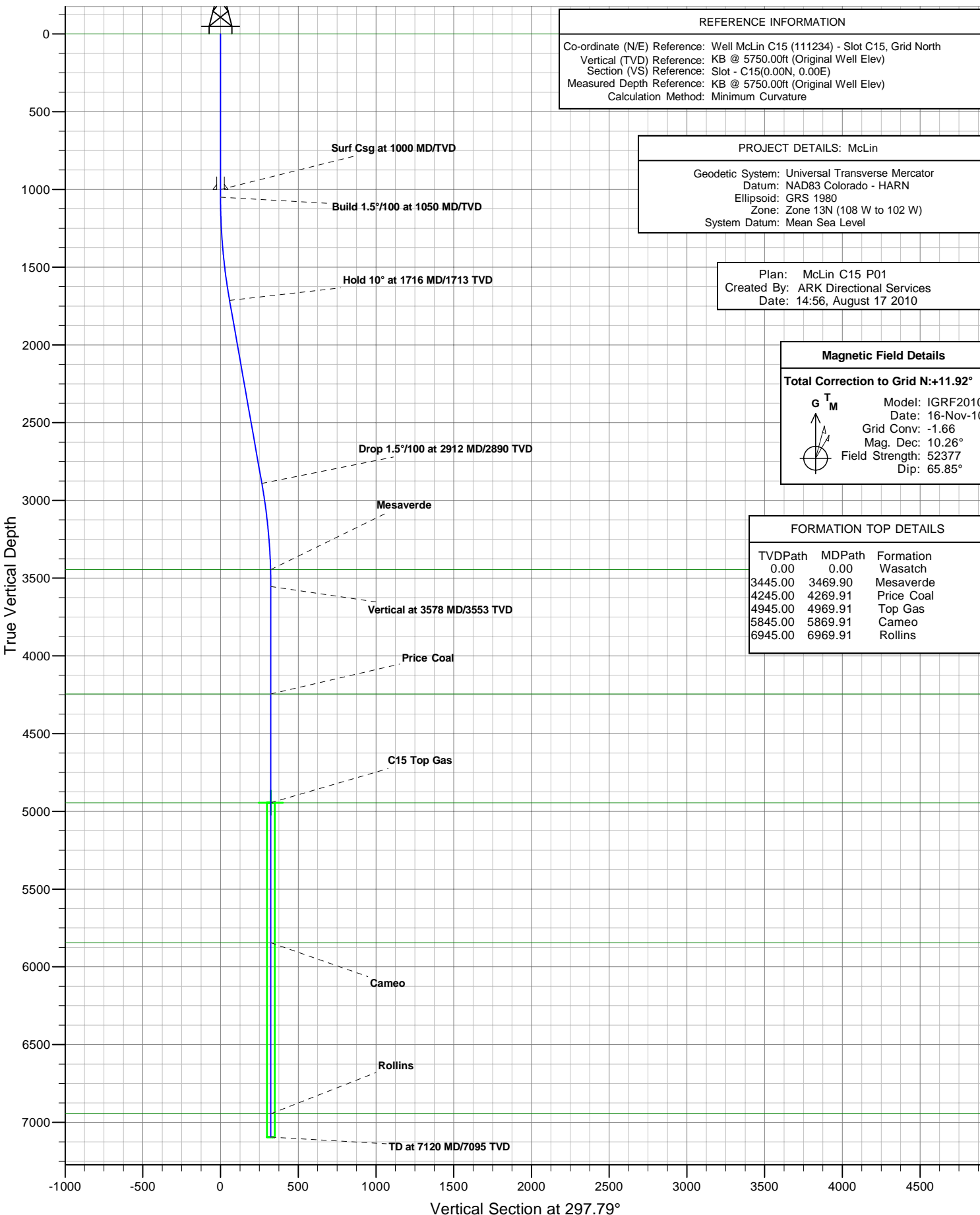


# Antero Resources

McLin C15 (111234)



## VERTICAL SECTION VIEW



# **Antero Resources**

**McLin**

**McLin C**

**McLin C15 (111234) - Slot C15**

**McLin C15**

**Plan: McLin C15 P01**

## **Standard Planning Report - Geographic**

**17 August, 2010**

# ARK Directional Services

## Planning Report - Geographic

<b>Database:</b>	EDM SERVER DB	<b>Local Co-ordinate Reference:</b>	Well McLin C15 (111234) - Slot C15
<b>Company:</b>	Antero Resources	<b>TVD Reference:</b>	KB @ 5750.00ft (Original Well Elev)
<b>Project:</b>	McLin	<b>MD Reference:</b>	KB @ 5750.00ft (Original Well Elev)
<b>Site:</b>	McLin C	<b>North Reference:</b>	Grid
<b>Well:</b>	McLin C15 (111234)	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	McLin C15		
<b>Design:</b>	McLin C15 P01		

<b>Project</b>	McLin		
<b>Map System:</b>	Universal Transverse Mercator	<b>System Datum:</b>	Mean Sea Level
<b>Geo Datum:</b>	NAD83 Colorado - HARN		
<b>Map Zone:</b>	Zone 13N (108 W to 102 W)		

<b>Site</b>	McLin C		
<b>Site Position:</b>		<b>Northing:</b>	14,364,522.752 usft
<b>From:</b>	Map	<b>Easting:</b>	905,235.880 usft
<b>Position Uncertainty:</b>	0.00 ft	<b>Slot Radius:</b>	13.20 in
		<b>Latitude:</b>	39.525275157°N
		<b>Longitude:</b>	107.607030464°W
		<b>Grid Convergence:</b>	-1.66 °

<b>Well</b>	McLin C15 (111234) - Slot C15		
<b>Well Position</b>	<b>+N/-S</b>	0.00 ft	<b>Northing:</b> 14,364,521.404 usft
	<b>+E/-W</b>	0.00 ft	<b>Easting:</b> 905,210.176 usft
<b>Position Uncertainty</b>	0.00 ft	<b>Wellhead Elevation:</b>	<b>Ground Level:</b> 5,726.00 ft

<b>Wellbore</b>	McLin C15				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	IGRF2010	2010/11/16	10.26	65.85	52,377

<b>Design</b>	McLin C15 P01			
<b>Audit Notes:</b>				
<b>Version:</b>	<b>Phase:</b>	PROTOTYPE	<b>Tie On Depth:</b>	0.00
<b>Vertical Section:</b>	<b>Depth From (TVD) (ft)</b>	<b>+N/-S (ft)</b>	<b>+E/-W (ft)</b>	<b>Direction (°)</b>
	0.00	0.00	0.00	297.79

<b>Plan Sections</b>										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,050.00	0.00	0.00	1,050.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,716.67	10.00	297.79	1,713.29	27.06	-51.34	1.50	1.50	0.00	297.79	
2,911.71	10.00	297.79	2,890.18	123.82	-234.91	0.00	0.00	0.00	0.00	
3,578.38	0.00	0.00	3,553.47	150.88	-286.25	1.50	-1.50	0.00	180.00	
4,969.91	0.00	0.00	4,945.00	150.88	-286.25	0.00	0.00	0.00	0.00	C15 Top Gas
7,119.91	0.00	0.00	7,095.00	150.88	-286.25	0.00	0.00	0.00	0.00	

# ARK Directional Services

## Planning Report - Geographic

<b>Database:</b>	EDM SERVER DB	<b>Local Co-ordinate Reference:</b>	Well McLin C15 (111234) - Slot C15
<b>Company:</b>	Antero Resources	<b>TVD Reference:</b>	KB @ 5750.00ft (Original Well Elev)
<b>Project:</b>	McLin	<b>MD Reference:</b>	KB @ 5750.00ft (Original Well Elev)
<b>Site:</b>	McLin C	<b>North Reference:</b>	Grid
<b>Well:</b>	McLin C15 (111234)	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	McLin C15		
<b>Design:</b>	McLin C15 P01		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
0.00	0.00	0.00	0.00	0.00	0.00	14,364,521.404	905,210.176	39.525269415°N	107.607121386°W
<b>Wasatch</b>									
100.00	0.00	0.00	100.00	0.00	0.00	14,364,521.404	905,210.176	39.525269415°N	107.607121386°W
200.00	0.00	0.00	200.00	0.00	0.00	14,364,521.404	905,210.176	39.525269415°N	107.607121386°W
300.00	0.00	0.00	300.00	0.00	0.00	14,364,521.404	905,210.176	39.525269415°N	107.607121386°W
400.00	0.00	0.00	400.00	0.00	0.00	14,364,521.404	905,210.176	39.525269415°N	107.607121386°W
500.00	0.00	0.00	500.00	0.00	0.00	14,364,521.404	905,210.176	39.525269415°N	107.607121386°W
600.00	0.00	0.00	600.00	0.00	0.00	14,364,521.404	905,210.176	39.525269415°N	107.607121386°W
700.00	0.00	0.00	700.00	0.00	0.00	14,364,521.404	905,210.176	39.525269415°N	107.607121386°W
800.00	0.00	0.00	800.00	0.00	0.00	14,364,521.404	905,210.176	39.525269415°N	107.607121386°W
900.00	0.00	0.00	900.00	0.00	0.00	14,364,521.404	905,210.176	39.525269415°N	107.607121386°W
1,000.00	0.00	0.00	1,000.00	0.00	0.00	14,364,521.404	905,210.176	39.525269415°N	107.607121386°W
<b>Surf Csg at 1000 MD/TVD</b>									
1,050.00	0.00	0.00	1,050.00	0.00	0.00	14,364,521.404	905,210.176	39.525269415°N	107.607121386°W
<b>Build 1.5°/100 at 1050 MD/TVD</b>									
1,100.00	0.75	297.79	1,100.00	0.15	-0.29	14,364,521.556	905,209.887	39.525269811°N	107.607122428°W
1,200.00	2.25	297.79	1,199.96	1.37	-2.61	14,364,522.777	905,207.571	39.525272976°N	107.607130756°W
1,300.00	3.75	297.79	1,299.82	3.81	-7.23	14,364,525.217	905,202.941	39.525279303°N	107.607147408°W
1,400.00	5.25	297.79	1,399.51	7.47	-14.18	14,364,528.876	905,196.001	39.525288788°N	107.607172372°W
1,500.00	6.75	297.79	1,498.96	12.35	-23.42	14,364,533.750	905,186.754	39.525301425°N	107.607205630°W
1,600.00	8.25	297.79	1,598.10	18.43	-34.97	14,364,539.836	905,175.208	39.525317205°N	107.607247159°W
1,700.00	9.75	297.79	1,696.87	25.73	-48.81	14,364,547.130	905,161.369	39.525336117°N	107.607296933°W
1,716.67	10.00	297.79	1,713.29	27.06	-51.34	14,364,548.463	905,158.841	39.525339572°N	107.607306027°W
<b>Hold 10° at 1716 MD/1713 TVD</b>									
1,800.00	10.00	297.79	1,795.35	33.81	-64.14	14,364,555.210	905,146.040	39.525357067°N	107.607352070°W
1,900.00	10.00	297.79	1,893.84	41.90	-79.50	14,364,563.307	905,130.678	39.525378060°N	107.607407322°W
2,000.00	10.00	297.79	1,992.32	50.00	-94.86	14,364,571.405	905,115.317	39.525399054°N	107.607462574°W
2,100.00	10.00	297.79	2,090.80	58.10	-110.22	14,364,579.502	905,099.956	39.525420047°N	107.607517826°W
2,200.00	10.00	297.79	2,189.28	66.20	-125.58	14,364,587.599	905,084.594	39.525441041°N	107.607573077°W
2,300.00	10.00	297.79	2,287.76	74.29	-140.94	14,364,595.696	905,069.233	39.525462034°N	107.607628329°W
2,400.00	10.00	297.79	2,386.24	82.39	-156.30	14,364,603.793	905,053.871	39.525483027°N	107.607683581°W
2,500.00	10.00	297.79	2,484.72	90.49	-171.67	14,364,611.890	905,038.510	39.525504021°N	107.607738833°W
2,600.00	10.00	297.79	2,583.20	98.58	-187.03	14,364,619.987	905,023.149	39.525525014°N	107.607794085°W
2,700.00	10.00	297.79	2,681.68	106.68	-202.39	14,364,628.084	905,007.787	39.525546007°N	107.607849337°W
2,800.00	10.00	297.79	2,780.16	114.78	-217.75	14,364,636.181	904,992.426	39.525567000°N	107.607904589°W
2,900.00	10.00	297.79	2,878.64	122.87	-233.11	14,364,644.278	904,977.064	39.525587994°N	107.607959841°W
2,911.71	10.00	297.79	2,890.18	123.82	-234.91	14,364,645.227	904,975.265	39.525590453°N	107.607966313°W
<b>Drop 1.5°/100 at 2912 MD/2890 TVD</b>									
3,000.00	8.68	297.79	2,977.29	130.50	-247.58	14,364,651.906	904,962.593	39.525607770°N	107.608011892°W
3,100.00	7.18	297.79	3,076.34	136.93	-259.78	14,364,658.336	904,950.395	39.525624440°N	107.608055764°W
3,200.00	5.68	297.79	3,175.70	142.15	-269.68	14,364,663.554	904,940.495	39.525637969°N	107.608091373°W
3,300.00	4.18	297.79	3,275.33	146.15	-277.28	14,364,667.558	904,932.900	39.525648350°N	107.608118693°W
3,400.00	2.68	297.79	3,375.15	148.94	-282.56	14,364,670.344	904,927.614	39.525655573°N	107.608137705°W
3,469.90	1.63	297.79	3,445.00	150.16	-284.88	14,364,671.568	904,925.293	39.525658746°N	107.608146054°W
<b>Mesaverde</b>									
3,500.00	1.18	297.79	3,475.09	150.51	-285.54	14,364,671.911	904,924.641	39.525659636°N	107.608148397°W
3,578.38	0.00	0.00	3,553.47	150.88	-286.25	14,364,672.286	904,923.930	39.525660608°N	107.608150955°W
<b>Vertical at 3578 MD/3553 TVD</b>									
3,600.00	0.00	0.00	3,575.09	150.88	-286.25	14,364,672.286	904,923.930	39.525660608°N	107.608150955°W
3,700.00	0.00	0.00	3,675.09	150.88	-286.25	14,364,672.286	904,923.930	39.525660608°N	107.608150955°W
3,800.00	0.00	0.00	3,775.09	150.88	-286.25	14,364,672.286	904,923.930	39.525660608°N	107.608150955°W
3,900.00	0.00	0.00	3,875.09	150.88	-286.25	14,364,672.286	904,923.930	39.525660608°N	107.608150955°W
4,000.00	0.00	0.00	3,975.09	150.88	-286.25	14,364,672.286	904,923.930	39.525660608°N	107.608150955°W
4,100.00	0.00	0.00	4,075.09	150.88	-286.25	14,364,672.286	904,923.930	39.525660608°N	107.608150955°W

# ARK Directional Services

## Planning Report - Geographic

<b>Database:</b>	EDM SERVER DB	<b>Local Co-ordinate Reference:</b>	Well McLin C15 (111234) - Slot C15
<b>Company:</b>	Antero Resources	<b>TVD Reference:</b>	KB @ 5750.00ft (Original Well Elev)
<b>Project:</b>	McLin	<b>MD Reference:</b>	KB @ 5750.00ft (Original Well Elev)
<b>Site:</b>	McLin C	<b>North Reference:</b>	Grid
<b>Well:</b>	McLin C15 (111234)	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	McLin C15		
<b>Design:</b>	McLin C15 P01		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
4,200.00	0.00	0.00	4,175.09	150.88	-286.25	14,364,672.286	904,923.930	39.525660608°N	107.608150955°W
4,269.91	0.00	0.00	4,245.00	150.88	-286.25	14,364,672.286	904,923.930	39.525660608°N	107.608150955°W
Price Coal									
4,300.00	0.00	0.00	4,275.09	150.88	-286.25	14,364,672.286	904,923.930	39.525660608°N	107.608150955°W
4,400.00	0.00	0.00	4,375.09	150.88	-286.25	14,364,672.286	904,923.930	39.525660608°N	107.608150955°W
4,500.00	0.00	0.00	4,475.09	150.88	-286.25	14,364,672.286	904,923.930	39.525660608°N	107.608150955°W
4,600.00	0.00	0.00	4,575.09	150.88	-286.25	14,364,672.286	904,923.930	39.525660608°N	107.608150955°W
4,700.00	0.00	0.00	4,675.09	150.88	-286.25	14,364,672.286	904,923.930	39.525660608°N	107.608150955°W
4,800.00	0.00	0.00	4,775.09	150.88	-286.25	14,364,672.286	904,923.930	39.525660608°N	107.608150955°W
4,900.00	0.00	0.00	4,875.09	150.88	-286.25	14,364,672.286	904,923.930	39.525660608°N	107.608150955°W
4,969.91	0.00	0.00	4,945.00	150.88	-286.25	14,364,672.286	904,923.930	39.525660608°N	107.608150955°W
Top Gas									
5,000.00	0.00	0.00	4,975.09	150.88	-286.25	14,364,672.286	904,923.930	39.525660608°N	107.608150955°W
5,100.00	0.00	0.00	5,075.09	150.88	-286.25	14,364,672.286	904,923.930	39.525660608°N	107.608150955°W
5,200.00	0.00	0.00	5,175.09	150.88	-286.25	14,364,672.286	904,923.930	39.525660608°N	107.608150955°W
5,300.00	0.00	0.00	5,275.09	150.88	-286.25	14,364,672.286	904,923.930	39.525660608°N	107.608150955°W
5,400.00	0.00	0.00	5,375.09	150.88	-286.25	14,364,672.286	904,923.930	39.525660608°N	107.608150955°W
5,500.00	0.00	0.00	5,475.09	150.88	-286.25	14,364,672.286	904,923.930	39.525660608°N	107.608150955°W
5,600.00	0.00	0.00	5,575.09	150.88	-286.25	14,364,672.286	904,923.930	39.525660608°N	107.608150955°W
5,700.00	0.00	0.00	5,675.09	150.88	-286.25	14,364,672.286	904,923.930	39.525660608°N	107.608150955°W
5,800.00	0.00	0.00	5,775.09	150.88	-286.25	14,364,672.286	904,923.930	39.525660608°N	107.608150955°W
5,869.91	0.00	0.00	5,845.00	150.88	-286.25	14,364,672.286	904,923.930	39.525660608°N	107.608150955°W
Cameo									
5,900.00	0.00	0.00	5,875.09	150.88	-286.25	14,364,672.286	904,923.930	39.525660608°N	107.608150955°W
6,000.00	0.00	0.00	5,975.09	150.88	-286.25	14,364,672.286	904,923.930	39.525660608°N	107.608150955°W
6,100.00	0.00	0.00	6,075.09	150.88	-286.25	14,364,672.286	904,923.930	39.525660608°N	107.608150955°W
6,200.00	0.00	0.00	6,175.09	150.88	-286.25	14,364,672.286	904,923.930	39.525660608°N	107.608150955°W
6,300.00	0.00	0.00	6,275.09	150.88	-286.25	14,364,672.286	904,923.930	39.525660608°N	107.608150955°W
6,400.00	0.00	0.00	6,375.09	150.88	-286.25	14,364,672.286	904,923.930	39.525660608°N	107.608150955°W
6,500.00	0.00	0.00	6,475.09	150.88	-286.25	14,364,672.286	904,923.930	39.525660608°N	107.608150955°W
6,600.00	0.00	0.00	6,575.09	150.88	-286.25	14,364,672.286	904,923.930	39.525660608°N	107.608150955°W
6,700.00	0.00	0.00	6,675.09	150.88	-286.25	14,364,672.286	904,923.930	39.525660608°N	107.608150955°W
6,800.00	0.00	0.00	6,775.09	150.88	-286.25	14,364,672.286	904,923.930	39.525660608°N	107.608150955°W
6,900.00	0.00	0.00	6,875.09	150.88	-286.25	14,364,672.286	904,923.930	39.525660608°N	107.608150955°W
6,969.91	0.00	0.00	6,945.00	150.88	-286.25	14,364,672.286	904,923.930	39.525660608°N	107.608150955°W
Rollins									
7,000.00	0.00	0.00	6,975.09	150.88	-286.25	14,364,672.286	904,923.930	39.525660608°N	107.608150955°W
7,100.00	0.00	0.00	7,075.09	150.88	-286.25	14,364,672.286	904,923.930	39.525660608°N	107.608150955°W
7,119.91	0.00	0.00	7,095.00	150.88	-286.25	14,364,672.286	904,923.930	39.525660608°N	107.608150955°W
TD at 7120 MD/7095 TVD									

Design Targets									
Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (usft)	Easting (usft)	Latitude	Longitude
C15 Top Gas - plan hits target center - Circle (radius 25.00)	0.00	0.00	4,945.00	150.88	-286.25	14,364,672.286	904,923.930	39.525660608°N	107.608150955°W

# ARK Directional Services

## Planning Report - Geographic

<b>Database:</b>	EDM SERVER DB	<b>Local Co-ordinate Reference:</b>	Well McLin C15 (111234) - Slot C15
<b>Company:</b>	Antero Resources	<b>TVD Reference:</b>	KB @ 5750.00ft (Original Well Elev)
<b>Project:</b>	McLin	<b>MD Reference:</b>	KB @ 5750.00ft (Original Well Elev)
<b>Site:</b>	McLin C	<b>North Reference:</b>	Grid
<b>Well:</b>	McLin C15 (111234)	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	McLin C15		
<b>Design:</b>	McLin C15 P01		

Casing Points					
Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (in)	Hole Diameter (in)	
1,000.00	1,000.00	Surf Csg at 1000 MD/TVD	5.50	6.00	

Formations					
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
0.00	0.00	Wasatch			
3,469.90	3,445.00	Mesaverde			
4,269.91	4,245.00	Price Coal			
4,969.91	4,945.00	Top Gas			
5,869.91	5,845.00	Cameo			
6,969.91	6,945.00	Rollins			

Plan Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates			
		+N/-S (ft)	+E/-W (ft)	Comment	
1,050.00	1,050.00	0.00	0.00	Build 1.5°/100 at 1050 MD/TVD	
1,716.67	1,713.29	27.06	-51.34	Hold 10° at 1716 MD/1713 TVD	
2,911.71	2,890.18	123.82	-234.91	Drop 1.5°/100 at 2912 MD/2890 TVD	
3,578.38	3,553.47	150.88	-286.25	Vertical at 3578 MD/3553 TVD	
7,119.91	7,095.00	150.88	-286.25	TD at 7120 MD/7095 TVD	