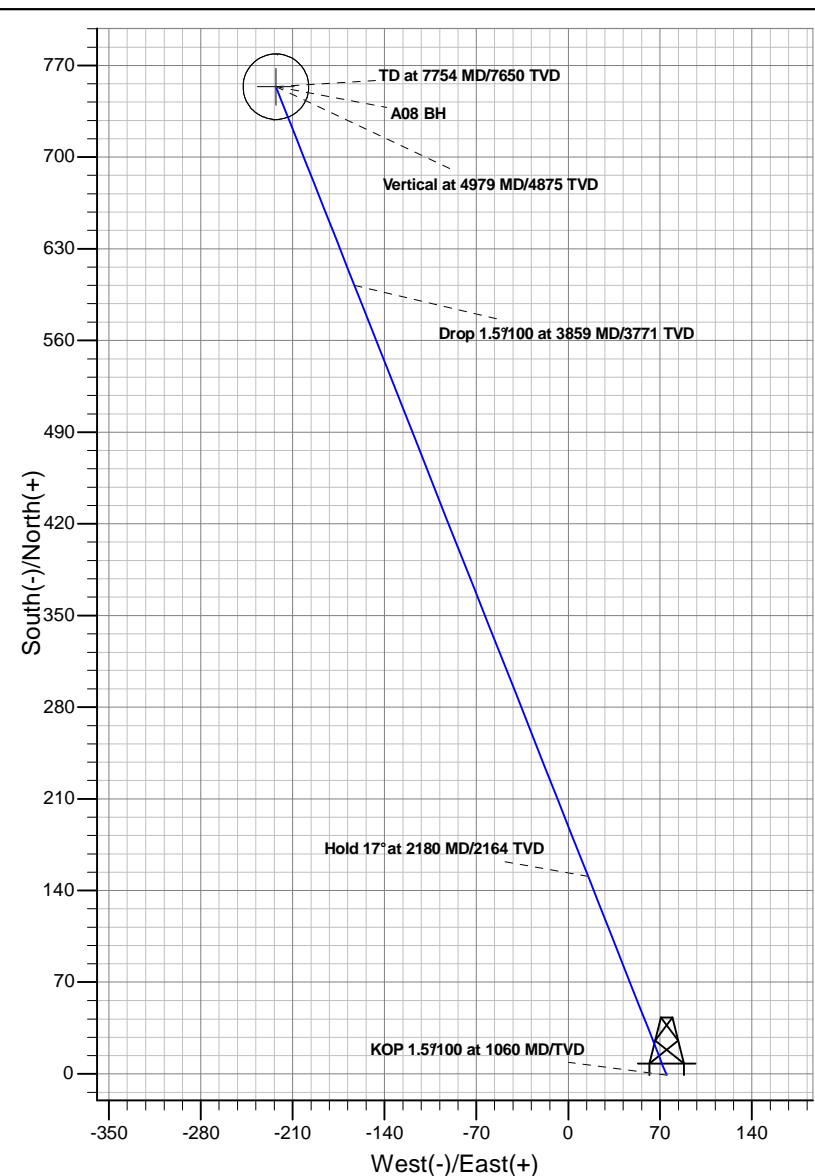


Vertical Section at 338.47°



REFERENCE INFORMATION

Co-ordinate (N/E) Reference: Site McPherson A Pad, Grid North
Vertical (TVD) Reference: KB @ 5472.00ft (Original Well Elev)
Section (VS) Reference: Slot - A08(-0.92N, 75.00E)
Measured Depth Reference: KB @ 5472.00ft (Original Well Elev)
Calculation Method: Minimum Curvature

PROJECT DETAILS: McPherson

Geodetic System: Universal Transverse Mercator
Datum: North American Datum 1983
Ellipsoid: GRS 1980
Zone: Zone 13N (108 W to 102 W)
System Datum: Mean Sea Level

SECTION DETAILS

MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	Target
0.00	0.00	0.00	0.00	-0.92	75.00	0.00	0.00	0.00	
1060.00	0.00	0.00	1060.00	-0.92	75.00	0.00	0.00	0.00	
2180.09	16.80	338.47	2164.11	150.76	15.15	1.50	338.47	163.05	
3858.52	16.80	338.47	3770.89	602.06	-162.91	0.00	0.00	648.21	
4978.62	0.00	0.00	4875.00	753.73	-222.76	1.50	180.00	811.27	
7753.62	0.00	0.00	7650.00	753.73	-222.76	0.00	0.00	811.27	A08 BH

Antero Resources

McPherson

McPherson A Pad

McPherson A08 (111361) - Slot A08

A08

Plan: A08 P01

Standard Planning Report - Geographic

24 May, 2011

ARK Directional Services

Planning Report - Geographic

Database:	EDM SERVER DB	Local Co-ordinate Reference:	Site McPherson A Pad
Company:	Antero Resources	TVD Reference:	KB @ 5472.00ft (Original Well Elev)
Project:	McPherson	MD Reference:	KB @ 5472.00ft (Original Well Elev)
Site:	McPherson A Pad	North Reference:	Grid
Well:	McPherson A08 (111361)	Survey Calculation Method:	Minimum Curvature
Wellbore:	A08		
Design:	A08 P01		

Project	McPherson		
Map System:	Universal Transverse Mercator	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	Zone 13N (108 W to 102 W)		

Site		McPherson A Pad			
Site Position:		Northing:	14,367,218.62 usft	Latitude:	39.531108419°N
From:	Map	Easting:	885,836.08 usft	Longitude:	107.676038841°W
Position Uncertainty:	0.00 ft	Slot Radius:	13.20 in	Grid Convergence:	-1.70 °

Well	McPherson A08 (111361) - Slot A08					
Well Position	+N/-S	-0.92 ft	Northing:	14,367,217.71 usft	Latitude:	39.531112024°N
	+E/-W	75.00 ft	Easting:	885,911.08 usft	Longitude:	107.675773055°W
Position Uncertainty		0.00 ft	Wellhead Elevation:		Ground Level:	5,448.00 ft

Wellbore	A08				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	2011/06/28	10.21	65.83	52,312

Design	A08 P01				
Audit Notes:					
Version:	Phase:	PROTOTYPE		Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)	
	7,650.00	-0.92	75.00	338.47	

Plan Sections										
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	-0.92	75.00	0.00	0.00	0.00	0.00	
1,060.00	0.00	0.00	1,060.00	-0.92	75.00	0.00	0.00	0.00	0.00	
2,180.09	16.80	338.47	2,164.11	150.76	15.15	1.50	1.50	0.00	338.47	
3,858.52	16.80	338.47	3,770.89	602.06	-162.91	0.00	0.00	0.00	0.00	
4,978.62	0.00	0.00	4,875.00	753.73	-222.76	1.50	-1.50	0.00	180.00	
7,753.62	0.00	0.00	7,650.00	753.73	-222.76	0.00	0.00	0.00	0.00	A08 BH

ARK Directional Services

Planning Report - Geographic

Database:	EDM SERVER DB	Local Co-ordinate Reference:	Site McPherson A Pad
Company:	Antero Resources	TVD Reference:	KB @ 5472.00ft (Original Well Elev)
Project:	McPherson	MD Reference:	KB @ 5472.00ft (Original Well Elev)
Site:	McPherson A Pad	North Reference:	Grid
Well:	McPherson A08 (111361)	Survey Calculation Method:	Minimum Curvature
Wellbore:	A08		
Design:	A08 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	-0.92	75.00	14,367,217.71	885,911.08	39.531112024°N	107.675773055°W
100.00	0.00	0.00	100.00	-0.92	75.00	14,367,217.71	885,911.08	39.531112024°N	107.675773055°W
200.00	0.00	0.00	200.00	-0.92	75.00	14,367,217.71	885,911.08	39.531112024°N	107.675773055°W
300.00	0.00	0.00	300.00	-0.92	75.00	14,367,217.71	885,911.08	39.531112024°N	107.675773055°W
400.00	0.00	0.00	400.00	-0.92	75.00	14,367,217.71	885,911.08	39.531112024°N	107.675773055°W
500.00	0.00	0.00	500.00	-0.92	75.00	14,367,217.71	885,911.08	39.531112024°N	107.675773055°W
600.00	0.00	0.00	600.00	-0.92	75.00	14,367,217.71	885,911.08	39.531112024°N	107.675773055°W
700.00	0.00	0.00	700.00	-0.92	75.00	14,367,217.71	885,911.08	39.531112024°N	107.675773055°W
800.00	0.00	0.00	800.00	-0.92	75.00	14,367,217.71	885,911.08	39.531112024°N	107.675773055°W
900.00	0.00	0.00	900.00	-0.92	75.00	14,367,217.71	885,911.08	39.531112024°N	107.675773055°W
1,000.00	0.00	0.00	1,000.00	-0.92	75.00	14,367,217.71	885,911.08	39.531112024°N	107.675773055°W
Surf Csg at 1000 MD/TVD									
1,060.00	0.00	0.00	1,060.00	-0.92	75.00	14,367,217.71	885,911.08	39.531112024°N	107.675773055°W
KOP 1.5°/100 at 1060 MD/TVD									
1,100.00	0.60	338.47	1,100.00	-0.72	74.92	14,367,217.90	885,911.00	39.531112552°N	107.675773348°W
1,200.00	2.10	338.47	1,199.97	1.47	74.05	14,367,220.09	885,910.14	39.531118493°N	107.675776642°W
1,300.00	3.60	338.47	1,299.84	6.09	72.23	14,367,224.72	885,908.31	39.531131033°N	107.675783594°W
1,400.00	5.10	338.47	1,399.55	13.15	69.45	14,367,231.77	885,905.53	39.531150161°N	107.675794200°W
1,500.00	6.60	338.47	1,499.03	22.63	65.70	14,367,241.25	885,901.79	39.531175866°N	107.675808452°W
1,600.00	8.10	338.47	1,598.20	34.53	61.01	14,367,253.15	885,897.09	39.531208129°N	107.675826340°W
1,700.00	9.60	338.47	1,697.01	48.84	55.36	14,367,267.47	885,891.45	39.531246928°N	107.675847852°W
1,800.00	11.10	338.47	1,795.38	65.55	48.77	14,367,284.18	885,884.85	39.531292238°N	107.675872973°W
1,900.00	12.60	338.47	1,893.25	84.65	41.23	14,367,303.28	885,877.32	39.531344025°N	107.675901686°W
2,000.00	14.10	338.47	1,990.54	106.13	32.76	14,367,324.76	885,868.84	39.531402256°N	107.675933972°W
2,100.00	15.60	338.47	2,087.20	129.97	23.35	14,367,348.60	885,859.43	39.531466891°N	107.675968909°W
2,180.09	16.80	338.47	2,164.11	150.76	15.15	14,367,369.38	885,851.23	39.531523245°N	107.676001054°W
Hold 17° at 2180 MD/2164 TVD									
2,200.00	16.80	338.47	2,183.17	156.11	13.04	14,367,374.73	885,849.12	39.531537759°N	107.676009101°W
2,300.00	16.80	338.47	2,278.90	183.00	2.43	14,367,401.62	885,838.51	39.531610659°N	107.676049520°W
2,400.00	16.80	338.47	2,374.63	209.89	-8.18	14,367,428.51	885,827.90	39.531683558°N	107.676089940°W
2,500.00	16.80	338.47	2,470.36	236.78	-18.79	14,367,455.40	885,817.29	39.531756458°N	107.676130359°W
2,600.00	16.80	338.47	2,566.09	263.66	-29.40	14,367,482.29	885,806.69	39.531829358°N	107.676170778°W
2,700.00	16.80	338.47	2,661.82	290.55	-40.01	14,367,509.18	885,796.08	39.531902257°N	107.676211198°W
2,800.00	16.80	338.47	2,757.55	317.44	-50.62	14,367,536.06	885,785.47	39.531975157°N	107.676251618°W
2,900.00	16.80	338.47	2,853.29	344.33	-61.22	14,367,562.95	885,774.86	39.532048057°N	107.676292037°W
3,000.00	16.80	338.47	2,949.02	371.22	-71.83	14,367,589.84	885,764.25	39.532120956°N	107.676332457°W
3,100.00	16.80	338.47	3,044.75	398.11	-82.44	14,367,616.73	885,753.64	39.532193856°N	107.676372877°W
3,200.00	16.80	338.47	3,140.48	424.99	-93.05	14,367,643.62	885,743.03	39.532266755°N	107.676413297°W
3,300.00	16.80	338.47	3,236.21	451.88	-103.66	14,367,670.51	885,732.42	39.532339655°N	107.676453717°W
3,400.00	16.80	338.47	3,331.94	478.77	-114.27	14,367,697.39	885,721.81	39.532412554°N	107.676494137°W
3,500.00	16.80	338.47	3,427.67	505.66	-124.88	14,367,724.28	885,711.21	39.532485454°N	107.676534557°W
3,600.00	16.80	338.47	3,523.40	532.55	-135.49	14,367,751.17	885,700.60	39.532558353°N	107.676574978°W
3,700.00	16.80	338.47	3,619.13	559.44	-146.10	14,367,778.06	885,689.99	39.532631253°N	107.676615398°W
3,800.00	16.80	338.47	3,714.87	586.32	-156.70	14,367,804.95	885,679.38	39.532704152°N	107.676655819°W
3,858.52	16.80	338.47	3,770.89	602.06	-162.91	14,367,820.68	885,673.17	39.532746813°N	107.676679473°W
Drop 1.5°/100 at 3859 MD/3771 TVD									
3,900.00	16.18	338.47	3,810.66	613.01	-167.23	14,367,831.63	885,668.85	39.532776507°N	107.676695937°W
4,000.00	14.68	338.47	3,907.05	637.76	-177.00	14,367,856.38	885,659.08	39.532843603°N	107.676733140°W
4,100.00	13.18	338.47	4,004.11	660.15	-185.83	14,367,878.77	885,650.25	39.532904311°N	107.676766801°W
4,200.00	11.68	338.47	4,101.77	680.17	-193.73	14,367,898.79	885,642.35	39.532958591°N	107.676796898°W
4,213.51	11.48	338.47	4,115.00	682.69	-194.73	14,367,901.32	885,641.36	39.532965429°N	107.676800689°W
Mesaverde									
4,300.00	10.18	338.47	4,199.95	697.81	-200.69	14,367,916.43	885,635.39	39.533006406°N	107.676823410°W
4,400.00	8.68	338.47	4,298.59	713.05	-206.70	14,367,931.67	885,629.38	39.533047722°N	107.676846319°W

ARK Directional Services

Planning Report - Geographic

Database:	EDM SERVER DB	Local Co-ordinate Reference:	Site McPherson A Pad
Company:	Antero Resources	TVD Reference:	KB @ 5472.00ft (Original Well Elev)
Project:	McPherson	MD Reference:	KB @ 5472.00ft (Original Well Elev)
Site:	McPherson A Pad	North Reference:	Grid
Well:	McPherson A08 (111361)	Survey Calculation Method:	Minimum Curvature
Wellbore:	A08		
Design:	A08 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
4,500.00	7.18	338.47	4,397.64	725.88	-211.77	14,367,944.50	885,624.32	39.533082512°N	107.676865609°W
4,600.00	5.68	338.47	4,497.00	736.29	-215.88	14,367,954.92	885,620.21	39.533110751°N	107.676881267°W
4,700.00	4.18	338.47	4,596.63	744.29	-219.03	14,367,962.91	885,617.05	39.533132421°N	107.676893282°W
4,800.00	2.68	338.47	4,696.45	749.85	-221.23	14,367,968.47	885,614.86	39.533147506°N	107.676901646°W
4,900.00	1.18	338.47	4,796.39	752.98	-222.46	14,367,971.60	885,613.62	39.533155996°N	107.676906354°W
4,978.62	0.00	0.00	4,875.00	753.73	-222.76	14,367,972.36	885,613.33	39.533158036°N	107.676907485°W
Vertical at 4979 MD/4875 TVD - Price Coal									
5,000.00	0.00	0.00	4,896.38	753.73	-222.76	14,367,972.36	885,613.33	39.533158036°N	107.676907485°W
5,100.00	0.00	0.00	4,996.38	753.73	-222.76	14,367,972.36	885,613.33	39.533158036°N	107.676907485°W
5,200.00	0.00	0.00	5,096.38	753.73	-222.76	14,367,972.36	885,613.33	39.533158036°N	107.676907485°W
5,300.00	0.00	0.00	5,196.38	753.73	-222.76	14,367,972.36	885,613.33	39.533158036°N	107.676907485°W
5,400.00	0.00	0.00	5,296.38	753.73	-222.76	14,367,972.36	885,613.33	39.533158036°N	107.676907485°W
5,500.00	0.00	0.00	5,396.38	753.73	-222.76	14,367,972.36	885,613.33	39.533158036°N	107.676907485°W
5,600.00	0.00	0.00	5,496.38	753.73	-222.76	14,367,972.36	885,613.33	39.533158036°N	107.676907485°W
5,700.00	0.00	0.00	5,596.38	753.73	-222.76	14,367,972.36	885,613.33	39.533158036°N	107.676907485°W
5,800.00	0.00	0.00	5,696.38	753.73	-222.76	14,367,972.36	885,613.33	39.533158036°N	107.676907485°W
5,878.62	0.00	0.00	5,775.00	753.73	-222.76	14,367,972.36	885,613.33	39.533158036°N	107.676907485°W
Top Gas									
5,900.00	0.00	0.00	5,796.38	753.73	-222.76	14,367,972.36	885,613.33	39.533158036°N	107.676907485°W
6,000.00	0.00	0.00	5,896.38	753.73	-222.76	14,367,972.36	885,613.33	39.533158036°N	107.676907485°W
6,100.00	0.00	0.00	5,996.38	753.73	-222.76	14,367,972.36	885,613.33	39.533158036°N	107.676907485°W
6,200.00	0.00	0.00	6,096.38	753.73	-222.76	14,367,972.36	885,613.33	39.533158036°N	107.676907485°W
6,300.00	0.00	0.00	6,196.38	753.73	-222.76	14,367,972.36	885,613.33	39.533158036°N	107.676907485°W
6,400.00	0.00	0.00	6,296.38	753.73	-222.76	14,367,972.36	885,613.33	39.533158036°N	107.676907485°W
6,500.00	0.00	0.00	6,396.38	753.73	-222.76	14,367,972.36	885,613.33	39.533158036°N	107.676907485°W
6,600.00	0.00	0.00	6,496.38	753.73	-222.76	14,367,972.36	885,613.33	39.533158036°N	107.676907485°W
6,700.00	0.00	0.00	6,596.38	753.73	-222.76	14,367,972.36	885,613.33	39.533158036°N	107.676907485°W
6,703.62	0.00	0.00	6,600.00	753.73	-222.76	14,367,972.36	885,613.33	39.533158036°N	107.676907485°W
Cameo									
6,800.00	0.00	0.00	6,696.38	753.73	-222.76	14,367,972.36	885,613.33	39.533158036°N	107.676907485°W
6,900.00	0.00	0.00	6,796.38	753.73	-222.76	14,367,972.36	885,613.33	39.533158036°N	107.676907485°W
7,000.00	0.00	0.00	6,896.38	753.73	-222.76	14,367,972.36	885,613.33	39.533158036°N	107.676907485°W
7,100.00	0.00	0.00	6,996.38	753.73	-222.76	14,367,972.36	885,613.33	39.533158036°N	107.676907485°W
7,200.00	0.00	0.00	7,096.38	753.73	-222.76	14,367,972.36	885,613.33	39.533158036°N	107.676907485°W
7,300.00	0.00	0.00	7,196.38	753.73	-222.76	14,367,972.36	885,613.33	39.533158036°N	107.676907485°W
7,400.00	0.00	0.00	7,296.38	753.73	-222.76	14,367,972.36	885,613.33	39.533158036°N	107.676907485°W
7,500.00	0.00	0.00	7,396.38	753.73	-222.76	14,367,972.36	885,613.33	39.533158036°N	107.676907485°W
7,600.00	0.00	0.00	7,496.38	753.73	-222.76	14,367,972.36	885,613.33	39.533158036°N	107.676907485°W
7,603.62	0.00	0.00	7,500.00	753.73	-222.76	14,367,972.36	885,613.33	39.533158036°N	107.676907485°W
Rollins									
7,700.00	0.00	0.00	7,596.38	753.73	-222.76	14,367,972.36	885,613.33	39.533158036°N	107.676907485°W
7,753.61	0.00	0.00	7,649.99	753.73	-222.76	14,367,972.36	885,613.33	39.533158036°N	107.676907485°W
TD at 7754 MD/7650 TVD									
7,753.62	0.00	0.00	7,650.00	753.73	-222.76	14,367,972.36	885,613.33	39.533158036°N	107.676907485°W
A08 BH									

ARK Directional Services

Planning Report - Geographic

Database:	EDM SERVER DB	Local Co-ordinate Reference:	Site McPherson A Pad
Company:	Antero Resources	TVD Reference:	KB @ 5472.00ft (Original Well Elev)
Project:	McPherson	MD Reference:	KB @ 5472.00ft (Original Well Elev)
Site:	McPherson A Pad	North Reference:	Grid
Well:	McPherson A08 (111361)	Survey Calculation Method:	Minimum Curvature
Wellbore:	A08		
Design:	A08 P01		

Design Targets									
Target Name	Dip Angle	Dip Dir.	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
- hit/miss target	(°)	(°)	(ft)	(ft)	(ft)	(usft)	(usft)		
- Shape									
A08 BH	0.00	0.00	7,650.00	753.73	-222.76	14,367,972.36	885,613.33	39.533158036°N	107.676907485°W
- plan hits target center									
- Circle (radius 25.00)									

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

Formations						
Measured Depth	Vertical Depth	Name		Lithology	Dip	Dip Direction
(ft)	(ft)				(°)	(°)
4,213.51	4,115.00	Mesaverde				
4,978.62	4,875.00	Price Coal				
5,878.62	5,775.00	Top Gas				
6,703.62	6,600.00	Cameo				
7,603.62	7,500.00	Rollins				

Plan Annotations					
Measured Depth	Vertical Depth	Local Coordinates		Comment	
(ft)	(ft)	+N/-S (ft)	+E/-W (ft)		
1,060.00	1,060.00	-0.92	75.00	KOP 1.5°/100 at 1060 MD/TVD	
2,180.09	2,164.11	150.76	15.15	Hold 17° at 2180 MD/2164 TVD	
3,858.52	3,770.89	602.06	-162.91	Drop 1.5°/100 at 3859 MD/3771 TVD	
4,978.62	4,875.00	753.73	-222.76	Vertical at 4979 MD/4875 TVD	
7,753.61	7,649.99	753.73	-222.76	TD at 7754 MD/7650 TVD	