



FORMATION TOP DETAILS			
TVDPath	MDPath	Formation	
4345.00	4797.25	Mesaverde	
5105.00	5578.88	Price Coal	
6005.00	6478.88	Top Gas	
6830.00	7303.88	Cameo	
7730.00	8203.88	Rollins	

Magnetic Field Details	
Total Correction to Grid N: +11.90°	
	Model: IGRF2010
	Date: 15-Aug-11
	Grid Conv: -1.71
	Mag. Dec: 10.19°
	Field Strength: 52294
	Dip: 65.82°

REFERENCE INFORMATION	
Co-ordinate (N/E) Reference:	Well C03 (111379) - Slot C03, Grid North
Vertical (TVD) Reference:	KB @ 5668.00ft (Original Well Elev)
Section (VS) Reference:	Slot - C03(0.00N, 0.00E)
Measured Depth Reference:	KB @ 5668.00ft (Original Well Elev)
Calculation Method:	Minimum Curvature

PROJECT DETAILS: Robinson	
Geodetic System:	Universal Transverse Mercator (US Survey Feet)
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	V Sect	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	
1000.00	24.00	356.37	976.81	164.78	-10.45	3.00	356.37	165.12	
1060.00	24.00	356.37	1031.62	189.14	-12.00	0.00	0.00	189.52	
1182.93	27.69	356.37	1142.24	242.61	-15.39	3.00	0.00	243.10	
4655.96	27.69	356.37	4217.58	1853.13	-117.48	0.00	0.00	1856.85	
5578.88	0.00	0.00	5105.00	2071.39	-131.31	3.00	180.00	2075.55	
8353.88	0.00	0.00	7880.00	2071.39	-131.31	0.00	0.00	2075.55	C03 BH

# **Antero Resources**

**Robinson**

**Robinson C Pad**

**C03 (111379) - Slot C03**

**C03**

**Plan: Robinson C03 P01**

## **Standard Planning Report - Geographic**

**16 May, 2011**

## Planning Report - Geographic

<b>Database:</b>	EDM 5000 SERVER DB	<b>Local Co-ordinate Reference:</b>	Well C03 (111379) - Slot C03
<b>Company:</b>	Antero Resources	<b>TVD Reference:</b>	KB @ 5668.00ft (Original Well Elev)
<b>Project:</b>	Robinson	<b>MD Reference:</b>	KB @ 5668.00ft (Original Well Elev)
<b>Site:</b>	Robinson C Pad	<b>North Reference:</b>	Grid
<b>Well:</b>	C03 (111379)	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	C03		
<b>Design:</b>	Robinson C03 P01		

<b>Project</b>	Robinson		
<b>Map System:</b>	Universal Transverse Mercator (US Survey Feet)	<b>System Datum:</b>	Mean Sea Level
<b>Geo Datum:</b>	North American Datum 1983		
<b>Map Zone:</b>	Zone 13N (108 W to 102 W)		

Site		Robinson C Pad				
Site Position:		Northing:	14,365,851.29 usft	Latitude:	39.527207654°N	
From:	Map	Easting:	884,005.04 usft	Longitude:	107.682381321°W	
Position Uncertainty:		0.00 ft	Slot Radius:	13.20 in	Grid Convergence:	-1.71 °

Well	C03 (111379) - Slot C03					
Well Position	+N/-S	0.00 ft	Northing:	14,365,867.36 usft	Latitude:	39.527264339°N
	+E/-W	0.00 ft	Easting:	884,159.21 usft	Longitude:	107.681836877°W
Position Uncertainty		0.00 ft	Wellhead Elevation:		Ground Level:	5,644.00 ft

<b>Wellbore</b>	C03				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	IGRF2010	8/15/2011	10.19	65.82	52,294

<b>Design</b>	Robinson C03 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	356.37

<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	
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,000.00	24.00	356.37	976.81	164.78	-10.45	3.00	3.00	0.00	356.37	
1,060.00	24.00	356.37	1,031.62	189.14	-12.00	0.00	0.00	0.00	0.00	
1,182.93	27.69	356.37	1,142.24	242.61	-15.39	3.00	3.00	0.00	0.00	
4,655.96	27.69	356.37	4,217.58	1,853.13	-117.48	0.00	0.00	0.00	0.00	
5,578.88	0.00	0.00	5,105.00	2,071.39	-131.31	3.00	-3.00	0.00	180.00	
8,353.88	0.00	0.00	7,880.00	2,071.39	-131.31	0.00	0.00	0.00	0.00	C03 BH

# Planning Report - Geographic

<b>Database:</b>	EDM 5000 SERVER DB	<b>Local Co-ordinate Reference:</b>	Well C03 (111379) - Slot C03
<b>Company:</b>	Antero Resources	<b>TVD Reference:</b>	KB @ 5668.00ft (Original Well Elev)
<b>Project:</b>	Robinson	<b>MD Reference:</b>	KB @ 5668.00ft (Original Well Elev)
<b>Site:</b>	Robinson C Pad	<b>North Reference:</b>	Grid
<b>Well:</b>	C03 (111379)	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	C03		
<b>Design:</b>	Robinson C03 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	14,365,867.36	884,159.21	39.527264339°N	107.681836877°W
100.00	0.00	0.00	100.00	0.00	0.00	14,365,867.36	884,159.21	39.527264339°N	107.681836877°W
200.00	0.00	0.00	200.00	0.00	0.00	14,365,867.36	884,159.21	39.527264339°N	107.681836877°W
<b>KOP 3°/100 at 200 MD/TVD</b>									
300.00	3.00	356.37	299.95	2.61	-0.17	14,365,869.97	884,159.04	39.527271492°N	107.681837740°W
400.00	6.00	356.37	399.63	10.44	-0.66	14,365,877.80	884,158.54	39.527292930°N	107.681840327°W
500.00	9.00	356.37	498.77	23.47	-1.49	14,365,890.82	884,157.72	39.527328595°N	107.681844629°W
600.00	12.00	356.37	597.08	41.65	-2.64	14,365,909.01	884,156.56	39.527378389°N	107.681850637°W
700.00	15.00	356.37	694.31	64.95	-4.12	14,365,932.30	884,155.09	39.527442176°N	107.681858332°W
800.00	18.00	356.37	790.18	93.29	-5.92	14,365,960.64	884,153.29	39.527519780°N	107.681867695°W
900.00	21.00	356.37	884.43	126.60	-8.03	14,365,993.95	884,151.17	39.527610989°N	107.681878699°W
1,000.00	24.00	356.37	976.81	164.78	-10.45	14,366,032.14	884,148.75	39.527715554°N	107.681891314°W
1,025.39	24.02	358.65	1,000.00	175.10	-10.90	14,366,042.46	884,148.30	39.527743822°N	107.681893993°W
<b>Surf Csg at 1025 MD/1000 TVD</b>									
1,060.00	24.00	356.37	1,031.62	189.14	-12.00	14,366,056.50	884,147.21	39.527782244°N	107.681899356°W
<b>Build 3°/100 at 1060 MD/TVD</b>									
1,100.00	25.20	356.37	1,067.99	205.76	-13.05	14,366,073.11	884,146.15	39.527827746°N	107.681904843°W
1,182.93	27.69	356.37	1,142.24	242.61	-15.39	14,366,109.97	884,143.82	39.527928660°N	107.681917011°W
<b>Hold 28° at 1183 MD/1142 TVD</b>									
1,200.00	27.69	356.37	1,157.35	250.53	-15.89	14,366,117.88	884,143.32	39.527950335°N	107.681919625°W
1,300.00	27.69	356.37	1,245.90	296.90	-18.83	14,366,164.26	884,140.38	39.528077312°N	107.681934936°W
1,400.00	27.69	356.37	1,334.45	343.27	-21.77	14,366,210.63	884,137.44	39.528204289°N	107.681950247°W
1,500.00	27.69	356.37	1,423.00	389.64	-24.71	14,366,257.00	884,134.50	39.528331267°N	107.681965559°W
1,600.00	27.69	356.37	1,511.55	436.02	-27.65	14,366,303.37	884,131.56	39.528458244°N	107.681980870°W
1,700.00	27.69	356.37	1,600.10	482.39	-30.59	14,366,349.74	884,128.62	39.528585221°N	107.681996181°W
1,800.00	27.69	356.37	1,688.65	528.76	-33.53	14,366,396.12	884,125.68	39.528712198°N	107.682011493°W
1,900.00	27.69	356.37	1,777.20	575.13	-36.47	14,366,442.49	884,122.74	39.528839176°N	107.682026805°W
2,000.00	27.69	356.37	1,865.75	621.51	-39.41	14,366,488.86	884,119.80	39.528966153°N	107.682042116°W
2,100.00	27.69	356.37	1,954.30	667.88	-42.35	14,366,535.23	884,116.86	39.529093130°N	107.682057428°W
2,200.00	27.69	356.37	2,042.85	714.25	-45.28	14,366,581.61	884,113.92	39.529220107°N	107.682072740°W
2,300.00	27.69	356.37	2,131.40	760.62	-48.22	14,366,627.98	884,110.98	39.529347085°N	107.682088052°W
2,400.00	27.69	356.37	2,219.94	807.00	-51.16	14,366,674.35	884,108.04	39.529474062°N	107.682103364°W
2,500.00	27.69	356.37	2,308.49	853.37	-54.10	14,366,720.72	884,105.10	39.529601039°N	107.682118676°W
2,600.00	27.69	356.37	2,397.04	899.74	-57.04	14,366,767.10	884,102.16	39.529728016°N	107.682133988°W
2,700.00	27.69	356.37	2,485.59	946.11	-59.98	14,366,813.47	884,099.22	39.529854993°N	107.682149300°W
2,800.00	27.69	356.37	2,574.14	992.48	-62.92	14,366,859.84	884,096.28	39.529981971°N	107.682164613°W
2,900.00	27.69	356.37	2,662.69	1,038.86	-65.86	14,366,906.21	884,093.34	39.530108948°N	107.682179925°W
3,000.00	27.69	356.37	2,751.24	1,085.23	-68.80	14,366,952.58	884,090.41	39.530235925°N	107.682195237°W
3,100.00	27.69	356.37	2,839.79	1,131.60	-71.74	14,366,998.96	884,087.47	39.530362902°N	107.682210550°W
3,200.00	27.69	356.37	2,928.34	1,177.97	-74.68	14,367,045.33	884,084.53	39.530489879°N	107.682225862°W
3,300.00	27.69	356.37	3,016.89	1,224.35	-77.62	14,367,091.70	884,081.59	39.530616856°N	107.682241175°W
3,400.00	27.69	356.37	3,105.44	1,270.72	-80.56	14,367,138.07	884,078.65	39.530743834°N	107.682256488°W
3,500.00	27.69	356.37	3,193.99	1,317.09	-83.50	14,367,184.45	884,075.71	39.530870811°N	107.682271800°W
3,600.00	27.69	356.37	3,282.54	1,363.46	-86.44	14,367,230.82	884,072.77	39.530997788°N	107.682287113°W
3,700.00	27.69	356.37	3,371.08	1,409.84	-89.38	14,367,277.19	884,069.83	39.531124765°N	107.682302426°W
3,800.00	27.69	356.37	3,459.63	1,456.21	-92.32	14,367,323.56	884,066.89	39.531251742°N	107.682317739°W
3,900.00	27.69	356.37	3,548.18	1,502.58	-95.26	14,367,369.93	884,063.95	39.531378719°N	107.682333052°W
4,000.00	27.69	356.37	3,636.73	1,548.95	-98.20	14,367,416.31	884,061.01	39.531505696°N	107.682348365°W
4,100.00	27.69	356.37	3,725.28	1,595.32	-101.14	14,367,462.68	884,058.07	39.531632674°N	107.682363678°W
4,200.00	27.69	356.37	3,813.83	1,641.70	-104.08	14,367,509.05	884,055.13	39.531759651°N	107.682378992°W
4,300.00	27.69	356.37	3,902.38	1,688.07	-107.01	14,367,555.42	884,052.19	39.531886628°N	107.682394305°W
4,400.00	27.69	356.37	3,990.93	1,734.44	-109.95	14,367,601.80	884,049.25	39.532013605°N	107.682409618°W
4,500.00	27.69	356.37	4,079.48	1,780.81	-112.89	14,367,648.17	884,046.31	39.532140582°N	107.682424932°W
4,600.00	27.69	356.37	4,168.03	1,827.19	-115.83	14,367,694.54	884,043.37	39.532267559°N	107.682440245°W

# Planning Report - Geographic

<b>Database:</b>	EDM 5000 SERVER DB	<b>Local Co-ordinate Reference:</b>	Well C03 (111379) - Slot C03
<b>Company:</b>	Antero Resources	<b>TVD Reference:</b>	KB @ 5668.00ft (Original Well Elev)
<b>Project:</b>	Robinson	<b>MD Reference:</b>	KB @ 5668.00ft (Original Well Elev)
<b>Site:</b>	Robinson C Pad	<b>North Reference:</b>	Grid
<b>Well:</b>	C03 (111379)	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	C03		
<b>Design:</b>	Robinson C03 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	
4,655.96	27.69	356.37	4,217.58	1,853.14	-117.48	14,367,720.49	884,041.73	39.532338615°N	107.682448815°W	
<b>Drop 3°/100 at 4656 MD/4218 TVD</b>										
4,700.00	26.37	356.37	4,256.81	1,873.11	-118.74	14,367,740.46	884,040.46	39.532393302°N	107.682455410°W	
4,797.25	23.45	356.37	4,345.00	1,913.98	-121.34	14,367,781.33	884,037.87	39.532505211°N	107.682468906°W	
<b>Mesaverde</b>										
4,800.00	23.37	356.37	4,347.53	1,915.07	-121.40	14,367,782.42	884,037.80	39.532508202°N	107.682469267°W	
4,900.00	20.37	356.37	4,440.32	1,952.24	-123.76	14,367,819.59	884,035.45	39.532609969°N	107.682481540°W	
5,000.00	17.37	356.37	4,534.94	1,984.50	-125.81	14,367,851.86	884,033.40	39.532698325°N	107.682492196°W	
5,100.00	14.37	356.37	4,631.12	2,011.79	-127.54	14,367,879.14	884,031.67	39.532773029°N	107.682501206°W	
5,200.00	11.37	356.37	4,728.60	2,034.01	-128.94	14,367,901.36	884,030.26	39.532833874°N	107.682508544°W	
5,300.00	8.37	356.37	4,827.11	2,051.11	-130.03	14,367,918.46	884,029.18	39.532880695°N	107.682514191°W	
5,400.00	5.37	356.37	4,926.38	2,063.04	-130.78	14,367,930.39	884,028.42	39.532913363°N	107.682518130°W	
5,500.00	2.37	356.37	5,026.14	2,069.76	-131.21	14,367,937.12	884,028.00	39.532931788°N	107.682520353°W	
5,578.88	0.00	0.00	5,105.00	2,071.39	-131.31	14,367,938.74	884,027.89	39.532936239°N	107.682520889°W	
<b>Vertical at 5579 MD/5105 TVD - Price Coal</b>										
5,600.00	0.00	0.00	5,126.12	2,071.39	-131.31	14,367,938.74	884,027.89	39.532936239°N	107.682520889°W	
5,700.00	0.00	0.00	5,226.12	2,071.39	-131.31	14,367,938.74	884,027.89	39.532936239°N	107.682520889°W	
5,800.00	0.00	0.00	5,326.12	2,071.39	-131.31	14,367,938.74	884,027.89	39.532936239°N	107.682520889°W	
5,900.00	0.00	0.00	5,426.12	2,071.39	-131.31	14,367,938.74	884,027.89	39.532936239°N	107.682520889°W	
6,000.00	0.00	0.00	5,526.12	2,071.39	-131.31	14,367,938.74	884,027.89	39.532936239°N	107.682520889°W	
6,100.00	0.00	0.00	5,626.12	2,071.39	-131.31	14,367,938.74	884,027.89	39.532936239°N	107.682520889°W	
6,200.00	0.00	0.00	5,726.12	2,071.39	-131.31	14,367,938.74	884,027.89	39.532936239°N	107.682520889°W	
6,300.00	0.00	0.00	5,826.12	2,071.39	-131.31	14,367,938.74	884,027.89	39.532936239°N	107.682520889°W	
6,400.00	0.00	0.00	5,926.12	2,071.39	-131.31	14,367,938.74	884,027.89	39.532936239°N	107.682520889°W	
6,478.88	0.00	0.00	6,005.00	2,071.39	-131.31	14,367,938.74	884,027.89	39.532936239°N	107.682520889°W	
<b>Top Gas</b>										
6,500.00	0.00	0.00	6,026.12	2,071.39	-131.31	14,367,938.74	884,027.89	39.532936239°N	107.682520889°W	
6,600.00	0.00	0.00	6,126.12	2,071.39	-131.31	14,367,938.74	884,027.89	39.532936239°N	107.682520889°W	
6,700.00	0.00	0.00	6,226.12	2,071.39	-131.31	14,367,938.74	884,027.89	39.532936239°N	107.682520889°W	
6,800.00	0.00	0.00	6,326.12	2,071.39	-131.31	14,367,938.74	884,027.89	39.532936239°N	107.682520889°W	
6,900.00	0.00	0.00	6,426.12	2,071.39	-131.31	14,367,938.74	884,027.89	39.532936239°N	107.682520889°W	
7,000.00	0.00	0.00	6,526.12	2,071.39	-131.31	14,367,938.74	884,027.89	39.532936239°N	107.682520889°W	
7,100.00	0.00	0.00	6,626.12	2,071.39	-131.31	14,367,938.74	884,027.89	39.532936239°N	107.682520889°W	
7,200.00	0.00	0.00	6,726.12	2,071.39	-131.31	14,367,938.74	884,027.89	39.532936239°N	107.682520889°W	
7,300.00	0.00	0.00	6,826.12	2,071.39	-131.31	14,367,938.74	884,027.89	39.532936239°N	107.682520889°W	
7,303.88	0.00	0.00	6,830.00	2,071.39	-131.31	14,367,938.74	884,027.89	39.532936239°N	107.682520889°W	
<b>Cameo</b>										
7,400.00	0.00	0.00	6,926.12	2,071.39	-131.31	14,367,938.74	884,027.89	39.532936239°N	107.682520889°W	
7,500.00	0.00	0.00	7,026.12	2,071.39	-131.31	14,367,938.74	884,027.89	39.532936239°N	107.682520889°W	
7,600.00	0.00	0.00	7,126.12	2,071.39	-131.31	14,367,938.74	884,027.89	39.532936239°N	107.682520889°W	
7,700.00	0.00	0.00	7,226.12	2,071.39	-131.31	14,367,938.74	884,027.89	39.532936239°N	107.682520889°W	
7,800.00	0.00	0.00	7,326.12	2,071.39	-131.31	14,367,938.74	884,027.89	39.532936239°N	107.682520889°W	
7,900.00	0.00	0.00	7,426.12	2,071.39	-131.31	14,367,938.74	884,027.89	39.532936239°N	107.682520889°W	
8,000.00	0.00	0.00	7,526.12	2,071.39	-131.31	14,367,938.74	884,027.89	39.532936239°N	107.682520889°W	
8,100.00	0.00	0.00	7,626.12	2,071.39	-131.31	14,367,938.74	884,027.89	39.532936239°N	107.682520889°W	
8,200.00	0.00	0.00	7,726.12	2,071.39	-131.31	14,367,938.74	884,027.89	39.532936239°N	107.682520889°W	
8,203.88	0.00	0.00	7,730.00	2,071.39	-131.31	14,367,938.74	884,027.89	39.532936239°N	107.682520889°W	
<b>Rollins</b>										
8,300.00	0.00	0.00	7,826.12	2,071.39	-131.31	14,367,938.74	884,027.89	39.532936239°N	107.682520889°W	
8,353.88	0.00	0.00	7,880.00	2,071.39	-131.31	14,367,938.74	884,027.89	39.532936239°N	107.682520889°W	
<b>TD at 8354 MD/7880 TVD</b>										

## Planning Report - Geographic

<b>Database:</b>	EDM 5000 SERVER DB	<b>Local Co-ordinate Reference:</b>	Well C03 (111379) - Slot C03
<b>Company:</b>	Antero Resources	<b>TVD Reference:</b>	KB @ 5668.00ft (Original Well Elev)
<b>Project:</b>	Robinson	<b>MD Reference:</b>	KB @ 5668.00ft (Original Well Elev)
<b>Site:</b>	Robinson C Pad	<b>North Reference:</b>	Grid
<b>Well:</b>	C03 (111379)	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	C03		
<b>Design:</b>	Robinson C03 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									
C03 BH	0.00	0.00	7,880.00	2,071.39	-131.31	14,367,938.74	884,027.89	39.532936239°N	107.682520889°W
- plan hits target center									
- Circle (radius 25.00)									

Casing Points					
Measured Depth	Vertical Depth	Name		Casing Diameter	Hole Diameter
(ft)	(ft)			(in)	(in)
1,025.39	1,000.00	Surf Csg at 1025 MD/1000 TVD		5.50	6.00

Formations					
Measured Depth	Vertical Depth	Name		Dip	Dip Direction
(ft)	(ft)			(°)	(°)
4,797.25	4,345.00	Mesaverde			
5,578.88	5,105.00	Price Coal			
6,478.88	6,005.00	Top Gas			
7,303.88	6,830.00	Cameo			
8,203.88	7,730.00	Rollins			

Plan Annotations					
Measured Depth	Vertical Depth	Local Coordinates		Comment	
(ft)	(ft)	+N/-S (ft)	+E/-W (ft)		
200.00	200.00	0.00	0.00	KOP 3°/100 at 200 MD/TVD	
1,060.00	1,031.62	164.78	-10.45	Build 3°/100 at 1060 MD/TVD	
1,182.93	1,142.24	189.14	-12.00	Hold 28° at 1183 MD/1142 TVD	
4,655.96	4,217.58	242.61	-15.39	Drop 3°/100 at 4656 MD/4218 TVD	
5,578.88	5,105.00	1,853.13	-117.48	Vertical at 5579 MD/5105 TVD	
8,353.88	7,880.00	2,071.39	-131.31	TD at 8354 MD/7880 TVD	