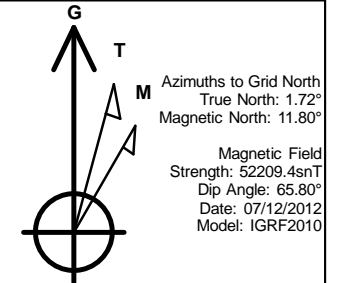


FORMATION TOP DETAILS

TVDPath	MDPath	Formation
4119.00	4119.00	Williams Fork
5004.00	5004.00	Price Coal
6076.00	6173.18	Top of Gas



SECTION DETAILS

MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	Target
0.00	0.00	0.00	0.00	19.90	158.74	0.00	0.00	0.00	
5355.00	0.00	0.00	5355.00	19.90	158.74	0.00	0.00	0.00	
5667.50	25.00	347.00	5657.68	85.28	143.65	8.00	347.00	7.50	
6779.39	90.00	74.52	6295.00	562.57	754.48	8.00	87.75	742.25	BH
11355.59	90.00	74.52	6295.00	1784.15	5164.63	0.00	0.00	5307.68	BH

REFERENCE INFORMATION

Co-ordinate (N/E) Reference: Site River Ranch C, Grid North
Vertical (TVD) Reference: KB @ 5414.00ft (Original Well Elev)
Section (VS) Reference: Slot - C-1H(19.90N, 158.74E)
Measured Depth Reference: KB @ 5414.00ft (Original Well Elev)
Calculation Method: Minimum Curvature

PROJECT DETAILS: River Ranch

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

Antero Resources

River Ranch

River Ranch C

River Ranch C-1H (112005) - Slot C-1H

C-1H

Plan: P03

Standard Planning Report

03 May, 2012

Planning Report

Database:	EDM5000-New	Local Co-ordinate Reference:	Site River Ranch C
Company:	Antero Resources	TVD Reference:	KB @ 5414.00ft (Original Well Elev)
Project:	River Ranch	MD Reference:	KB @ 5414.00ft (Original Well Elev)
Site:	River Ranch C	North Reference:	Grid
Well:	River Ranch C-1H (112005)	Survey Calculation Method:	Minimum Curvature
Wellbore:	C-1H		
Design:	P03		

Project	River Ranch		
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	River Ranch C					
Site Position:		Northing:	14,370,543.45 usft	Latitude:	39.539856944°N	
From:	Map	Easting:	881,282.91 usft	Longitude:	107.692522116°W	
Position Uncertainty:		0.00 ft	Slot Radius:	13.200 in	Grid Convergence:	-1.71 °

Well	River Ranch C-1H (112005) - Slot C-1H					
Well Position	+N/-S	19.90 ft	Northing:	14,370,563.36 usft	Latitude:	39.539924578°N
	+E/-W	158.74 ft	Easting:	881,441.65 usft	Longitude:	107.691961781°W
Position Uncertainty		0.00 ft	Wellhead Elevation:		Ground Level:	5,384.00 ft

Wellbore	C-1H				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	07/12/12	10.08	65.80	52,209

Design	P03			
Audit Notes:				
Version:	Phase:	PLAN	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)
	0.00	19.90	158.74	70.59

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	19.90	158.74	0.00	0.00	0.00	0.00	
5,355.00	0.00	0.00	5,355.00	19.90	158.74	0.00	0.00	0.00	0.00	
5,667.50	25.00	347.00	5,657.68	85.28	143.65	8.00	8.00	0.00	347.00	
6,779.39	90.00	74.52	6,295.00	562.57	754.48	8.00	5.85	7.87	87.75	BH
11,355.59	90.00	74.52	6,295.00	1,784.15	5,164.63	0.00	0.00	0.00	0.00	BH

Planning Report

Database:	EDM5000-New	Local Co-ordinate Reference:	Site River Ranch C
Company:	Antero Resources	TVD Reference:	KB @ 5414.00ft (Original Well Elev)
Project:	River Ranch	MD Reference:	KB @ 5414.00ft (Original Well Elev)
Site:	River Ranch C	North Reference:	Grid
Well:	River Ranch C-1H (112005)	Survey Calculation Method:	Minimum Curvature
Wellbore:	C-1H		
Design:	P03		

Planned 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)
0.00	0.00	0.00	0.00	19.90	158.74	0.00	0.00	0.00	0.00
100.00	0.00	0.00	100.00	19.90	158.74	0.00	0.00	0.00	0.00
200.00	0.00	0.00	200.00	19.90	158.74	0.00	0.00	0.00	0.00
300.00	0.00	0.00	300.00	19.90	158.74	0.00	0.00	0.00	0.00
400.00	0.00	0.00	400.00	19.90	158.74	0.00	0.00	0.00	0.00
500.00	0.00	0.00	500.00	19.90	158.74	0.00	0.00	0.00	0.00
600.00	0.00	0.00	600.00	19.90	158.74	0.00	0.00	0.00	0.00
700.00	0.00	0.00	700.00	19.90	158.74	0.00	0.00	0.00	0.00
800.00	0.00	0.00	800.00	19.90	158.74	0.00	0.00	0.00	0.00
900.00	0.00	0.00	900.00	19.90	158.74	0.00	0.00	0.00	0.00
1,000.00	0.00	0.00	1,000.00	19.90	158.74	0.00	0.00	0.00	0.00
Surf Csg at 1000 MD/TVD									
1,100.00	0.00	0.00	1,100.00	19.90	158.74	0.00	0.00	0.00	0.00
1,200.00	0.00	0.00	1,200.00	19.90	158.74	0.00	0.00	0.00	0.00
1,300.00	0.00	0.00	1,300.00	19.90	158.74	0.00	0.00	0.00	0.00
1,400.00	0.00	0.00	1,400.00	19.90	158.74	0.00	0.00	0.00	0.00
1,500.00	0.00	0.00	1,500.00	19.90	158.74	0.00	0.00	0.00	0.00
1,600.00	0.00	0.00	1,600.00	19.90	158.74	0.00	0.00	0.00	0.00
1,700.00	0.00	0.00	1,700.00	19.90	158.74	0.00	0.00	0.00	0.00
1,800.00	0.00	0.00	1,800.00	19.90	158.74	0.00	0.00	0.00	0.00
1,900.00	0.00	0.00	1,900.00	19.90	158.74	0.00	0.00	0.00	0.00
2,000.00	0.00	0.00	2,000.00	19.90	158.74	0.00	0.00	0.00	0.00
2,100.00	0.00	0.00	2,100.00	19.90	158.74	0.00	0.00	0.00	0.00
2,200.00	0.00	0.00	2,200.00	19.90	158.74	0.00	0.00	0.00	0.00
2,300.00	0.00	0.00	2,300.00	19.90	158.74	0.00	0.00	0.00	0.00
2,400.00	0.00	0.00	2,400.00	19.90	158.74	0.00	0.00	0.00	0.00
2,500.00	0.00	0.00	2,500.00	19.90	158.74	0.00	0.00	0.00	0.00
2,600.00	0.00	0.00	2,600.00	19.90	158.74	0.00	0.00	0.00	0.00
2,700.00	0.00	0.00	2,700.00	19.90	158.74	0.00	0.00	0.00	0.00
2,800.00	0.00	0.00	2,800.00	19.90	158.74	0.00	0.00	0.00	0.00
2,900.00	0.00	0.00	2,900.00	19.90	158.74	0.00	0.00	0.00	0.00
3,000.00	0.00	0.00	3,000.00	19.90	158.74	0.00	0.00	0.00	0.00
3,100.00	0.00	0.00	3,100.00	19.90	158.74	0.00	0.00	0.00	0.00
3,200.00	0.00	0.00	3,200.00	19.90	158.74	0.00	0.00	0.00	0.00
3,300.00	0.00	0.00	3,300.00	19.90	158.74	0.00	0.00	0.00	0.00
ICP at 3300 MD/TVD									
3,400.00	0.00	0.00	3,400.00	19.90	158.74	0.00	0.00	0.00	0.00
3,500.00	0.00	0.00	3,500.00	19.90	158.74	0.00	0.00	0.00	0.00
3,600.00	0.00	0.00	3,600.00	19.90	158.74	0.00	0.00	0.00	0.00
3,700.00	0.00	0.00	3,700.00	19.90	158.74	0.00	0.00	0.00	0.00
3,800.00	0.00	0.00	3,800.00	19.90	158.74	0.00	0.00	0.00	0.00
3,900.00	0.00	0.00	3,900.00	19.90	158.74	0.00	0.00	0.00	0.00
4,000.00	0.00	0.00	4,000.00	19.90	158.74	0.00	0.00	0.00	0.00
4,100.00	0.00	0.00	4,100.00	19.90	158.74	0.00	0.00	0.00	0.00
4,119.00	0.00	0.00	4,119.00	19.90	158.74	0.00	0.00	0.00	0.00
Williams Fork									
4,200.00	0.00	0.00	4,200.00	19.90	158.74	0.00	0.00	0.00	0.00
4,300.00	0.00	0.00	4,300.00	19.90	158.74	0.00	0.00	0.00	0.00
4,400.00	0.00	0.00	4,400.00	19.90	158.74	0.00	0.00	0.00	0.00
4,500.00	0.00	0.00	4,500.00	19.90	158.74	0.00	0.00	0.00	0.00
4,600.00	0.00	0.00	4,600.00	19.90	158.74	0.00	0.00	0.00	0.00
4,700.00	0.00	0.00	4,700.00	19.90	158.74	0.00	0.00	0.00	0.00
4,800.00	0.00	0.00	4,800.00	19.90	158.74	0.00	0.00	0.00	0.00

Planning Report

Database:	EDM5000-New	Local Co-ordinate Reference:	Site River Ranch C
Company:	Antero Resources	TVD Reference:	KB @ 5414.00ft (Original Well Elev)
Project:	River Ranch	MD Reference:	KB @ 5414.00ft (Original Well Elev)
Site:	River Ranch C	North Reference:	Grid
Well:	River Ranch C-1H (112005)	Survey Calculation Method:	Minimum Curvature
Wellbore:	C-1H		
Design:	P03		

Planned 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)
4,900.00	0.00	0.00	4,900.00	19.90	158.74	0.00	0.00	0.00	0.00
5,000.00	0.00	0.00	5,000.00	19.90	158.74	0.00	0.00	0.00	0.00
5,004.00	0.00	0.00	5,004.00	19.90	158.74	0.00	0.00	0.00	0.00
Price Coal									
5,100.00	0.00	0.00	5,100.00	19.90	158.74	0.00	0.00	0.00	0.00
5,200.00	0.00	0.00	5,200.00	19.90	158.74	0.00	0.00	0.00	0.00
5,300.00	0.00	0.00	5,300.00	19.90	158.74	0.00	0.00	0.00	0.00
5,355.00	0.00	0.00	5,355.00	19.90	158.74	0.00	0.00	0.00	0.00
KOP 8°/100 at 5355 MD/TVD									
5,400.00	3.60	347.00	5,399.97	21.28	158.42	0.16	8.00	8.00	0.00
5,500.00	11.60	347.00	5,499.01	34.15	155.45	1.63	8.00	8.00	0.00
5,600.00	19.60	347.00	5,595.25	60.34	149.41	4.64	8.00	8.00	0.00
5,667.50	25.00	347.00	5,657.68	85.28	143.65	7.50	8.00	8.00	0.00
Start turn at 5668 MD/5658 TVD									
5,700.00	25.23	353.10	5,687.11	98.85	141.27	9.77	8.00	0.70	18.78
5,800.00	27.40	10.54	5,776.88	142.71	142.92	25.90	8.00	2.18	17.43
5,900.00	31.39	24.73	5,864.09	189.06	158.05	55.58	8.00	3.98	14.19
6,000.00	36.59	35.65	5,947.06	237.00	186.36	98.21	8.00	5.20	10.91
6,100.00	42.56	44.03	6,024.16	285.62	227.30	152.98	8.00	5.97	8.38
6,173.18	47.25	49.00	6,076.00	321.07	264.81	200.14	8.00	6.40	6.80
Top of Gas									
6,200.00	49.01	50.64	6,093.90	333.95	280.07	218.81	8.00	6.59	6.09
6,300.00	55.78	56.04	6,154.92	381.05	343.64	294.43	8.00	6.76	5.40
6,400.00	62.74	60.63	6,206.02	426.02	416.79	378.36	8.00	6.96	4.59
6,500.00	69.84	64.67	6,246.22	467.97	498.07	468.97	8.00	7.10	4.04
6,600.00	77.02	68.35	6,274.74	506.09	585.92	564.50	8.00	7.18	3.68
6,700.00	84.25	71.83	6,291.01	539.63	678.63	663.08	8.00	7.23	3.48
6,779.39	90.00	74.52	6,295.00	562.57	754.48	742.25	8.00	7.25	3.39
Hold 90° at 6779 MD/6295 TVD									
6,800.00	90.00	74.52	6,295.00	568.07	774.34	762.81	0.00	0.00	0.00
6,900.00	90.00	74.52	6,295.00	594.76	870.72	862.57	0.00	0.00	0.00
7,000.00	90.00	74.52	6,295.00	621.46	967.09	962.34	0.00	0.00	0.00
7,100.00	90.00	74.52	6,295.00	648.15	1,063.46	1,062.10	0.00	0.00	0.00
7,200.00	90.00	74.52	6,295.00	674.85	1,159.83	1,161.87	0.00	0.00	0.00
7,300.00	90.00	74.52	6,295.00	701.54	1,256.20	1,261.63	0.00	0.00	0.00
7,400.00	90.00	74.52	6,295.00	728.24	1,352.57	1,361.40	0.00	0.00	0.00
7,500.00	90.00	74.52	6,295.00	754.93	1,448.94	1,461.16	0.00	0.00	0.00
7,600.00	90.00	74.52	6,295.00	781.62	1,545.32	1,560.93	0.00	0.00	0.00
7,700.00	90.00	74.52	6,295.00	808.32	1,641.69	1,660.69	0.00	0.00	0.00
7,800.00	90.00	74.52	6,295.00	835.01	1,738.06	1,760.46	0.00	0.00	0.00
7,900.00	90.00	74.52	6,295.00	861.71	1,834.43	1,860.22	0.00	0.00	0.00
8,000.00	90.00	74.52	6,295.00	888.40	1,930.80	1,959.98	0.00	0.00	0.00
8,100.00	90.00	74.52	6,295.00	915.09	2,027.17	2,059.75	0.00	0.00	0.00
8,200.00	90.00	74.52	6,295.00	941.79	2,123.54	2,159.51	0.00	0.00	0.00
8,300.00	90.00	74.52	6,295.00	968.48	2,219.91	2,259.28	0.00	0.00	0.00
8,400.00	90.00	74.52	6,295.00	995.18	2,316.29	2,359.04	0.00	0.00	0.00
8,500.00	90.00	74.52	6,295.00	1,021.87	2,412.66	2,458.81	0.00	0.00	0.00
8,600.00	90.00	74.52	6,295.00	1,048.57	2,509.03	2,558.57	0.00	0.00	0.00
8,700.00	90.00	74.52	6,295.00	1,075.26	2,605.40	2,658.34	0.00	0.00	0.00
8,800.00	90.00	74.52	6,295.00	1,101.95	2,701.77	2,758.10	0.00	0.00	0.00
8,900.00	90.00	74.52	6,295.00	1,128.65	2,798.14	2,857.87	0.00	0.00	0.00
9,000.00	90.00	74.52	6,295.00	1,155.34	2,894.51	2,957.63	0.00	0.00	0.00
9,100.00	90.00	74.52	6,295.00	1,182.04	2,990.88	3,057.40	0.00	0.00	0.00
9,200.00	90.00	74.52	6,295.00	1,208.73	3,087.26	3,157.16	0.00	0.00	0.00

Planning Report

Database:	EDM5000-New	Local Co-ordinate Reference:	Site River Ranch C
Company:	Antero Resources	TVD Reference:	KB @ 5414.00ft (Original Well Elev)
Project:	River Ranch	MD Reference:	KB @ 5414.00ft (Original Well Elev)
Site:	River Ranch C	North Reference:	Grid
Well:	River Ranch C-1H (112005)	Survey Calculation Method:	Minimum Curvature
Wellbore:	C-1H		
Design:	P03		

Planned 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)
9,300.00	90.00	74.52	6,295.00	1,235.42	3,183.63	3,256.92	0.00	0.00	0.00
9,400.00	90.00	74.52	6,295.00	1,262.12	3,280.00	3,356.69	0.00	0.00	0.00
9,500.00	90.00	74.52	6,295.00	1,288.81	3,376.37	3,456.45	0.00	0.00	0.00
9,600.00	90.00	74.52	6,295.00	1,315.51	3,472.74	3,556.22	0.00	0.00	0.00
9,700.00	90.00	74.52	6,295.00	1,342.20	3,569.11	3,655.98	0.00	0.00	0.00
9,800.00	90.00	74.52	6,295.00	1,368.89	3,665.48	3,755.75	0.00	0.00	0.00
9,900.00	90.00	74.52	6,295.00	1,395.59	3,761.85	3,855.51	0.00	0.00	0.00
10,000.00	90.00	74.52	6,295.00	1,422.28	3,858.23	3,955.28	0.00	0.00	0.00
10,100.00	90.00	74.52	6,295.00	1,448.98	3,954.60	4,055.04	0.00	0.00	0.00
10,200.00	90.00	74.52	6,295.00	1,475.67	4,050.97	4,154.81	0.00	0.00	0.00
10,300.00	90.00	74.52	6,295.00	1,502.37	4,147.34	4,254.57	0.00	0.00	0.00
10,400.00	90.00	74.52	6,295.00	1,529.06	4,243.71	4,354.34	0.00	0.00	0.00
10,500.00	90.00	74.52	6,295.00	1,555.75	4,340.08	4,454.10	0.00	0.00	0.00
10,600.00	90.00	74.52	6,295.00	1,582.45	4,436.45	4,553.86	0.00	0.00	0.00
10,700.00	90.00	74.52	6,295.00	1,609.14	4,532.82	4,653.63	0.00	0.00	0.00
10,800.00	90.00	74.52	6,295.00	1,635.84	4,629.20	4,753.39	0.00	0.00	0.00
10,900.00	90.00	74.52	6,295.00	1,662.53	4,725.57	4,853.16	0.00	0.00	0.00
11,000.00	90.00	74.52	6,295.00	1,689.22	4,821.94	4,952.92	0.00	0.00	0.00
11,100.00	90.00	74.52	6,295.00	1,715.92	4,918.31	5,052.69	0.00	0.00	0.00
11,200.00	90.00	74.52	6,295.00	1,742.61	5,014.68	5,152.45	0.00	0.00	0.00
11,300.00	90.00	74.52	6,295.00	1,769.31	5,111.05	5,252.22	0.00	0.00	0.00
11,355.58	90.00	74.52	6,295.00	1,784.14	5,164.62	5,307.67	0.00	0.00	0.00
TD at 11356 MD/6295 TVD									
11,355.59	90.00	74.52	6,295.00	1,784.15	5,164.63	5,307.68	0.00	0.00	0.00

Design Targets									
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (usft)	Easting (usft)	Latitude	Longitude
- hit/miss target									
- Shape									
BH	0.00	0.00	6,295.00	1,784.15	5,164.63	14,372,327.60	886,447.53	39.545174333°N	107.674410855°W
- plan hits target center									
- Point									

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	10.750	12.250	
3,300.00	3,300.00	ICP at 3300 MD/TVD	8.625	9.785	

Formations					
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
4,119.00	4,119.00	Williams Fork			
5,004.00	5,004.00	Price Coal			
6,173.18	6,076.00	Top of Gas			

Planning Report

Database:	EDM5000-New	Local Co-ordinate Reference:	Site River Ranch C
Company:	Antero Resources	TVD Reference:	KB @ 5414.00ft (Original Well Elev)
Project:	River Ranch	MD Reference:	KB @ 5414.00ft (Original Well Elev)
Site:	River Ranch C	North Reference:	Grid
Well:	River Ranch C-1H (112005)	Survey Calculation Method:	Minimum Curvature
Wellbore:	C-1H		
Design:	P03		

Plan Annotations				
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
5,355.00	5,355.00	19.90	158.74	KOP 8°/100 at 5355 MD/TVD
5,667.50	5,657.68	85.28	143.65	Start turn at 5668 MD/5658 TVD
6,779.39	6,295.00	562.57	754.48	Hold 90° at 6779 MD/6295 TVD
11,355.58	6,295.00	1,784.14	5,164.62	TD at 11356 MD/6295 TVD