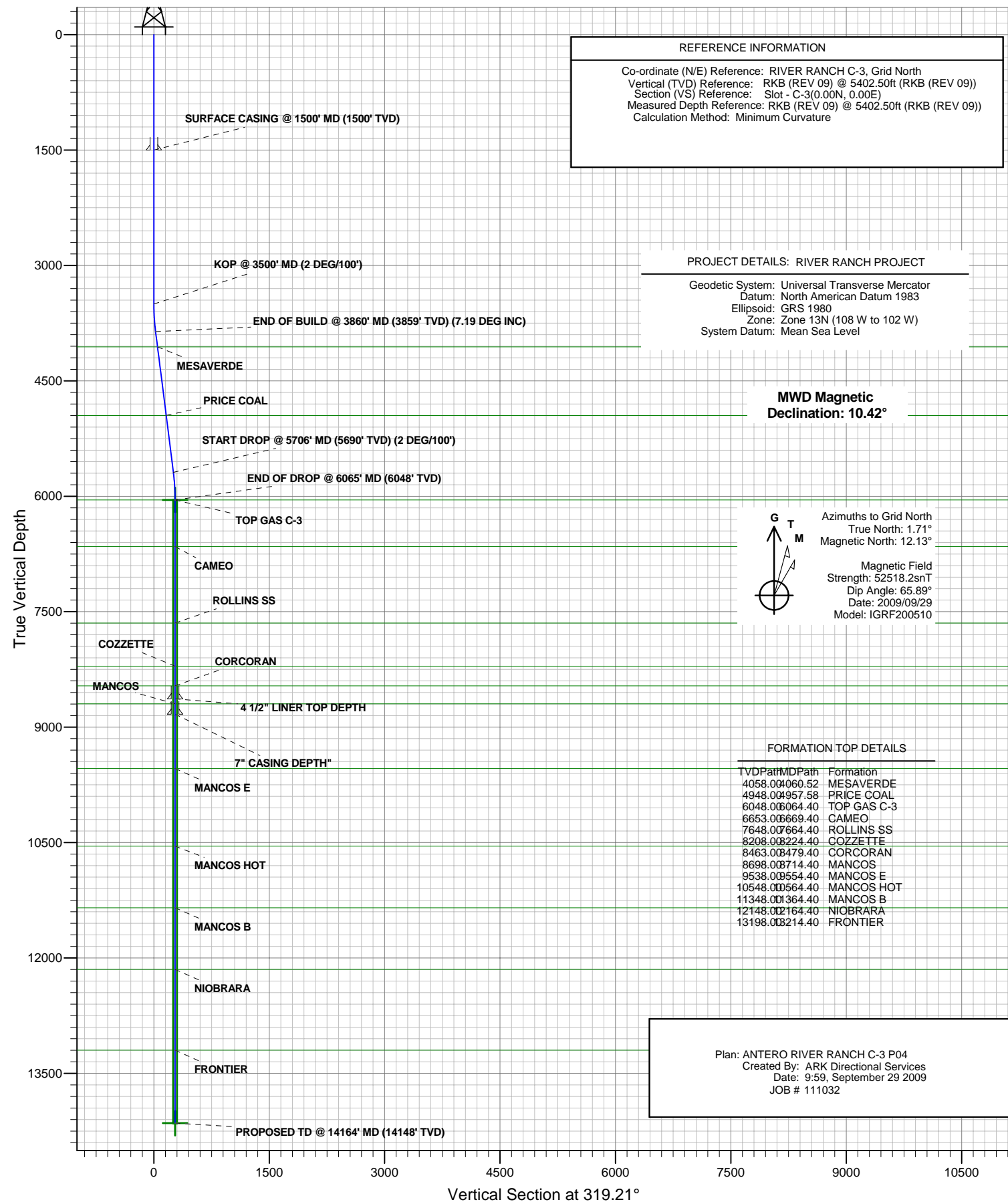




# ANTERO RESOURCES

## ANTERO RIVER RANCH C-3



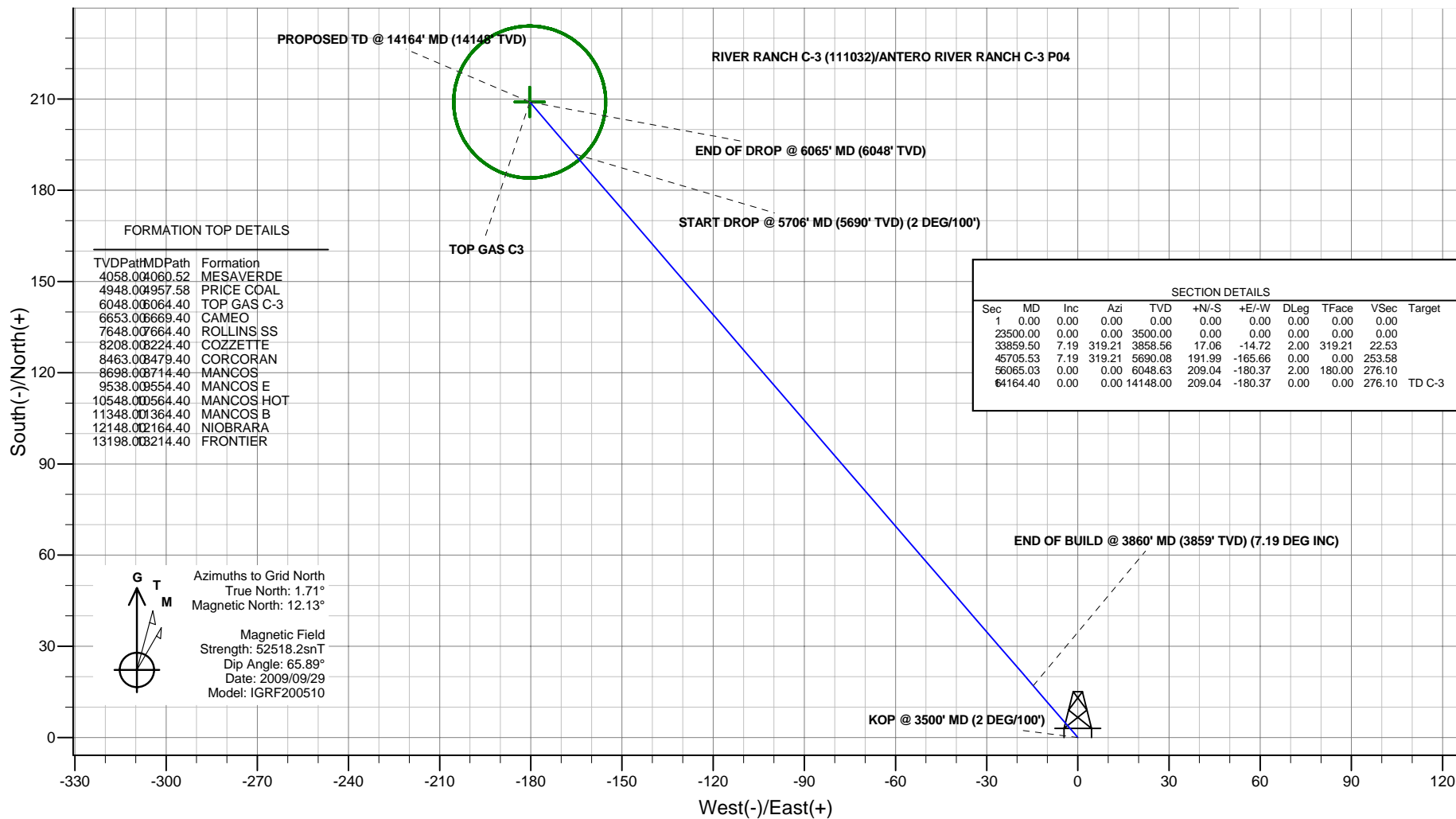


## ANTERO RESOURCES

Project: RIVER RANCH PROJECT  
Site: FRONTIER 14  
Well: RIVER RANCH C-3 (111032)  
Wellbore: ANTERO RIVER RANCH C-3  
Design: ANTERO RIVER RANCH C-3 P04  
JOB # 111032



### PLAN VIEW



Plan: ANTERO RIVER RANCH C-3 P04  
Created By: ARK Directional Services  
Date: 10:01, September 29 2009

#### PROJECT DETAILS: RIVER RANCH PROJECT

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

#### REFERENCE INFORMATION

Co-ordinate (N/E) Reference: RIVER RANCH C-3, Grid North  
Vertical (TVD) Reference: RKB (REV 09) @ 5402.50ft (RKB (REV 09))  
Section (VS) Reference: Slot - C-3(0.00N, 0.00E)  
Measured Depth Reference: RKB (REV 09) @ 5402.50ft (RKB (REV 09))  
Calculation Method: Minimum Curvature

# **ANTERO RESOURCES**

**RIVER RANCH PROJECT  
FRONTIER 14**

**Plan: ANTERO RIVER RANCH C-3 P04**

## **Standard Planning Report - Geographic**

**29 September, 2009**

# Planning Report - Geographic

<b>Database:</b>	EDMDB	<b>Local Co-ordinate Reference:</b>	Well RIVER RANCH C-3 (111032) - Slot C-3
<b>Company:</b>	ANTERO RESOURCES	<b>TVD Reference:</b>	RKB (REV 09) @ 5402.50ft (RKB (REV 09))
<b>Project:</b>	RIVER RANCH PROJECT	<b>MD Reference:</b>	RKB (REV 09) @ 5402.50ft (RKB (REV 09))
<b>Site:</b>	FRONTIER 14	<b>North Reference:</b>	Grid
<b>Well:</b>	RIVER RANCH C-3 (111032)	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	ANTERO RIVER RANCH C-3		
<b>Design:</b>	ANTERO RIVER RANCH C-3 P04		

<b>Project</b>	RIVER RANCH PROJECT		
<b>Map System:</b>	Universal Transverse Mercator	<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		FRONTIER 14			
Site Position:		Northing:	14,370,543.45 ft	Latitude:	39° 32' 23.485 N
From:	Map	Easting:	881,282.91 ft	Longitude:	107° 41' 33.080 W
Position Uncertainty:	0.00 ft	Slot Radius:	in	Grid Convergence:	-1.71 °

Well	RIVER RANCH C-3 (111032) - Slot C-3					
Well Position	+N/-S	0.00 ft	Northing:	14,370,543.45 ft	Latitude:	39° 32' 23.485 N
	+E/-W	0.00 ft	Easting:	881,282.91 ft	Longitude:	107° 41' 33.080 W
Position Uncertainty		0.00 ft	Wellhead Elevation:	ft	Ground Level:	5,384.00 ft

<b>Wellbore</b>	ANTERO RIVER RANCH C-3				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	IGRF200510	2009/09/29	10.42	65.89	52,518

<b>Design</b>	ANTERO RIVER RANCH C-3 P04			
<b>Audit Notes:</b>				
<b>Version:</b>	<b>Phase:</b>	PLAN	<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	319.21

<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	
3,500.00	0.00	0.00	3,500.00	0.00	0.00	0.00	0.00	0.00	0.00	
3,859.50	7.19	319.21	3,858.56	17.06	-14.72	2.00	2.00	0.00	319.21	
5,705.53	7.19	319.21	5,690.08	191.99	-165.66	0.00	0.00	0.00	0.00	
6,065.03	0.00	0.00	6,048.63	209.04	-180.37	2.00	-2.00	0.00	180.00	
14,164.40	0.00	0.00	14,148.00	209.04	-180.37	0.00	0.00	0.00	0.00	TD C-3

# Planning Report - Geographic

<b>Database:</b>	EDMDB	<b>Local Co-ordinate Reference:</b>	Well RIVER RANCH C-3 (111032) - Slot C-3
<b>Company:</b>	ANTERO RESOURCES	<b>TVD Reference:</b>	RKB (REV 09) @ 5402.50ft (RKB (REV 09))
<b>Project:</b>	RIVER RANCH PROJECT	<b>MD Reference:</b>	RKB (REV 09) @ 5402.50ft (RKB (REV 09))
<b>Site:</b>	FRONTIER 14	<b>North Reference:</b>	Grid
<b>Well:</b>	RIVER RANCH C-3 (111032)	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	ANTERO RIVER RANCH C-3		
<b>Design:</b>	ANTERO RIVER RANCH C-3 P04		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (ft)	Map Easting (ft)	Latitude	Longitude
0.00	0.00	0.00	0.00	0.00	0.00	14,370,543.45	881,282.91	39° 32' 23.485 N	107° 41' 33.080 W
100.00	0.00	0.00	100.00	0.00	0.00	14,370,543.45	881,282.91	39° 32' 23.485 N	107° 41' 33.080 W
200.00	0.00	0.00	200.00	0.00	0.00	14,370,543.45	881,282.91	39° 32' 23.485 N	107° 41' 33.080 W
300.00	0.00	0.00	300.00	0.00	0.00	14,370,543.45	881,282.91	39° 32' 23.485 N	107° 41' 33.080 W
400.00	0.00	0.00	400.00	0.00	0.00	14,370,543.45	881,282.91	39° 32' 23.485 N	107° 41' 33.080 W
500.00	0.00	0.00	500.00	0.00	0.00	14,370,543.45	881,282.91	39° 32' 23.485 N	107° 41' 33.080 W
600.00	0.00	0.00	600.00	0.00	0.00	14,370,543.45	881,282.91	39° 32' 23.485 N	107° 41' 33.080 W
700.00	0.00	0.00	700.00	0.00	0.00	14,370,543.45	881,282.91	39° 32' 23.485 N	107° 41' 33.080 W
800.00	0.00	0.00	800.00	0.00	0.00	14,370,543.45	881,282.91	39° 32' 23.485 N	107° 41' 33.080 W
900.00	0.00	0.00	900.00	0.00	0.00	14,370,543.45	881,282.91	39° 32' 23.485 N	107° 41' 33.080 W
1,000.00	0.00	0.00	1,000.00	0.00	0.00	14,370,543.45	881,282.91	39° 32' 23.485 N	107° 41' 33.080 W
1,100.00	0.00	0.00	1,100.00	0.00	0.00	14,370,543.45	881,282.91	39° 32' 23.485 N	107° 41' 33.080 W
1,200.00	0.00	0.00	1,200.00	0.00	0.00	14,370,543.45	881,282.91	39° 32' 23.485 N	107° 41' 33.080 W
1,300.00	0.00	0.00	1,300.00	0.00	0.00	14,370,543.45	881,282.91	39° 32' 23.485 N	107° 41' 33.080 W
1,400.00	0.00	0.00	1,400.00	0.00	0.00	14,370,543.45	881,282.91	39° 32' 23.485 N	107° 41' 33.080 W
1,500.00	0.00	0.00	1,500.00	0.00	0.00	14,370,543.45	881,282.91	39° 32' 23.485 N	107° 41' 33.080 W
<b>SURFACE CASING @ 1500' MD (1500' TVD)</b>									
1,600.00	0.00	0.00	1,600.00	0.00	0.00	14,370,543.45	881,282.91	39° 32' 23.485 N	107° 41' 33.080 W
1,700.00	0.00	0.00	1,700.00	0.00	0.00	14,370,543.45	881,282.91	39° 32' 23.485 N	107° 41' 33.080 W
1,800.00	0.00	0.00	1,800.00	0.00	0.00	14,370,543.45	881,282.91	39° 32' 23.485 N	107° 41' 33.080 W
1,900.00	0.00	0.00	1,900.00	0.00	0.00	14,370,543.45	881,282.91	39° 32' 23.485 N	107° 41' 33.080 W
2,000.00	0.00	0.00	2,000.00	0.00	0.00	14,370,543.45	881,282.91	39° 32' 23.485 N	107° 41' 33.080 W
2,100.00	0.00	0.00	2,100.00	0.00	0.00	14,370,543.45	881,282.91	39° 32' 23.485 N	107° 41' 33.080 W
2,200.00	0.00	0.00	2,200.00	0.00	0.00	14,370,543.45	881,282.91	39° 32' 23.485 N	107° 41' 33.080 W
2,300.00	0.00	0.00	2,300.00	0.00	0.00	14,370,543.45	881,282.91	39° 32' 23.485 N	107° 41' 33.080 W
2,400.00	0.00	0.00	2,400.00	0.00	0.00	14,370,543.45	881,282.91	39° 32' 23.485 N	107° 41' 33.080 W
2,500.00	0.00	0.00	2,500.00	0.00	0.00	14,370,543.45	881,282.91	39° 32' 23.485 N	107° 41' 33.080 W
2,600.00	0.00	0.00	2,600.00	0.00	0.00	14,370,543.45	881,282.91	39° 32' 23.485 N	107° 41' 33.080 W
2,700.00	0.00	0.00	2,700.00	0.00	0.00	14,370,543.45	881,282.91	39° 32' 23.485 N	107° 41' 33.080 W
2,800.00	0.00	0.00	2,800.00	0.00	0.00	14,370,543.45	881,282.91	39° 32' 23.485 N	107° 41' 33.080 W
2,900.00	0.00	0.00	2,900.00	0.00	0.00	14,370,543.45	881,282.91	39° 32' 23.485 N	107° 41' 33.080 W
3,000.00	0.00	0.00	3,000.00	0.00	0.00	14,370,543.45	881,282.91	39° 32' 23.485 N	107° 41' 33.080 W
3,100.00	0.00	0.00	3,100.00	0.00	0.00	14,370,543.45	881,282.91	39° 32' 23.485 N	107° 41' 33.080 W
3,200.00	0.00	0.00	3,200.00	0.00	0.00	14,370,543.45	881,282.91	39° 32' 23.485 N	107° 41' 33.080 W
3,300.00	0.00	0.00	3,300.00	0.00	0.00	14,370,543.45	881,282.91	39° 32' 23.485 N	107° 41' 33.080 W
3,400.00	0.00	0.00	3,400.00	0.00	0.00	14,370,543.45	881,282.91	39° 32' 23.485 N	107° 41' 33.080 W
3,500.00	0.00	0.00	3,500.00	0.00	0.00	14,370,543.45	881,282.91	39° 32' 23.485 N	107° 41' 33.080 W
<b>KOP @ 3500' MD (2 DEG/100')</b>									
3,600.00	2.00	319.21	3,599.98	1.32	-1.14	14,370,544.77	881,281.77	39° 32' 23.498 N	107° 41' 33.095 W
3,700.00	4.00	319.21	3,699.84	5.28	-4.56	14,370,548.74	881,278.35	39° 32' 23.536 N	107° 41' 33.140 W
3,800.00	6.00	319.21	3,799.45	11.88	-10.25	14,370,555.33	881,272.66	39° 32' 23.599 N	107° 41' 33.215 W
3,859.50	7.19	319.21	3,858.56	17.06	-14.72	14,370,560.51	881,268.19	39° 32' 23.649 N	107° 41' 33.274 W
<b>END OF BUILD @ 3860' MD (3859' TVD) (7.19 DEG INC)</b>									
3,900.00	7.19	319.21	3,898.74	20.89	-18.03	14,370,564.35	881,264.88	39° 32' 23.686 N	107° 41' 33.318 W
4,000.00	7.19	319.21	3,997.95	30.37	-26.20	14,370,573.82	881,256.71	39° 32' 23.777 N	107° 41' 33.425 W
4,060.52	7.19	319.21	4,058.00	36.10	-31.15	14,370,579.56	881,251.76	39° 32' 23.832 N	107° 41' 33.491 W
<b>MESAVERDE</b>									
4,100.00	7.19	319.21	4,097.17	39.85	-34.38	14,370,583.30	881,248.53	39° 32' 23.868 N	107° 41' 33.533 W
4,200.00	7.19	319.21	4,196.38	49.32	-42.56	14,370,592.77	881,240.35	39° 32' 23.960 N	107° 41' 33.641 W
4,300.00	7.19	319.21	4,295.59	58.80	-50.73	14,370,602.25	881,232.18	39° 32' 24.051 N	107° 41' 33.749 W
4,400.00	7.19	319.21	4,394.81	68.27	-58.91	14,370,611.73	881,224.00	39° 32' 24.142 N	107° 41' 33.857 W
4,500.00	7.19	319.21	4,494.02	77.75	-67.09	14,370,621.20	881,215.82	39° 32' 24.233 N	107° 41' 33.965 W
4,600.00	7.19	319.21	4,593.23	87.23	-75.26	14,370,630.68	881,207.65	39° 32' 24.324 N	107° 41' 34.073 W
4,700.00	7.19	319.21	4,692.45	96.70	-83.44	14,370,640.15	881,199.47	39° 32' 24.415 N	107° 41' 34.181 W

# Planning Report - Geographic

<b>Database:</b>	EDMDB	<b>Local Co-ordinate Reference:</b>	Well RIVER RANCH C-3 (111032) - Slot C-3
<b>Company:</b>	ANTERO RESOURCES	<b>TVD Reference:</b>	RKB (REV 09) @ 5402.50ft (RKB (REV 09))
<b>Project:</b>	RIVER RANCH PROJECT	<b>MD Reference:</b>	RKB (REV 09) @ 5402.50ft (RKB (REV 09))
<b>Site:</b>	FRONTIER 14	<b>North Reference:</b>	Grid
<b>Well:</b>	RIVER RANCH C-3 (111032)	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	ANTERO RIVER RANCH C-3		
<b>Design:</b>	ANTERO RIVER RANCH C-3 P04		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (ft)	Map Easting (ft)	Latitude	Longitude
4,800.00	7.19	319.21	4,791.66	106.18	-91.62	14,370,649.63	881,191.29	39° 32' 24.507 N	107° 41' 34.289 W
4,900.00	7.19	319.21	4,890.88	115.65	-99.79	14,370,659.11	881,183.12	39° 32' 24.598 N	107° 41' 34.397 W
4,957.58	7.19	319.21	4,948.00	121.11	-104.50	14,370,664.56	881,178.41	39° 32' 24.650 N	107° 41' 34.459 W
<b>PRICE COAL</b>									
5,000.00	7.19	319.21	4,990.09	125.13	-107.97	14,370,668.58	881,174.94	39° 32' 24.689 N	107° 41' 34.505 W
5,100.00	7.19	319.21	5,089.30	134.61	-116.14	14,370,678.06	881,166.77	39° 32' 24.780 N	107° 41' 34.613 W
5,200.00	7.19	319.21	5,188.52	144.08	-124.32	14,370,687.54	881,158.59	39° 32' 24.871 N	107° 41' 34.720 W
5,300.00	7.19	319.21	5,287.73	153.56	-132.50	14,370,697.01	881,150.41	39° 32' 24.962 N	107° 41' 34.828 W
5,400.00	7.19	319.21	5,386.94	163.04	-140.67	14,370,706.49	881,142.24	39° 32' 25.054 N	107° 41' 34.936 W
5,500.00	7.19	319.21	5,486.16	172.51	-148.85	14,370,715.96	881,134.06	39° 32' 25.145 N	107° 41' 35.044 W
5,600.00	7.19	319.21	5,585.37	181.99	-157.03	14,370,725.44	881,125.88	39° 32' 25.236 N	107° 41' 35.152 W
5,705.53	7.19	319.21	5,690.07	191.99	-165.66	14,370,735.44	881,117.25	39° 32' 25.332 N	107° 41' 35.266 W
<b>START DROP @ 5706' MD (5690' TVD) (2 DEG/100')</b>									
5,800.00	5.30	319.21	5,783.98	199.77	-172.37	14,370,743.22	881,110.54	39° 32' 25.407 N	107° 41' 35.355 W
5,900.00	3.30	319.21	5,883.69	205.45	-177.27	14,370,748.90	881,105.64	39° 32' 25.462 N	107° 41' 35.419 W
6,000.00	1.30	319.21	5,983.60	208.49	-179.89	14,370,751.94	881,103.02	39° 32' 25.491 N	107° 41' 35.454 W
6,064.40	0.01	319.21	6,048.00	209.04	-180.37	14,370,752.50	881,102.54	39° 32' 25.496 N	107° 41' 35.460 W
<b>TOP GAS C-3 - TOP GAS C3</b>									
6,065.03	0.00	319.21	6,048.63	209.04	-180.37	14,370,752.50	881,102.54	39° 32' 25.496 N	107° 41' 35.460 W
<b>END OF DROP @ 6065' MD (6048' TVD)</b>									
6,100.00	0.00	0.00	6,083.60	209.04	-180.37	14,370,752.50	881,102.54	39° 32' 25.496 N	107° 41' 35.460 W
6,200.00	0.00	0.00	6,183.60	209.04	-180.37	14,370,752.50	881,102.54	39° 32' 25.496 N	107° 41' 35.460 W
6,300.00	0.00	0.00	6,283.60	209.04	-180.37	14,370,752.50	881,102.54	39° 32' 25.496 N	107° 41' 35.460 W
6,400.00	0.00	0.00	6,383.60	209.04	-180.37	14,370,752.50	881,102.54	39° 32' 25.496 N	107° 41' 35.460 W
6,500.00	0.00	0.00	6,483.60	209.04	-180.37	14,370,752.50	881,102.54	39° 32' 25.496 N	107° 41' 35.460 W
6,600.00	0.00	0.00	6,583.60	209.04	-180.37	14,370,752.50	881,102.54	39° 32' 25.496 N	107° 41' 35.460 W
6,669.40	0.00	0.00	6,653.00	209.04	-180.37	14,370,752.50	881,102.54	39° 32' 25.496 N	107° 41' 35.460 W
<b>CAMEO</b>									
6,700.00	0.00	0.00	6,683.60	209.04	-180.37	14,370,752.50	881,102.54	39° 32' 25.496 N	107° 41' 35.460 W
6,800.00	0.00	0.00	6,783.60	209.04	-180.37	14,370,752.50	881,102.54	39° 32' 25.496 N	107° 41' 35.460 W
6,900.00	0.00	0.00	6,883.60	209.04	-180.37	14,370,752.50	881,102.54	39° 32' 25.496 N	107° 41' 35.460 W
7,000.00	0.00	0.00	6,983.60	209.04	-180.37	14,370,752.50	881,102.54	39° 32' 25.496 N	107° 41' 35.460 W
7,100.00	0.00	0.00	7,083.60	209.04	-180.37	14,370,752.50	881,102.54	39° 32' 25.496 N	107° 41' 35.460 W
7,200.00	0.00	0.00	7,183.60	209.04	-180.37	14,370,752.50	881,102.54	39° 32' 25.496 N	107° 41' 35.460 W
7,300.00	0.00	0.00	7,283.60	209.04	-180.37	14,370,752.50	881,102.54	39° 32' 25.496 N	107° 41' 35.460 W
7,400.00	0.00	0.00	7,383.60	209.04	-180.37	14,370,752.50	881,102.54	39° 32' 25.496 N	107° 41' 35.460 W
7,500.00	0.00	0.00	7,483.60	209.04	-180.37	14,370,752.50	881,102.54	39° 32' 25.496 N	107° 41' 35.460 W
7,600.00	0.00	0.00	7,583.60	209.04	-180.37	14,370,752.50	881,102.54	39° 32' 25.496 N	107° 41' 35.460 W
7,664.40	0.00	0.00	7,648.00	209.04	-180.37	14,370,752.50	881,102.54	39° 32' 25.496 N	107° 41' 35.460 W
<b>ROLLINS SS</b>									
7,700.00	0.00	0.00	7,683.60	209.04	-180.37	14,370,752.50	881,102.54	39° 32' 25.496 N	107° 41' 35.460 W
7,800.00	0.00	0.00	7,783.60	209.04	-180.37	14,370,752.50	881,102.54	39° 32' 25.496 N	107° 41' 35.460 W
7,900.00	0.00	0.00	7,883.60	209.04	-180.37	14,370,752.50	881,102.54	39° 32' 25.496 N	107° 41' 35.460 W
8,000.00	0.00	0.00	7,983.60	209.04	-180.37	14,370,752.50	881,102.54	39° 32' 25.496 N	107° 41' 35.460 W
8,100.00	0.00	0.00	8,083.60	209.04	-180.37	14,370,752.50	881,102.54	39° 32' 25.496 N	107° 41' 35.460 W
8,200.00	0.00	0.00	8,183.60	209.04	-180.37	14,370,752.50	881,102.54	39° 32' 25.496 N	107° 41' 35.460 W
8,224.40	0.00	0.00	8,208.00	209.04	-180.37	14,370,752.50	881,102.54	39° 32' 25.496 N	107° 41' 35.460 W
<b>COZZETTE</b>									
8,300.00	0.00	0.00	8,283.60	209.04	-180.37	14,370,752.50	881,102.54	39° 32' 25.496 N	107° 41' 35.460 W
8,400.00	0.00	0.00	8,383.60	209.04	-180.37	14,370,752.50	881,102.54	39° 32' 25.496 N	107° 41' 35.460 W
8,479.40	0.00	0.00	8,463.00	209.04	-180.37	14,370,752.50	881,102.54	39° 32' 25.496 N	107° 41' 35.460 W
<b>CORCORAN</b>									
8,500.00	0.00	0.00	8,483.60	209.04	-180.37	14,370,752.50	881,102.54	39° 32' 25.496 N	107° 41' 35.460 W
8,600.00	0.00	0.00	8,583.60	209.04	-180.37	14,370,752.50	881,102.54	39° 32' 25.496 N	107° 41' 35.460 W

# Planning Report - Geographic

<b>Database:</b>	EDMDB	<b>Local Co-ordinate Reference:</b>	Well RIVER RANCH C-3 (111032) - Slot C-3
<b>Company:</b>	ANTERO RESOURCES	<b>TVD Reference:</b>	RKB (REV 09) @ 5402.50ft (RKB (REV 09))
<b>Project:</b>	RIVER RANCH PROJECT	<b>MD Reference:</b>	RKB (REV 09) @ 5402.50ft (RKB (REV 09))
<b>Site:</b>	FRONTIER 14	<b>North Reference:</b>	Grid
<b>Well:</b>	RIVER RANCH C-3 (111032)	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	ANTERO RIVER RANCH C-3		
<b>Design:</b>	ANTERO RIVER RANCH C-3 P04		

Planned Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (ft)	Map Easting (ft)	Latitude	Longitude	
8,649.40	0.00	0.00	8,633.00	209.04	-180.37	14,370,752.50	881,102.54	39° 32' 25.496 N	107° 41' 35.460 W	
4 1/2" LINER TOP DEPTH										
8,700.00	0.00	0.00	8,683.60	209.04	-180.37	14,370,752.50	881,102.54	39° 32' 25.496 N	107° 41' 35.460 W	
8,714.40	0.00	0.00	8,698.00	209.04	-180.37	14,370,752.50	881,102.54	39° 32' 25.496 N	107° 41' 35.460 W	
MANCOS										
8,800.00	0.00	0.00	8,783.60	209.04	-180.37	14,370,752.50	881,102.54	39° 32' 25.496 N	107° 41' 35.460 W	
8,849.40	0.00	0.00	8,833.00	209.04	-180.37	14,370,752.50	881,102.54	39° 32' 25.496 N	107° 41' 35.460 W	
7" CASING DEPTH"										
8,900.00	0.00	0.00	8,883.60	209.04	-180.37	14,370,752.50	881,102.54	39° 32' 25.496 N	107° 41' 35.460 W	
9,000.00	0.00	0.00	8,983.60	209.04	-180.37	14,370,752.50	881,102.54	39° 32' 25.496 N	107° 41' 35.460 W	
9,100.00	0.00	0.00	9,083.60	209.04	-180.37	14,370,752.50	881,102.54	39° 32' 25.496 N	107° 41' 35.460 W	
9,200.00	0.00	0.00	9,183.60	209.04	-180.37	14,370,752.50	881,102.54	39° 32' 25.496 N	107° 41' 35.460 W	
9,300.00	0.00	0.00	9,283.60	209.04	-180.37	14,370,752.50	881,102.54	39° 32' 25.496 N	107° 41' 35.460 W	
9,400.00	0.00	0.00	9,383.60	209.04	-180.37	14,370,752.50	881,102.54	39° 32' 25.496 N	107° 41' 35.460 W	
9,500.00	0.00	0.00	9,483.60	209.04	-180.37	14,370,752.50	881,102.54	39° 32' 25.496 N	107° 41' 35.460 W	
9,554.40	0.00	0.00	9,538.00	209.04	-180.37	14,370,752.50	881,102.54	39° 32' 25.496 N	107° 41' 35.460 W	
MANCOS E										
9,600.00	0.00	0.00	9,583.60	209.04	-180.37	14,370,752.50	881,102.54	39° 32' 25.496 N	107° 41' 35.460 W	
9,700.00	0.00	0.00	9,683.60	209.04	-180.37	14,370,752.50	881,102.54	39° 32' 25.496 N	107° 41' 35.460 W	
9,800.00	0.00	0.00	9,783.60	209.04	-180.37	14,370,752.50	881,102.54	39° 32' 25.496 N	107° 41' 35.460 W	
9,900.00	0.00	0.00	9,883.60	209.04	-180.37	14,370,752.50	881,102.54	39° 32' 25.496 N	107° 41' 35.460 W	
10,000.00	0.00	0.00	9,983.60	209.04	-180.37	14,370,752.50	881,102.54	39° 32' 25.496 N	107° 41' 35.460 W	
10,100.00	0.00	0.00	10,083.60	209.04	-180.37	14,370,752.50	881,102.54	39° 32' 25.496 N	107° 41' 35.460 W	
10,200.00	0.00	0.00	10,183.60	209.04	-180.37	14,370,752.50	881,102.54	39° 32' 25.496 N	107° 41' 35.460 W	
10,300.00	0.00	0.00	10,283.60	209.04	-180.37	14,370,752.50	881,102.54	39° 32' 25.496 N	107° 41' 35.460 W	
10,400.00	0.00	0.00	10,383.60	209.04	-180.37	14,370,752.50	881,102.54	39° 32' 25.496 N	107° 41' 35.460 W	
10,500.00	0.00	0.00	10,483.60	209.04	-180.37	14,370,752.50	881,102.54	39° 32' 25.496 N	107° 41' 35.460 W	
10,564.40	0.00	0.00	10,548.00	209.04	-180.37	14,370,752.50	881,102.54	39° 32' 25.496 N	107° 41' 35.460 W	
MANCOS HOT										
10,600.00	0.00	0.00	10,583.60	209.04	-180.37	14,370,752.50	881,102.54	39° 32' 25.496 N	107° 41' 35.460 W	
10,700.00	0.00	0.00	10,683.60	209.04	-180.37	14,370,752.50	881,102.54	39° 32' 25.496 N	107° 41' 35.460 W	
10,800.00	0.00	0.00	10,783.60	209.04	-180.37	14,370,752.50	881,102.54	39° 32' 25.496 N	107° 41' 35.460 W	
10,900.00	0.00	0.00	10,883.60	209.04	-180.37	14,370,752.50	881,102.54	39° 32' 25.496 N	107° 41' 35.460 W	
11,000.00	0.00	0.00	10,983.60	209.04	-180.37	14,370,752.50	881,102.54	39° 32' 25.496 N	107° 41' 35.460 W	
11,100.00	0.00	0.00	11,083.60	209.04	-180.37	14,370,752.50	881,102.54	39° 32' 25.496 N	107° 41' 35.460 W	
11,200.00	0.00	0.00	11,183.60	209.04	-180.37	14,370,752.50	881,102.54	39° 32' 25.496 N	107° 41' 35.460 W	
11,300.00	0.00	0.00	11,283.60	209.04	-180.37	14,370,752.50	881,102.54	39° 32' 25.496 N	107° 41' 35.460 W	
11,364.40	0.00	0.00	11,348.00	209.04	-180.37	14,370,752.50	881,102.54	39° 32' 25.496 N	107° 41' 35.460 W	
MANCOS B										
11,400.00	0.00	0.00	11,383.60	209.04	-180.37	14,370,752.50	881,102.54	39° 32' 25.496 N	107° 41' 35.460 W	
11,500.00	0.00	0.00	11,483.60	209.04	-180.37	14,370,752.50	881,102.54	39° 32' 25.496 N	107° 41' 35.460 W	
11,600.00	0.00	0.00	11,583.60	209.04	-180.37	14,370,752.50	881,102.54	39° 32' 25.496 N	107° 41' 35.460 W	
11,700.00	0.00	0.00	11,683.60	209.04	-180.37	14,370,752.50	881,102.54	39° 32' 25.496 N	107° 41' 35.460 W	
11,800.00	0.00	0.00	11,783.60	209.04	-180.37	14,370,752.50	881,102.54	39° 32' 25.496 N	107° 41' 35.460 W	
11,900.00	0.00	0.00	11,883.60	209.04	-180.37	14,370,752.50	881,102.54	39° 32' 25.496 N	107° 41' 35.460 W	
12,000.00	0.00	0.00	11,983.60	209.04	-180.37	14,370,752.50	881,102.54	39° 32' 25.496 N	107° 41' 35.460 W	
12,100.00	0.00	0.00	12,083.60	209.04	-180.37	14,370,752.50	881,102.54	39° 32' 25.496 N	107° 41' 35.460 W	
12,164.40	0.00	0.00	12,148.00	209.04	-180.37	14,370,752.50	881,102.54	39° 32' 25.496 N	107° 41' 35.460 W	
NIOBRARA										
12,200.00	0.00	0.00	12,183.60	209.04	-180.37	14,370,752.50	881,102.54	39° 32' 25.496 N	107° 41' 35.460 W	
12,300.00	0.00	0.00	12,283.60	209.04	-180.37	14,370,752.50	881,102.54	39° 32' 25.496 N	107° 41' 35.460 W	
12,400.00	0.00	0.00	12,383.60	209.04	-180.37	14,370,752.50	881,102.54	39° 32' 25.496 N	107° 41' 35.460 W	
12,500.00	0.00	0.00	12,483.60	209.04	-180.37	14,370,752.50	881,102.54	39° 32' 25.496 N	107° 41' 35.460 W	
12,600.00	0.00	0.00	12,583.60	209.04	-180.37	14,370,752.50	881,102.54	39° 32' 25.496 N	107° 41' 35.460 W	

# Planning Report - Geographic

<b>Database:</b>	EDMDB	<b>Local Co-ordinate Reference:</b>	Well RIVER RANCH C-3 (111032) - Slot C-3
<b>Company:</b>	ANTERO RESOURCES	<b>TVD Reference:</b>	RKB (REV 09) @ 5402.50ft (RKB (REV 09))
<b>Project:</b>	RIVER RANCH PROJECT	<b>MD Reference:</b>	RKB (REV 09) @ 5402.50ft (RKB (REV 09))
<b>Site:</b>	FRONTIER 14	<b>North Reference:</b>	Grid
<b>Well:</b>	RIVER RANCH C-3 (111032)	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	ANTERO RIVER RANCH C-3		
<b>Design:</b>	ANTERO RIVER RANCH C-3 P04		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (ft)	Map Easting (ft)	Latitude	Longitude
12,700.00	0.00	0.00	12,683.60	209.04	-180.37	14,370,752.50	881,102.54	39° 32' 25.496 N	107° 41' 35.460 W
12,800.00	0.00	0.00	12,783.60	209.04	-180.37	14,370,752.50	881,102.54	39° 32' 25.496 N	107° 41' 35.460 W
12,900.00	0.00	0.00	12,883.60	209.04	-180.37	14,370,752.50	881,102.54	39° 32' 25.496 N	107° 41' 35.460 W
13,000.00	0.00	0.00	12,983.60	209.04	-180.37	14,370,752.50	881,102.54	39° 32' 25.496 N	107° 41' 35.460 W
13,100.00	0.00	0.00	13,083.60	209.04	-180.37	14,370,752.50	881,102.54	39° 32' 25.496 N	107° 41' 35.460 W
13,200.00	0.00	0.00	13,183.60	209.04	-180.37	14,370,752.50	881,102.54	39° 32' 25.496 N	107° 41' 35.460 W
13,214.40	0.00	0.00	13,198.00	209.04	-180.37	14,370,752.50	881,102.54	39° 32' 25.496 N	107° 41' 35.460 W
FRONTIER									
13,300.00	0.00	0.00	13,283.60	209.04	-180.37	14,370,752.50	881,102.54	39° 32' 25.496 N	107° 41' 35.460 W
13,400.00	0.00	0.00	13,383.60	209.04	-180.37	14,370,752.50	881,102.54	39° 32' 25.496 N	107° 41' 35.460 W
13,500.00	0.00	0.00	13,483.60	209.04	-180.37	14,370,752.50	881,102.54	39° 32' 25.496 N	107° 41' 35.460 W
13,600.00	0.00	0.00	13,583.60	209.04	-180.37	14,370,752.50	881,102.54	39° 32' 25.496 N	107° 41' 35.460 W
13,700.00	0.00	0.00	13,683.60	209.04	-180.37	14,370,752.50	881,102.54	39° 32' 25.496 N	107° 41' 35.460 W
13,800.00	0.00	0.00	13,783.60	209.04	-180.37	14,370,752.50	881,102.54	39° 32' 25.496 N	107° 41' 35.460 W
13,900.00	0.00	0.00	13,883.60	209.04	-180.37	14,370,752.50	881,102.54	39° 32' 25.496 N	107° 41' 35.460 W
14,000.00	0.00	0.00	13,983.60	209.04	-180.37	14,370,752.50	881,102.54	39° 32' 25.496 N	107° 41' 35.460 W
14,100.00	0.00	0.00	14,083.60	209.04	-180.37	14,370,752.50	881,102.54	39° 32' 25.496 N	107° 41' 35.460 W
14,164.38	0.00	0.00	14,147.98	209.04	-180.37	14,370,752.50	881,102.54	39° 32' 25.496 N	107° 41' 35.460 W
PROPOSED TD @ 14164' MD (14148' TVD)									
14,164.40	0.00	0.00	14,148.00	209.04	-180.37	14,370,752.50	881,102.54	39° 32' 25.496 N	107° 41' 35.460 W
TD C-3									

Design Targets									
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
- hit/miss target									
- Shape									
TOP GAS C3		0.00	6,048.00	209.04	-180.37	14,370,752.50	881,102.54	39° 32' 25.496 N	107° 41' 35.460 W
- plan hits target									
- Circle (radius 25.00)									
TD C-3	0.00	360.00	14,148.00	209.04	-180.37	14,370,752.50	881,102.54	39° 32' 25.496 N	107° 41' 35.460 W
- plan hits target									
- Circle (radius 25.00)									

Casing Points					
Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (in)	Hole Diameter (in)	
8,649.40	8,633.00	4 1/2" LINER TOP DEPTH	7.00	7.50	
8,849.40	8,833.00	7" CASING DEPTH"	7.00	7.50	
1,500.00	1,500.00	SURFACE CASING @ 1500' MD (1500' TVD)	9.62	12.25	



# Planning Report - Geographic

<b>Database:</b>	EDMDB	<b>Local Co-ordinate Reference:</b>	Well RIVER RANCH C-3 (111032) - Slot C-3
<b>Company:</b>	ANTERO RESOURCES	<b>TVD Reference:</b>	RKB (REV 09) @ 5402.50ft (RKB (REV 09))
<b>Project:</b>	RIVER RANCH PROJECT	<b>MD Reference:</b>	RKB (REV 09) @ 5402.50ft (RKB (REV 09))
<b>Site:</b>	FRONTIER 14	<b>North Reference:</b>	Grid
<b>Well:</b>	RIVER RANCH C-3 (111032)	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	ANTERO RIVER RANCH C-3		
<b>Design:</b>	ANTERO RIVER RANCH C-3 P04		

Formations						
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)	
4,060.52	4,058.00	MESAVERDE		0.00		
4,957.58	4,948.00	PRICE COAL		0.00		
6,064.40	6,048.00	TOP GAS C-3		0.00		
6,669.40	6,653.00	CAMEO		0.00		
7,664.40	7,648.00	ROLLINS SS		0.00		
8,224.40	8,208.00	COZZETTE		0.00		
8,479.40	8,463.00	CORCORAN		0.00		
8,714.40	8,698.00	MANCOS		0.00		
9,554.40	9,538.00	MANCOS E		0.00		
10,564.40	10,548.00	MANCOS HOT		0.00		
11,364.40	11,348.00	MANCOS B		0.00		
12,164.40	12,148.00	NIOBRARA		0.00		
13,214.40	13,198.00	FRONTIER		0.00		

Plan Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates			
		+N/-S (ft)	+E/-W (ft)	Comment	
3,500.00	3,500.00	0.00	0.00	KOP @ 3500' MD (2 DEG/100')	
3,859.50	3,858.56	17.06	-14.72	END OF BUILD @ 3860' MD (3859' TVD) (7.19 DEG INC)	
5,705.53	5,690.07	191.99	-165.66	START DROP @ 5706' MD (5690' TVD) (2 DEG/100')	
6,065.03	6,048.63	209.04	-180.37	END OF DROP @ 6065' MD (6048' TVD)	
14,164.38	14,147.98	209.04	-180.37	PROPOSED TD @ 14164' MD (14148' TVD)	