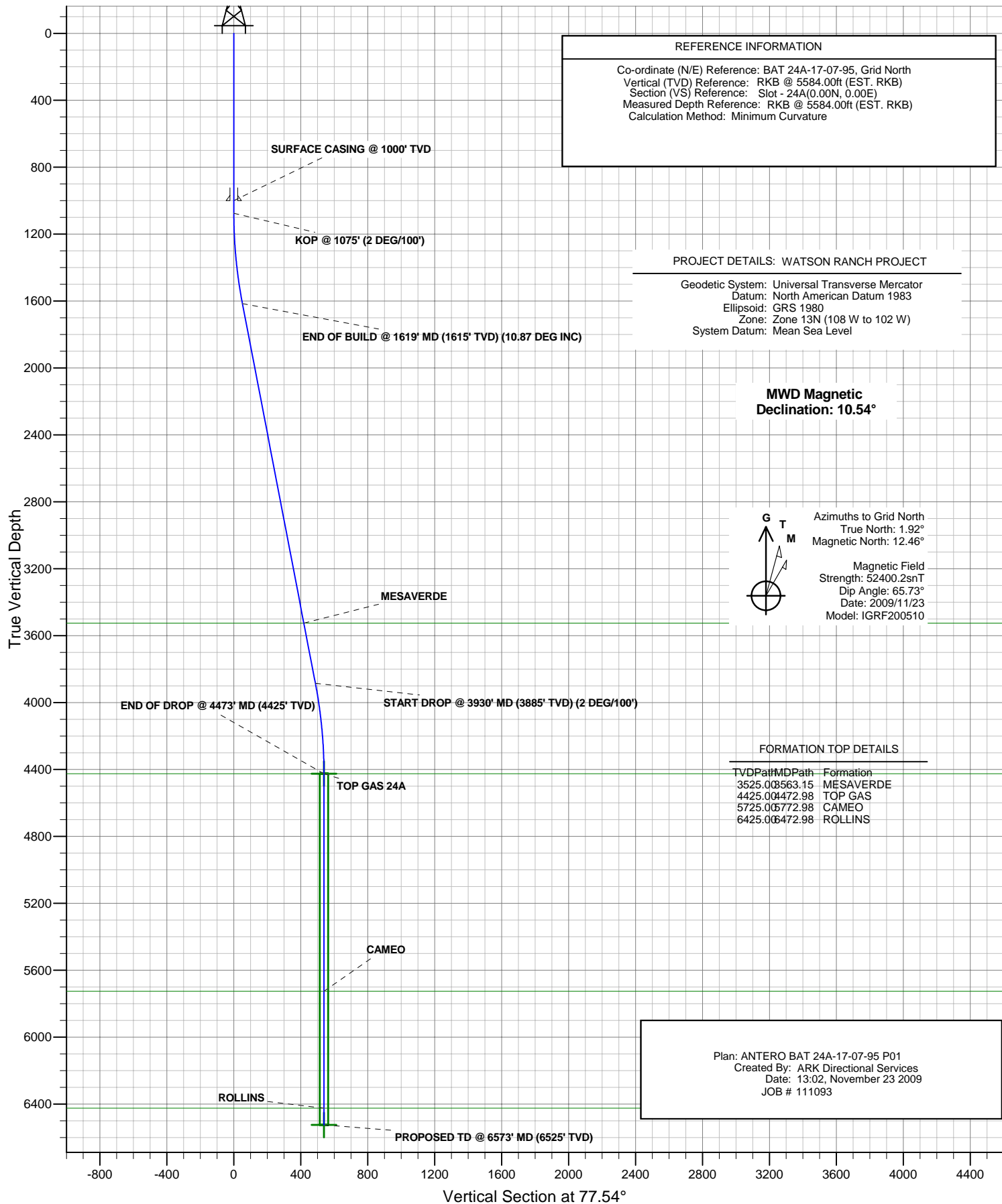




# ANTERO RESOURCES

BAT 24A-17-07-95



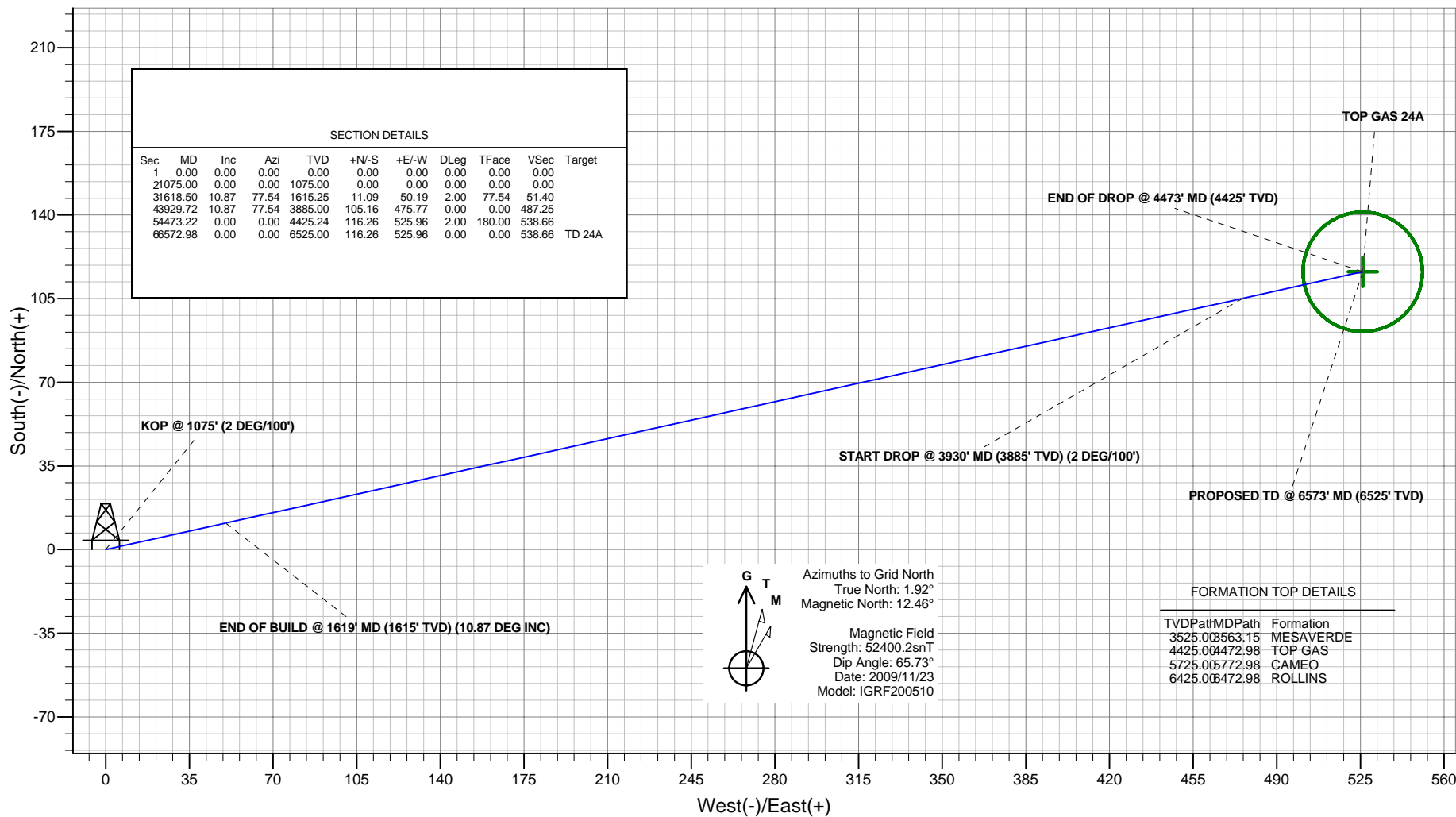


# ANTERO RESOURCES

Project: WATSON RANCH PROJECT  
 Site: FRONTIER 12  
 Well: BAT 24A-17-07-95 (111093)  
 Wellbore: BAT 24A-17-07-95  
 Design: ANTERO BAT 24A-17-07-95 P01  
 JOB # 1110793



## PLAN VIEW



Plan: ANTERO BAT 24A-17-07-95 P01  
 Created By: ARK Directional Services  
 Date: 13:04, November 23 2009

### PROJECT DETAILS: WATSON 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: BAT 24A-17-07-95, Grid North  
 Vertical (TVD) Reference: RKB @ 5584.00ft (EST. RKB)  
 Section (VS) Reference: Slot - 24A(0.00N, 0.00E)  
 Measured Depth Reference: RKB @ 5584.00ft (EST. RKB)  
 Calculation Method: Minimum Curvature

# **ANTERO RESOURCES**

**WATSON RANCH PROJECT  
FRONTIER 12**

**Plan: ANTERO BAT 24A-17-07-95 P01**

## **Standard Planning Report - Geographic**

**23 November, 2009**

# Planning Report - Geographic

<b>Database:</b>	EDMDB	<b>Local Co-ordinate Reference:</b>	Well BAT 24A-17-07-95 (111093) - Slot 24A
<b>Company:</b>	ANTERO RESOURCES	<b>TVD Reference:</b>	RKB @ 5584.00ft (EST. RKB)
<b>Project:</b>	WATSON RANCH PROJECT	<b>MD Reference:</b>	RKB @ 5584.00ft (EST. RKB)
<b>Site:</b>	FRONTIER 12	<b>North Reference:</b>	Grid
<b>Well:</b>	BAT 24A-17-07-95 (111093)	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	BAT 24A-17-07-95		
<b>Design:</b>	ANTERO BAT 24A-17-07-95 P01		

<b>Project</b>	WATSON 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 12			
Site Position:		Northing:	14,334,677.51 ft	Latitude:	39° 25' 59.496 N
From:	Map	Easting:	786,189.73 ft	Longitude:	108° 1' 30.417 W
Position Uncertainty:	0.00 ft	Slot Radius:	in	Grid Convergence:	-1.92 °

Well	BAT 24A-17-07-95 (111093) - Slot 24A					
Well Position	+N/-S	-70.58 ft	Northing:	14,334,606.93 ft	Latitude:	39° 25' 58.791 N
	+E/-W	-25.37 ft	Easting:	786,164.36 ft	Longitude:	108° 1' 30.709 W
Position Uncertainty		0.00 ft	Wellhead Elevation:	ft	Ground Level:	5,560.00 ft

<b>Wellbore</b>	BAT 24A-17-07-95				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	IGRF200510	2009/11/23	10.54	65.73	52,400

<b>Design</b>	ANTERO BAT 24A-17-07-95 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	77.54	

<b>Plan Sections</b>										
<b>Measured Depth (ft)</b>	<b>Inclination (°)</b>	<b>Azimuth (°)</b>	<b>Vertical Depth (ft)</b>	<b>+N/-S (ft)</b>	<b>+E/-W (ft)</b>	<b>Dogleg Rate (°/100ft)</b>	<b>Build Rate (°/100ft)</b>	<b>Turn Rate (°/100ft)</b>	<b>TFO (°)</b>	<b>Target</b>
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,075.00	0.00	0.00	1,075.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,618.50	10.87	77.54	1,615.25	11.09	50.19	2.00	2.00	0.00	77.54	
3,929.72	10.87	77.54	3,885.00	105.16	475.77	0.00	0.00	0.00	0.00	
4,473.22	0.00	0.00	4,425.24	116.26	525.96	2.00	-2.00	0.00	180.00	
6,572.98	0.00	0.00	6,525.00	116.26	525.96	0.00	0.00	0.00	0.00	TD 24A

# Planning Report - Geographic

<b>Database:</b>	EDMDB	<b>Local Co-ordinate Reference:</b>	Well BAT 24A-17-07-95 (111093) - Slot 24A
<b>Company:</b>	ANTERO RESOURCES	<b>TVD Reference:</b>	RKB @ 5584.00ft (EST. RKB)
<b>Project:</b>	WATSON RANCH PROJECT	<b>MD Reference:</b>	RKB @ 5584.00ft (EST. RKB)
<b>Site:</b>	FRONTIER 12	<b>North Reference:</b>	Grid
<b>Well:</b>	BAT 24A-17-07-95 (111093)	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	BAT 24A-17-07-95		
<b>Design:</b>	ANTERO BAT 24A-17-07-95 P01		

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	14,334,606.93	786,164.36	39° 25' 58.791 N	108° 1' 30.709 W
100.00	0.00	0.00	100.00	0.00	0.00	14,334,606.93	786,164.36	39° 25' 58.791 N	108° 1' 30.709 W
200.00	0.00	0.00	200.00	0.00	0.00	14,334,606.93	786,164.36	39° 25' 58.791 N	108° 1' 30.709 W
300.00	0.00	0.00	300.00	0.00	0.00	14,334,606.93	786,164.36	39° 25' 58.791 N	108° 1' 30.709 W
400.00	0.00	0.00	400.00	0.00	0.00	14,334,606.93	786,164.36	39° 25' 58.791 N	108° 1' 30.709 W
500.00	0.00	0.00	500.00	0.00	0.00	14,334,606.93	786,164.36	39° 25' 58.791 N	108° 1' 30.709 W
600.00	0.00	0.00	600.00	0.00	0.00	14,334,606.93	786,164.36	39° 25' 58.791 N	108° 1' 30.709 W
700.00	0.00	0.00	700.00	0.00	0.00	14,334,606.93	786,164.36	39° 25' 58.791 N	108° 1' 30.709 W
800.00	0.00	0.00	800.00	0.00	0.00	14,334,606.93	786,164.36	39° 25' 58.791 N	108° 1' 30.709 W
900.00	0.00	0.00	900.00	0.00	0.00	14,334,606.93	786,164.36	39° 25' 58.791 N	108° 1' 30.709 W
1,000.00	0.00	0.00	1,000.00	0.00	0.00	14,334,606.93	786,164.36	39° 25' 58.791 N	108° 1' 30.709 W
<b>SURFACE CASING @ 1000' TVD</b>									
1,075.00	0.00	0.00	1,075.00	0.00	0.00	14,334,606.93	786,164.36	39° 25' 58.791 N	108° 1' 30.709 W
<b>KOP @ 1075' (2 DEG/100')</b>									
1,100.00	0.50	77.54	1,100.00	0.02	0.11	14,334,606.95	786,164.47	39° 25' 58.791 N	108° 1' 30.708 W
1,200.00	2.50	77.54	1,199.96	0.59	2.66	14,334,607.52	786,167.02	39° 25' 58.797 N	108° 1' 30.676 W
1,300.00	4.50	77.54	1,299.77	1.91	8.62	14,334,608.84	786,172.98	39° 25' 58.812 N	108° 1' 30.600 W
1,400.00	6.50	77.54	1,399.30	3.97	17.98	14,334,610.90	786,182.34	39° 25' 58.836 N	108° 1' 30.482 W
1,500.00	8.50	77.54	1,498.44	6.79	30.73	14,334,613.72	786,195.09	39° 25' 58.868 N	108° 1' 30.321 W
1,600.00	10.50	77.54	1,597.07	10.35	46.84	14,334,617.28	786,211.20	39° 25' 58.908 N	108° 1' 30.117 W
1,618.50	10.87	77.54	1,615.25	11.09	50.19	14,334,618.02	786,214.55	39° 25' 58.917 N	108° 1' 30.075 W
<b>END OF BUILD @ 1619' MD (1615' TVD) (10.87 DEG INC)</b>									
1,700.00	10.87	77.54	1,695.28	14.41	65.20	14,334,621.34	786,229.56	39° 25' 58.954 N	108° 1' 29.885 W
1,800.00	10.87	77.54	1,793.49	18.48	83.61	14,334,625.41	786,247.97	39° 25' 59.001 N	108° 1' 29.653 W
1,900.00	10.87	77.54	1,891.69	22.55	102.02	14,334,629.48	786,266.38	39° 25' 59.047 N	108° 1' 29.420 W
2,000.00	10.87	77.54	1,989.90	26.62	120.44	14,334,633.55	786,284.80	39° 25' 59.093 N	108° 1' 29.187 W
2,100.00	10.87	77.54	2,088.11	30.69	138.85	14,334,637.62	786,303.21	39° 25' 59.140 N	108° 1' 28.955 W
2,200.00	10.87	77.54	2,186.31	34.76	157.27	14,334,641.69	786,321.63	39° 25' 59.186 N	108° 1' 28.722 W
2,300.00	10.87	77.54	2,284.52	38.83	175.68	14,334,645.76	786,340.04	39° 25' 59.232 N	108° 1' 28.489 W
2,400.00	10.87	77.54	2,382.72	42.90	194.09	14,334,649.83	786,358.45	39° 25' 59.278 N	108° 1' 28.256 W
2,500.00	10.87	77.54	2,480.93	46.97	212.51	14,334,653.90	786,376.87	39° 25' 59.325 N	108° 1' 28.024 W
2,600.00	10.87	77.54	2,579.14	51.04	230.92	14,334,657.97	786,395.28	39° 25' 59.371 N	108° 1' 27.791 W
2,700.00	10.87	77.54	2,677.34	55.11	249.33	14,334,662.04	786,413.69	39° 25' 59.417 N	108° 1' 27.558 W
2,800.00	10.87	77.54	2,775.55	59.18	267.75	14,334,666.11	786,432.11	39° 25' 59.464 N	108° 1' 27.326 W
2,900.00	10.87	77.54	2,873.75	63.25	286.16	14,334,670.18	786,450.52	39° 25' 59.510 N	108° 1' 27.093 W
3,000.00	10.87	77.54	2,971.96	67.32	304.57	14,334,674.25	786,468.93	39° 25' 59.556 N	108° 1' 26.860 W
3,100.00	10.87	77.54	3,070.16	71.39	322.99	14,334,678.32	786,487.35	39° 25' 59.602 N	108° 1' 26.628 W
3,200.00	10.87	77.54	3,168.37	75.46	341.40	14,334,682.39	786,505.76	39° 25' 59.649 N	108° 1' 26.395 W
3,300.00	10.87	77.54	3,266.58	79.53	359.82	14,334,686.46	786,524.18	39° 25' 59.695 N	108° 1' 26.162 W
3,400.00	10.87	77.54	3,364.78	83.60	378.23	14,334,690.53	786,542.59	39° 25' 59.741 N	108° 1' 25.929 W
3,500.00	10.87	77.54	3,462.99	87.67	396.64	14,334,694.60	786,561.00	39° 25' 59.788 N	108° 1' 25.697 W
3,563.15	10.87	77.54	3,525.00	90.24	408.27	14,334,697.17	786,572.63	39° 25' 59.817 N	108° 1' 25.550 W
<b>MESAVERDE</b>									
3,600.00	10.87	77.54	3,561.19	91.74	415.06	14,334,698.67	786,579.42	39° 25' 59.834 N	108° 1' 25.464 W
3,700.00	10.87	77.54	3,659.40	95.81	433.47	14,334,702.74	786,597.83	39° 25' 59.880 N	108° 1' 25.231 W
3,800.00	10.87	77.54	3,757.60	99.88	451.88	14,334,706.81	786,616.24	39° 25' 59.926 N	108° 1' 24.999 W
3,900.00	10.87	77.54	3,855.81	103.95	470.30	14,334,710.88	786,634.66	39° 25' 59.973 N	108° 1' 24.766 W
3,929.72	10.87	77.54	3,885.00	105.16	475.77	14,334,712.09	786,640.13	39° 25' 59.987 N	108° 1' 24.697 W
<b>START DROP @ 3930' MD (3885' TVD) (2 DEG/100')</b>									
4,000.00	9.46	77.54	3,954.17	107.84	487.88	14,334,714.77	786,652.24	39° 26' 0.017 N	108° 1' 24.544 W
4,100.00	7.46	77.54	4,053.08	111.02	502.26	14,334,717.95	786,666.61	39° 26' 0.053 N	108° 1' 24.362 W
4,200.00	5.46	77.54	4,152.44	113.45	513.25	14,334,720.38	786,677.61	39° 26' 0.081 N	108° 1' 24.223 W
4,300.00	3.46	77.54	4,252.13	115.13	520.85	14,334,722.06	786,685.21	39° 26' 0.100 N	108° 1' 24.127 W
4,400.00	1.46	77.54	4,352.03	116.05	525.05	14,334,722.98	786,689.41	39° 26' 0.110 N	108° 1' 24.074 W

# Planning Report - Geographic

<b>Database:</b>	EDMDB	<b>Local Co-ordinate Reference:</b>	Well BAT 24A-17-07-95 (111093) - Slot 24A
<b>Company:</b>	ANTERO RESOURCES	<b>TVD Reference:</b>	RKB @ 5584.00ft (EST. RKB)
<b>Project:</b>	WATSON RANCH PROJECT	<b>MD Reference:</b>	RKB @ 5584.00ft (EST. RKB)
<b>Site:</b>	FRONTIER 12	<b>North Reference:</b>	Grid
<b>Well:</b>	BAT 24A-17-07-95 (111093)	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	BAT 24A-17-07-95		
<b>Design:</b>	ANTERO BAT 24A-17-07-95 P01		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (ft)	Map Easting (ft)	Latitude	Longitude
4,472.98	0.00	77.54	4,425.00	116.26	525.96	14,334,723.19	786,690.32	39° 26' 0.113 N	108° 1' 24.062 W
TOP GAS - TOP GAS 24A									
4,473.22	0.00	0.00	4,425.24	116.26	525.96	14,334,723.19	786,690.32	39° 26' 0.113 N	108° 1' 24.062 W
END OF DROP @ 4473' MD (4425' TVD)									
4,500.00	0.00	0.00	4,452.02	116.26	525.96	14,334,723.19	786,690.32	39° 26' 0.113 N	108° 1' 24.062 W
4,600.00	0.00	0.00	4,552.02	116.26	525.96	14,334,723.19	786,690.32	39° 26' 0.113 N	108° 1' 24.062 W
4,700.00	0.00	0.00	4,652.02	116.26	525.96	14,334,723.19	786,690.32	39° 26' 0.113 N	108° 1' 24.062 W
4,800.00	0.00	0.00	4,752.02	116.26	525.96	14,334,723.19	786,690.32	39° 26' 0.113 N	108° 1' 24.062 W
4,900.00	0.00	0.00	4,852.02	116.26	525.96	14,334,723.19	786,690.32	39° 26' 0.113 N	108° 1' 24.062 W
5,000.00	0.00	0.00	4,952.02	116.26	525.96	14,334,723.19	786,690.32	39° 26' 0.113 N	108° 1' 24.062 W
5,100.00	0.00	0.00	5,052.02	116.26	525.96	14,334,723.19	786,690.32	39° 26' 0.113 N	108° 1' 24.062 W
5,200.00	0.00	0.00	5,152.02	116.26	525.96	14,334,723.19	786,690.32	39° 26' 0.113 N	108° 1' 24.062 W
5,300.00	0.00	0.00	5,252.02	116.26	525.96	14,334,723.19	786,690.32	39° 26' 0.113 N	108° 1' 24.062 W
5,400.00	0.00	0.00	5,352.02	116.26	525.96	14,334,723.19	786,690.32	39° 26' 0.113 N	108° 1' 24.062 W
5,500.00	0.00	0.00	5,452.02	116.26	525.96	14,334,723.19	786,690.32	39° 26' 0.113 N	108° 1' 24.062 W
5,600.00	0.00	0.00	5,552.02	116.26	525.96	14,334,723.19	786,690.32	39° 26' 0.113 N	108° 1' 24.062 W
5,700.00	0.00	0.00	5,652.02	116.26	525.96	14,334,723.19	786,690.32	39° 26' 0.113 N	108° 1' 24.062 W
5,772.98	0.00	0.00	5,725.00	116.26	525.96	14,334,723.19	786,690.32	39° 26' 0.113 N	108° 1' 24.062 W
CAMEO									
5,800.00	0.00	0.00	5,752.02	116.26	525.96	14,334,723.19	786,690.32	39° 26' 0.113 N	108° 1' 24.062 W
5,900.00	0.00	0.00	5,852.02	116.26	525.96	14,334,723.19	786,690.32	39° 26' 0.113 N	108° 1' 24.062 W
6,000.00	0.00	0.00	5,952.02	116.26	525.96	14,334,723.19	786,690.32	39° 26' 0.113 N	108° 1' 24.062 W
6,100.00	0.00	0.00	6,052.02	116.26	525.96	14,334,723.19	786,690.32	39° 26' 0.113 N	108° 1' 24.062 W
6,200.00	0.00	0.00	6,152.02	116.26	525.96	14,334,723.19	786,690.32	39° 26' 0.113 N	108° 1' 24.062 W
6,300.00	0.00	0.00	6,252.02	116.26	525.96	14,334,723.19	786,690.32	39° 26' 0.113 N	108° 1' 24.062 W
6,400.00	0.00	0.00	6,352.02	116.26	525.96	14,334,723.19	786,690.32	39° 26' 0.113 N	108° 1' 24.062 W
6,472.98	0.00	0.00	6,425.00	116.26	525.96	14,334,723.19	786,690.32	39° 26' 0.113 N	108° 1' 24.062 W
ROLLINS									
6,500.00	0.00	0.00	6,452.02	116.26	525.96	14,334,723.19	786,690.32	39° 26' 0.113 N	108° 1' 24.062 W
6,572.96	0.00	0.00	6,524.98	116.26	525.96	14,334,723.19	786,690.32	39° 26' 0.113 N	108° 1' 24.062 W
PROPOSED TD @ 6573' MD (6525' TVD)									
6,572.98	0.00	0.00	6,525.00	116.26	525.96	14,334,723.19	786,690.32	39° 26' 0.113 N	108° 1' 24.062 W
TD 24A									

Design Targets									
Target Name									
- hit/miss target	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
TOP GAS 24A		360.00	4,425.00	116.26	525.96	14,334,723.19	786,690.32	39° 26' 0.113 N	108° 1' 24.062 W
- plan hits target									
- Circle (radius 25.00)									
TD 24A	0.00	0.00	6,525.00	116.26	525.96	14,334,723.19	786,690.32	39° 26' 0.113 N	108° 1' 24.062 W
- plan hits target									
- Circle (radius 25.00)									

Casing Points				
Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (in)	Hole Diameter (in)
1,000.00	1,000.00	SURFACE CASING @ 1000' TVD	8.62	12.25

## Planning Report - Geographic

<b>Database:</b>	EDMDB	<b>Local Co-ordinate Reference:</b>	Well BAT 24A-17-07-95 (111093) - Slot 24A
<b>Company:</b>	ANTERO RESOURCES	<b>TVD Reference:</b>	RKB @ 5584.00ft (EST. RKB)
<b>Project:</b>	WATSON RANCH PROJECT	<b>MD Reference:</b>	RKB @ 5584.00ft (EST. RKB)
<b>Site:</b>	FRONTIER 12	<b>North Reference:</b>	Grid
<b>Well:</b>	BAT 24A-17-07-95 (111093)	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	BAT 24A-17-07-95		
<b>Design:</b>	ANTERO BAT 24A-17-07-95 P01		

Formations					
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
3,563.15	3,525.00	MESAVERDE		0.00	
4,472.98	4,425.00	TOP GAS		0.00	
5,772.98	5,725.00	CAMEO		0.00	
6,472.98	6,425.00	ROLLINS		0.00	

Plan Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates			
		+N/-S (ft)	+E/-W (ft)	Comment	
1,075.00	1,075.00	0.00	0.00	KOP @ 1075' (2 DEG/100')	
1,618.50	1,615.25	11.09	50.19	END OF BUILD @ 1619' MD (1615' TVD) (10.87 DEG INC)	
3,929.72	3,885.00	105.16	475.77	START DROP @ 3930' MD (3885' TVD) (2 DEG/100')	
4,473.22	4,425.24	116.26	525.96	END OF DROP @ 4473' MD (4425' TVD)	
6,572.96	6,524.98	116.26	525.96	PROPOSED TD @ 6573' MD (6525' TVD)	