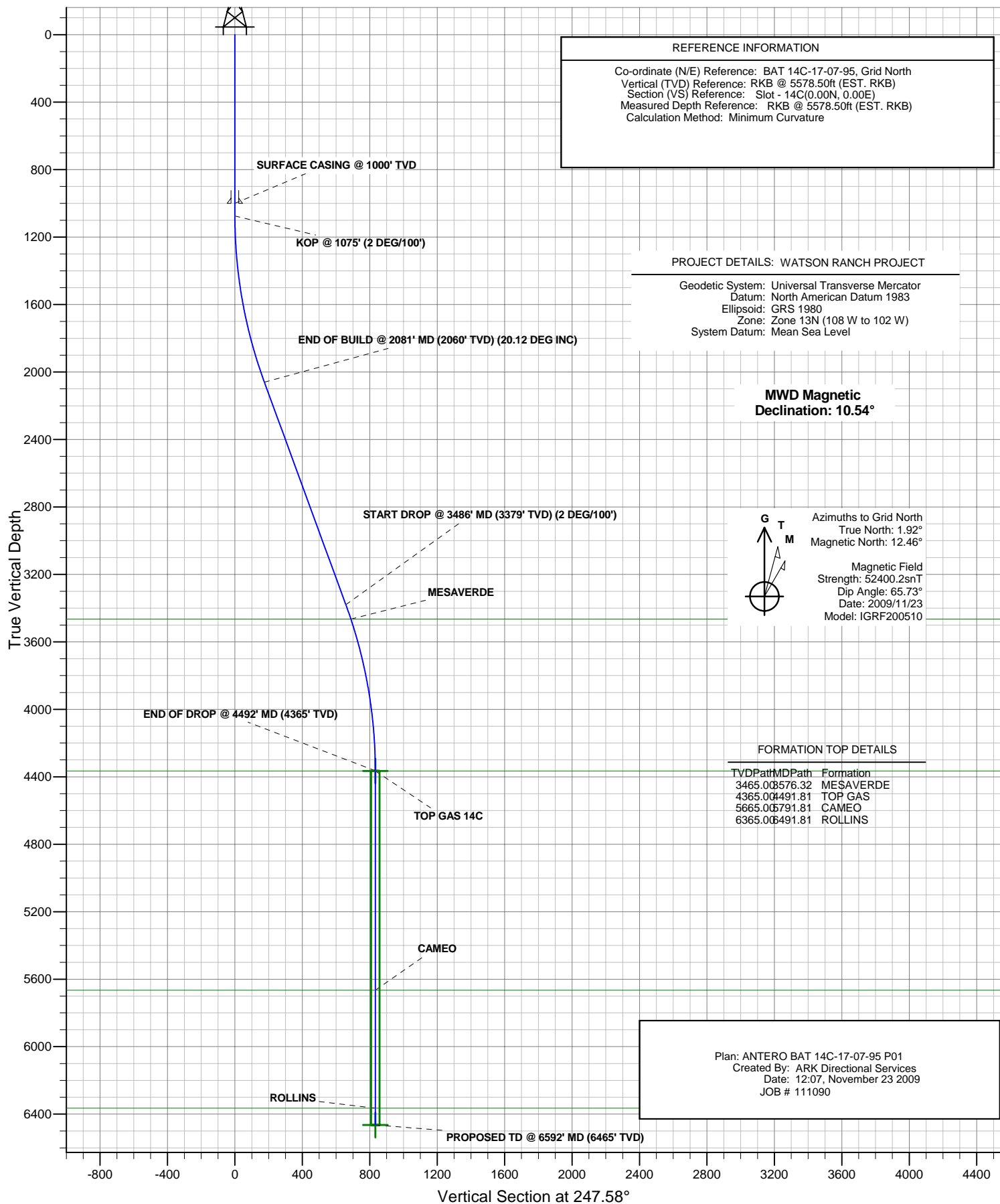




# ANTERO RESOURCES

BAT 14C-17-07-95





# **ANTERO RESOURCES**

**WATSON RANCH PROJECT  
FRONTIER 12**

**Plan: ANTERO BAT 14C-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 14C-17-07-95 (111090) - Slot 14C
<b>Company:</b>	ANTERO RESOURCES	<b>TVD Reference:</b>	RKB @ 5578.50ft (EST. RKB)
<b>Project:</b>	WATSON RANCH PROJECT	<b>MD Reference:</b>	RKB @ 5578.50ft (EST. RKB)
<b>Site:</b>	FRONTIER 12	<b>North Reference:</b>	Grid
<b>Well:</b>	BAT 14C-17-07-95 (111090)	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	BAT 14C-17-07-95		
<b>Design:</b>	ANTERO BAT 14C-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 14C-17-07-95 (111090) - Slot 14C					
Well Position	+N/-S	-92.04 ft	Northing:	14,334,585.47 ft	Latitude:	39° 25' 58.569 N
	+E/-W	-54.34 ft	Easting:	786,135.39 ft	Longitude:	108° 1' 31.069 W
Position Uncertainty		0.00 ft	Wellhead Elevation:	ft	Ground Level:	5,560.00 ft

<b>Wellbore</b>	BAT 14C-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 14C-17-07-95 P01			
<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	247.58

<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	
1,075.00	0.00	0.00	1,075.00	0.00	0.00	0.00	0.00	0.00	0.00	
2,081.00	20.12	247.58	2,060.45	-66.68	-161.61	2.00	2.00	0.00	247.58	
3,485.56	20.12	247.58	3,379.30	-250.94	-608.24	0.00	0.00	0.00	0.00	
4,491.56	0.00	0.00	4,364.75	-317.62	-769.86	2.00	-2.00	0.00	180.00	
6,591.81	0.00	0.00	6,465.00	-317.62	-769.86	0.00	0.00	0.00	0.00	TD 14C

# Planning Report - Geographic

<b>Database:</b>	EDMDB	<b>Local Co-ordinate Reference:</b>	Well BAT 14C-17-07-95 (111090) - Slot 14C
<b>Company:</b>	ANTERO RESOURCES	<b>TVD Reference:</b>	RKB @ 5578.50ft (EST. RKB)
<b>Project:</b>	WATSON RANCH PROJECT	<b>MD Reference:</b>	RKB @ 5578.50ft (EST. RKB)
<b>Site:</b>	FRONTIER 12	<b>North Reference:</b>	Grid
<b>Well:</b>	BAT 14C-17-07-95 (111090)	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	BAT 14C-17-07-95		
<b>Design:</b>	ANTERO BAT 14C-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	14,334,585.47	786,135.39	39° 25' 58.569 N	108° 1' 31.069 W
100.00	0.00	0.00	100.00	0.00	0.00	14,334,585.47	786,135.39	39° 25' 58.569 N	108° 1' 31.069 W
200.00	0.00	0.00	200.00	0.00	0.00	14,334,585.47	786,135.39	39° 25' 58.569 N	108° 1' 31.069 W
300.00	0.00	0.00	300.00	0.00	0.00	14,334,585.47	786,135.39	39° 25' 58.569 N	108° 1' 31.069 W
400.00	0.00	0.00	400.00	0.00	0.00	14,334,585.47	786,135.39	39° 25' 58.569 N	108° 1' 31.069 W
500.00	0.00	0.00	500.00	0.00	0.00	14,334,585.47	786,135.39	39° 25' 58.569 N	108° 1' 31.069 W
600.00	0.00	0.00	600.00	0.00	0.00	14,334,585.47	786,135.39	39° 25' 58.569 N	108° 1' 31.069 W
700.00	0.00	0.00	700.00	0.00	0.00	14,334,585.47	786,135.39	39° 25' 58.569 N	108° 1' 31.069 W
800.00	0.00	0.00	800.00	0.00	0.00	14,334,585.47	786,135.39	39° 25' 58.569 N	108° 1' 31.069 W
900.00	0.00	0.00	900.00	0.00	0.00	14,334,585.47	786,135.39	39° 25' 58.569 N	108° 1' 31.069 W
1,000.00	0.00	0.00	1,000.00	0.00	0.00	14,334,585.47	786,135.39	39° 25' 58.569 N	108° 1' 31.069 W
<b>SURFACE CASING @ 1000' TVD</b>									
1,075.00	0.00	0.00	1,075.00	0.00	0.00	14,334,585.47	786,135.39	39° 25' 58.569 N	108° 1' 31.069 W
<b>KOP @ 1075' (2 DEG/100')</b>									
1,100.00	0.50	247.58	1,100.00	-0.04	-0.10	14,334,585.43	786,135.29	39° 25' 58.569 N	108° 1' 31.070 W
1,200.00	2.50	247.58	1,199.96	-1.04	-2.52	14,334,584.43	786,132.87	39° 25' 58.558 N	108° 1' 31.101 W
1,300.00	4.50	247.58	1,299.77	-3.37	-8.16	14,334,582.10	786,127.23	39° 25' 58.533 N	108° 1' 31.172 W
1,400.00	6.50	247.58	1,399.30	-7.02	-17.02	14,334,578.45	786,118.37	39° 25' 58.494 N	108° 1' 31.283 W
1,500.00	8.50	247.58	1,498.44	-12.00	-29.09	14,334,573.47	786,106.30	39° 25' 58.441 N	108° 1' 31.434 W
1,600.00	10.50	247.58	1,597.07	-18.30	-44.35	14,334,567.17	786,091.04	39° 25' 58.374 N	108° 1' 31.626 W
1,700.00	12.50	247.58	1,695.05	-25.90	-62.77	14,334,559.57	786,072.62	39° 25' 58.293 N	108° 1' 31.857 W
1,800.00	14.50	247.58	1,792.29	-34.80	-84.35	14,334,550.67	786,051.04	39° 25' 58.197 N	108° 1' 32.128 W
1,900.00	16.50	247.58	1,888.64	-44.99	-109.06	14,334,540.48	786,026.33	39° 25' 58.089 N	108° 1' 32.438 W
2,000.00	18.50	247.58	1,984.01	-56.46	-136.85	14,334,529.01	785,998.54	39° 25' 57.966 N	108° 1' 32.787 W
2,081.00	20.12	247.58	2,060.45	-66.68	-161.61	14,334,518.79	785,973.78	39° 25' 57.857 N	108° 1' 33.098 W
<b>END OF BUILD @ 2081' MD (2060' TVD) (20.12 DEG INC)</b>									
2,100.00	20.12	247.58	2,078.29	-69.17	-167.65	14,334,516.30	785,967.74	39° 25' 57.831 N	108° 1' 33.174 W
2,200.00	20.12	247.58	2,172.19	-82.29	-199.45	14,334,503.18	785,935.94	39° 25' 57.690 N	108° 1' 33.573 W
2,300.00	20.12	247.58	2,266.09	-95.41	-231.25	14,334,490.06	785,904.14	39° 25' 57.550 N	108° 1' 33.973 W
2,400.00	20.12	247.58	2,359.98	-108.53	-263.05	14,334,476.94	785,872.34	39° 25' 57.410 N	108° 1' 34.372 W
2,500.00	20.12	247.58	2,453.88	-121.65	-294.85	14,334,463.82	785,840.54	39° 25' 57.270 N	108° 1' 34.771 W
2,600.00	20.12	247.58	2,547.78	-134.76	-326.65	14,334,450.71	785,808.74	39° 25' 57.130 N	108° 1' 35.170 W
2,700.00	20.12	247.58	2,641.68	-147.88	-358.45	14,334,437.59	785,776.94	39° 25' 56.990 N	108° 1' 35.570 W
2,800.00	20.12	247.58	2,735.57	-161.00	-390.24	14,334,424.47	785,745.15	39° 25' 56.850 N	108° 1' 35.969 W
2,900.00	20.12	247.58	2,829.47	-174.12	-422.04	14,334,411.35	785,713.35	39° 25' 56.710 N	108° 1' 36.368 W
3,000.00	20.12	247.58	2,923.37	-187.24	-453.84	14,334,398.23	785,681.55	39° 25' 56.570 N	108° 1' 36.767 W
3,100.00	20.12	247.58	3,017.27	-200.36	-485.64	14,334,385.11	785,649.75	39° 25' 56.430 N	108° 1' 37.167 W
3,200.00	20.12	247.58	3,111.16	-213.48	-517.44	14,334,371.99	785,617.95	39° 25' 56.290 N	108° 1' 37.566 W
3,300.00	20.12	247.58	3,205.06	-226.60	-549.24	14,334,358.87	785,586.15	39° 25' 56.150 N	108° 1' 37.965 W
3,400.00	20.12	247.58	3,298.96	-239.72	-581.04	14,334,345.75	785,554.35	39° 25' 56.010 N	108° 1' 38.364 W
3,485.56	20.12	247.58	3,379.30	-250.94	-608.24	14,334,334.53	785,527.15	39° 25' 55.890 N	108° 1' 38.706 W
<b>START DROP @ 3486' MD (3379' TVD) (2 DEG/100')</b>									
3,500.00	19.83	247.58	3,392.87	-252.82	-612.80	14,334,332.65	785,522.59	39° 25' 55.870 N	108° 1' 38.763 W
3,576.32	18.30	247.58	3,465.00	-262.33	-635.85	14,334,323.14	785,499.54	39° 25' 55.768 N	108° 1' 39.053 W
<b>MESAVERDE</b>									
3,600.00	17.83	247.58	3,487.51	-265.13	-642.64	14,334,320.34	785,492.75	39° 25' 55.738 N	108° 1' 39.138 W
3,700.00	15.83	247.58	3,583.22	-276.18	-669.41	14,334,309.29	785,465.98	39° 25' 55.620 N	108° 1' 39.474 W
3,800.00	13.83	247.58	3,679.89	-285.94	-693.07	14,334,299.53	785,442.32	39° 25' 55.516 N	108° 1' 39.771 W
3,900.00	11.83	247.58	3,777.38	-294.41	-713.60	14,334,291.06	785,421.80	39° 25' 55.426 N	108° 1' 40.029 W
4,000.00	9.83	247.58	3,875.60	-301.57	-730.97	14,334,283.90	785,404.42	39° 25' 55.349 N	108° 1' 40.247 W
4,100.00	7.83	247.58	3,974.41	-307.43	-745.16	14,334,278.04	785,390.23	39° 25' 55.287 N	108° 1' 40.425 W
4,200.00	5.83	247.58	4,073.69	-311.97	-756.15	14,334,273.51	785,379.24	39° 25' 55.238 N	108° 1' 40.563 W
4,300.00	3.83	247.58	4,173.33	-315.18	-763.94	14,334,270.29	785,371.45	39° 25' 55.204 N	108° 1' 40.661 W
4,400.00	1.83	247.58	4,273.20	-317.06	-768.50	14,334,268.41	785,366.89	39° 25' 55.184 N	108° 1' 40.718 W

# Planning Report - Geographic

<b>Database:</b>	EDMDB	<b>Local Co-ordinate Reference:</b>	Well BAT 14C-17-07-95 (111090) - Slot 14C
<b>Company:</b>	ANTERO RESOURCES	<b>TVD Reference:</b>	RKB @ 5578.50ft (EST. RKB)
<b>Project:</b>	WATSON RANCH PROJECT	<b>MD Reference:</b>	RKB @ 5578.50ft (EST. RKB)
<b>Site:</b>	FRONTIER 12	<b>North Reference:</b>	Grid
<b>Well:</b>	BAT 14C-17-07-95 (111090)	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	BAT 14C-17-07-95		
<b>Design:</b>	ANTERO BAT 14C-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
4,491.56	0.00	0.00	4,364.75	-317.62	-769.86	14,334,267.85	785,365.54	39° 25' 55.178 N	108° 1' 40.735 W
END OF DROP @ 4492' MD (4365' TVD)									
4,491.81	0.00	0.00	4,365.00	-317.62	-769.86	14,334,267.85	785,365.54	39° 25' 55.178 N	108° 1' 40.735 W
TOP GAS - TOP GAS 14C									
4,500.00	0.00	0.00	4,373.19	-317.62	-769.86	14,334,267.85	785,365.54	39° 25' 55.178 N	108° 1' 40.735 W
4,600.00	0.00	0.00	4,473.19	-317.62	-769.86	14,334,267.85	785,365.54	39° 25' 55.178 N	108° 1' 40.735 W
4,700.00	0.00	0.00	4,573.19	-317.62	-769.86	14,334,267.85	785,365.54	39° 25' 55.178 N	108° 1' 40.735 W
4,800.00	0.00	0.00	4,673.19	-317.62	-769.86	14,334,267.85	785,365.54	39° 25' 55.178 N	108° 1' 40.735 W
4,900.00	0.00	0.00	4,773.19	-317.62	-769.86	14,334,267.85	785,365.54	39° 25' 55.178 N	108° 1' 40.735 W
5,000.00	0.00	0.00	4,873.19	-317.62	-769.86	14,334,267.85	785,365.54	39° 25' 55.178 N	108° 1' 40.735 W
5,100.00	0.00	0.00	4,973.19	-317.62	-769.86	14,334,267.85	785,365.54	39° 25' 55.178 N	108° 1' 40.735 W
5,200.00	0.00	0.00	5,073.19	-317.62	-769.86	14,334,267.85	785,365.54	39° 25' 55.178 N	108° 1' 40.735 W
5,300.00	0.00	0.00	5,173.19	-317.62	-769.86	14,334,267.85	785,365.54	39° 25' 55.178 N	108° 1' 40.735 W
5,400.00	0.00	0.00	5,273.19	-317.62	-769.86	14,334,267.85	785,365.54	39° 25' 55.178 N	108° 1' 40.735 W
5,500.00	0.00	0.00	5,373.19	-317.62	-769.86	14,334,267.85	785,365.54	39° 25' 55.178 N	108° 1' 40.735 W
5,600.00	0.00	0.00	5,473.19	-317.62	-769.86	14,334,267.85	785,365.54	39° 25' 55.178 N	108° 1' 40.735 W
5,700.00	0.00	0.00	5,573.19	-317.62	-769.86	14,334,267.85	785,365.54	39° 25' 55.178 N	108° 1' 40.735 W
5,791.81	0.00	0.00	5,665.00	-317.62	-769.86	14,334,267.85	785,365.54	39° 25' 55.178 N	108° 1' 40.735 W
CAMEO									
5,800.00	0.00	0.00	5,673.19	-317.62	-769.86	14,334,267.85	785,365.54	39° 25' 55.178 N	108° 1' 40.735 W
5,900.00	0.00	0.00	5,773.19	-317.62	-769.86	14,334,267.85	785,365.54	39° 25' 55.178 N	108° 1' 40.735 W
6,000.00	0.00	0.00	5,873.19	-317.62	-769.86	14,334,267.85	785,365.54	39° 25' 55.178 N	108° 1' 40.735 W
6,100.00	0.00	0.00	5,973.19	-317.62	-769.86	14,334,267.85	785,365.54	39° 25' 55.178 N	108° 1' 40.735 W
6,200.00	0.00	0.00	6,073.19	-317.62	-769.86	14,334,267.85	785,365.54	39° 25' 55.178 N	108° 1' 40.735 W
6,300.00	0.00	0.00	6,173.19	-317.62	-769.86	14,334,267.85	785,365.54	39° 25' 55.178 N	108° 1' 40.735 W
6,400.00	0.00	0.00	6,273.19	-317.62	-769.86	14,334,267.85	785,365.54	39° 25' 55.178 N	108° 1' 40.735 W
6,491.81	0.00	0.00	6,365.00	-317.62	-769.86	14,334,267.85	785,365.54	39° 25' 55.178 N	108° 1' 40.735 W
ROLLINS									
6,500.00	0.00	0.00	6,373.19	-317.62	-769.86	14,334,267.85	785,365.54	39° 25' 55.178 N	108° 1' 40.735 W
6,591.79	0.00	0.00	6,464.98	-317.62	-769.86	14,334,267.85	785,365.54	39° 25' 55.178 N	108° 1' 40.735 W
PROPOSED TD @ 6592' MD (6465' TVD)									
6,591.81	0.00	0.00	6,465.00	-317.62	-769.86	14,334,267.85	785,365.54	39° 25' 55.178 N	108° 1' 40.735 W
TD 14C									

Design Targets										
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude	
TOP GAS 14C		0.00	4,365.00	-317.62	-769.86	14,334,267.85	785,365.54	39° 25' 55.178 N	108° 1' 40.735 W	
- hit/miss target										
- Shape										
TD 14C	0.00	360.00	6,465.00	-317.62	-769.86	14,334,267.85	785,365.54	39° 25' 55.178 N	108° 1' 40.735 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 14C-17-07-95 (111090) - Slot 14C
<b>Company:</b>	ANTERO RESOURCES	<b>TVD Reference:</b>	RKB @ 5578.50ft (EST. RKB)
<b>Project:</b>	WATSON RANCH PROJECT	<b>MD Reference:</b>	RKB @ 5578.50ft (EST. RKB)
<b>Site:</b>	FRONTIER 12	<b>North Reference:</b>	Grid
<b>Well:</b>	BAT 14C-17-07-95 (111090)	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	BAT 14C-17-07-95		
<b>Design:</b>	ANTERO BAT 14C-17-07-95 P01		

Formations					
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
3,576.32	3,465.00	MESAVERDE		0.00	
4,491.81	4,365.00	TOP GAS		0.00	
5,791.81	5,665.00	CAMEO		0.00	
6,491.81	6,365.00	ROLLINS		0.00	

Plan Annotations				
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
1,075.00	1,075.00	0.00	0.00	KOP @ 1075' (2 DEG/100')
2,081.00	2,060.45	-66.68	-161.61	END OF BUILD @ 2081' MD (2060' TVD) (20.12 DEG INC)
3,485.56	3,379.30	-250.94	-608.24	START DROP @ 3486' MD (3379' TVD) (2 DEG/100')
4,491.56	4,364.75	-317.62	-769.86	END OF DROP @ 4492' MD (4365' TVD)
6,591.79	6,464.98	-317.62	-769.86	PROPOSED TD @ 6592' MD (6465' TVD)