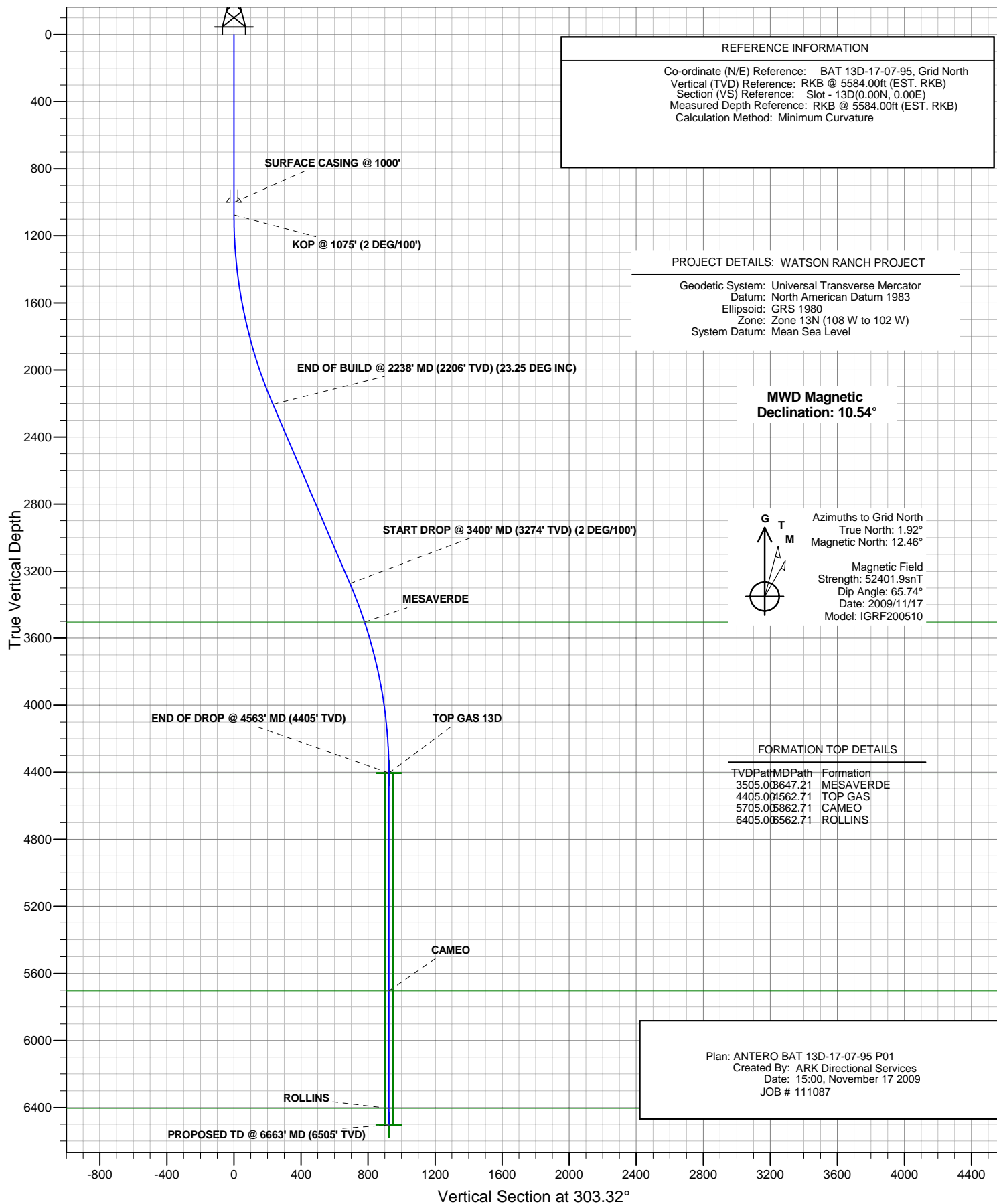




ANTERO RESOURCES

BAT 13D-17-07-95



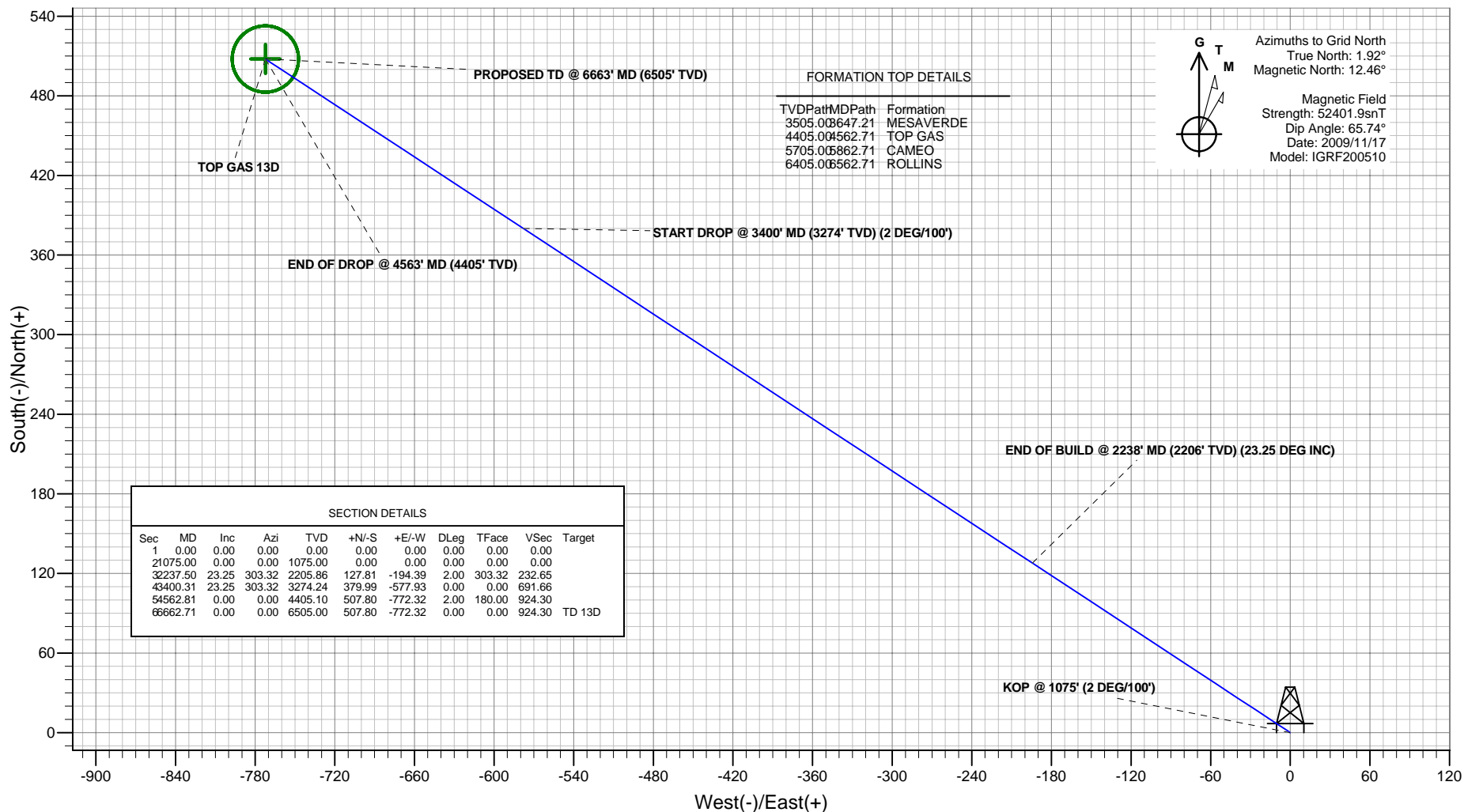


ANTERO RESOURCES

Project: WATSON RANCH PROJECT
 Site: FRONTIER 12
 Well: BAT 13D-17-07-95 (111087)
 Wellbore: BAT 13D-17-07-95
 Design: ANTERO BAT 13D-17-07-95 P01
 JOB # 111087



PLAN VIEW



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 13D-17-07-95, Grid North
 Vertical (TVD) Reference: RKB @ 5584.00ft (EST. RKB)
 Section (VS) Reference: Slot - 13D(0.00N, 0.00E)
 Measured Depth Reference: RKB @ 5584.00ft (EST. RKB)
 Calculation Method: Minimum Curvature

Plan: ANTERO BAT 13D-17-07-95 P01
 Created By: ARK Directional Services
 Date: 15:02, November 17 2009

ANTERO RESOURCES

**WATSON RANCH PROJECT
FRONTIER 12**

Plan: ANTERO BAT 13D-17-07-95 P01

Standard Planning Report - Geographic

17 November, 2009

Planning Report - Geographic

Database:	EDMDB	Local Co-ordinate Reference:	Well BAT 13D-17-07-95 (111087) - Slot 13D
Company:	ANTERO RESOURCES	TVD Reference:	RKB @ 5584.00ft (EST. RKB)
Project:	WATSON RANCH PROJECT	MD Reference:	RKB @ 5584.00ft (EST. RKB)
Site:	FRONTIER 12	North Reference:	Grid
Well:	BAT 13D-17-07-95 (111087)	Survey Calculation Method:	Minimum Curvature
Wellbore:	BAT 13D-17-07-95		
Design:	ANTERO BAT 13D-17-07-95 P01		

Project	WATSON RANCH PROJECT		
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		FRONTIER 12			
Site Position:		Northing:	14,334,677.52 ft	Latitude:	39° 25' 59.496 N
From:	Map	Easting:	786,189.76 ft	Longitude:	108° 1' 30.416 W
Position Uncertainty:	0.00 ft	Slot Radius:	in	Grid Convergence:	-1.92 °

Well	BAT 13D-17-07-95 (111087) - Slot 13D					
Well Position	+N/-S	-35.59 ft	Northing:	14,334,641.93 ft	Latitude:	39° 25' 59.133 N
	+E/-W	-34.07 ft	Easting:	786,155.69 ft	Longitude:	108° 1' 30.835 W
Position Uncertainty		0.00 ft	Wellhead Elevation:	ft	Ground Level:	5,560.00 ft

Wellbore	BAT 13D-17-07-95				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF200510	2009/11/17	10.54	65.74	52,402

Design	ANTERO BAT 13D-17-07-95 P01			
Audit Notes:				
Version:	Phase:	PROTOTYPE	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)
	0.00	0.00	0.00	303.32

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	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	
2,237.50	23.25	303.32	2,205.86	127.81	-194.39	2.00	2.00	0.00	303.32	
3,400.31	23.25	303.32	3,274.24	379.99	-577.93	0.00	0.00	0.00	0.00	
4,562.81	0.00	0.00	4,405.10	507.80	-772.32	2.00	-2.00	0.00	180.00	
6,662.71	0.00	0.00	6,505.00	507.80	-772.32	0.00	0.00	0.00	0.00	TD 13D

Planning Report - Geographic

Database:	EDMDB	Local Co-ordinate Reference:	Well BAT 13D-17-07-95 (111087) - Slot 13D
Company:	ANTERO RESOURCES	TVD Reference:	RKB @ 5584.00ft (EST. RKB)
Project:	WATSON RANCH PROJECT	MD Reference:	RKB @ 5584.00ft (EST. RKB)
Site:	FRONTIER 12	North Reference:	Grid
Well:	BAT 13D-17-07-95 (111087)	Survey Calculation Method:	Minimum Curvature
Wellbore:	BAT 13D-17-07-95		
Design:	ANTERO BAT 13D-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	14,334,641.93	786,155.69	39° 25' 59.133 N	108° 1' 30.835 W
100.00	0.00	0.00	100.00	0.00	0.00	14,334,641.93	786,155.69	39° 25' 59.133 N	108° 1' 30.835 W
200.00	0.00	0.00	200.00	0.00	0.00	14,334,641.93	786,155.69	39° 25' 59.133 N	108° 1' 30.835 W
300.00	0.00	0.00	300.00	0.00	0.00	14,334,641.93	786,155.69	39° 25' 59.133 N	108° 1' 30.835 W
400.00	0.00	0.00	400.00	0.00	0.00	14,334,641.93	786,155.69	39° 25' 59.133 N	108° 1' 30.835 W
500.00	0.00	0.00	500.00	0.00	0.00	14,334,641.93	786,155.69	39° 25' 59.133 N	108° 1' 30.835 W
600.00	0.00	0.00	600.00	0.00	0.00	14,334,641.93	786,155.69	39° 25' 59.133 N	108° 1' 30.835 W
700.00	0.00	0.00	700.00	0.00	0.00	14,334,641.93	786,155.69	39° 25' 59.133 N	108° 1' 30.835 W
800.00	0.00	0.00	800.00	0.00	0.00	14,334,641.93	786,155.69	39° 25' 59.133 N	108° 1' 30.835 W
900.00	0.00	0.00	900.00	0.00	0.00	14,334,641.93	786,155.69	39° 25' 59.133 N	108° 1' 30.835 W
1,000.00	0.00	0.00	1,000.00	0.00	0.00	14,334,641.93	786,155.69	39° 25' 59.133 N	108° 1' 30.835 W
SURFACE CASING @ 1000'									
1,075.00	0.00	0.00	1,075.00	0.00	0.00	14,334,641.93	786,155.69	39° 25' 59.133 N	108° 1' 30.835 W
KOP @ 1075' (2 DEG/100')									
1,100.00	0.50	303.32	1,100.00	0.06	-0.09	14,334,641.99	786,155.60	39° 25' 59.134 N	108° 1' 30.836 W
1,200.00	2.50	303.32	1,199.96	1.50	-2.28	14,334,643.43	786,153.41	39° 25' 59.147 N	108° 1' 30.864 W
1,300.00	4.50	303.32	1,299.77	4.85	-7.38	14,334,646.78	786,148.31	39° 25' 59.179 N	108° 1' 30.931 W
1,400.00	6.50	303.32	1,399.30	10.12	-15.39	14,334,652.05	786,140.30	39° 25' 59.228 N	108° 1' 31.035 W
1,500.00	8.50	303.32	1,498.44	17.29	-26.29	14,334,659.22	786,129.40	39° 25' 59.295 N	108° 1' 31.177 W
1,600.00	10.50	303.32	1,597.07	26.35	-40.08	14,334,668.28	786,115.61	39° 25' 59.380 N	108° 1' 31.356 W
1,700.00	12.50	303.32	1,695.05	37.31	-56.74	14,334,679.24	786,098.95	39° 25' 59.483 N	108° 1' 31.573 W
1,800.00	14.50	303.32	1,792.29	50.13	-76.25	14,334,692.06	786,079.44	39° 25' 59.603 N	108° 1' 31.827 W
1,900.00	16.50	303.32	1,888.64	64.81	-98.57	14,334,706.74	786,057.12	39° 25' 59.740 N	108° 1' 32.117 W
2,000.00	18.50	303.32	1,984.01	81.33	-123.70	14,334,723.26	786,031.99	39° 25' 59.895 N	108° 1' 32.444 W
2,100.00	20.50	303.32	2,078.27	99.67	-151.59	14,334,741.60	786,004.10	39° 26' 0.067 N	108° 1' 32.807 W
2,200.00	22.50	303.32	2,171.31	119.80	-182.21	14,334,761.73	785,973.48	39° 26' 0.256 N	108° 1' 33.206 W
2,237.50	23.25	303.32	2,205.86	127.81	-194.39	14,334,769.74	785,961.30	39° 26' 0.331 N	108° 1' 33.364 W
END OF BUILD @ 2238' MD (2206' TVD) (23.25 DEG INC)									
2,300.00	23.25	303.32	2,263.28	141.37	-215.01	14,334,783.30	785,940.68	39° 26' 0.458 N	108° 1' 33.633 W
2,400.00	23.25	303.32	2,355.16	163.05	-247.99	14,334,804.98	785,907.70	39° 26' 0.661 N	108° 1' 34.062 W
2,500.00	23.25	303.32	2,447.04	184.74	-280.97	14,334,826.67	785,874.72	39° 26' 0.864 N	108° 1' 34.491 W
2,600.00	23.25	303.32	2,538.92	206.43	-313.96	14,334,848.36	785,841.73	39° 26' 1.067 N	108° 1' 34.920 W
2,700.00	23.25	303.32	2,630.80	228.11	-346.94	14,334,870.04	785,808.75	39° 26' 1.270 N	108° 1' 35.350 W
2,800.00	23.25	303.32	2,722.68	249.80	-379.92	14,334,891.73	785,775.77	39° 26' 1.474 N	108° 1' 35.779 W
2,900.00	23.25	303.32	2,814.56	271.49	-412.91	14,334,913.42	785,742.78	39° 26' 1.677 N	108° 1' 36.208 W
3,000.00	23.25	303.32	2,906.44	293.17	-445.89	14,334,935.10	785,709.80	39° 26' 1.880 N	108° 1' 36.637 W
3,100.00	23.25	303.32	2,998.32	314.86	-478.88	14,334,956.79	785,676.82	39° 26' 2.083 N	108° 1' 37.066 W
3,200.00	23.25	303.32	3,090.19	336.55	-511.86	14,334,978.48	785,643.83	39° 26' 2.286 N	108° 1' 37.496 W
3,300.00	23.25	303.32	3,182.07	358.23	-544.84	14,335,000.16	785,610.85	39° 26' 2.490 N	108° 1' 37.925 W
3,400.31	23.25	303.32	3,274.24	379.99	-577.93	14,335,021.92	785,577.76	39° 26' 2.693 N	108° 1' 38.356 W
START DROP @ 3400' MD (3274' TVD) (2 DEG/100')									
3,500.00	21.26	303.32	3,366.50	400.73	-609.47	14,335,042.66	785,546.22	39° 26' 2.888 N	108° 1' 38.766 W
3,600.00	19.26	303.32	3,460.31	419.75	-638.40	14,335,061.68	785,517.29	39° 26' 3.066 N	108° 1' 39.142 W
3,647.21	18.31	303.32	3,505.00	428.10	-651.10	14,335,070.03	785,504.59	39° 26' 3.144 N	108° 1' 39.308 W
MESAVERDE									
3,700.00	17.26	303.32	3,555.27	436.96	-664.57	14,335,078.88	785,491.12	39° 26' 3.227 N	108° 1' 39.483 W
3,800.00	15.26	303.32	3,651.27	452.33	-687.96	14,335,094.26	785,467.73	39° 26' 3.371 N	108° 1' 39.787 W
3,900.00	13.26	303.32	3,748.18	465.86	-708.54	14,335,107.79	785,447.15	39° 26' 3.498 N	108° 1' 40.055 W
4,000.00	11.26	303.32	3,845.90	477.52	-726.27	14,335,119.45	785,429.42	39° 26' 3.607 N	108° 1' 40.286 W
4,100.00	9.26	303.32	3,944.30	487.31	-741.15	14,335,129.23	785,414.54	39° 26' 3.699 N	108° 1' 40.480 W
4,200.00	7.26	303.32	4,043.25	495.19	-753.15	14,335,137.12	785,402.54	39° 26' 3.773 N	108° 1' 40.636 W
4,300.00	5.26	303.32	4,142.65	501.18	-762.25	14,335,143.11	785,393.44	39° 26' 3.829 N	108° 1' 40.754 W
4,400.00	3.26	303.32	4,242.37	505.26	-768.46	14,335,147.19	785,387.24	39° 26' 3.867 N	108° 1' 40.835 W
4,500.00	1.26	303.32	4,342.29	507.42	-771.75	14,335,149.35	785,383.95	39° 26' 3.887 N	108° 1' 40.878 W

Planning Report - Geographic

Database:	EDMDB	Local Co-ordinate Reference:	Well BAT 13D-17-07-95 (111087) - Slot 13D
Company:	ANTERO RESOURCES	TVD Reference:	RKB @ 5584.00ft (EST. RKB)
Project:	WATSON RANCH PROJECT	MD Reference:	RKB @ 5584.00ft (EST. RKB)
Site:	FRONTIER 12	North Reference:	Grid
Well:	BAT 13D-17-07-95 (111087)	Survey Calculation Method:	Minimum Curvature
Wellbore:	BAT 13D-17-07-95		
Design:	ANTERO BAT 13D-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	
4,562.71	0.00	303.32	4,405.00	507.80	-772.32	14,335,149.73	785,383.37	39° 26' 3.891 N	108° 1' 40.885 W	
TOP GAS - TOP GAS 13D										
4,562.81	0.00	0.00	4,405.10	507.80	-772.32	14,335,149.73	785,383.37	39° 26' 3.891 N	108° 1' 40.885 W	
END OF DROP @ 4563' MD (4405' TVD)										
4,600.00	0.00	0.00	4,442.29	507.80	-772.32	14,335,149.73	785,383.37	39° 26' 3.891 N	108° 1' 40.885 W	
4,700.00	0.00	0.00	4,542.29	507.80	-772.32	14,335,149.73	785,383.37	39° 26' 3.891 N	108° 1' 40.885 W	
4,800.00	0.00	0.00	4,642.29	507.80	-772.32	14,335,149.73	785,383.37	39° 26' 3.891 N	108° 1' 40.885 W	
4,900.00	0.00	0.00	4,742.29	507.80	-772.32	14,335,149.73	785,383.37	39° 26' 3.891 N	108° 1' 40.885 W	
5,000.00	0.00	0.00	4,842.29	507.80	-772.32	14,335,149.73	785,383.37	39° 26' 3.891 N	108° 1' 40.885 W	
5,100.00	0.00	0.00	4,942.29	507.80	-772.32	14,335,149.73	785,383.37	39° 26' 3.891 N	108° 1' 40.885 W	
5,200.00	0.00	0.00	5,042.29	507.80	-772.32	14,335,149.73	785,383.37	39° 26' 3.891 N	108° 1' 40.885 W	
5,300.00	0.00	0.00	5,142.29	507.80	-772.32	14,335,149.73	785,383.37	39° 26' 3.891 N	108° 1' 40.885 W	
5,400.00	0.00	0.00	5,242.29	507.80	-772.32	14,335,149.73	785,383.37	39° 26' 3.891 N	108° 1' 40.885 W	
5,500.00	0.00	0.00	5,342.29	507.80	-772.32	14,335,149.73	785,383.37	39° 26' 3.891 N	108° 1' 40.885 W	
5,600.00	0.00	0.00	5,442.29	507.80	-772.32	14,335,149.73	785,383.37	39° 26' 3.891 N	108° 1' 40.885 W	
5,700.00	0.00	0.00	5,542.29	507.80	-772.32	14,335,149.73	785,383.37	39° 26' 3.891 N	108° 1' 40.885 W	
5,800.00	0.00	0.00	5,642.29	507.80	-772.32	14,335,149.73	785,383.37	39° 26' 3.891 N	108° 1' 40.885 W	
5,862.71	0.00	0.00	5,705.00	507.80	-772.32	14,335,149.73	785,383.37	39° 26' 3.891 N	108° 1' 40.885 W	
CAMEO										
5,900.00	0.00	0.00	5,742.29	507.80	-772.32	14,335,149.73	785,383.37	39° 26' 3.891 N	108° 1' 40.885 W	
6,000.00	0.00	0.00	5,842.29	507.80	-772.32	14,335,149.73	785,383.37	39° 26' 3.891 N	108° 1' 40.885 W	
6,100.00	0.00	0.00	5,942.29	507.80	-772.32	14,335,149.73	785,383.37	39° 26' 3.891 N	108° 1' 40.885 W	
6,200.00	0.00	0.00	6,042.29	507.80	-772.32	14,335,149.73	785,383.37	39° 26' 3.891 N	108° 1' 40.885 W	
6,300.00	0.00	0.00	6,142.29	507.80	-772.32	14,335,149.73	785,383.37	39° 26' 3.891 N	108° 1' 40.885 W	
6,400.00	0.00	0.00	6,242.29	507.80	-772.32	14,335,149.73	785,383.37	39° 26' 3.891 N	108° 1' 40.885 W	
6,500.00	0.00	0.00	6,342.29	507.80	-772.32	14,335,149.73	785,383.37	39° 26' 3.891 N	108° 1' 40.885 W	
6,562.71	0.00	0.00	6,405.00	507.80	-772.32	14,335,149.73	785,383.37	39° 26' 3.891 N	108° 1' 40.885 W	
ROLLINS										
6,600.00	0.00	0.00	6,442.29	507.80	-772.32	14,335,149.73	785,383.37	39° 26' 3.891 N	108° 1' 40.885 W	
6,662.69	0.00	0.00	6,504.98	507.80	-772.32	14,335,149.73	785,383.37	39° 26' 3.891 N	108° 1' 40.885 W	
PROPOSED TD @ 6663' MD (6505' TVD)										
6,662.71	0.00	0.00	6,505.00	507.80	-772.32	14,335,149.73	785,383.37	39° 26' 3.891 N	108° 1' 40.885 W	
TD 13D										

Design Targets										
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude	
TOP GAS 13D		0.00	4,405.00	507.80	-772.32	14,335,149.73	785,383.37	39° 26' 3.891 N	108° 1' 40.885 W	
- hit/miss target										
- Shape										
TD 13D	0.00	0.00	6,505.00	507.80	-772.32	14,335,149.73	785,383.37	39° 26' 3.891 N	108° 1' 40.885 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'	8.62	12.25	

Planning Report - Geographic

Database:	EDMDB	Local Co-ordinate Reference:	Well BAT 13D-17-07-95 (111087) - Slot 13D
Company:	ANTERO RESOURCES	TVD Reference:	RKB @ 5584.00ft (EST. RKB)
Project:	WATSON RANCH PROJECT	MD Reference:	RKB @ 5584.00ft (EST. RKB)
Site:	FRONTIER 12	North Reference:	Grid
Well:	BAT 13D-17-07-95 (111087)	Survey Calculation Method:	Minimum Curvature
Wellbore:	BAT 13D-17-07-95		
Design:	ANTERO BAT 13D-17-07-95 P01		

Formations					
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
3,647.21	3,505.00	MESAVERDE		0.00	
4,562.71	4,405.00	TOP GAS		0.00	
5,862.71	5,705.00	CAMEO		0.00	
6,562.71	6,405.00	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')	
2,237.50	2,205.86	127.81	-194.39	END OF BUILD @ 2238' MD (2206' TVD) (23.25 DEG INC)	
3,400.31	3,274.24	379.99	-577.93	START DROP @ 3400' MD (3274' TVD) (2 DEG/100')	
4,562.81	4,405.10	507.80	-772.32	END OF DROP @ 4563' MD (4405' TVD)	
6,662.69	6,504.98	507.80	-772.32	PROPOSED TD @ 6663' MD (6505' TVD)	