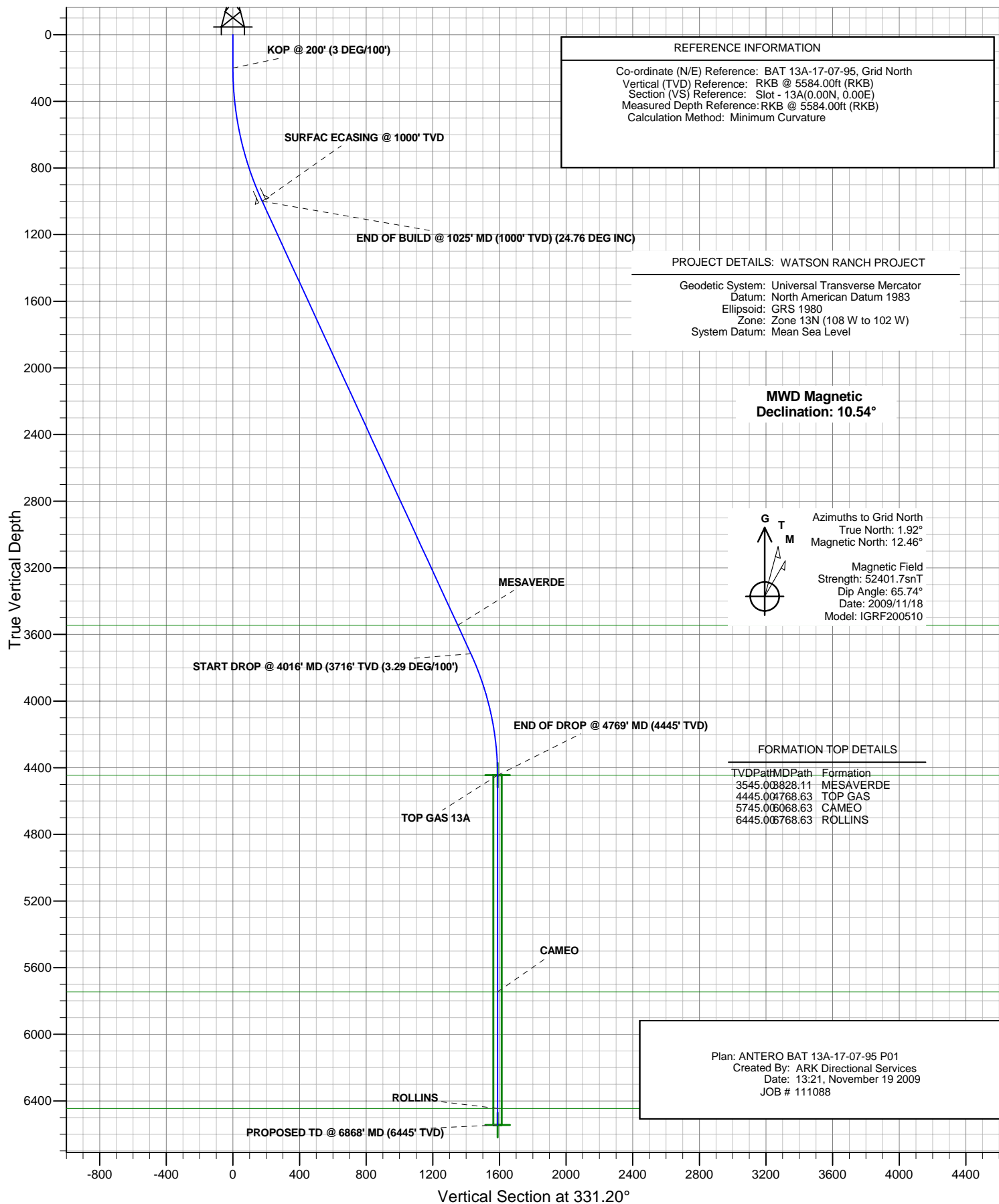




ANTERO RESOURCES

BAT 13A-17-07-95



ANTERO RESOURCES

**WATSON RANCH PROJECT
FRONTIER 12**

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

Standard Planning Report - Geographic

19 November, 2009

Planning Report - Geographic

Database:	EDMDB	Local Co-ordinate Reference:	Well BAT 13A-17-07-95 (111088) - Slot 13A
Company:	ANTERO RESOURCES	TVD Reference:	RKB @ 5584.00ft (RKB)
Project:	WATSON RANCH PROJECT	MD Reference:	RKB @ 5584.00ft (RKB)
Site:	FRONTIER 12	North Reference:	Grid
Well:	BAT 13A-17-07-95 (111088)	Survey Calculation Method:	Minimum Curvature
Wellbore:	BAT 13A-17-07-95		
Design:	ANTERO BAT 13A-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 13A-17-07-95 (111088) - Slot 13A					
Well Position	+N/-S	6.76 ft	Northing:	14,334,684.28 ft	Latitude:	39° 25' 59.556 N
	+E/-W	-18.84 ft	Easting:	786,170.92 ft	Longitude:	108° 1' 30.659 W
Position Uncertainty		0.00 ft	Wellhead Elevation:	ft	Ground Level:	5,560.00 ft

Wellbore	BAT 13A-17-07-95				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF200510	2009/11/18	10.54	65.74	52,402

Design	ANTERO BAT 13A-17-07-95 P01				
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	0.00	0.00	331.20	

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	
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,025.33	24.76	331.20	999.88	153.85	-84.59	3.00	3.00	0.00	331.20	
4,016.45	24.76	331.20	3,716.03	1,251.60	-688.17	0.00	0.00	0.00	0.00	
4,769.04	0.00	0.00	4,445.41	1,391.88	-765.30	3.29	-3.29	0.00	180.00	
6,868.63	0.00	0.00	6,545.00	1,391.88	-765.30	0.00	0.00	0.00	0.00	TD 13A

Planning Report - Geographic

Database:	EDMDB	Local Co-ordinate Reference:	Well BAT 13A-17-07-95 (111088) - Slot 13A
Company:	ANTERO RESOURCES	TVD Reference:	RKB @ 5584.00ft (RKB)
Project:	WATSON RANCH PROJECT	MD Reference:	RKB @ 5584.00ft (RKB)
Site:	FRONTIER 12	North Reference:	Grid
Well:	BAT 13A-17-07-95 (111088)	Survey Calculation Method:	Minimum Curvature
Wellbore:	BAT 13A-17-07-95		
Design:	ANTERO BAT 13A-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	14,334,684.28	786,170.92	39° 25' 59.556 N	108° 1' 30.659 W
100.00	0.00	0.00	100.00	0.00	0.00	14,334,684.28	786,170.92	39° 25' 59.556 N	108° 1' 30.659 W
200.00	0.00	0.00	200.00	0.00	0.00	14,334,684.28	786,170.92	39° 25' 59.556 N	108° 1' 30.659 W
KOP @ 200' (3 DEG/100')									
300.00	3.00	331.20	299.95	2.29	-1.26	14,334,686.57	786,169.66	39° 25' 59.579 N	108° 1' 30.676 W
400.00	6.00	331.20	399.63	9.17	-5.04	14,334,693.44	786,165.88	39° 25' 59.645 N	108° 1' 30.727 W
500.00	9.00	331.20	498.77	20.60	-11.33	14,334,704.88	786,159.59	39° 25' 59.756 N	108° 1' 30.812 W
600.00	12.00	331.20	597.08	36.57	-20.11	14,334,720.85	786,150.81	39° 25' 59.911 N	108° 1' 30.931 W
700.00	15.00	331.20	694.31	57.03	-31.35	14,334,741.30	786,139.57	39° 26' 0.109 N	108° 1' 31.082 W
800.00	18.00	331.20	790.18	81.91	-45.04	14,334,766.19	786,125.88	39° 26' 0.350 N	108° 1' 31.267 W
900.00	21.00	331.20	884.43	111.16	-61.12	14,334,795.43	786,109.80	39° 26' 0.634 N	108° 1' 31.485 W
1,000.00	24.00	331.20	976.81	144.69	-79.55	14,334,828.96	786,091.37	39° 26' 0.959 N	108° 1' 31.734 W
1,025.33	24.76	331.20	999.88	153.85	-84.59	14,334,838.13	786,086.33	39° 26' 1.047 N	108° 1' 31.802 W
END OF BUILD @ 1025' MD (1000' TVD) (24.76 DEG INC)									
1,025.46	24.76	331.20	1,000.00	153.90	-84.62	14,334,838.17	786,086.30	39° 26' 1.048 N	108° 1' 31.802 W
SURFAC ECASING @ 1000' TVD									
1,100.00	24.76	331.20	1,067.69	181.25	-99.66	14,334,865.53	786,071.26	39° 26' 1.313 N	108° 1' 32.005 W
1,200.00	24.76	331.20	1,158.49	217.95	-119.84	14,334,902.23	786,051.08	39° 26' 1.669 N	108° 1' 32.278 W
1,300.00	24.76	331.20	1,249.30	254.65	-140.02	14,334,938.93	786,030.90	39° 26' 2.024 N	108° 1' 32.550 W
1,400.00	24.76	331.20	1,340.11	291.35	-160.20	14,334,975.63	786,010.72	39° 26' 2.380 N	108° 1' 32.823 W
1,500.00	24.76	331.20	1,430.91	328.05	-180.37	14,335,012.33	785,990.55	39° 26' 2.736 N	108° 1' 33.096 W
1,600.00	24.76	331.20	1,521.72	364.75	-200.55	14,335,049.03	785,970.37	39° 26' 3.091 N	108° 1' 33.368 W
1,700.00	24.76	331.20	1,612.53	401.45	-220.73	14,335,085.73	785,950.19	39° 26' 3.447 N	108° 1' 33.641 W
1,800.00	24.76	331.20	1,703.34	438.15	-240.91	14,335,122.43	785,930.01	39° 26' 3.803 N	108° 1' 33.914 W
1,900.00	24.76	331.20	1,794.14	474.85	-261.09	14,335,159.13	785,909.83	39° 26' 4.158 N	108° 1' 34.186 W
2,000.00	24.76	331.20	1,884.95	511.55	-281.27	14,335,195.83	785,889.65	39° 26' 4.514 N	108° 1' 34.459 W
2,100.00	24.76	331.20	1,975.76	548.25	-301.45	14,335,232.53	785,869.47	39° 26' 4.870 N	108° 1' 34.731 W
2,200.00	24.76	331.20	2,066.56	584.95	-321.63	14,335,269.23	785,849.29	39° 26' 5.225 N	108° 1' 35.004 W
2,300.00	24.76	331.20	2,157.37	621.65	-341.81	14,335,305.93	785,829.11	39° 26' 5.581 N	108° 1' 35.277 W
2,400.00	24.76	331.20	2,248.18	658.36	-361.99	14,335,342.63	785,808.94	39° 26' 5.937 N	108° 1' 35.549 W
2,500.00	24.76	331.20	2,338.98	695.06	-382.16	14,335,379.33	785,788.76	39° 26' 6.292 N	108° 1' 35.822 W
2,600.00	24.76	331.20	2,429.79	731.76	-402.34	14,335,416.03	785,768.58	39° 26' 6.648 N	108° 1' 36.095 W
2,700.00	24.76	331.20	2,520.60	768.46	-422.52	14,335,452.73	785,748.40	39° 26' 7.004 N	108° 1' 36.367 W
2,800.00	24.76	331.20	2,611.41	805.16	-442.70	14,335,489.43	785,728.22	39° 26' 7.359 N	108° 1' 36.640 W
2,900.00	24.76	331.20	2,702.21	841.86	-462.88	14,335,526.13	785,708.04	39° 26' 7.715 N	108° 1' 36.912 W
3,000.00	24.76	331.20	2,793.02	878.56	-483.06	14,335,562.83	785,687.86	39° 26' 8.071 N	108° 1' 37.185 W
3,100.00	24.76	331.20	2,883.83	915.26	-503.24	14,335,599.53	785,667.68	39° 26' 8.426 N	108° 1' 37.458 W
3,200.00	24.76	331.20	2,974.63	951.96	-523.42	14,335,636.23	785,647.50	39° 26' 8.782 N	108° 1' 37.730 W
3,300.00	24.76	331.20	3,065.44	988.66	-543.60	14,335,672.93	785,627.33	39° 26' 9.138 N	108° 1' 38.003 W
3,400.00	24.76	331.20	3,156.25	1,025.36	-563.77	14,335,709.63	785,607.15	39° 26' 9.493 N	108° 1' 38.276 W
3,500.00	24.76	331.20	3,247.05	1,062.06	-583.95	14,335,746.33	785,586.97	39° 26' 9.849 N	108° 1' 38.548 W
3,600.00	24.76	331.20	3,337.86	1,098.76	-604.13	14,335,783.03	785,566.79	39° 26' 10.205 N	108° 1' 38.821 W
3,700.00	24.76	331.20	3,428.67	1,135.46	-624.31	14,335,819.73	785,546.61	39° 26' 10.560 N	108° 1' 39.093 W
3,800.00	24.76	331.20	3,519.48	1,172.16	-644.49	14,335,856.43	785,526.43	39° 26' 10.916 N	108° 1' 39.366 W
3,828.11	24.76	331.20	3,545.00	1,182.47	-650.16	14,335,866.75	785,520.76	39° 26' 11.016 N	108° 1' 39.443 W
MESAVERDE									
3,900.00	24.76	331.20	3,610.28	1,208.86	-664.67	14,335,893.13	785,506.25	39° 26' 11.272 N	108° 1' 39.639 W
4,000.00	24.76	331.20	3,701.09	1,245.56	-684.85	14,335,929.83	785,486.07	39° 26' 11.627 N	108° 1' 39.911 W
4,016.45	24.76	331.20	3,716.03	1,251.59	-688.17	14,335,935.87	785,482.75	39° 26' 11.686 N	108° 1' 39.956 W
START DROP @ 4016' MD (3716' TVD) (3.29 DEG/100')									
4,100.00	22.01	331.20	3,792.71	1,280.65	-704.14	14,335,964.92	785,466.78	39° 26' 11.967 N	108° 1' 40.172 W
4,200.00	18.72	331.20	3,886.44	1,311.14	-720.91	14,335,995.42	785,450.01	39° 26' 12.263 N	108° 1' 40.399 W
4,300.00	15.43	331.20	3,982.02	1,336.87	-735.06	14,336,021.14	785,435.87	39° 26' 12.512 N	108° 1' 40.590 W
4,400.00	12.14	331.20	4,079.13	1,357.75	-746.54	14,336,042.02	785,424.39	39° 26' 12.714 N	108° 1' 40.745 W

Planning Report - Geographic

Database:	EDMDB	Local Co-ordinate Reference:	Well BAT 13A-17-07-95 (111088) - Slot 13A
Company:	ANTERO RESOURCES	TVD Reference:	RKB @ 5584.00ft (RKB)
Project:	WATSON RANCH PROJECT	MD Reference:	RKB @ 5584.00ft (RKB)
Site:	FRONTIER 12	North Reference:	Grid
Well:	BAT 13A-17-07-95 (111088)	Survey Calculation Method:	Minimum Curvature
Wellbore:	BAT 13A-17-07-95		
Design:	ANTERO BAT 13A-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	
4,500.00	8.85	331.20	4,177.44	1,373.71	-755.31	14,336,057.98	785,415.61	39° 26' 12.869 N	108° 1' 40.863 W	
4,600.00	5.56	331.20	4,276.64	1,384.70	-761.35	14,336,068.98	785,409.57	39° 26' 12.976 N	108° 1' 40.945 W	
4,700.00	2.27	331.20	4,376.39	1,390.69	-764.64	14,336,074.96	785,406.28	39° 26' 13.034 N	108° 1' 40.989 W	
4,768.63	0.01	331.20	4,445.00	1,391.88	-765.30	14,336,076.16	785,405.62	39° 26' 13.045 N	108° 1' 40.998 W	
TOP GAS - TOP GAS 13A										
4,769.04	0.00	0.00	4,445.41	1,391.88	-765.30	14,336,076.16	785,405.62	39° 26' 13.045 N	108° 1' 40.998 W	
END OF DROP @ 4769' MD (4445' TVD)										
4,800.00	0.00	0.00	4,476.37	1,391.88	-765.30	14,336,076.16	785,405.62	39° 26' 13.045 N	108° 1' 40.998 W	
4,900.00	0.00	0.00	4,576.37	1,391.88	-765.30	14,336,076.16	785,405.62	39° 26' 13.045 N	108° 1' 40.998 W	
5,000.00	0.00	0.00	4,676.37	1,391.88	-765.30	14,336,076.16	785,405.62	39° 26' 13.045 N	108° 1' 40.998 W	
5,100.00	0.00	0.00	4,776.37	1,391.88	-765.30	14,336,076.16	785,405.62	39° 26' 13.045 N	108° 1' 40.998 W	
5,200.00	0.00	0.00	4,876.37	1,391.88	-765.30	14,336,076.16	785,405.62	39° 26' 13.045 N	108° 1' 40.998 W	
5,300.00	0.00	0.00	4,976.37	1,391.88	-765.30	14,336,076.16	785,405.62	39° 26' 13.045 N	108° 1' 40.998 W	
5,400.00	0.00	0.00	5,076.37	1,391.88	-765.30	14,336,076.16	785,405.62	39° 26' 13.045 N	108° 1' 40.998 W	
5,500.00	0.00	0.00	5,176.37	1,391.88	-765.30	14,336,076.16	785,405.62	39° 26' 13.045 N	108° 1' 40.998 W	
5,600.00	0.00	0.00	5,276.37	1,391.88	-765.30	14,336,076.16	785,405.62	39° 26' 13.045 N	108° 1' 40.998 W	
5,700.00	0.00	0.00	5,376.37	1,391.88	-765.30	14,336,076.16	785,405.62	39° 26' 13.045 N	108° 1' 40.998 W	
5,800.00	0.00	0.00	5,476.37	1,391.88	-765.30	14,336,076.16	785,405.62	39° 26' 13.045 N	108° 1' 40.998 W	
5,900.00	0.00	0.00	5,576.37	1,391.88	-765.30	14,336,076.16	785,405.62	39° 26' 13.045 N	108° 1' 40.998 W	
6,000.00	0.00	0.00	5,676.37	1,391.88	-765.30	14,336,076.16	785,405.62	39° 26' 13.045 N	108° 1' 40.998 W	
6,068.63	0.00	0.00	5,745.00	1,391.88	-765.30	14,336,076.16	785,405.62	39° 26' 13.045 N	108° 1' 40.998 W	
CAMEO										
6,100.00	0.00	0.00	5,776.37	1,391.88	-765.30	14,336,076.16	785,405.62	39° 26' 13.045 N	108° 1' 40.998 W	
6,200.00	0.00	0.00	5,876.37	1,391.88	-765.30	14,336,076.16	785,405.62	39° 26' 13.045 N	108° 1' 40.998 W	
6,300.00	0.00	0.00	5,976.37	1,391.88	-765.30	14,336,076.16	785,405.62	39° 26' 13.045 N	108° 1' 40.998 W	
6,400.00	0.00	0.00	6,076.37	1,391.88	-765.30	14,336,076.16	785,405.62	39° 26' 13.045 N	108° 1' 40.998 W	
6,500.00	0.00	0.00	6,176.37	1,391.88	-765.30	14,336,076.16	785,405.62	39° 26' 13.045 N	108° 1' 40.998 W	
6,600.00	0.00	0.00	6,276.37	1,391.88	-765.30	14,336,076.16	785,405.62	39° 26' 13.045 N	108° 1' 40.998 W	
6,700.00	0.00	0.00	6,376.37	1,391.88	-765.30	14,336,076.16	785,405.62	39° 26' 13.045 N	108° 1' 40.998 W	
6,768.63	0.00	0.00	6,445.00	1,391.88	-765.30	14,336,076.16	785,405.62	39° 26' 13.045 N	108° 1' 40.998 W	
ROLLINS										
6,800.00	0.00	0.00	6,476.37	1,391.88	-765.30	14,336,076.16	785,405.62	39° 26' 13.045 N	108° 1' 40.998 W	
6,868.61	0.00	0.00	6,544.98	1,391.88	-765.30	14,336,076.16	785,405.62	39° 26' 13.045 N	108° 1' 40.998 W	
PROPOSED TD @ 6869' MD (6545' TVD)										
6,868.63	0.00	0.00	6,545.00	1,391.88	-765.30	14,336,076.16	785,405.62	39° 26' 13.045 N	108° 1' 40.998 W	
TD 13A										

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 13A		360.00	4,445.00	1,391.88	-765.30	14,336,076.16	785,405.62	39° 26' 13.045 N	108° 1' 40.998 W	
- plan hits target										
- Circle (radius 25.00)										
TD 13A	0.00	360.00	6,545.00	1,391.88	-765.30	14,336,076.16	785,405.62	39° 26' 13.045 N	108° 1' 40.998 W	
- plan hits target										
- Circle (radius 25.00)										

Planning Report - Geographic

Database:	EDMDB	Local Co-ordinate Reference:	Well BAT 13A-17-07-95 (111088) - Slot 13A
Company:	ANTERO RESOURCES	TVD Reference:	RKB @ 5584.00ft (RKB)
Project:	WATSON RANCH PROJECT	MD Reference:	RKB @ 5584.00ft (RKB)
Site:	FRONTIER 12	North Reference:	Grid
Well:	BAT 13A-17-07-95 (111088)	Survey Calculation Method:	Minimum Curvature
Wellbore:	BAT 13A-17-07-95		
Design:	ANTERO BAT 13A-17-07-95 P01		

Casing Points					
Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (in)	Hole Diameter (in)	
1,025.46	1,000.00	SURFAC ECASING @ 1000' TVD	8.62	12.25	

Formations					
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
3,828.11	3,545.00	MESAVERDE		0.00	
4,768.63	4,445.00	TOP GAS		0.00	
6,068.63	5,745.00	CAMEO		0.00	
6,768.63	6,445.00	ROLLINS		0.00	

Plan Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates			
		+N/-S (ft)	+E/-W (ft)	Comment	
200.00	200.00	0.00	0.00	KOP @ 200' (3 DEG/100')	
1,025.33	999.88	153.85	-84.59	END OF BUILD @ 1025' MD (1000' TVD) (24.76 DEG INC)	
4,016.45	3,716.03	1,251.59	-688.17	START DROP @ 4016' MD (3716' TVD) (3.29 DEG/100')	
4,769.04	4,445.41	1,391.88	-765.30	END OF DROP @ 4769' MD (4445' TVD)	
6,868.61	6,544.98	1,391.88	-765.30	PROPOSED TD @ 6869' MD (6545' TVD)	