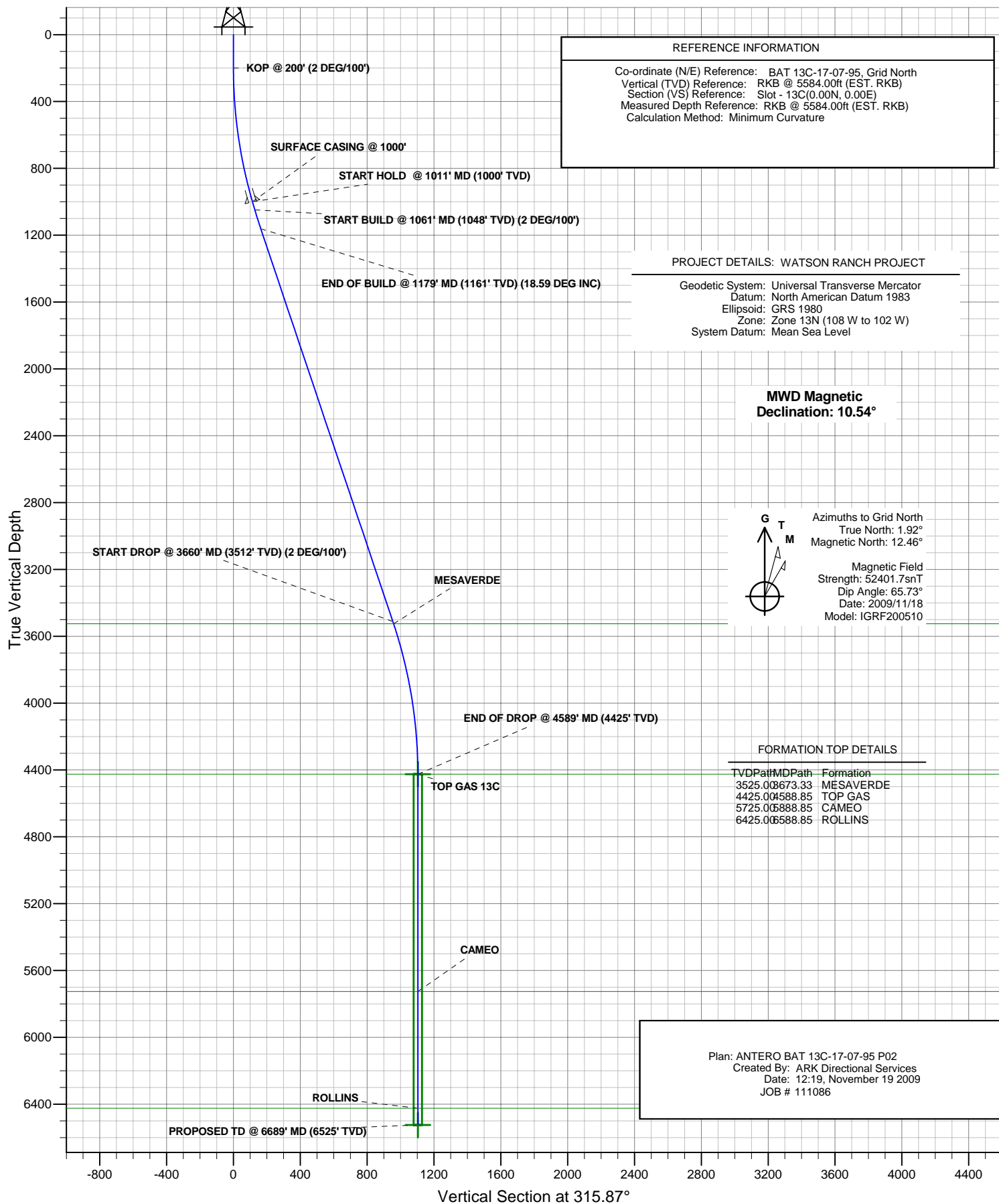




ANTERO RESOURCES

BAT 13C-17-07-95



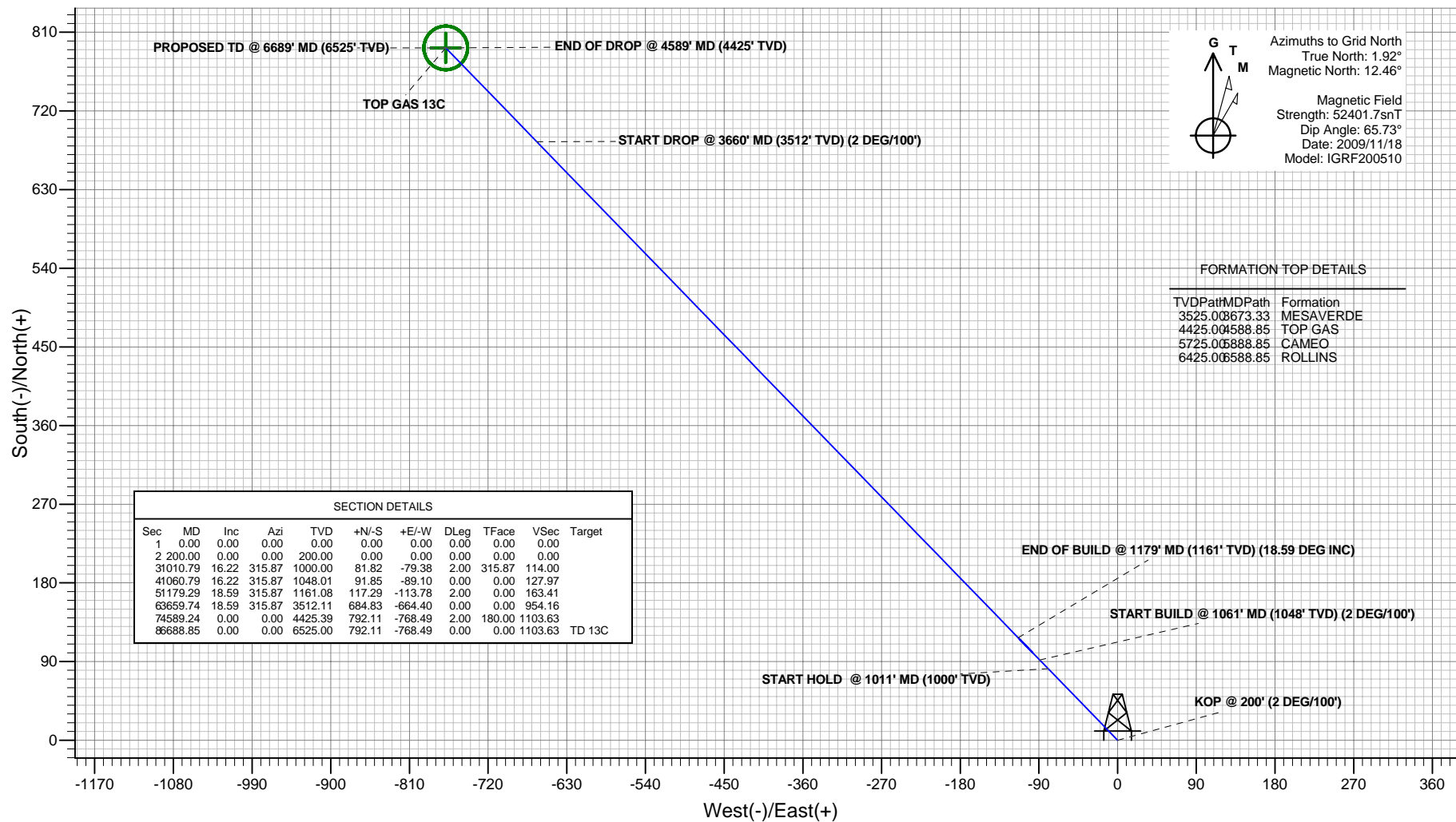


ANTERO RESOURCES

Project: WATSON RANCH PROJECT
Site: FRONTIER 12
Well: BAT 13C-17-07-95 (111086)
Wellbore: BAT 13C-17-07-95
Design: ANTERO BAT 13C-17-07-95 P02
JOB # 111086



PLAN VIEW



Plan: ANTERO BAT 13C-17-07-95 P02
Created By: ARK Directional Services
Date: 12:34, November 19 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 13C-17-07-95, Grid North
Vertical (TVD) Reference: RKB @ 5584.00ft (EST. RKB)
Section (VS) Reference: Slot - 13C(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 13C-17-07-95 P02

Standard Planning Report - Geographic

19 November, 2009

Planning Report - Geographic

Database:	EDMDB	Local Co-ordinate Reference:	Well BAT 13C-17-07-95 (111086) - Slot 13C
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 13C-17-07-95 (111086)	Survey Calculation Method:	Minimum Curvature
Wellbore:	BAT 13C-17-07-95		
Design:	ANTERO BAT 13C-17-07-95 P02		

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 13C-17-07-95 (111086) - Slot 13C					
Well Position	+N/-S	-21.47 ft	Northing:	14,334,656.05 ft	Latitude:	39° 25' 59.274 N
	+E/-W	-29.01 ft	Easting:	786,160.75 ft	Longitude:	108° 1' 30.776 W
Position Uncertainty		0.00 ft	Wellhead Elevation:	ft	Ground Level:	5,560.00 ft

Wellbore	BAT 13C-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 13C-17-07-95 P02			
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	315.87

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	
1,010.79	16.22	315.87	1,000.00	81.82	-79.38	2.00	2.00	0.00	315.87	
1,060.79	16.22	315.87	1,048.01	91.85	-89.10	0.00	0.00	0.00	0.00	
1,179.29	18.59	315.87	1,161.08	117.29	-113.78	2.00	2.00	0.00	0.00	
3,659.74	18.59	315.87	3,512.11	684.83	-664.40	0.00	0.00	0.00	0.00	
4,589.24	0.00	0.00	4,425.39	792.11	-768.49	2.00	-2.00	0.00	180.00	
6,688.85	0.00	0.00	6,525.00	792.11	-768.49	0.00	0.00	0.00	0.00	TD 13C

Planning Report - Geographic

Database:	EDMDB	Local Co-ordinate Reference:	Well BAT 13C-17-07-95 (111086) - Slot 13C
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 13C-17-07-95 (111086)	Survey Calculation Method:	Minimum Curvature
Wellbore:	BAT 13C-17-07-95		
Design:	ANTERO BAT 13C-17-07-95 P02		

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	14,334,656.05	786,160.75	39° 25' 59.274 N	108° 1' 30.776 W
100.00	0.00	0.00	100.00	0.00	0.00	14,334,656.05	786,160.75	39° 25' 59.274 N	108° 1' 30.776 W
200.00	0.00	0.00	200.00	0.00	0.00	14,334,656.05	786,160.75	39° 25' 59.274 N	108° 1' 30.776 W
KOP @ 200' (2 DEG/100')									
300.00	2.00	315.87	299.98	1.25	-1.22	14,334,657.30	786,159.53	39° 25' 59.286 N	108° 1' 30.792 W
400.00	4.00	315.87	399.84	5.01	-4.86	14,334,661.06	786,155.89	39° 25' 59.322 N	108° 1' 30.840 W
500.00	6.00	315.87	499.45	11.27	-10.93	14,334,667.32	786,149.82	39° 25' 59.382 N	108° 1' 30.920 W
600.00	8.00	315.87	598.70	20.02	-19.42	14,334,676.07	786,141.33	39° 25' 59.466 N	108° 1' 31.032 W
700.00	10.00	315.87	697.46	31.25	-30.31	14,334,687.30	786,130.44	39° 25' 59.573 N	108° 1' 31.176 W
800.00	12.00	315.87	795.62	44.95	-43.60	14,334,701.00	786,117.15	39° 25' 59.704 N	108° 1' 31.351 W
900.00	14.00	315.87	893.05	61.09	-59.27	14,334,717.14	786,101.48	39° 25' 59.858 N	108° 1' 31.557 W
1,000.00	16.00	315.87	989.64	79.68	-77.29	14,334,735.73	786,083.46	39° 26' 0.035 N	108° 1' 31.794 W
1,010.79	16.22	315.87	1,000.00	81.82	-79.38	14,334,737.87	786,081.37	39° 26' 0.056 N	108° 1' 31.822 W
START HOLD @ 1011' MD (1000' TVD) - SURFACE CASING @ 1000'									
1,060.79	16.22	315.87	1,048.01	91.85	-89.10	14,334,747.90	786,071.65	39° 26' 0.152 N	108° 1' 31.950 W
START BUILD @ 1061' MD (1048' TVD) (2 DEG/100')									
1,100.00	17.00	315.87	1,085.59	99.90	-96.91	14,334,755.94	786,063.84	39° 26' 0.229 N	108° 1' 32.053 W
1,179.29	18.59	315.87	1,161.08	117.29	-113.78	14,334,773.34	786,046.97	39° 26' 0.395 N	108° 1' 32.275 W
END OF BUILD @ 1179' MD (1161' TVD) (18.59 DEG INC)									
1,200.00	18.59	315.87	1,180.71	122.03	-118.38	14,334,778.08	786,042.37	39° 26' 0.440 N	108° 1' 32.336 W
1,300.00	18.59	315.87	1,275.49	144.91	-140.58	14,334,800.96	786,020.17	39° 26' 0.658 N	108° 1' 32.628 W
1,400.00	18.59	315.87	1,370.27	167.79	-162.78	14,334,823.84	785,997.97	39° 26' 0.877 N	108° 1' 32.921 W
1,500.00	18.59	315.87	1,465.06	190.67	-184.97	14,334,846.72	785,975.78	39° 26' 1.096 N	108° 1' 33.213 W
1,600.00	18.59	315.87	1,559.84	213.55	-207.17	14,334,869.60	785,953.58	39° 26' 1.314 N	108° 1' 33.505 W
1,700.00	18.59	315.87	1,654.62	236.43	-229.37	14,334,892.48	785,931.38	39° 26' 1.533 N	108° 1' 33.798 W
1,800.00	18.59	315.87	1,749.40	259.31	-251.57	14,334,915.36	785,909.18	39° 26' 1.751 N	108° 1' 34.090 W
1,900.00	18.59	315.87	1,844.19	282.19	-273.77	14,334,938.24	785,886.98	39° 26' 1.970 N	108° 1' 34.383 W
2,000.00	18.59	315.87	1,938.97	305.07	-295.97	14,334,961.12	785,864.78	39° 26' 2.188 N	108° 1' 34.675 W
2,100.00	18.59	315.87	2,033.75	327.95	-318.17	14,334,984.00	785,842.59	39° 26' 2.407 N	108° 1' 34.967 W
2,200.00	18.59	315.87	2,128.53	350.83	-340.36	14,335,006.88	785,820.39	39° 26' 2.625 N	108° 1' 35.260 W
2,300.00	18.59	315.87	2,223.32	373.71	-362.56	14,335,029.76	785,798.19	39° 26' 2.844 N	108° 1' 35.552 W
2,400.00	18.59	315.87	2,318.10	396.59	-384.76	14,335,052.64	785,775.99	39° 26' 3.063 N	108° 1' 35.845 W
2,500.00	18.59	315.87	2,412.88	419.47	-406.96	14,335,075.52	785,753.79	39° 26' 3.281 N	108° 1' 36.137 W
2,600.00	18.59	315.87	2,507.66	442.36	-429.16	14,335,098.40	785,731.59	39° 26' 3.500 N	108° 1' 36.430 W
2,700.00	18.59	315.87	2,602.45	465.24	-451.36	14,335,121.28	785,709.39	39° 26' 3.718 N	108° 1' 36.722 W
2,800.00	18.59	315.87	2,697.23	488.12	-473.56	14,335,144.17	785,687.20	39° 26' 3.937 N	108° 1' 37.014 W
2,900.00	18.59	315.87	2,792.01	511.00	-495.75	14,335,167.05	785,665.00	39° 26' 4.155 N	108° 1' 37.307 W
3,000.00	18.59	315.87	2,886.79	533.88	-517.95	14,335,189.93	785,642.80	39° 26' 4.374 N	108° 1' 37.599 W
3,100.00	18.59	315.87	2,981.57	556.76	-540.15	14,335,212.81	785,620.60	39° 26' 4.592 N	108° 1' 37.892 W
3,200.00	18.59	315.87	3,076.36	579.64	-562.35	14,335,235.69	785,598.40	39° 26' 4.811 N	108° 1' 38.184 W
3,300.00	18.59	315.87	3,171.14	602.52	-584.55	14,335,258.57	785,576.20	39° 26' 5.029 N	108° 1' 38.477 W
3,400.00	18.59	315.87	3,265.92	625.40	-606.75	14,335,281.45	785,554.01	39° 26' 5.248 N	108° 1' 38.769 W
3,500.00	18.59	315.87	3,360.70	648.28	-628.94	14,335,304.33	785,531.81	39° 26' 5.467 N	108° 1' 39.061 W
3,600.00	18.59	315.87	3,455.49	671.16	-651.14	14,335,327.21	785,509.61	39° 26' 5.685 N	108° 1' 39.354 W
3,659.74	18.59	315.87	3,512.11	684.83	-664.40	14,335,340.88	785,496.35	39° 26' 5.816 N	108° 1' 39.529 W
START DROP @ 3660' MD (3512' TVD) (2 DEG/100')									
3,673.33	18.32	315.87	3,525.00	687.92	-667.40	14,335,343.97	785,493.35	39° 26' 5.845 N	108° 1' 39.568 W
MESAVERDE									
3,700.00	17.78	315.87	3,550.36	693.85	-673.15	14,335,349.90	785,487.60	39° 26' 5.902 N	108° 1' 39.644 W
3,800.00	15.78	315.87	3,646.09	714.57	-693.26	14,335,370.62	785,467.49	39° 26' 6.100 N	108° 1' 39.909 W
3,900.00	13.78	315.87	3,742.78	732.89	-711.03	14,335,388.94	785,449.72	39° 26' 6.275 N	108° 1' 40.143 W
4,000.00	11.78	315.87	3,840.29	748.77	-726.44	14,335,404.82	785,434.31	39° 26' 6.426 N	108° 1' 40.346 W
4,100.00	9.78	315.87	3,938.52	762.20	-739.47	14,335,418.25	785,421.28	39° 26' 6.555 N	108° 1' 40.517 W
4,200.00	7.78	315.87	4,037.34	773.16	-750.10	14,335,429.21	785,410.65	39° 26' 6.659 N	108° 1' 40.657 W

Planning Report - Geographic

Database:	EDMDB	Local Co-ordinate Reference:	Well BAT 13C-17-07-95 (111086) - Slot 13C
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 13C-17-07-95 (111086)	Survey Calculation Method:	Minimum Curvature
Wellbore:	BAT 13C-17-07-95		
Design:	ANTERO BAT 13C-17-07-95 P02		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (ft)	Map Easting (ft)	Latitude	Longitude
4,300.00	5.78	315.87	4,136.64	781.64	-758.33	14,335,437.69	785,402.42	39° 26' 6.740 N	108° 1' 40.766 W
4,400.00	3.78	315.87	4,236.28	787.63	-764.14	14,335,443.67	785,396.62	39° 26' 6.798 N	108° 1' 40.842 W
4,500.00	1.78	315.87	4,336.16	791.11	-767.52	14,335,447.16	785,393.23	39° 26' 6.831 N	108° 1' 40.887 W
4,588.85	0.01	315.87	4,425.00	792.11	-768.49	14,335,448.16	785,392.27	39° 26' 6.840 N	108° 1' 40.900 W
TOP GAS - TOP GAS 13C									
4,589.24	0.00	0.00	4,425.39	792.11	-768.49	14,335,448.16	785,392.27	39° 26' 6.840 N	108° 1' 40.900 W
END OF DROP @ 4589' MD (4425' TVD)									
4,600.00	0.00	0.00	4,436.15	792.11	-768.49	14,335,448.16	785,392.27	39° 26' 6.840 N	108° 1' 40.900 W
4,700.00	0.00	0.00	4,536.15	792.11	-768.49	14,335,448.16	785,392.27	39° 26' 6.840 N	108° 1' 40.900 W
4,800.00	0.00	0.00	4,636.15	792.11	-768.49	14,335,448.16	785,392.27	39° 26' 6.840 N	108° 1' 40.900 W
4,900.00	0.00	0.00	4,736.15	792.11	-768.49	14,335,448.16	785,392.27	39° 26' 6.840 N	108° 1' 40.900 W
5,000.00	0.00	0.00	4,836.15	792.11	-768.49	14,335,448.16	785,392.27	39° 26' 6.840 N	108° 1' 40.900 W
5,100.00	0.00	0.00	4,936.15	792.11	-768.49	14,335,448.16	785,392.27	39° 26' 6.840 N	108° 1' 40.900 W
5,200.00	0.00	0.00	5,036.15	792.11	-768.49	14,335,448.16	785,392.27	39° 26' 6.840 N	108° 1' 40.900 W
5,300.00	0.00	0.00	5,136.15	792.11	-768.49	14,335,448.16	785,392.27	39° 26' 6.840 N	108° 1' 40.900 W
5,400.00	0.00	0.00	5,236.15	792.11	-768.49	14,335,448.16	785,392.27	39° 26' 6.840 N	108° 1' 40.900 W
5,500.00	0.00	0.00	5,336.15	792.11	-768.49	14,335,448.16	785,392.27	39° 26' 6.840 N	108° 1' 40.900 W
5,600.00	0.00	0.00	5,436.15	792.11	-768.49	14,335,448.16	785,392.27	39° 26' 6.840 N	108° 1' 40.900 W
5,700.00	0.00	0.00	5,536.15	792.11	-768.49	14,335,448.16	785,392.27	39° 26' 6.840 N	108° 1' 40.900 W
5,800.00	0.00	0.00	5,636.15	792.11	-768.49	14,335,448.16	785,392.27	39° 26' 6.840 N	108° 1' 40.900 W
5,888.85	0.00	0.00	5,725.00	792.11	-768.49	14,335,448.16	785,392.27	39° 26' 6.840 N	108° 1' 40.900 W
CAMEO									
5,900.00	0.00	0.00	5,736.15	792.11	-768.49	14,335,448.16	785,392.27	39° 26' 6.840 N	108° 1' 40.900 W
6,000.00	0.00	0.00	5,836.15	792.11	-768.49	14,335,448.16	785,392.27	39° 26' 6.840 N	108° 1' 40.900 W
6,100.00	0.00	0.00	5,936.15	792.11	-768.49	14,335,448.16	785,392.27	39° 26' 6.840 N	108° 1' 40.900 W
6,200.00	0.00	0.00	6,036.15	792.11	-768.49	14,335,448.16	785,392.27	39° 26' 6.840 N	108° 1' 40.900 W
6,300.00	0.00	0.00	6,136.15	792.11	-768.49	14,335,448.16	785,392.27	39° 26' 6.840 N	108° 1' 40.900 W
6,400.00	0.00	0.00	6,236.15	792.11	-768.49	14,335,448.16	785,392.27	39° 26' 6.840 N	108° 1' 40.900 W
6,500.00	0.00	0.00	6,336.15	792.11	-768.49	14,335,448.16	785,392.27	39° 26' 6.840 N	108° 1' 40.900 W
6,588.85	0.00	0.00	6,425.00	792.11	-768.49	14,335,448.16	785,392.27	39° 26' 6.840 N	108° 1' 40.900 W
ROLLINS									
6,600.00	0.00	0.00	6,436.15	792.11	-768.49	14,335,448.16	785,392.27	39° 26' 6.840 N	108° 1' 40.900 W
6,688.83	0.00	0.00	6,524.98	792.11	-768.49	14,335,448.16	785,392.27	39° 26' 6.840 N	108° 1' 40.900 W
PROPOSED TD @ 6689' MD (6525' TVD)									
6,688.85	0.00	0.00	6,525.00	792.11	-768.49	14,335,448.16	785,392.27	39° 26' 6.840 N	108° 1' 40.900 W
TD 13C									

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 13C		0.00	4,425.00	792.11	-768.49	14,335,448.16	785,392.27	39° 26' 6.840 N	108° 1' 40.900 W
- plan hits target									
- Circle (radius 25.00)									
TD 13C	0.00	0.00	6,525.00	792.11	-768.49	14,335,448.16	785,392.27	39° 26' 6.840 N	108° 1' 40.900 W
- plan hits target									
- Circle (radius 25.00)									

Planning Report - Geographic

Database:	EDMDB	Local Co-ordinate Reference:	Well BAT 13C-17-07-95 (111086) - Slot 13C
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 13C-17-07-95 (111086)	Survey Calculation Method:	Minimum Curvature
Wellbore:	BAT 13C-17-07-95		
Design:	ANTERO BAT 13C-17-07-95 P02		

Casing Points					
Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (in)	Hole Diameter (in)	
1,010.79	1,000.00	SURFACE CASING @ 1000'	8.62	12.25	

Formations					
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
3,673.33	3,525.00	MESAVERDE		0.00	
4,588.85	4,425.00	TOP GAS		0.00	
5,888.85	5,725.00	CAMEO		0.00	
6,588.85	6,425.00	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' (2 DEG/100')	
1,010.79	1,000.00	81.82	-79.38	START HOLD @ 1011' MD (1000' TVD)	
1,060.79	1,048.01	91.85	-89.10	START BUILD @ 1061' MD (1048' TVD) (2 DEG/100')	
1,179.29	1,161.08	117.29	-113.78	END OF BUILD @ 1179' MD (1161' TVD) (18.59 DEG INC)	
3,659.74	3,512.11	684.83	-664.40	START DROP @ 3660' MD (3512' TVD) (2 DEG/100')	
4,589.24	4,425.39	792.11	-768.49	END OF DROP @ 4589' MD (4425' TVD)	
6,688.83	6,524.98	792.11	-768.49	PROPOSED TD @ 6689' MD (6525' TVD)	