



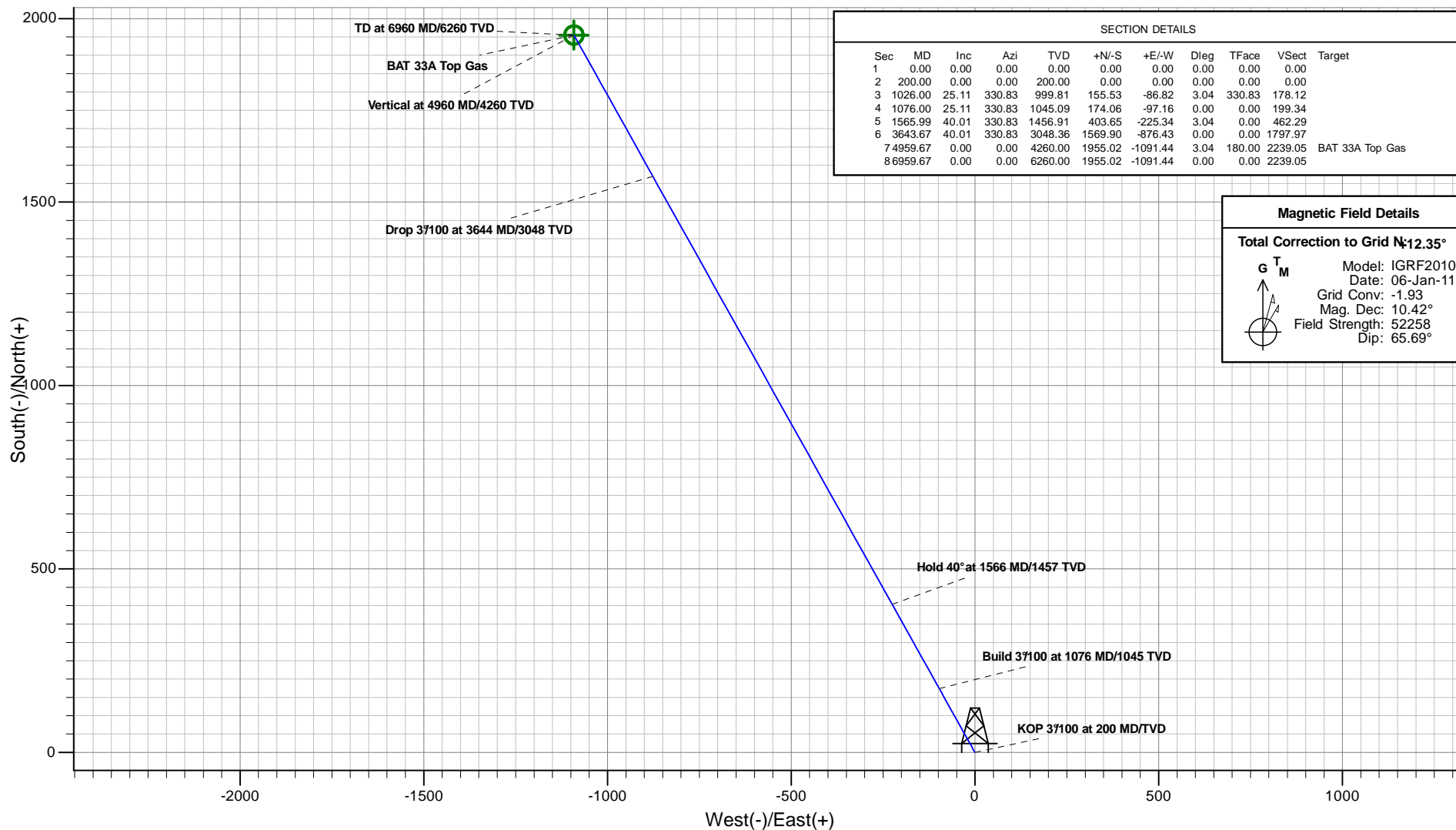
# Antero Resources

## BAT 33A-18-07-95 (111266)



### PLAN VIEW

Project: Monument Ridge  
Site: Monument Ridge Pad  
Well: BAT 33A-18-07-95 (111266)  
Wellbore: BAT 33A  
Design: BAT 33A P01



SECTION DETAILS										
Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSec	Target
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2	200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	
3	1026.00	25.11	330.83	999.81	155.53	-86.82	3.04	330.83	178.12	
4	1076.00	25.11	330.83	1045.09	174.06	-97.16	0.00	0.00	199.34	
5	1565.99	40.01	330.83	1456.91	403.65	-225.34	3.04	0.00	462.29	
6	3643.67	40.01	330.83	3048.36	1569.90	-876.43	0.00	0.00	1797.97	
7	4959.67	0.00	0.00	4260.00	1955.02	-1091.44	3.04	180.00	2239.05	BAT 33A Top Gas
8	6959.67	0.00	0.00	6260.00	1955.02	-1091.44	0.00	0.00	2239.05	

**Magnetic Field Details**

Total Correction to Grid N:12.35°

G

T

M

Model: IGRF2010

Date: 06-Jan-11

Grid Conv: -1.93

Mag. Dec: 10.42°

Field Strength: 52258

Dip: 65.69°

Plan: BAT 33A P01  
Created By: ARK Directional Services  
Date: 10:27, October 18 2010

PROJECT DETAILS: Monument Ridge

Geodetic System: Universal Transverse Mercator  
Datum: NAD83 Colorado - HARN  
Ellipsoid: GRS 1980  
Zone: Zone 13N (108 W to 102 W)  
System Datum: Mean Sea Level

REFERENCE INFORMATION

Co-ordinate (N/E) Reference: Well BAT 33A-18-07-95 (111266), Grid North  
Vertical (TVD) Reference: KB @ 5465.00ft (Original Well Elev)  
Section (VS) Reference: Slot - (0.00N, 0.00E)  
Measured Depth Reference: KB @ 5465.00ft (Original Well Elev)  
Calculation Method: Minimum Curvature

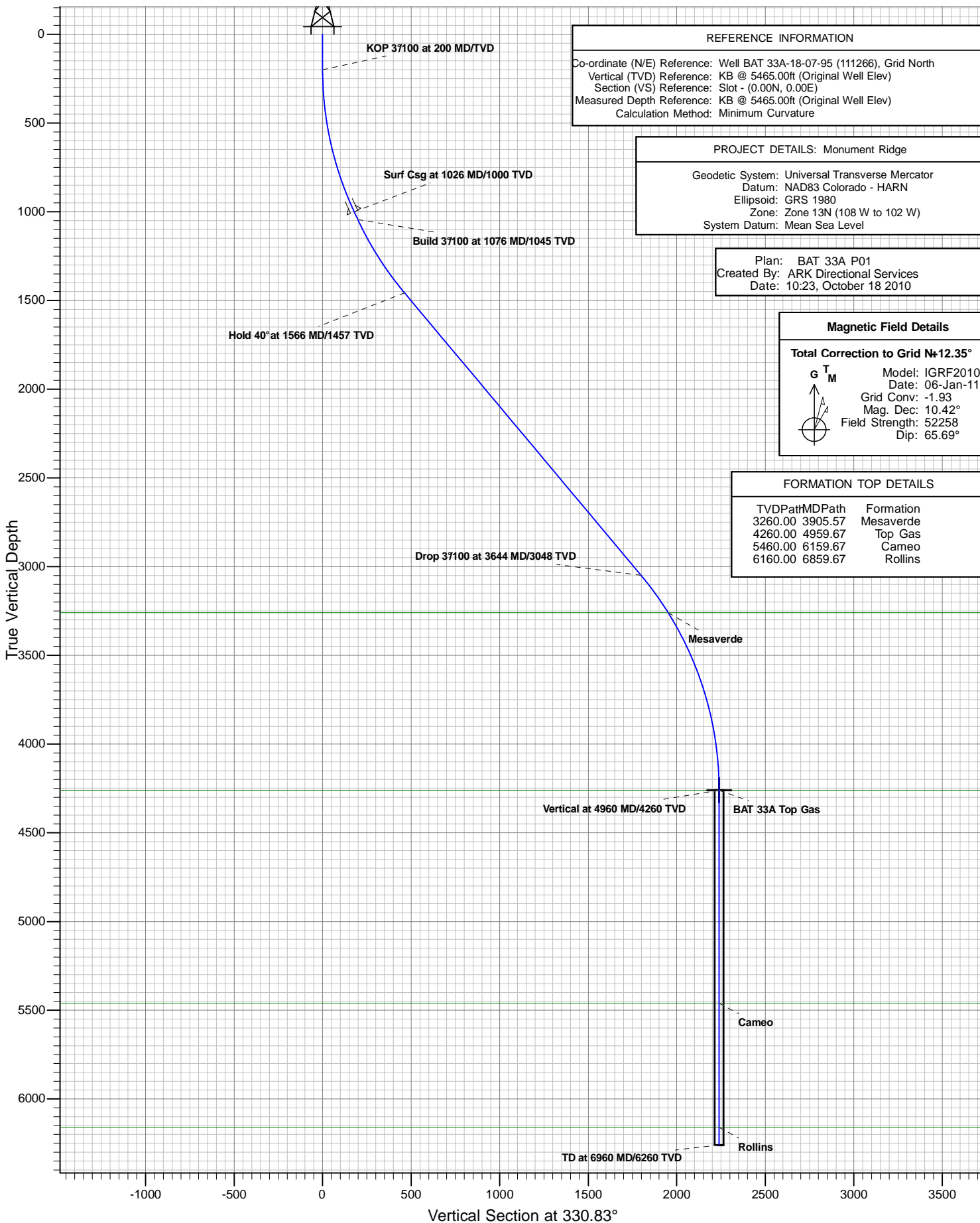


# Antero Resources

BAT 33A-18-07-95 (111266)



## VERTICAL SECTION VIEW



# **Antero Resources**

**Monument Ridge**

**Monument Ridge Pad**

**BAT 33A-18-07-95 (111266)**

**BAT 33A**

**Plan: BAT 33A P01**

## **Standard Planning Report - Geographic**

**18 October, 2010**

# ARK Directional Services

## Planning Report - Geographic

<b>Database:</b>	EDM SERVER DB	<b>Local Co-ordinate Reference:</b>	Well BAT 33A-18-07-95 (111266)
<b>Company:</b>	Antero Resources	<b>TVD Reference:</b>	KB @ 5465.00ft (Original Well Elev)
<b>Project:</b>	Monument Ridge	<b>MD Reference:</b>	KB @ 5465.00ft (Original Well Elev)
<b>Site:</b>	Monument Ridge Pad	<b>North Reference:</b>	Grid
<b>Well:</b>	BAT 33A-18-07-95 (111266)	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	BAT 33A		
<b>Design:</b>	BAT 33A P01		

<b>Project</b>	Monument Ridge		
<b>Map System:</b>	Universal Transverse Mercator	<b>System Datum:</b>	Mean Sea Level
<b>Geo Datum:</b>	NAD83 Colorado - HARN		
<b>Map Zone:</b>	Zone 13N (108 W to 102 W)		

<b>Site</b>	Monument Ridge Pad		
<b>Site Position:</b>		<b>Northing:</b>	14,334,067.020 usft
<b>From:</b>	Lat/Long	<b>Easting:</b>	783,868.932 usft
<b>Position Uncertainty:</b>	0.00 ft	<b>Slot Radius:</b>	13.20 in
		<b>Latitude:</b>	39.431305000°N
		<b>Longitude:</b>	108.033251000°W
		<b>Grid Convergence:</b>	-1.93 °

<b>Well</b>	BAT 33A-18-07-95 (111266)		
<b>Well Position</b>	<b>+N/-S</b>	0.00 ft	<b>Northing:</b>
	<b>+E/-W</b>	0.00 ft	<b>Easting:</b>
<b>Position Uncertainty</b>	0.00 ft	<b>Wellhead Elevation:</b>	<b>Ground Level:</b>
			5,441.00 ft

<b>Wellbore</b>	BAT 33A				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination</b>	<b>Dip Angle</b>	<b>Field Strength</b>
			(°)	(°)	(nT)
	IGRF2010	2011/01/06	10.42	65.69	52,258

<b>Design</b>	BAT 33A 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)</b>	<b>+N/-S</b>	<b>+E/-W</b>	<b>Direction</b>	
	(ft)	(ft)	(ft)	(°)	
	4,260.00	0.00	0.00	330.83	

<b>Plan Sections</b>										
<b>Measured</b>	<b>Inclination</b>	<b>Azimuth</b>	<b>Vertical</b>	<b>+N/-S</b>	<b>+E/-W</b>	<b>Dogleg</b>	<b>Build</b>	<b>Turn</b>	<b>TFO</b>	<b>Target</b>
<b>Depth</b>	<b>(°)</b>	<b>(°)</b>	<b>Depth</b>	<b>(ft)</b>	<b>(ft)</b>	<b>Rate</b>	<b>Rate</b>	<b>Rate</b>	<b>(°)</b>	
<b>(ft)</b>			<b>(ft)</b>			<b>(°/100ft)</b>	<b>(°/100ft)</b>	<b>(°/100ft)</b>		
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	
1,026.00	25.11	330.83	999.81	155.53	-86.82	3.04	3.04	0.00	330.83	
1,076.00	25.11	330.83	1,045.09	174.06	-97.16	0.00	0.00	0.00	0.00	
1,565.99	40.01	330.83	1,456.91	403.65	-225.34	3.04	3.04	0.00	0.00	
3,643.67	40.01	330.83	3,048.36	1,569.90	-876.43	0.00	0.00	0.00	0.00	
4,959.67	0.00	0.00	4,260.00	1,955.02	-1,091.44	3.04	-3.04	0.00	180.00	BAT 33A Top Gas
6,959.67	0.00	0.00	6,260.00	1,955.02	-1,091.44	0.00	0.00	0.00	0.00	

# ARK Directional Services

## Planning Report - Geographic

<b>Database:</b>	EDM SERVER DB	<b>Local Co-ordinate Reference:</b>	Well BAT 33A-18-07-95 (111266)
<b>Company:</b>	Antero Resources	<b>TVD Reference:</b>	KB @ 5465.00ft (Original Well Elev)
<b>Project:</b>	Monument Ridge	<b>MD Reference:</b>	KB @ 5465.00ft (Original Well Elev)
<b>Site:</b>	Monument Ridge Pad	<b>North Reference:</b>	Grid
<b>Well:</b>	BAT 33A-18-07-95 (111266)	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	BAT 33A		
<b>Design:</b>	BAT 33A P01		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
0.00	0.00	0.00	0.00	0.00	0.00	14,334,067.020	783,868.932	39.431305000°N	108.033251000°W
100.00	0.00	0.00	100.00	0.00	0.00	14,334,067.020	783,868.932	39.431305000°N	108.033251000°W
200.00	0.00	0.00	200.00	0.00	0.00	14,334,067.020	783,868.932	39.431305000°N	108.033251000°W
<b>KOP 3°/100 at 200 MD/TVD</b>									
300.00	3.04	330.83	299.95	2.32	-1.29	14,334,069.336	783,867.640	39.431311232°N	108.033255848°W
400.00	6.08	330.83	399.62	9.26	-5.17	14,334,076.277	783,863.765	39.431329912°N	108.033270377°W
500.00	9.12	330.83	498.73	20.80	-11.61	14,334,087.824	783,857.320	39.431360986°N	108.033294546°W
600.00	12.16	330.83	597.00	36.92	-20.61	14,334,103.944	783,848.321	39.431404366°N	108.033328288°W
700.00	15.20	330.83	694.16	57.57	-32.14	14,334,124.592	783,836.796	39.431459932°N	108.033371508°W
800.00	18.24	330.83	789.92	82.69	-46.16	14,334,149.710	783,822.775	39.431527526°N	108.033424083°W
900.00	21.28	330.83	884.02	112.21	-62.63	14,334,179.227	783,806.299	39.431606958°N	108.033485867°W
1,000.00	24.32	330.83	976.19	146.04	-81.52	14,334,213.060	783,787.414	39.431698005°N	108.033556685°W
1,026.00	25.11	330.83	999.81	155.53	-86.82	14,334,222.552	783,782.115	39.431723549°N	108.033576553°W
<b>Surf Csg at 1026 MD/1000 TVD</b>									
1,076.00	25.11	330.83	1,045.09	174.06	-97.16	14,334,241.078	783,771.772	39.431773405°N	108.033615338°W
<b>Build 3°/100 at 1076 MD/1045 TVD</b>									
1,100.00	25.84	330.83	1,066.75	183.07	-102.19	14,334,250.092	783,766.740	39.431797661°N	108.033634207°W
1,200.00	28.88	330.83	1,155.56	223.20	-124.59	14,334,290.215	783,744.340	39.431905635°N	108.033718205°W
1,300.00	31.92	330.83	1,241.80	267.37	-149.26	14,334,334.394	783,719.676	39.432024523°N	108.033810693°W
1,400.00	34.96	330.83	1,325.23	315.48	-176.12	14,334,382.504	783,692.817	39.432153990°N	108.033911411°W
1,500.00	38.00	330.83	1,405.63	367.39	-205.09	14,334,434.410	783,663.839	39.432293671°N	108.034020077°W
1,565.99	40.01	330.83	1,456.91	403.65	-225.34	14,334,470.671	783,643.595	39.432391252°N	108.034095990°W
<b>Hold 40° at 1566 MD/1457 TVD</b>									
1,600.00	40.01	330.83	1,482.96	422.74	-236.00	14,334,489.761	783,632.937	39.432442625°N	108.034135956°W
1,700.00	40.01	330.83	1,559.56	478.87	-267.33	14,334,545.893	783,601.599	39.432593679°N	108.034253470°W
1,800.00	40.01	330.83	1,636.15	535.01	-298.67	14,334,602.025	783,570.262	39.432744733°N	108.034370984°W
1,900.00	40.01	330.83	1,712.75	591.14	-330.01	14,334,658.157	783,538.925	39.432895786°N	108.034488499°W
2,000.00	40.01	330.83	1,789.35	647.27	-361.35	14,334,714.288	783,507.587	39.433046839°N	108.034606014°W
2,100.00	40.01	330.83	1,865.95	703.40	-392.68	14,334,770.420	783,476.250	39.433197892°N	108.034723529°W
2,200.00	40.01	330.83	1,942.54	759.53	-424.02	14,334,826.552	783,444.912	39.433348945°N	108.034841046°W
2,300.00	40.01	330.83	2,019.14	815.67	-455.36	14,334,882.684	783,413.575	39.433499998°N	108.034958562°W
2,400.00	40.01	330.83	2,095.74	871.80	-486.70	14,334,938.816	783,382.237	39.433651051°N	108.035076080°W
2,500.00	40.01	330.83	2,172.34	927.93	-518.03	14,334,994.947	783,350.900	39.433802103°N	108.035193597°W
2,600.00	40.01	330.83	2,248.93	984.06	-549.37	14,335,051.079	783,319.563	39.433953156°N	108.035311116°W
2,700.00	40.01	330.83	2,325.53	1,040.19	-580.71	14,335,107.211	783,288.225	39.434104208°N	108.035428634°W
2,800.00	40.01	330.83	2,402.13	1,096.33	-612.05	14,335,163.343	783,256.888	39.434255260°N	108.035546154°W
2,900.00	40.01	330.83	2,478.73	1,152.46	-643.38	14,335,219.475	783,225.550	39.434406312°N	108.035663673°W
3,000.00	40.01	330.83	2,555.32	1,208.59	-674.72	14,335,275.607	783,194.213	39.434557364°N	108.035781194°W
3,100.00	40.01	330.83	2,631.92	1,264.72	-706.06	14,335,331.738	783,162.876	39.434708415°N	108.035898715°W
3,200.00	40.01	330.83	2,708.52	1,320.85	-737.40	14,335,387.870	783,131.538	39.434859467°N	108.036016236°W
3,300.00	40.01	330.83	2,785.12	1,376.99	-768.73	14,335,444.002	783,100.201	39.435010518°N	108.036133758°W
3,400.00	40.01	330.83	2,861.71	1,433.12	-800.07	14,335,500.134	783,068.863	39.435161569°N	108.036251280°W
3,500.00	40.01	330.83	2,938.31	1,489.25	-831.41	14,335,556.266	783,037.526	39.435312620°N	108.036368803°W
3,600.00	40.01	330.83	3,014.91	1,545.38	-862.75	14,335,612.397	783,006.188	39.435463671°N	108.036486327°W
3,643.67	40.01	330.83	3,048.36	1,569.89	-876.43	14,335,636.910	782,992.503	39.435529635°N	108.036537650°W
<b>Drop 3°/100 at 3644 MD/3048 TVD</b>									
3,700.00	38.29	330.83	3,092.04	1,600.95	-893.77	14,335,667.962	782,975.168	39.435613195°N	108.036602663°W
3,800.00	35.25	330.83	3,172.13	1,653.21	-922.95	14,335,720.227	782,945.989	39.435753841°N	108.036712092°W
3,900.00	32.21	330.83	3,255.28	1,701.69	-950.01	14,335,768.710	782,918.922	39.435884309°N	108.036813602°W
3,905.57	32.04	330.83	3,260.00	1,704.28	-951.46	14,335,771.296	782,917.478	39.435891267°N	108.036819016°W
<b>Mesaverde</b>									
4,000.00	29.17	330.83	3,341.27	1,746.26	-974.89	14,335,813.275	782,894.042	39.436004232°N	108.036906909°W
4,100.00	26.13	330.83	3,429.83	1,786.78	-997.51	14,335,853.795	782,871.420	39.436113272°N	108.036991748°W
4,200.00	23.09	330.83	3,520.73	1,823.14	-1,017.81	14,335,890.157	782,851.120	39.436211123°N	108.037067882°W

# ARK Directional Services

## Planning Report - Geographic

<b>Database:</b>	EDM SERVER DB	<b>Local Co-ordinate Reference:</b>	Well BAT 33A-18-07-95 (111266)
<b>Company:</b>	Antero Resources	<b>TVD Reference:</b>	KB @ 5465.00ft (Original Well Elev)
<b>Project:</b>	Monument Ridge	<b>MD Reference:</b>	KB @ 5465.00ft (Original Well Elev)
<b>Site:</b>	Monument Ridge Pad	<b>North Reference:</b>	Grid
<b>Well:</b>	BAT 33A-18-07-95 (111266)	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	BAT 33A		
<b>Design:</b>	BAT 33A P01		

Planned Survey										
Measured			Vertical			Map		Map		
Depth (ft)	Inclination (°)	Azimuth (°)	Depth (ft)	+N/-S (ft)	+E/-W (ft)	Northing (usft)	Easting (usft)	Latitude	Longitude	
4,300.00	20.05	330.83	3,613.72	1,855.24	-1,035.74	14,335,922.259	782,833.198	39.436297508°N	108.037135096°W	
4,400.00	17.01	330.83	3,708.52	1,882.99	-1,051.23	14,335,950.010	782,817.705	39.436372186°N	108.037193199°W	
4,500.00	13.97	330.83	3,804.87	1,906.32	-1,064.25	14,335,973.332	782,804.685	39.436434945°N	108.037242030°W	
4,600.00	10.93	330.83	3,902.51	1,925.14	-1,074.76	14,335,992.160	782,794.174	39.436485610°N	108.037281450°W	
4,700.00	7.89	330.83	4,001.15	1,939.42	-1,082.73	14,336,006.440	782,786.201	39.436524037°N	108.037311349°W	
4,800.00	4.85	330.83	4,100.52	1,949.12	-1,088.14	14,336,016.132	782,780.790	39.436550119°N	108.037331642°W	
4,900.00	1.81	330.83	4,200.34	1,954.19	-1,090.98	14,336,021.209	782,777.956	39.436563781°N	108.037342273°W	
4,959.67	0.00	0.00	4,260.00	1,955.02	-1,091.44	14,336,022.034	782,777.495	39.436566000°N	108.037344000°W	
Vertical at 4960 MD/4260 TVD - Top Gas										
5,000.00	0.00	0.00	4,300.33	1,955.02	-1,091.44	14,336,022.034	782,777.495	39.436566000°N	108.037344000°W	
5,100.00	0.00	0.00	4,400.33	1,955.02	-1,091.44	14,336,022.034	782,777.495	39.436566000°N	108.037344000°W	
5,200.00	0.00	0.00	4,500.33	1,955.02	-1,091.44	14,336,022.034	782,777.495	39.436566000°N	108.037344000°W	
5,300.00	0.00	0.00	4,600.33	1,955.02	-1,091.44	14,336,022.034	782,777.495	39.436566000°N	108.037344000°W	
5,400.00	0.00	0.00	4,700.33	1,955.02	-1,091.44	14,336,022.034	782,777.495	39.436566000°N	108.037344000°W	
5,500.00	0.00	0.00	4,800.33	1,955.02	-1,091.44	14,336,022.034	782,777.495	39.436566000°N	108.037344000°W	
5,600.00	0.00	0.00	4,900.33	1,955.02	-1,091.44	14,336,022.034	782,777.495	39.436566000°N	108.037344000°W	
5,700.00	0.00	0.00	5,000.33	1,955.02	-1,091.44	14,336,022.034	782,777.495	39.436566000°N	108.037344000°W	
5,800.00	0.00	0.00	5,100.33	1,955.02	-1,091.44	14,336,022.034	782,777.495	39.436566000°N	108.037344000°W	
5,900.00	0.00	0.00	5,200.33	1,955.02	-1,091.44	14,336,022.034	782,777.495	39.436566000°N	108.037344000°W	
6,000.00	0.00	0.00	5,300.33	1,955.02	-1,091.44	14,336,022.034	782,777.495	39.436566000°N	108.037344000°W	
6,100.00	0.00	0.00	5,400.33	1,955.02	-1,091.44	14,336,022.034	782,777.495	39.436566000°N	108.037344000°W	
6,159.67	0.00	0.00	5,460.00	1,955.02	-1,091.44	14,336,022.034	782,777.495	39.436566000°N	108.037344000°W	
Cameo										
6,200.00	0.00	0.00	5,500.33	1,955.02	-1,091.44	14,336,022.034	782,777.495	39.436566000°N	108.037344000°W	
6,300.00	0.00	0.00	5,600.33	1,955.02	-1,091.44	14,336,022.034	782,777.495	39.436566000°N	108.037344000°W	
6,400.00	0.00	0.00	5,700.33	1,955.02	-1,091.44	14,336,022.034	782,777.495	39.436566000°N	108.037344000°W	
6,500.00	0.00	0.00	5,800.33	1,955.02	-1,091.44	14,336,022.034	782,777.495	39.436566000°N	108.037344000°W	
6,600.00	0.00	0.00	5,900.33	1,955.02	-1,091.44	14,336,022.034	782,777.495	39.436566000°N	108.037344000°W	
6,700.00	0.00	0.00	6,000.33	1,955.02	-1,091.44	14,336,022.034	782,777.495	39.436566000°N	108.037344000°W	
6,800.00	0.00	0.00	6,100.33	1,955.02	-1,091.44	14,336,022.034	782,777.495	39.436566000°N	108.037344000°W	
6,859.67	0.00	0.00	6,160.00	1,955.02	-1,091.44	14,336,022.034	782,777.495	39.436566000°N	108.037344000°W	
Rollins										
6,900.00	0.00	0.00	6,200.33	1,955.02	-1,091.44	14,336,022.034	782,777.495	39.436566000°N	108.037344000°W	
6,959.00	0.00	0.00	6,259.33	1,955.02	-1,091.44	14,336,022.034	782,777.495	39.436566000°N	108.037344000°W	
TD at 6960 MD/6260 TVD										
6,959.67	0.00	0.00	6,260.00	1,955.02	-1,091.44	14,336,022.034	782,777.495	39.436566000°N	108.037344000°W	

Design Targets										
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (usft)	Easting (usft)	Latitude	Longitude	
BAT 33A Top Gas	0.00	0.00	4,260.00	1,955.02	-1,091.44	14,336,022.034	782,777.495	39.436566000°N	108.037344000°W	
- hit/miss target										
- Shape										
- plan hits target center										
- Circle (radius 25.00)										

Casing Points										
Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (in)	Hole Diameter (in)						
1,026.00	999.81	Surf Csg at 1026 MD/1000 TVD	5.50	6.00						

# ARK Directional Services

## Planning Report - Geographic

<b>Database:</b>	EDM SERVER DB	<b>Local Co-ordinate Reference:</b>	Well BAT 33A-18-07-95 (111266)
<b>Company:</b>	Antero Resources	<b>TVD Reference:</b>	KB @ 5465.00ft (Original Well Elev)
<b>Project:</b>	Monument Ridge	<b>MD Reference:</b>	KB @ 5465.00ft (Original Well Elev)
<b>Site:</b>	Monument Ridge Pad	<b>North Reference:</b>	Grid
<b>Well:</b>	BAT 33A-18-07-95 (111266)	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	BAT 33A		
<b>Design:</b>	BAT 33A P01		

Formations					
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
3,905.57	3,260.00	Mesaverde			
4,959.67	4,260.00	Top Gas			
6,159.67	5,460.00	Cameo			
6,859.67	6,160.00	Rollins			

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 3°/100 at 200 MD/TVD	
1,076.00	1,045.09	174.06	-97.16	Build 3°/100 at 1076 MD/1045 TVD	
1,565.99	1,456.91	403.65	-225.34	Hold 40° at 1566 MD/1457 TVD	
3,643.67	3,048.36	1,569.89	-876.43	Drop 3°/100 at 3644 MD/3048 TVD	
4,959.67	4,260.00	1,955.02	-1,091.44	Vertical at 4960 MD/4260 TVD	
6,959.00	6,259.33	1,955.02	-1,091.44	TD at 6960 MD/6260 TVD	