



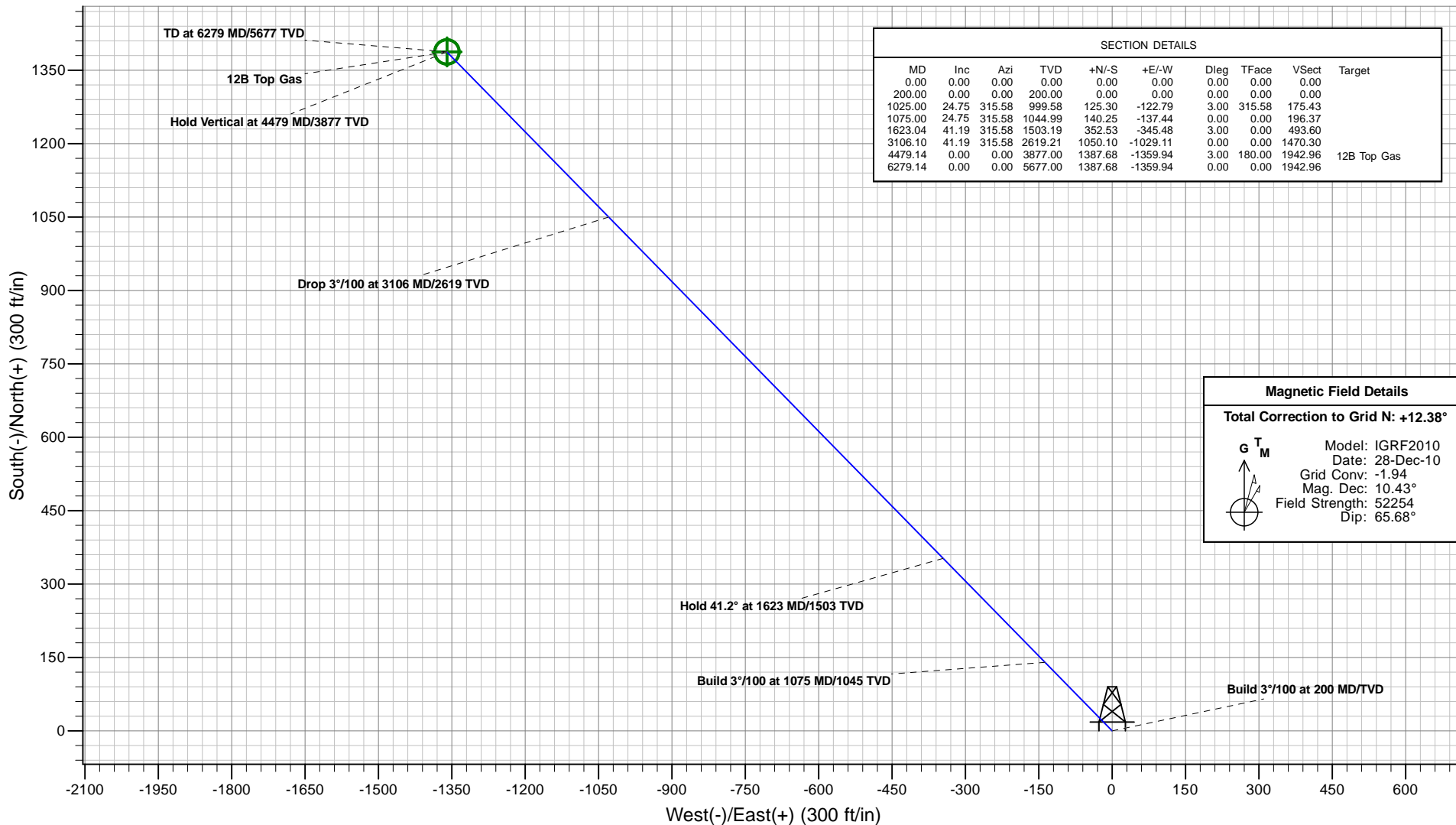
Antero Resources

BAT 12B-24-07-96 (111253)



PLAN VIEW

Project: Speakman
Site: Speakman A Pad
Well: BAT 12B-24-07-96 (111253)
Wellbore: BAT 12B
Design: BAT 12B P01



SECTION DETAILS									
MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	V Sect	Target
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	
1025.00	24.75	315.58	999.58	125.30	-122.79	3.00	315.58	175.43	
1075.00	24.75	315.58	1044.99	140.25	-137.44	0.00	0.00	196.37	
1623.04	41.19	315.58	1503.19	352.53	-345.48	3.00	0.00	493.60	
3106.10	41.19	315.58	2619.21	1050.10	-1029.11	0.00	0.00	1470.30	
4479.14	0.00	0.00	3877.00	1387.68	-1359.94	3.00	180.00	1942.96	12B Top Gas
6279.14	0.00	0.00	5677.00	1387.68	-1359.94	0.00	0.00	1942.96	

Magnetic Field Details	
Total Correction to Grid N: +12.38°	
	Model: IGRF2010
	Date: 28-Dec-10
	Grid Conv: -1.94
	Mag. Dec: 10.43°
	Field Strength: 52254
	Dip: 65.68°

Plan: BAT 12B P01
Created By: ARK Directional Services
Date: 10:28, October 01 2010

PROJECT DETAILS: Speakman
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: Well BAT 12B-24-07-96 (111253) - Slot BAT 12B, Grid North
Vertical (TVD) Reference: KB @ 5202.00ft (Original Well Elev)
Section (VS) Reference: Slot - BAT 12B(0.00N, 0.00E)
Measured Depth Reference: KB @ 5202.00ft (Original Well Elev)
Calculation Method: Minimum Curvature

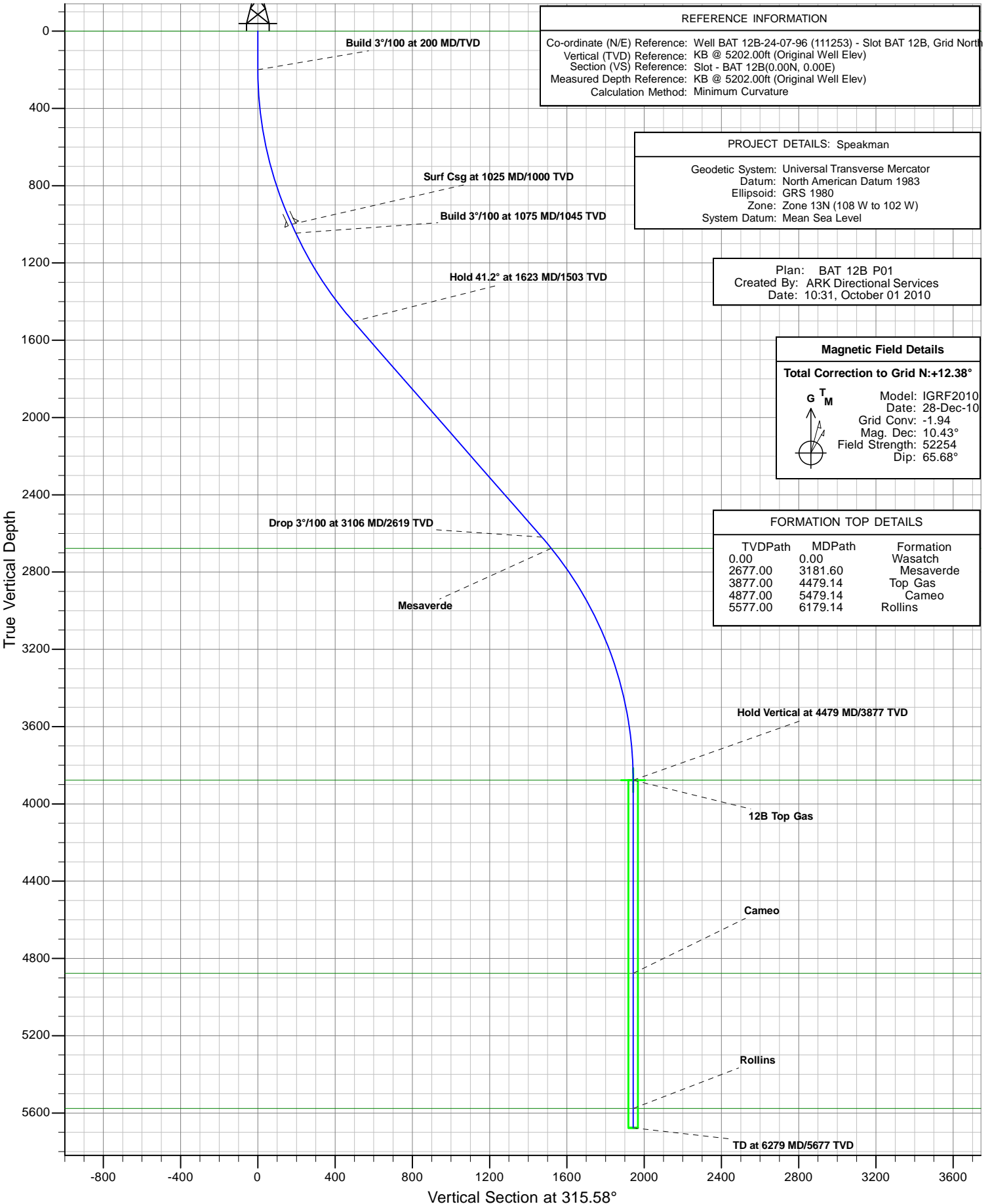


Antero Resources

BAT 12B-24-07-96 (111253)



VERTICAL SECTION VIEW



Antero Resources

Speakman

Speakman A Pad

BAT 12B-24-07-96 (111253) - Slot BAT 12B

BAT 12B

Plan: BAT 12B P01

Standard Planning Report - Geographic

01 October, 2010

ARK Directional Services Ltd.

Planning Report - Geographic

Database:	EDM SERVER DB	Local Co-ordinate Reference:	Well BAT 12B-24-07-96 (111253) - Slot BAT 12B
Company:	Antero Resources	TVD Reference:	KB @ 5202.00ft (Original Well Elev)
Project:	Speakman	MD Reference:	KB @ 5202.00ft (Original Well Elev)
Site:	Speakman A Pad	North Reference:	Grid
Well:	BAT 12B-24-07-96 (111253)	Survey Calculation Method:	Minimum Curvature
Wellbore:	BAT 12B		
Design:	BAT 12B P01		

Project	Speakman		
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	Speakman A Pad		
Site Position:		Northing:	14,330,542.672 usft
From:	Map	Easting:	776,091.308 usft
Position Uncertainty:	0.00 ft	Slot Radius:	13.20 in
		Latitude:	39.420918160°N
		Longitude:	108.060333667°W
		Grid Convergence:	-1.94 °

Well	BAT 12B-24-07-96 (111253) - Slot BAT 12B		
Well Position	+N/-S	0.00 ft	Northing:
	+E/-W	0.00 ft	Easting:
Position Uncertainty	0.00 ft		Wellhead Elevation:
			Latitude:
			Longitude:
			Ground Level:

Wellbore	BAT 12B				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	28/12/2010	10.43	65.68	52,254

Design	BAT 12B P01				
Audit Notes:					
Version:	Phase:	PROTOTYPE	Tie On Depth:	0.00	
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W	Direction	
	(ft)	(ft)	(ft)	(°)	
	0.00	0.00	0.00	315.58	

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	
1,025.00	24.75	315.58	999.58	125.30	-122.79	3.00	3.00	0.00	315.58	
1,075.00	24.75	315.58	1,044.99	140.25	-137.44	0.00	0.00	0.00	0.00	
1,623.04	41.19	315.58	1,503.19	352.53	-345.48	3.00	3.00	0.00	0.00	
3,106.10	41.19	315.58	2,619.21	1,050.10	-1,029.11	0.00	0.00	0.00	0.00	
4,479.14	0.00	0.00	3,877.00	1,387.68	-1,359.94	3.00	-3.00	0.00	180.00	12B Top Gas
6,279.14	0.00	0.00	5,677.00	1,387.68	-1,359.94	0.00	0.00	0.00	0.00	

ARK Directional Services Ltd.

Planning Report - Geographic

Database:	EDM SERVER DB	Local Co-ordinate Reference:	Well BAT 12B-24-07-96 (111253) - Slot BAT 12B
Company:	Antero Resources	TVD Reference:	KB @ 5202.00ft (Original Well Elev)
Project:	Speakman	MD Reference:	KB @ 5202.00ft (Original Well Elev)
Site:	Speakman A Pad	North Reference:	Grid
Well:	BAT 12B-24-07-96 (111253)	Survey Calculation Method:	Minimum Curvature
Wellbore:	BAT 12B		
Design:	BAT 12B 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	14,330,542.672	776,091.308	39.420918160°N	108.060333667°W	
Wasatch										
200.00	0.00	0.00	200.00	0.00	0.00	14,330,542.672	776,091.308	39.420918160°N	108.060333667°W	
Build 3°/100 at 200 MD/TVD										
300.00	3.00	315.58	299.95	1.87	-1.83	14,330,544.542	776,089.476	39.420923117°N	108.060340369°W	
400.00	6.00	315.58	399.63	7.47	-7.32	14,330,550.145	776,083.985	39.420937972°N	108.060360458°W	
500.00	9.00	315.58	498.77	16.79	-16.46	14,330,559.466	776,074.851	39.420962686°N	108.060393877°W	
600.00	12.00	315.58	597.08	29.81	-29.21	14,330,572.481	776,062.097	39.420997191°N	108.060440535°W	
700.00	15.00	315.58	694.31	46.48	-45.55	14,330,589.152	776,045.760	39.421041392°N	108.060500305°W	
800.00	18.00	315.58	790.18	66.76	-65.42	14,330,609.435	776,025.884	39.421095167°N	108.060573022°W	
900.00	21.00	315.58	884.43	90.60	-88.79	14,330,633.273	776,002.523	39.421158371°N	108.060658488°W	
1,000.00	24.00	315.58	976.81	117.93	-115.57	14,330,660.603	775,975.742	39.421230828°N	108.060756468°W	
1,025.00	24.75	315.58	999.58	125.30	-122.79	14,330,667.972	775,968.520	39.421250366°N	108.060782888°W	
Surf Csg at 1025 MD/1000 TVD										
1,075.00	24.75	315.58	1,044.99	140.25	-137.44	14,330,682.922	775,953.868	39.421290003°N	108.060836492°W	
Build 3°/100 at 1075 MD/1045 TVD										
1,100.00	25.50	315.58	1,067.62	147.83	-144.87	14,330,690.503	775,946.439	39.421310103°N	108.060863673°W	
1,200.00	28.50	315.58	1,156.71	180.25	-176.64	14,330,722.924	775,914.666	39.421396059°N	108.060979914°W	
1,300.00	31.50	315.58	1,243.31	215.96	-211.64	14,330,758.630	775,879.673	39.421490725°N	108.061107936°W	
1,400.00	34.50	315.58	1,327.16	254.85	-249.75	14,330,797.524	775,841.557	39.421593843°N	108.061247388°W	
1,500.00	37.50	315.58	1,408.06	296.83	-290.89	14,330,839.499	775,800.420	39.421705130°N	108.061397888°W	
1,600.00	40.50	315.58	1,485.76	341.77	-334.93	14,330,884.440	775,756.377	39.421824281°N	108.061559023°W	
1,623.04	41.19	315.58	1,503.19	352.53	-345.48	14,330,895.202	775,745.830	39.421852814°N	108.061597610°W	
Hold 41.2° at 1623 MD/1503 TVD										
1,700.00	41.19	315.58	1,561.10	388.73	-380.95	14,330,931.401	775,710.355	39.421948786°N	108.061727400°W	
1,800.00	41.19	315.58	1,636.36	435.77	-427.05	14,330,978.437	775,664.259	39.422073489°N	108.061896047°W	
1,900.00	41.19	315.58	1,711.61	482.80	-473.15	14,331,025.473	775,618.163	39.422198192°N	108.062064694°W	
2,000.00	41.19	315.58	1,786.86	529.84	-519.24	14,331,072.509	775,572.067	39.422322895°N	108.062233341°W	
2,100.00	41.19	315.58	1,862.11	576.87	-565.34	14,331,119.545	775,525.971	39.422447598°N	108.062401989°W	
2,200.00	41.19	315.58	1,937.36	623.91	-611.43	14,331,166.580	775,479.875	39.422572300°N	108.062570638°W	
2,300.00	41.19	315.58	2,012.61	670.95	-657.53	14,331,213.616	775,433.779	39.422697002°N	108.062739287°W	
2,400.00	41.19	315.58	2,087.86	717.98	-703.63	14,331,260.652	775,387.683	39.422821704°N	108.062907937°W	
2,500.00	41.19	315.58	2,163.12	765.02	-749.72	14,331,307.688	775,341.587	39.422946405°N	108.063076588°W	
2,600.00	41.19	315.58	2,238.37	812.05	-795.82	14,331,354.724	775,295.492	39.423071106°N	108.063245239°W	
2,700.00	41.19	315.58	2,313.62	859.09	-841.91	14,331,401.760	775,249.396	39.423195807°N	108.063413891°W	
2,800.00	41.19	315.58	2,388.87	906.12	-888.01	14,331,448.795	775,203.300	39.423320508°N	108.063582543°W	
2,900.00	41.19	315.58	2,464.12	953.16	-934.11	14,331,495.831	775,157.204	39.423445208°N	108.063751196°W	
3,000.00	41.19	315.58	2,539.37	1,000.20	-980.20	14,331,542.867	775,111.108	39.423569908°N	108.063919850°W	
3,100.00	41.19	315.58	2,614.62	1,047.23	-1,026.30	14,331,589.903	775,065.012	39.423694608°N	108.064088504°W	
3,106.10	41.19	315.58	2,619.21	1,050.10	-1,029.11	14,331,592.772	775,062.200	39.423702215°N	108.064098792°W	
Drop 3°/100 at 3106 MD/2619 TVD										
3,181.60	38.93	315.58	2,677.00	1,084.80	-1,063.12	14,331,627.474	775,028.191	39.423794216°N	108.064223223°W	
Mesaverde										
3,200.00	38.37	315.58	2,691.37	1,093.01	-1,071.16	14,331,635.680	775,020.149	39.423815972°N	108.064252647°W	
3,300.00	35.37	315.58	2,771.35	1,135.86	-1,113.16	14,331,678.532	774,978.154	39.423929579°N	108.064406300°W	
3,400.00	32.37	315.58	2,854.37	1,175.67	-1,152.16	14,331,718.335	774,939.146	39.424035103°N	108.064549022°W	
3,500.00	29.37	315.58	2,940.19	1,212.31	-1,188.08	14,331,754.981	774,903.232	39.424132256°N	108.064680423°W	
3,600.00	26.37	315.58	3,028.58	1,245.70	-1,220.80	14,331,788.369	774,870.512	39.424220772°N	108.064800141°W	
3,700.00	23.37	315.58	3,119.29	1,275.74	-1,250.24	14,331,818.407	774,841.074	39.424300407°N	108.064907849°W	
3,800.00	20.37	315.58	3,212.08	1,302.34	-1,276.31	14,331,845.013	774,815.000	39.424370943°N	108.065003252°W	
3,900.00	17.37	315.58	3,306.69	1,325.44	-1,298.95	14,331,868.114	774,792.360	39.424432188°N	108.065086087°W	
4,000.00	14.37	315.58	3,402.87	1,344.98	-1,318.09	14,331,887.648	774,773.217	39.424483973°N	108.065156128°W	
4,100.00	11.37	315.58	3,500.34	1,360.89	-1,333.69	14,331,903.559	774,757.623	39.424526157°N	108.065213183°W	

ARK Directional Services Ltd.

Planning Report - Geographic

Database:	EDM SERVER DB	Local Co-ordinate Reference:	Well BAT 12B-24-07-96 (111253) - Slot BAT 12B
Company:	Antero Resources	TVD Reference:	KB @ 5202.00ft (Original Well Elev)
Project:	Speakman	MD Reference:	KB @ 5202.00ft (Original Well Elev)
Site:	Speakman A Pad	North Reference:	Grid
Well:	BAT 12B-24-07-96 (111253)	Survey Calculation Method:	Minimum Curvature
Wellbore:	BAT 12B		
Design:	BAT 12B 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
4,200.00	8.37	315.58	3,598.85	1,373.14	-1,345.69	14,331,915.806	774,745.622	39.424558623°N	108.065257095°W
4,300.00	5.37	315.58	3,698.12	1,381.68	-1,354.07	14,331,924.353	774,737.245	39.424581284°N	108.065287744°W
4,400.00	2.37	315.58	3,797.88	1,386.51	-1,358.79	14,331,929.178	774,732.516	39.424594076°N	108.065305045°W
4,479.14	0.00	0.00	3,877.00	1,387.68	-1,359.94	14,331,930.349	774,731.369	39.424597180°N	108.065309244°W
Hold Vertical at 4479 MD/3877 TVD - Top Gas - 12B Top Gas									
5,479.14	0.00	0.00	4,877.00	1,387.68	-1,359.94	14,331,930.349	774,731.369	39.424597180°N	108.065309244°W
Cameo									
6,179.14	0.00	0.00	5,577.00	1,387.68	-1,359.94	14,331,930.349	774,731.369	39.424597180°N	108.065309244°W
Rollins									
6,279.14	0.00	0.00	5,677.00	1,387.68	-1,359.94	14,331,930.349	774,731.369	39.424597180°N	108.065309244°W
TD at 6279 MD/5677 TVD									

Design Targets

Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (usft)	Easting (usft)	Latitude	Longitude
12B Top Gas - plan hits target center - Circle (radius 25.00)	0.00	0.00	3,877.00	1,387.68	-1,359.94	14,331,930.349	774,731.369	39.424597180°N	108.065309244°W

Casing Points

Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (in)	Hole Diameter (in)
1,025.00	999.58	Surf Csg at 1025 MD/1000 TVD	5.50	6.00

Formations

Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
0.00	0.00	Wasatch		0.00	
3,181.60	2,677.00	Mesaverde			
4,479.14	3,877.00	Top Gas		0.00	
5,479.14	4,877.00	Cameo			
6,179.14	5,577.00	Rollins			

Plan Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
200.00	200.00	0.00	0.00	Build 3°/100 at 200 MD/TVD
1,075.00	1,044.99	125.30	-122.79	Build 3°/100 at 1075 MD/1045 TVD
1,623.04	1,503.19	140.25	-137.44	Hold 41.2° at 1623 MD/1503 TVD
3,106.10	2,619.21	352.53	-345.48	Drop 3°/100 at 3106 MD/2619 TVD
4,479.14	3,877.00	1,050.10	-1,029.11	Hold Vertical at 4479 MD/3877 TVD
6,279.14	5,677.00	1,387.68	-1,359.94	TD at 6279 MD/5677 TVD