

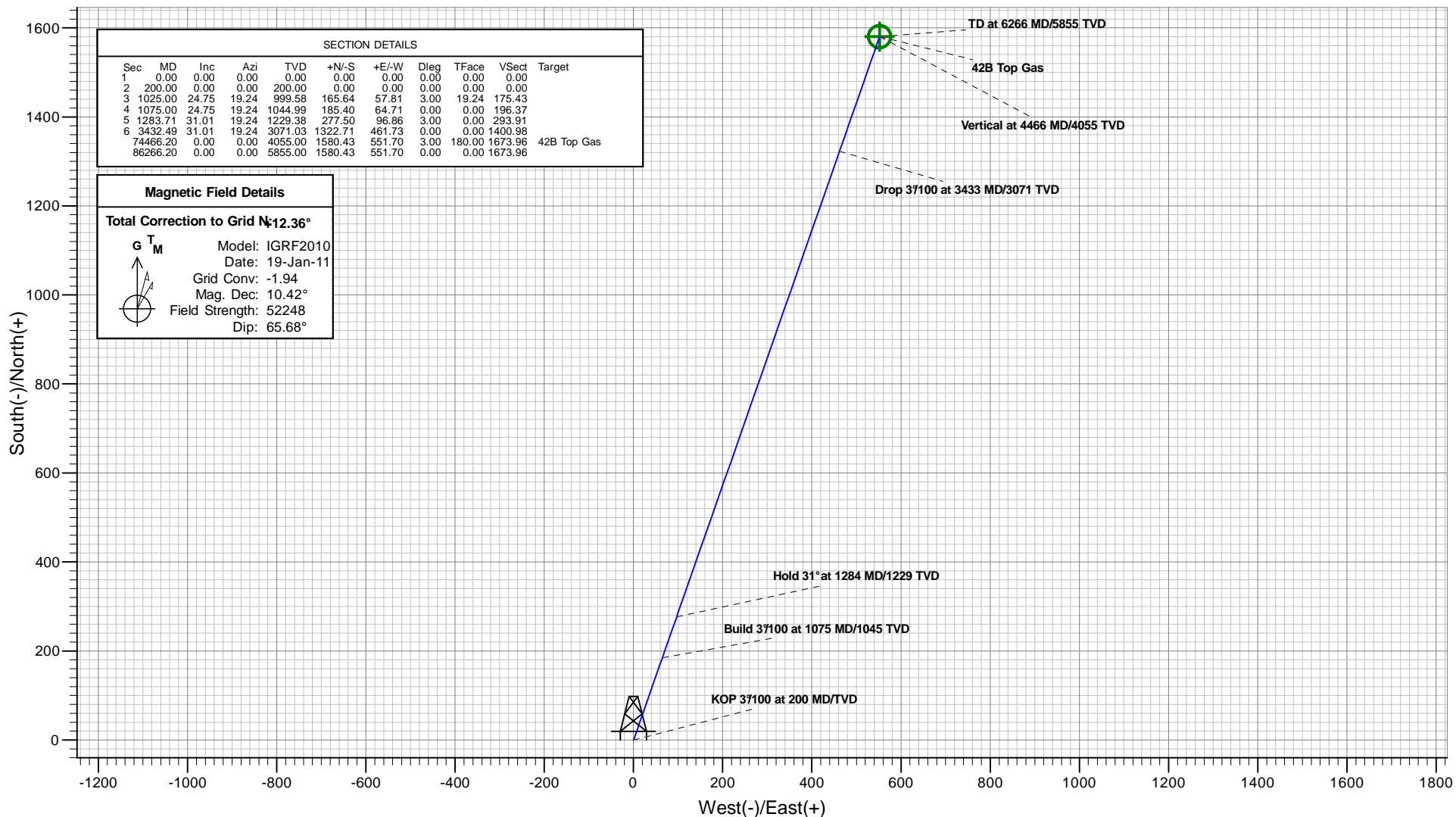


PLAN VIEW

Antero Resources

BAT 42B-24-07-96 (111294)

Project: Speakman
Site: Speakman B Pad
Well: BAT 42B-24-07-96 (111294)
Wellbore: BAT 42B
Design: BAT 42B P01



Plan: BAT 42B P01
Created By: ARK Directional Services
Date: 12:40, October 21 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 42B-24-07-96 (111294), Grid North
Vertical (TVD) Reference: KB @ 5275.00ft (Original Well Elev)
Section (VS) Reference: Slot - (0.00N, 0.00E)
Measured Depth Reference: KB @ 5275.00ft (Original Well Elev)
Calculation Method: Minimum Curvature

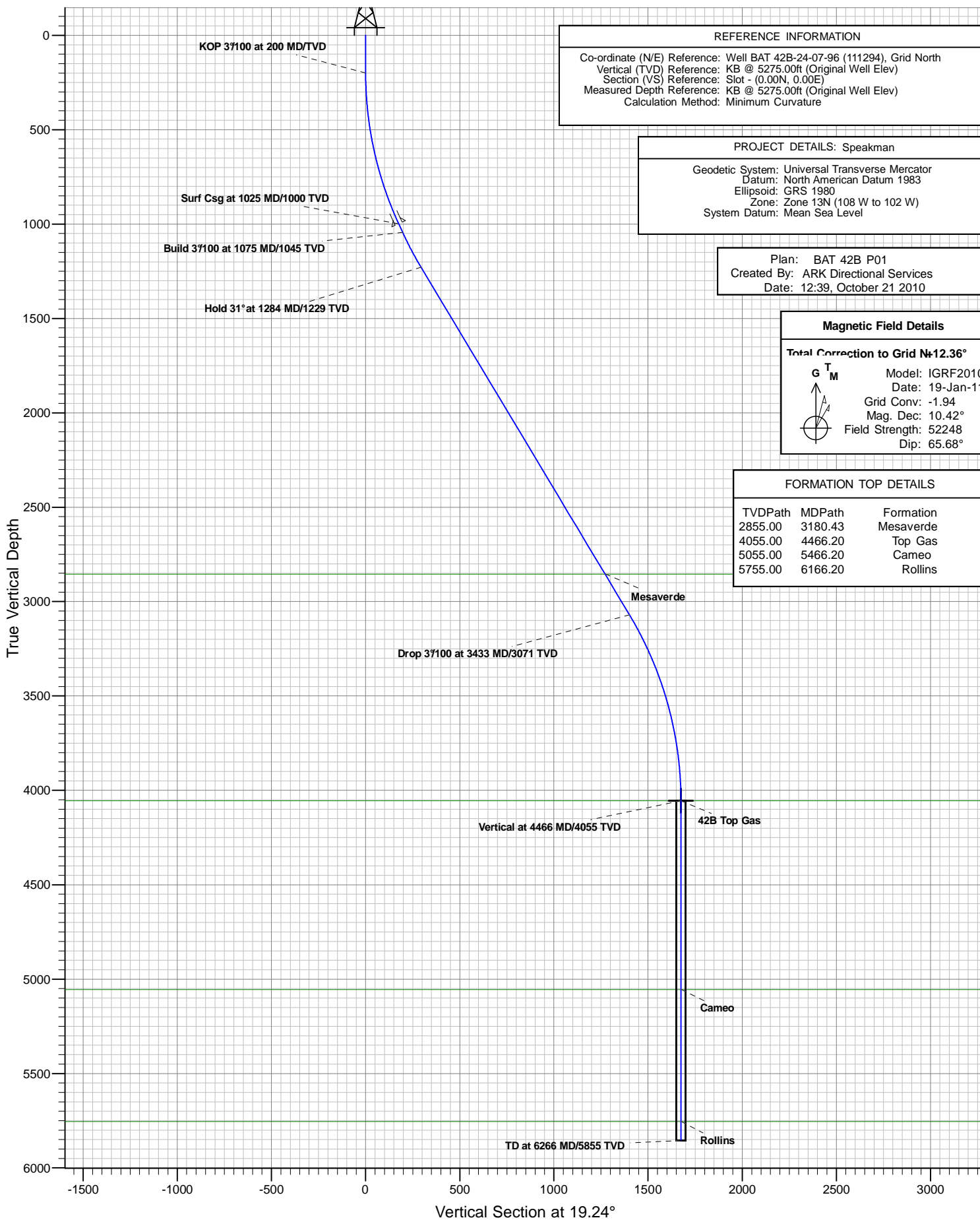


Antero Resources

BAT 42B-24-07-96 (111294)



VERTICAL SECTION VIEW



REFERENCE INFORMATION

Co-ordinate (N/E) Reference: Well BAT 42B-24-07-96 (111294), Grid North
Vertical (TVD) Reference: KB @ 5275.00ft (Original Well Elev)
Section (VS) Reference: Slot - (0.00N, 0.00E)
Measured Depth Reference: KB @ 5275.00ft (Original Well Elev)
Calculation Method: Minimum Curvature

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

Plan: BAT 42B P01
Created By: ARK Directional Services
Date: 12:39, October 21 2010

Magnetic Field Details

Total Correction to Grid N=12.36°

G T M Model: IGRF2010
Date: 19-Jan-11
Grid Conv: -1.94
Mag. Dec: 10.42°
Field Strength: 52248
Dip: 65.68°

FORMATION TOP DETAILS

TVDPath	MDPath	Formation
2855.00	3180.43	Mesaverde
4055.00	4466.20	Top Gas
5055.00	5466.20	Cameo
5755.00	6166.20	Rollins

Antero Resources

Speakman

Speakman B Pad

BAT 42B-24-07-96 (111294)

BAT 42B

Plan: BAT 42B P01

Standard Planning Report - Geographic

21 October, 2010

ARK Directional Services

Planning Report - Geographic

Database:	EDM SERVER DB	Local Co-ordinate Reference:	Well BAT 42B-24-07-96 (111294)
Company:	Antero Resources	TVD Reference:	KB @ 5275.00ft (Original Well Elev)
Project:	Speakman	MD Reference:	KB @ 5275.00ft (Original Well Elev)
Site:	Speakman B Pad	North Reference:	Grid
Well:	BAT 42B-24-07-96 (111294)	Survey Calculation Method:	Minimum Curvature
Wellbore:	BAT 42B		
Design:	BAT 42B 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 B Pad			
Site Position:		Northing:	14,330,324.404 usft	Latitude:	39.420512610°N
From:	Lat/Long	Easting:	778,167.274 usft	Longitude:	108.052966905°W
Position Uncertainty:	0.00 ft	Slot Radius:	13.20 in	Grid Convergence:	-1.94 °

Well		BAT 42B-24-07-96 (111294)				
Well Position	+N/-S	0.00 ft	Northing:	14,330,319.859 usft	Latitude:	39.420502496°N
	+E/-W	0.00 ft	Easting:	778,192.608 usft	Longitude:	108.052876778°W
Position Uncertainty		0.00 ft	Wellhead Elevation:		Ground Level:	5,256.00 ft

Wellbore	BAT 42B				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	2011/01/19	10.42	65.68	52,248

Design	BAT 42B P01				
Audit Notes:					
Version:	Phase:	PROTOTYPE		Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)	
	4,055.00	0.00	0.00	19.24	

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	19.24	999.58	165.64	57.81	3.00	3.00	0.00	19.24	
1,075.00	24.75	19.24	1,044.99	185.40	64.71	0.00	0.00	0.00	0.00	
1,283.71	31.01	19.24	1,229.38	277.50	96.86	3.00	3.00	0.00	0.00	
3,432.49	31.01	19.24	3,071.03	1,322.71	461.73	0.00	0.00	0.00	0.00	
4,466.20	0.00	0.00	4,055.00	1,580.43	551.70	3.00	-3.00	0.00	180.00	42B Top Gas
6,266.20	0.00	0.00	5,855.00	1,580.43	551.70	0.00	0.00	0.00	0.00	

ARK Directional Services

Planning Report - Geographic

Database:	EDM SERVER DB	Local Co-ordinate Reference:	Well BAT 42B-24-07-96 (111294)
Company:	Antero Resources	TVD Reference:	KB @ 5275.00ft (Original Well Elev)
Project:	Speakman	MD Reference:	KB @ 5275.00ft (Original Well Elev)
Site:	Speakman B Pad	North Reference:	Grid
Well:	BAT 42B-24-07-96 (111294)	Survey Calculation Method:	Minimum Curvature
Wellbore:	BAT 42B		
Design:	BAT 42B 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	14,330,319.859	778,192.608	39.420502496°N	108.052876778°W
100.00	0.00	0.00	100.00	0.00	0.00	14,330,319.859	778,192.608	39.420502496°N	108.052876778°W
200.00	0.00	0.00	200.00	0.00	0.00	14,330,319.859	778,192.608	39.420502496°N	108.052876778°W
KOP 3°/100 at 200 MD/TVD									
300.00	3.00	19.24	299.95	2.47	0.86	14,330,322.330	778,193.471	39.420509353°N	108.052874024°W
400.00	6.00	19.24	399.63	9.88	3.45	14,330,329.737	778,196.056	39.420529907°N	108.052865770°W
500.00	9.00	19.24	498.77	22.20	7.75	14,330,342.059	778,200.357	39.420564101°N	108.052852039°W
600.00	12.00	19.24	597.08	39.40	13.75	14,330,359.262	778,206.361	39.420611841°N	108.052832867°W
700.00	15.00	19.24	694.31	61.44	21.44	14,330,381.301	778,214.053	39.420672996°N	108.052808308°W
800.00	18.00	19.24	790.18	88.25	30.80	14,330,408.113	778,223.411	39.420747399°N	108.052778429°W
900.00	21.00	19.24	884.43	119.77	41.80	14,330,439.625	778,234.409	39.420834846°N	108.052743312°W
1,000.00	24.00	19.24	976.81	155.89	54.41	14,330,475.752	778,247.018	39.420935097°N	108.052703053°W
1,025.00	24.75	19.24	999.58	165.64	57.81	14,330,485.493	778,250.418	39.420962129°N	108.052692197°W
Surf Csg at 1025 MD/1000 TVD									
1,075.00	24.75	19.24	1,044.99	185.40	64.71	14,330,505.257	778,257.317	39.421016972°N	108.052670168°W
Build 3°/100 at 1075 MD/1045 TVD									
1,100.00	25.50	19.24	1,067.62	195.42	68.21	14,330,515.278	778,260.816	39.421044782°N	108.052658998°W
1,200.00	28.50	19.24	1,156.71	238.28	83.17	14,330,558.136	778,275.777	39.421163710°N	108.052611227°W
1,283.71	31.01	19.24	1,229.38	277.50	96.86	14,330,597.357	778,289.469	39.421272548°N	108.052567509°W
Hold 31° at 1284 MD/1229 TVD									
1,300.00	31.01	19.24	1,243.34	285.42	99.63	14,330,605.280	778,292.235	39.421294536°N	108.052558677°W
1,400.00	31.01	19.24	1,329.05	334.06	116.61	14,330,653.922	778,309.215	39.421429516°N	108.052504459°W
1,500.00	31.01	19.24	1,414.76	382.71	133.59	14,330,702.564	778,326.195	39.421564496°N	108.052450240°W
1,600.00	31.01	19.24	1,500.46	431.35	150.57	14,330,751.205	778,343.176	39.421699476°N	108.052396021°W
1,700.00	31.01	19.24	1,586.17	479.99	167.55	14,330,799.847	778,360.156	39.421834456°N	108.052341802°W
1,800.00	31.01	19.24	1,671.88	528.63	184.53	14,330,848.489	778,377.136	39.421969436°N	108.052287582°W
1,900.00	31.01	19.24	1,757.58	577.27	201.51	14,330,897.131	778,394.117	39.422104415°N	108.052233363°W
2,000.00	31.01	19.24	1,843.29	625.92	218.49	14,330,945.772	778,411.097	39.422239395°N	108.052179143°W
2,100.00	31.01	19.24	1,929.00	674.56	235.47	14,330,994.414	778,428.078	39.422374375°N	108.052124923°W
2,200.00	31.01	19.24	2,014.70	723.20	252.45	14,331,043.056	778,445.058	39.422509355°N	108.052070703°W
2,300.00	31.01	19.24	2,100.41	771.84	269.43	14,331,091.698	778,462.038	39.422644335°N	108.052016482°W
2,400.00	31.01	19.24	2,186.12	820.48	286.41	14,331,140.339	778,479.019	39.422779315°N	108.051962262°W
2,500.00	31.01	19.24	2,271.82	869.12	303.39	14,331,188.981	778,495.999	39.422914294°N	108.051908041°W
2,600.00	31.01	19.24	2,357.53	917.77	320.37	14,331,237.623	778,512.979	39.423049274°N	108.051853820°W
2,700.00	31.01	19.24	2,443.24	966.41	337.35	14,331,286.264	778,529.960	39.423184254°N	108.051799599°W
2,800.00	31.01	19.24	2,528.94	1,015.05	354.33	14,331,334.906	778,546.940	39.423319233°N	108.051745378°W
2,900.00	31.01	19.24	2,614.65	1,063.69	371.31	14,331,383.548	778,563.921	39.423454213°N	108.051691156°W
3,000.00	31.01	19.24	2,700.36	1,112.33	388.29	14,331,432.190	778,580.901	39.423589193°N	108.051636934°W
3,100.00	31.01	19.24	2,786.06	1,160.98	405.27	14,331,480.831	778,597.881	39.423724172°N	108.051582712°W
3,180.43	31.01	19.24	2,855.00	1,200.10	418.93	14,331,519.956	778,611.539	39.423832742°N	108.051539099°W
Mesaverde									
3,200.00	31.01	19.24	2,871.77	1,209.62	422.25	14,331,529.473	778,614.862	39.423859152°N	108.051528490°W
3,300.00	31.01	19.24	2,957.48	1,258.26	439.23	14,331,578.115	778,631.842	39.423994132°N	108.051474268°W
3,400.00	31.01	19.24	3,043.18	1,306.90	456.22	14,331,626.756	778,648.822	39.424129111°N	108.051420045°W
3,432.49	31.01	19.24	3,071.03	1,322.70	461.73	14,331,642.560	778,654.339	39.424172966°N	108.051402428°W
Drop 3°/100 at 3433 MD/3071 TVD									
3,500.00	28.99	19.24	3,129.49	1,354.57	472.86	14,331,674.426	778,665.463	39.424261393°N	108.051366906°W
3,600.00	25.99	19.24	3,218.19	1,398.14	488.07	14,331,717.995	778,680.673	39.424382297°N	108.051318338°W
3,700.00	22.99	19.24	3,309.19	1,437.27	501.72	14,331,757.122	778,694.332	39.424490872°N	108.051274722°W
3,800.00	19.99	19.24	3,402.23	1,471.84	513.79	14,331,791.699	778,706.402	39.424586821°N	108.051236178°W
3,900.00	16.99	19.24	3,497.06	1,501.78	524.24	14,331,821.631	778,716.851	39.424669882°N	108.051202811°W
4,000.00	13.99	19.24	3,593.42	1,526.98	533.04	14,331,846.836	778,725.650	39.424739827°N	108.051174713°W
4,100.00	10.99	19.24	3,691.04	1,547.39	540.17	14,331,867.246	778,732.775	39.424796463°N	108.051151961°W
4,200.00	7.99	19.24	3,789.66	1,562.95	545.60	14,331,882.804	778,738.206	39.424839635°N	108.051134618°W

ARK Directional Services

Planning Report - Geographic

Database:	EDM SERVER DB	Local Co-ordinate Reference:	Well BAT 42B-24-07-96 (111294)
Company:	Antero Resources	TVD Reference:	KB @ 5275.00ft (Original Well Elev)
Project:	Speakman	MD Reference:	KB @ 5275.00ft (Original Well Elev)
Site:	Speakman B Pad	North Reference:	Grid
Well:	BAT 42B-24-07-96 (111294)	Survey Calculation Method:	Minimum Curvature
Wellbore:	BAT 42B		
Design:	BAT 42B 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
4,300.00	4.99	19.24	3,889.01	1,573.61	549.32	14,331,893.467	778,741.929	39.424869226°N	108.051122731°W
4,400.00	1.99	19.24	3,988.82	1,579.35	551.33	14,331,899.207	778,743.932	39.424885155°N	108.051116332°W
4,466.20	0.00	0.00	4,055.00	1,580.43	551.70	14,331,900.290	778,744.310	39.424888160°N	108.051115125°W
Vertical at 4466 MD/4055 TVD - Top Gas									
4,500.00	0.00	0.00	4,088.80	1,580.43	551.70	14,331,900.290	778,744.310	39.424888160°N	108.051115125°W
4,600.00	0.00	0.00	4,188.80	1,580.43	551.70	14,331,900.290	778,744.310	39.424888160°N	108.051115125°W
4,700.00	0.00	0.00	4,288.80	1,580.43	551.70	14,331,900.290	778,744.310	39.424888160°N	108.051115125°W
4,800.00	0.00	0.00	4,388.80	1,580.43	551.70	14,331,900.290	778,744.310	39.424888160°N	108.051115125°W
4,900.00	0.00	0.00	4,488.80	1,580.43	551.70	14,331,900.290	778,744.310	39.424888160°N	108.051115125°W
5,000.00	0.00	0.00	4,588.80	1,580.43	551.70	14,331,900.290	778,744.310	39.424888160°N	108.051115125°W
5,100.00	0.00	0.00	4,688.80	1,580.43	551.70	14,331,900.290	778,744.310	39.424888160°N	108.051115125°W
5,200.00	0.00	0.00	4,788.80	1,580.43	551.70	14,331,900.290	778,744.310	39.424888160°N	108.051115125°W
5,300.00	0.00	0.00	4,888.80	1,580.43	551.70	14,331,900.290	778,744.310	39.424888160°N	108.051115125°W
5,400.00	0.00	0.00	4,988.80	1,580.43	551.70	14,331,900.290	778,744.310	39.424888160°N	108.051115125°W
5,466.20	0.00	0.00	5,055.00	1,580.43	551.70	14,331,900.290	778,744.310	39.424888160°N	108.051115125°W
Cameo									
5,500.00	0.00	0.00	5,088.80	1,580.43	551.70	14,331,900.290	778,744.310	39.424888160°N	108.051115125°W
5,600.00	0.00	0.00	5,188.80	1,580.43	551.70	14,331,900.290	778,744.310	39.424888160°N	108.051115125°W
5,700.00	0.00	0.00	5,288.80	1,580.43	551.70	14,331,900.290	778,744.310	39.424888160°N	108.051115125°W
5,800.00	0.00	0.00	5,388.80	1,580.43	551.70	14,331,900.290	778,744.310	39.424888160°N	108.051115125°W
5,900.00	0.00	0.00	5,488.80	1,580.43	551.70	14,331,900.290	778,744.310	39.424888160°N	108.051115125°W
6,000.00	0.00	0.00	5,588.80	1,580.43	551.70	14,331,900.290	778,744.310	39.424888160°N	108.051115125°W
6,100.00	0.00	0.00	5,688.80	1,580.43	551.70	14,331,900.290	778,744.310	39.424888160°N	108.051115125°W
6,166.20	0.00	0.00	5,755.00	1,580.43	551.70	14,331,900.290	778,744.310	39.424888160°N	108.051115125°W
Rollins									
6,200.00	0.00	0.00	5,788.80	1,580.43	551.70	14,331,900.290	778,744.310	39.424888160°N	108.051115125°W
6,266.20	0.00	0.00	5,855.00	1,580.43	551.70	14,331,900.290	778,744.310	39.424888160°N	108.051115125°W

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
42B Top Gas - plan hits target center - Circle (radius 25.00)	0.00	360.00	4,055.00	1,580.43	551.70	14,331,900.290	778,744.310	39.424888160°N	108.051115125°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	

ARK Directional Services

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Company:	Antero Resources	TVD Reference:	KB @ 5275.00ft (Original Well Elev)
Project:	Speakman	MD Reference:	KB @ 5275.00ft (Original Well Elev)
Site:	Speakman B Pad	North Reference:	Grid
Well:	BAT 42B-24-07-96 (111294)	Survey Calculation Method:	Minimum Curvature
Wellbore:	BAT 42B		
Design:	BAT 42B P01		

Formations					
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
3,180.43	2,855.00	Mesaverde			
4,466.20	4,055.00	Top Gas			
5,466.20	5,055.00	Cameo			
6,166.20	5,755.00	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	KOP 3°/100 at 200 MD/TVD
1,075.00	1,044.99	165.64	57.81	Build 3°/100 at 1075 MD/1045 TVD
1,283.71	1,229.38	185.40	64.71	Hold 31° at 1284 MD/1229 TVD
3,432.49	3,071.03	277.50	96.86	Drop 3°/100 at 3433 MD/3071 TVD
4,466.20	4,055.00	1,322.71	461.73	Vertical at 4466 MD/4055 TVD
6,266.20	5,855.00	1,580.43	551.70	TD at 6266 MD/5855 TVD