



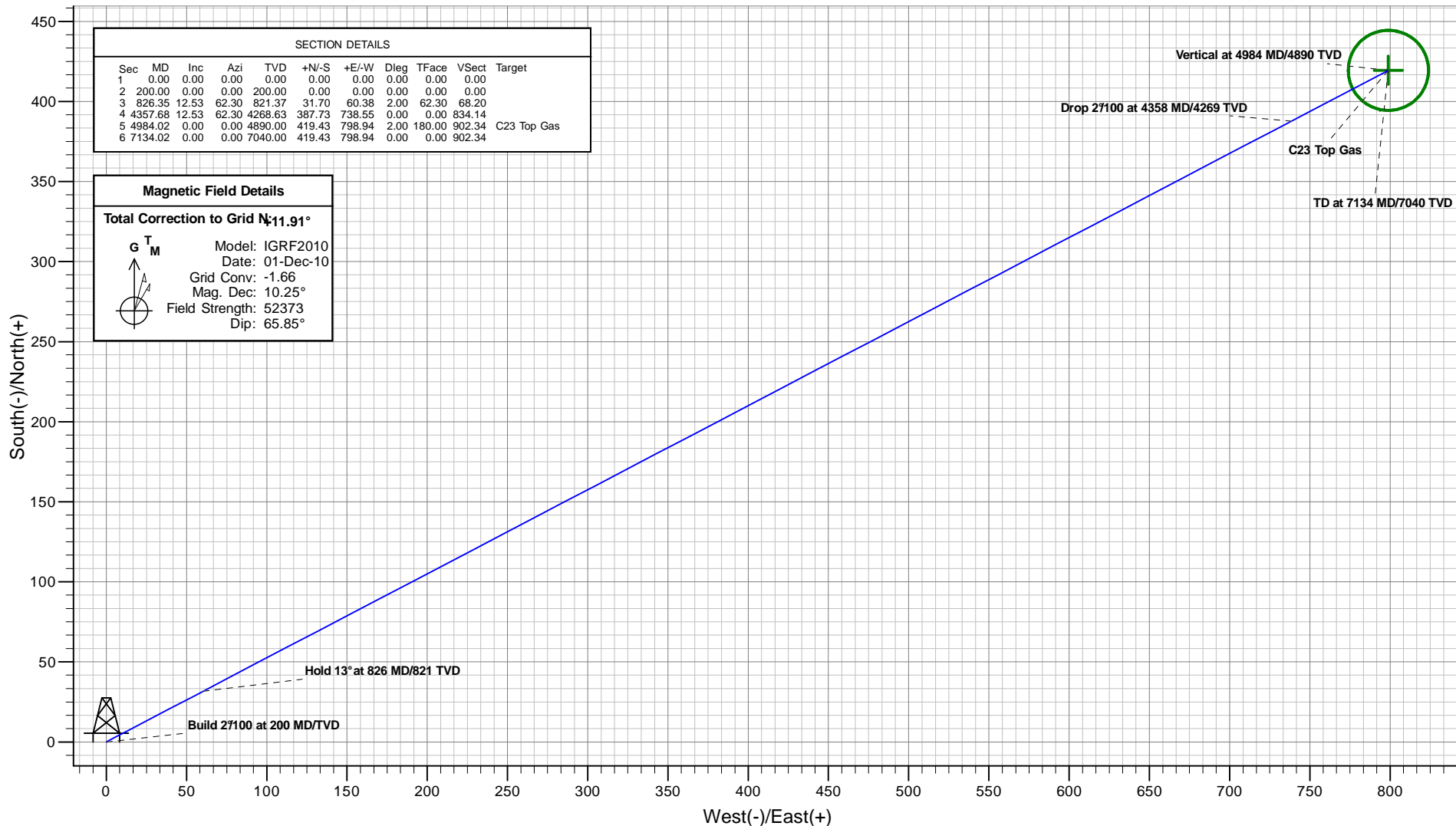
Antero Resources

McLin C23 (111247)



PLAN VIEW

Project: McLin
Site: McLin C
Well: McLin C23 (111247)
Wellbore: McLin C23
Design: McLin C23 P01



Plan: McLin C23 P01
Created By: ARK Directional Services
Date: 14:18, September 01 2010

PROJECT DETAILS: McLin
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 McLin C23 (111247) - Slot C23, Grid North
Vertical (TVD) Reference: KB @ 5750.00ft (Original Well Elev)
Section (VS) Reference: Slot - C23(0.00N, 0.00E)
Measured Depth Reference: KB @ 5750.00ft (Original Well Elev)
Calculation Method: Minimum Curvature

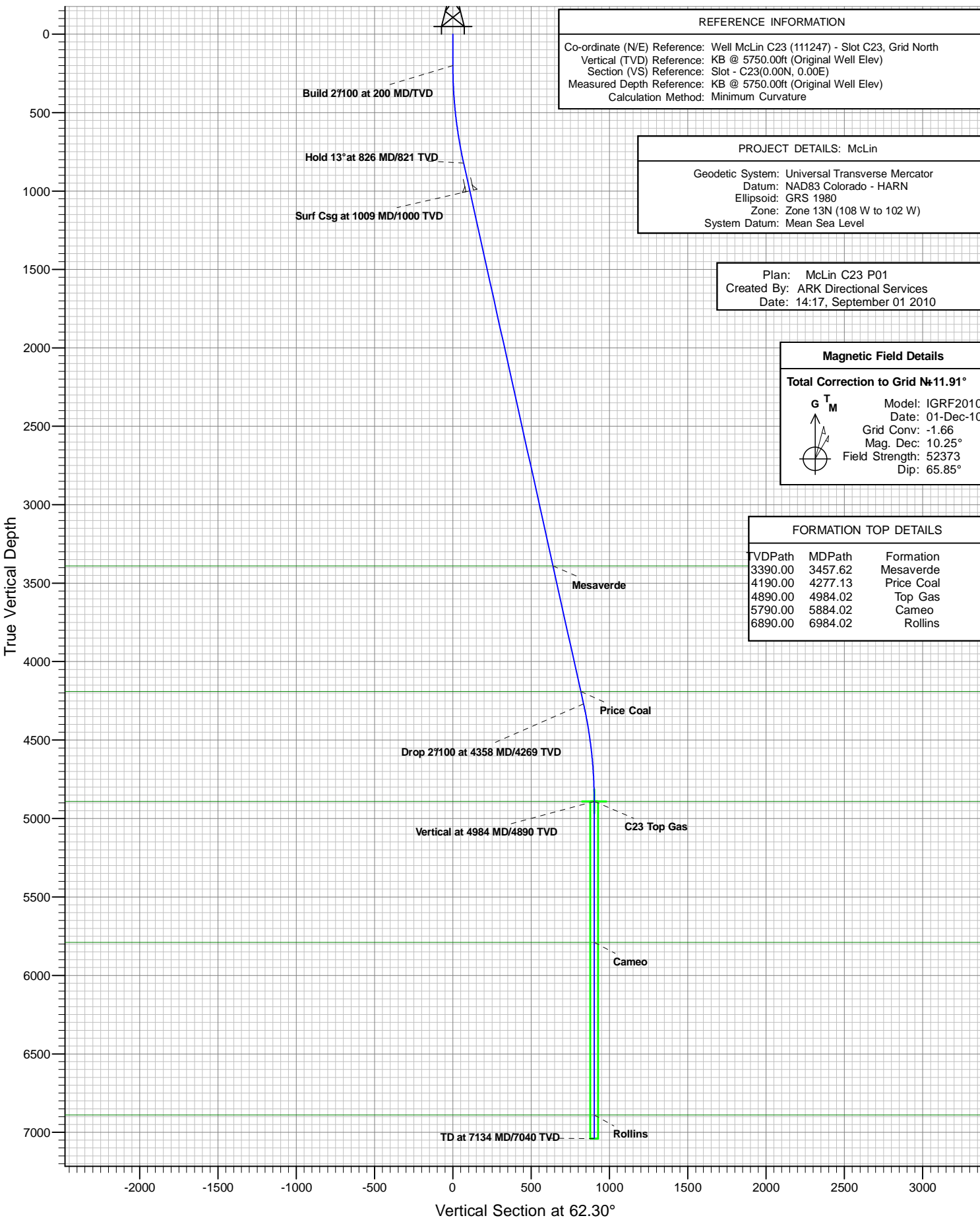


Antero Resources



McLin C23 (111247)

VERTICAL SECTION VIEW



Antero Resources

McLin

McLin C

McLin C23 (111247) - Slot C23

McLin C23

Plan: McLin C23 P01

Standard Planning Report - Geographic

01 September, 2010

ARK Directional Services

Planning Report - Geographic

Database:	EDM SERVER DB	Local Co-ordinate Reference:	Well McLin C23 (111247) - Slot C23
Company:	Antero Resources	TVD Reference:	KB @ 5750.00ft (Original Well Elev)
Project:	McLin	MD Reference:	KB @ 5750.00ft (Original Well Elev)
Site:	McLin C	North Reference:	Grid
Well:	McLin C23 (111247)	Survey Calculation Method:	Minimum Curvature
Wellbore:	McLin C23		
Design:	McLin C23 P01		

Project	McLin		
Map System:	Universal Transverse Mercator	System Datum:	Mean Sea Level
Geo Datum:	NAD83 Colorado - HARN		
Map Zone:	Zone 13N (108 W to 102 W)		

Site	McLin C		
Site Position:		Northing:	14,364,522.752 usft
From:	Map	Easting:	905,235.880 usft
Position Uncertainty:	0.00 ft	Slot Radius:	13.20 in
		Latitude:	39.525275157°N
		Longitude:	107.607030464°W
		Grid Convergence:	-1.66 °

Well	McLin C23 (111247) - Slot C23		
Well Position	+N/-S	0.00 ft	Northing:
	+E/-W	0.00 ft	Easting:
Position Uncertainty	0.00 ft	Wellhead Elevation:	
		Latitude:	39.525306404°N
		Longitude:	107.607012168°W
		Ground Level:	5,726.00 ft

Wellbore	McLin C23				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	2010/12/01	10.25	65.85	52,373

Design	McLin C23 P01				
Audit Notes:					
Version:	Phase:	PROTOTYPE	Tie On Depth:	0.00	
Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)	
	4,890.00	0.00	0.00	62.30	

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	
826.35	12.53	62.30	821.37	31.70	60.38	2.00	2.00	0.00	62.30	
4,357.68	12.53	62.30	4,268.63	387.73	738.55	0.00	0.00	0.00	0.00	
4,984.02	0.00	0.00	4,890.00	419.43	798.94	2.00	-2.00	0.00	180.00	C23 Top Gas
7,134.02	0.00	0.00	7,040.00	419.43	798.94	0.00	0.00	0.00	0.00	

ARK Directional Services

Planning Report - Geographic

Database:	EDM SERVER DB	Local Co-ordinate Reference:	Well McLin C23 (111247) - Slot C23
Company:	Antero Resources	TVD Reference:	KB @ 5750.00ft (Original Well Elev)
Project:	McLin	MD Reference:	KB @ 5750.00ft (Original Well Elev)
Site:	McLin C	North Reference:	Grid
Well:	McLin C23 (111247)	Survey Calculation Method:	Minimum Curvature
Wellbore:	McLin C23		
Design:	McLin C23 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	14,364,533.982	905,241.370	39.525306404°N	107.607012168°W
100.00	0.00	0.00	100.00	0.00	0.00	14,364,533.982	905,241.370	39.525306404°N	107.607012168°W
200.00	0.00	0.00	200.00	0.00	0.00	14,364,533.982	905,241.370	39.525306404°N	107.607012168°W
Build 2°/100 at 200 MD/TVD									
300.00	2.00	62.30	299.98	0.81	1.55	14,364,534.793	905,242.915	39.525308753°N	107.607006777°W
400.00	4.00	62.30	399.84	3.24	6.18	14,364,537.225	905,247.549	39.525315795°N	107.606990611°W
500.00	6.00	62.30	499.45	7.29	13.90	14,364,541.276	905,255.265	39.525327522°N	107.606963691°W
600.00	8.00	62.30	598.70	12.96	24.69	14,364,546.941	905,266.055	39.525343921°N	107.606926047°W
700.00	10.00	62.30	697.47	20.23	38.54	14,364,554.212	905,279.905	39.525364971°N	107.606877728°W
800.00	12.00	62.30	795.62	29.10	55.43	14,364,563.081	905,296.798	39.525390646°N	107.606818790°W
826.35	12.53	62.30	821.37	31.70	60.38	14,364,565.682	905,301.754	39.525398177°N	107.606801503°W
Hold 13° at 826 MD/821 TVD									
900.00	12.53	62.30	893.27	39.13	74.53	14,364,573.108	905,315.898	39.525419673°N	107.606752156°W
1,000.00	12.53	62.30	990.89	49.21	93.73	14,364,583.189	905,335.102	39.525448860°N	107.606685157°W
1,009.00	12.53	62.30	999.67	50.12	95.46	14,364,584.097	905,336.831	39.525451487°N	107.606679127°W
Surf Csg at 1009 MD/1000 TVD									
1,100.00	12.53	62.30	1,088.51	59.29	112.94	14,364,593.271	905,354.307	39.525478047°N	107.606618157°W
1,200.00	12.53	62.30	1,186.13	69.37	132.14	14,364,603.353	905,373.511	39.525507234°N	107.606551157°W
1,300.00	12.53	62.30	1,283.75	79.45	151.35	14,364,613.435	905,392.715	39.525536421°N	107.606484157°W
1,400.00	12.53	62.30	1,381.37	89.54	170.55	14,364,623.517	905,411.919	39.525565608°N	107.606417158°W
1,500.00	12.53	62.30	1,478.98	99.62	189.75	14,364,633.599	905,431.124	39.525594795°N	107.606350158°W
1,600.00	12.53	62.30	1,576.60	109.70	208.96	14,364,643.681	905,450.328	39.525623982°N	107.606283158°W
1,700.00	12.53	62.30	1,674.22	119.78	228.16	14,364,653.763	905,469.532	39.525653169°N	107.606216158°W
1,800.00	12.53	62.30	1,771.84	129.86	247.37	14,364,663.845	905,488.737	39.525682355°N	107.606149157°W
1,900.00	12.53	62.30	1,869.46	139.95	266.57	14,364,673.927	905,507.941	39.525711542°N	107.606082157°W
2,000.00	12.53	62.30	1,967.08	150.03	285.78	14,364,684.008	905,527.145	39.525740729°N	107.606015157°W
2,100.00	12.53	62.30	2,064.70	160.11	304.98	14,364,694.090	905,546.349	39.525769915°N	107.605948157°W
2,200.00	12.53	62.30	2,162.32	170.19	324.18	14,364,704.172	905,565.554	39.525799102°N	107.605881156°W
2,300.00	12.53	62.30	2,259.94	180.27	343.39	14,364,714.254	905,584.758	39.525828289°N	107.605814156°W
2,400.00	12.53	62.30	2,357.56	190.35	362.59	14,364,724.336	905,603.962	39.525857475°N	107.605747156°W
2,500.00	12.53	62.30	2,455.18	200.44	381.80	14,364,734.418	905,623.167	39.525886662°N	107.605680155°W
2,600.00	12.53	62.30	2,552.80	210.52	401.00	14,364,744.500	905,642.371	39.525915848°N	107.605613155°W
2,700.00	12.53	62.30	2,650.42	220.60	420.21	14,364,754.582	905,661.575	39.525945034°N	107.605546154°W
2,800.00	12.53	62.30	2,748.04	230.68	439.41	14,364,764.664	905,680.779	39.525974221°N	107.605479153°W
2,900.00	12.53	62.30	2,845.66	240.76	458.61	14,364,774.746	905,699.984	39.526003407°N	107.605412153°W
3,000.00	12.53	62.30	2,943.28	250.85	477.82	14,364,784.828	905,719.188	39.526032593°N	107.605345152°W
3,100.00	12.53	62.30	3,040.90	260.93	497.02	14,364,794.909	905,738.392	39.526061780°N	107.605278151°W
3,200.00	12.53	62.30	3,138.51	271.01	516.23	14,364,804.991	905,757.597	39.526090966°N	107.605211150°W
3,300.00	12.53	62.30	3,236.13	281.09	535.43	14,364,815.073	905,776.801	39.526120152°N	107.605144149°W
3,400.00	12.53	62.30	3,333.75	291.17	554.64	14,364,825.155	905,796.005	39.526149338°N	107.605077148°W
3,457.62	12.53	62.30	3,390.00	296.98	565.70	14,364,830.964	905,807.070	39.526166155°N	107.605038543°W
Mesaverde									
3,500.00	12.53	62.30	3,431.37	301.26	573.84	14,364,835.237	905,815.210	39.526178524°N	107.605010147°W
3,600.00	12.53	62.30	3,528.99	311.34	593.05	14,364,845.319	905,834.414	39.526207711°N	107.604943146°W
3,700.00	12.53	62.30	3,626.61	321.42	612.25	14,364,855.401	905,853.618	39.526236897°N	107.604876145°W
3,800.00	12.53	62.30	3,724.23	331.50	631.45	14,364,865.483	905,872.822	39.526266083°N	107.604809143°W
3,900.00	12.53	62.30	3,821.85	341.58	650.66	14,364,875.565	905,892.027	39.526295269°N	107.604742142°W
4,000.00	12.53	62.30	3,919.47	351.67	669.86	14,364,885.647	905,911.231	39.526324454°N	107.604675141°W
4,100.00	12.53	62.30	4,017.09	361.75	689.07	14,364,895.729	905,930.435	39.526353640°N	107.604608139°W
4,200.00	12.53	62.30	4,114.71	371.83	708.27	14,364,905.810	905,949.640	39.526382826°N	107.604541138°W
4,277.13	12.53	62.30	4,190.00	379.61	723.08	14,364,913.586	905,964.451	39.526405336°N	107.604489461°W
Price Coal									
4,300.00	12.53	62.30	4,212.33	381.91	727.48	14,364,915.892	905,968.844	39.526412012°N	107.604474136°W

ARK Directional Services

Planning Report - Geographic

Database:	EDM SERVER DB	Local Co-ordinate Reference:	Well McLin C23 (111247) - Slot C23
Company:	Antero Resources	TVD Reference:	KB @ 5750.00ft (Original Well Elev)
Project:	McLin	MD Reference:	KB @ 5750.00ft (Original Well Elev)
Site:	McLin C	North Reference:	Grid
Well:	McLin C23 (111247)	Survey Calculation Method:	Minimum Curvature
Wellbore:	McLin C23		
Design:	McLin C23 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	
4,357.68	12.53	62.30	4,268.63	387.73	738.55	14,364,921.707	905,979.920	39.526428845°N	107.604435493°W	
Drop 2°/100 at 4358 MD/4269 TVD										
4,400.00	11.68	62.30	4,310.01	391.85	746.41	14,364,925.832	905,987.778	39.526440787°N	107.604408078°W	
4,500.00	9.68	62.30	4,408.28	400.47	762.82	14,364,934.446	906,004.186	39.526465723°N	107.604350831°W	
4,600.00	7.68	62.30	4,507.13	407.48	776.18	14,364,941.461	906,017.548	39.526486031°N	107.604304212°W	
4,700.00	5.68	62.30	4,606.44	412.89	786.48	14,364,946.868	906,027.848	39.526501683°N	107.604268278°W	
4,800.00	3.68	62.30	4,706.10	416.68	793.70	14,364,950.661	906,035.072	39.526512663°N	107.604243073°W	
4,900.00	1.68	62.30	4,805.99	418.85	797.84	14,364,952.835	906,039.213	39.526518955°N	107.604228627°W	
4,984.02	0.00	0.00	4,890.00	419.43	798.94	14,364,953.407	906,040.303	39.526520613°N	107.604224821°W	
Vertical at 4984 MD/4890 TVD - Top Gas - C23 Top Gas										
5,000.00	0.00	0.00	4,905.98	419.43	798.94	14,364,953.407	906,040.303	39.526520613°N	107.604224821°W	
5,100.00	0.00	0.00	5,005.98	419.43	798.94	14,364,953.407	906,040.303	39.526520613°N	107.604224821°W	
5,200.00	0.00	0.00	5,105.98	419.43	798.94	14,364,953.407	906,040.303	39.526520613°N	107.604224821°W	
5,300.00	0.00	0.00	5,205.98	419.43	798.94	14,364,953.407	906,040.303	39.526520613°N	107.604224821°W	
5,400.00	0.00	0.00	5,305.98	419.43	798.94	14,364,953.407	906,040.303	39.526520613°N	107.604224821°W	
5,500.00	0.00	0.00	5,405.98	419.43	798.94	14,364,953.407	906,040.303	39.526520613°N	107.604224821°W	
5,600.00	0.00	0.00	5,505.98	419.43	798.94	14,364,953.407	906,040.303	39.526520613°N	107.604224821°W	
5,700.00	0.00	0.00	5,605.98	419.43	798.94	14,364,953.407	906,040.303	39.526520613°N	107.604224821°W	
5,800.00	0.00	0.00	5,705.98	419.43	798.94	14,364,953.407	906,040.303	39.526520613°N	107.604224821°W	
5,884.02	0.00	0.00	5,790.00	419.43	798.94	14,364,953.407	906,040.303	39.526520613°N	107.604224821°W	
Cameo										
5,900.00	0.00	0.00	5,805.98	419.43	798.94	14,364,953.407	906,040.303	39.526520613°N	107.604224821°W	
6,000.00	0.00	0.00	5,905.98	419.43	798.94	14,364,953.407	906,040.303	39.526520613°N	107.604224821°W	
6,100.00	0.00	0.00	6,005.98	419.43	798.94	14,364,953.407	906,040.303	39.526520613°N	107.604224821°W	
6,200.00	0.00	0.00	6,105.98	419.43	798.94	14,364,953.407	906,040.303	39.526520613°N	107.604224821°W	
6,300.00	0.00	0.00	6,205.98	419.43	798.94	14,364,953.407	906,040.303	39.526520613°N	107.604224821°W	
6,400.00	0.00	0.00	6,305.98	419.43	798.94	14,364,953.407	906,040.303	39.526520613°N	107.604224821°W	
6,500.00	0.00	0.00	6,405.98	419.43	798.94	14,364,953.407	906,040.303	39.526520613°N	107.604224821°W	
6,600.00	0.00	0.00	6,505.98	419.43	798.94	14,364,953.407	906,040.303	39.526520613°N	107.604224821°W	
6,700.00	0.00	0.00	6,605.98	419.43	798.94	14,364,953.407	906,040.303	39.526520613°N	107.604224821°W	
6,800.00	0.00	0.00	6,705.98	419.43	798.94	14,364,953.407	906,040.303	39.526520613°N	107.604224821°W	
6,900.00	0.00	0.00	6,805.98	419.43	798.94	14,364,953.407	906,040.303	39.526520613°N	107.604224821°W	
6,984.02	0.00	0.00	6,890.00	419.43	798.94	14,364,953.407	906,040.303	39.526520613°N	107.604224821°W	
Rollins										
7,000.00	0.00	0.00	6,905.98	419.43	798.94	14,364,953.407	906,040.303	39.526520613°N	107.604224821°W	
7,100.00	0.00	0.00	7,005.98	419.43	798.94	14,364,953.407	906,040.303	39.526520613°N	107.604224821°W	
7,134.02	0.00	0.00	7,040.00	419.43	798.94	14,364,953.407	906,040.303	39.526520613°N	107.604224821°W	
TD at 7134 MD/7040 TVD										

Design Targets										
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (usft)	Easting (usft)	Latitude	Longitude	
- hit/miss target										
- Shape										
C23 Top Gas	0.00	360.00	4,890.00	419.43	798.94	14,364,953.407	906,040.303	39.526520613°N	107.604224821°W	
- plan hits target center										
- Circle (radius 25.00)										

ARK Directional Services

Planning Report - Geographic

Database:	EDM SERVER DB	Local Co-ordinate Reference:	Well McLin C23 (111247) - Slot C23
Company:	Antero Resources	TVD Reference:	KB @ 5750.00ft (Original Well Elev)
Project:	McLin	MD Reference:	KB @ 5750.00ft (Original Well Elev)
Site:	McLin C	North Reference:	Grid
Well:	McLin C23 (111247)	Survey Calculation Method:	Minimum Curvature
Wellbore:	McLin C23		
Design:	McLin C23 P01		

Casing Points					
Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (in)	Hole Diameter (in)	
1,009.00	999.67	Surf Csg at 1009 MD/1000 TVD	5.50	6.00	

Formations					
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
3,457.62	3,390.00	Mesaverde			
4,277.13	4,190.00	Price Coal			
4,984.02	4,890.00	Top Gas			
5,884.02	5,790.00	Cameo			
6,984.02	6,890.00	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	Build 2°/100 at 200 MD/TVD	
826.35	821.37	31.70	60.38	Hold 13° at 826 MD/821 TVD	
4,357.68	4,268.63	387.73	738.55	Drop 2°/100 at 4358 MD/4269 TVD	
4,984.02	4,890.00	419.43	798.94	Vertical at 4984 MD/4890 TVD	
7,134.02	7,040.00	419.43	798.94	TD at 7134 MD/7040 TVD	