



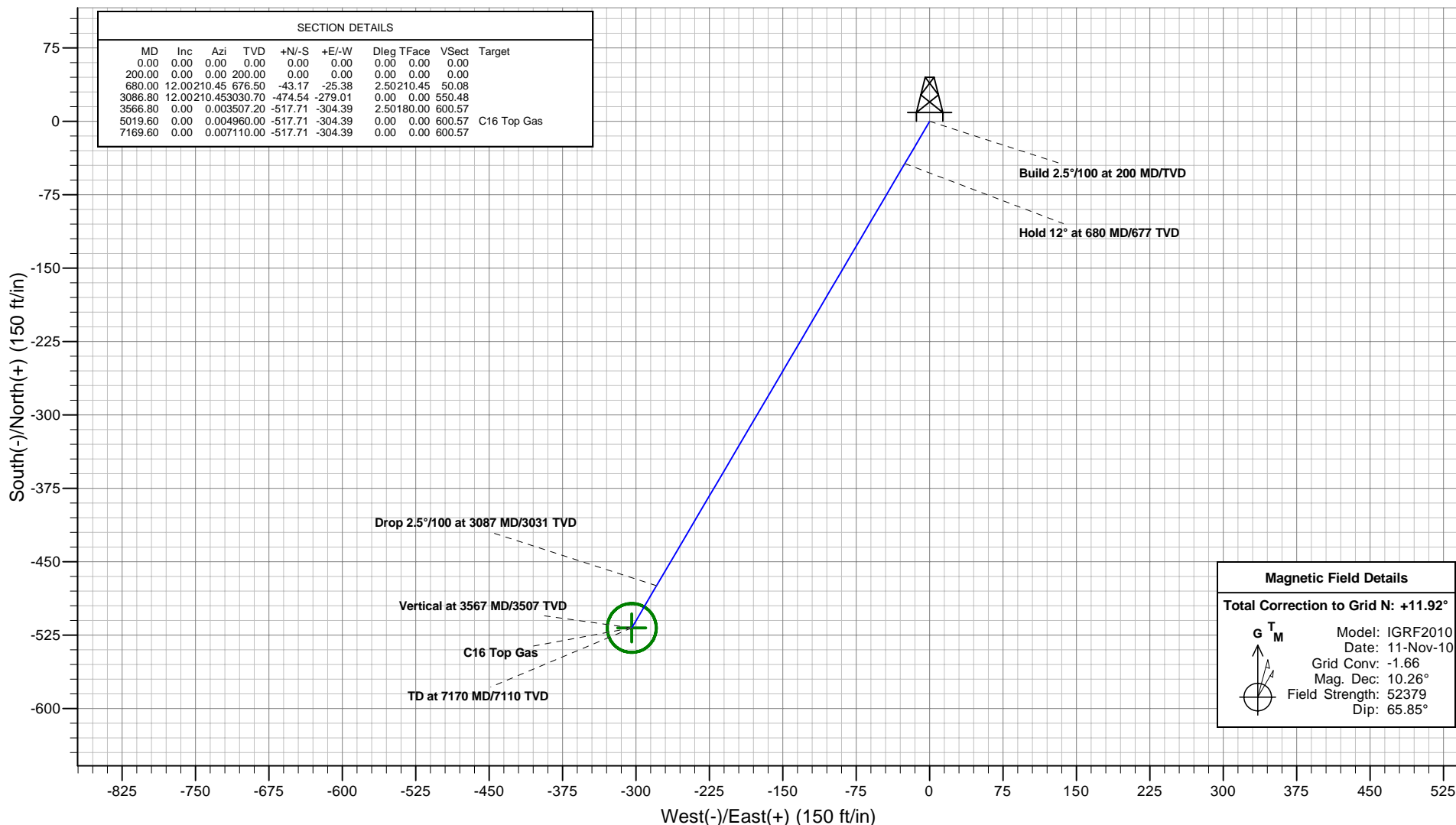
Antero Resources

McLin C16 (111204)



PLAN VIEW

Project: McLin
Site: McLin C
Well: McLin C16 (111204)
Wellbore: McLin C16
Design: McLin C16 P02



Plan: McLin C16 P02
Created By: ARK Directional Services
Date: 16:07, August 17 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 C16 (111204) - Slot C16, Grid North
Vertical (TVD) Reference: KB @ 5750.00ft (Original Well Elev)
Section (VS) Reference: Slot - C16(0.00N, 0.00E)
Measured Depth Reference: KB @ 5750.00ft (Original Well Elev)
Calculation Method: Minimum Curvature

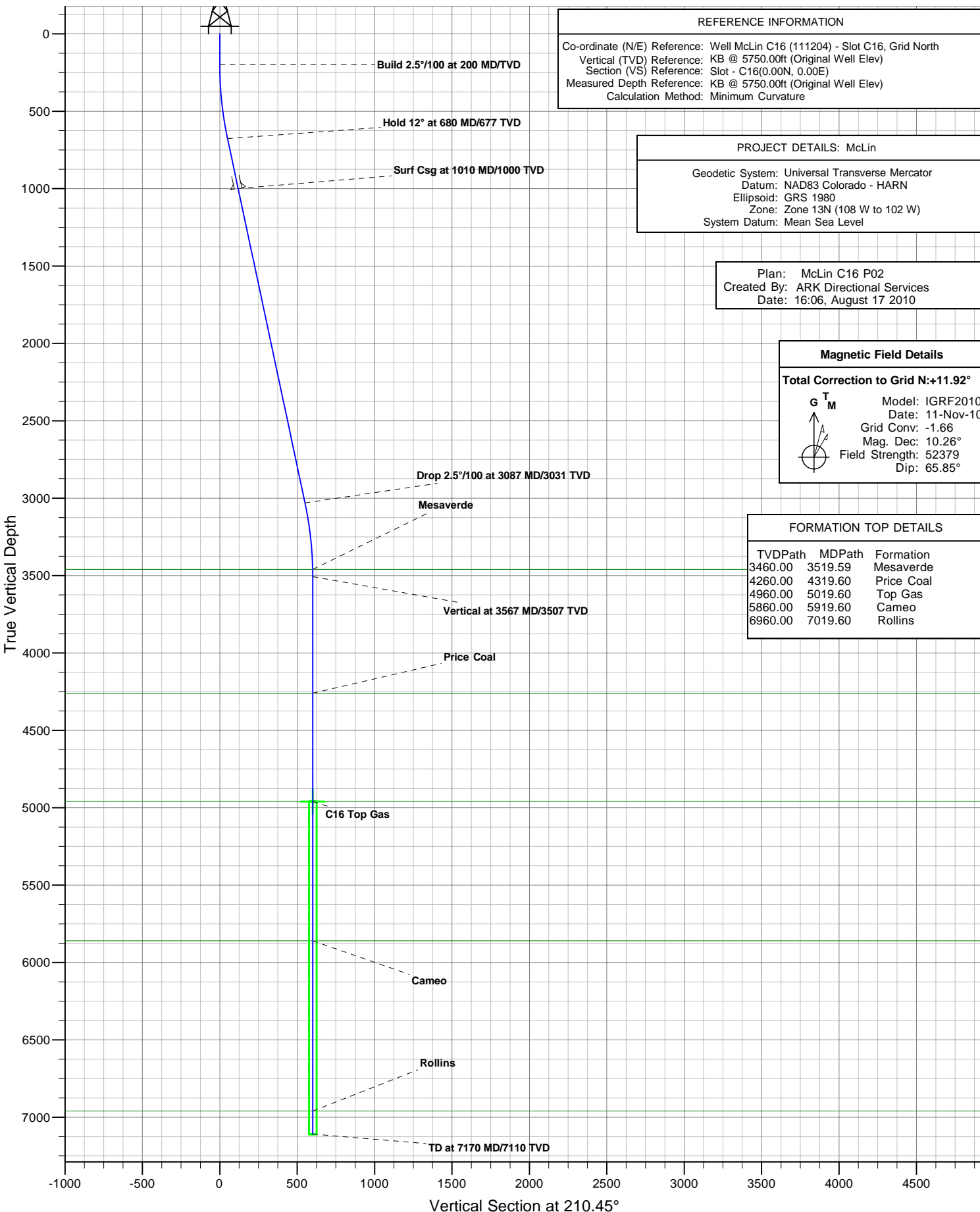


Antero Resources

McLin C16 (111204)



VERTICAL SECTION VIEW



Antero Resources

McLin

McLin C

McLin C16 (111204) - Slot C16

McLin C16

Plan: McLin C16 P02

Standard Planning Report - Geographic

17 August, 2010

ARK Directional Services

Planning Report - Geographic

Database:	EDM SERVER DB	Local Co-ordinate Reference:	Well McLin C16 (111204) - Slot C16
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 C16 (111204)	Survey Calculation Method:	Minimum Curvature
Wellbore:	McLin C16		
Design:	McLin C16 P02		

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 C16 (111204) - Slot C16		
Well Position	+N/-S	0.00 ft	Northing: 14,364,432.913 usft
	+E/-W	0.00 ft	Easting: 905,191.956 usft
Position Uncertainty	0.00 ft	Wellhead Elevation:	Ground Level: 5,726.00 ft

Wellbore	McLin C16				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	2010/11/11	10.26	65.85	52,379

Design	McLin C16 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	210.45

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	
680.00	12.00	210.45	676.50	-43.17	-25.38	2.50	2.50	0.00	210.45	
3,086.80	12.00	210.45	3,030.70	-474.54	-279.01	0.00	0.00	0.00	0.00	
3,566.80	0.00	0.00	3,507.20	-517.71	-304.39	2.50	-2.50	0.00	180.00	
5,019.60	0.00	0.00	4,960.00	-517.71	-304.39	0.00	0.00	0.00	0.00	C16 Top Gas
7,169.60	0.00	0.00	7,110.00	-517.71	-304.39	0.00	0.00	0.00	0.00	

ARK Directional Services

Planning Report - Geographic

Database:	EDM SERVER DB	Local Co-ordinate Reference:	Well McLin C16 (111204) - Slot C16
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 C16 (111204)	Survey Calculation Method:	Minimum Curvature
Wellbore:	McLin C16		
Design:	McLin C16 P02		

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	14,364,432.913	905,191.956	39.525025186°N	107.607176849°W
100.00	0.00	0.00	100.00	0.00	0.00	14,364,432.913	905,191.956	39.525025186°N	107.607176849°W
200.00	0.00	0.00	200.00	0.00	0.00	14,364,432.913	905,191.956	39.525025186°N	107.607176849°W
Build 2.5°/100 at 200 MD/TVD									
300.00	2.50	210.45	299.97	-1.88	-1.11	14,364,431.032	905,190.850	39.525019939°N	107.607180573°W
400.00	5.00	210.45	399.75	-7.52	-4.42	14,364,425.395	905,187.536	39.525004208°N	107.607191737°W
500.00	7.50	210.45	499.14	-16.90	-9.94	14,364,416.011	905,182.018	39.524978024°N	107.607210319°W
600.00	10.00	210.45	597.97	-30.01	-17.65	14,364,402.898	905,174.309	39.524941436°N	107.607236286°W
680.00	12.00	210.45	676.50	-43.17	-25.38	14,364,389.740	905,166.572	39.524904721°N	107.607262342°W
Hold 12° at 680 MD/677 TVD									
700.00	12.00	210.45	696.06	-46.76	-27.49	14,364,386.156	905,164.465	39.524894719°N	107.607269440°W
800.00	12.00	210.45	793.88	-64.68	-38.03	14,364,368.233	905,153.927	39.524844708°N	107.607304932°W
900.00	12.00	210.45	891.69	-82.60	-48.57	14,364,350.310	905,143.389	39.524794698°N	107.607340424°W
1,000.00	12.00	210.45	989.51	-100.53	-59.10	14,364,332.387	905,132.851	39.524744688°N	107.607375915°W
1,010.00	12.00	210.45	999.29	-102.32	-60.16	14,364,330.595	905,131.797	39.524739687°N	107.607379464°W
Surf Csg at 1010 MD/1000 TVD									
1,100.00	12.00	210.45	1,087.32	-118.45	-69.64	14,364,314.465	905,122.313	39.524694678°N	107.607411407°W
1,200.00	12.00	210.45	1,185.14	-136.37	-80.18	14,364,296.542	905,111.776	39.524644667°N	107.607446898°W
1,300.00	12.00	210.45	1,282.95	-154.29	-90.72	14,364,278.619	905,101.238	39.524594657°N	107.607482389°W
1,400.00	12.00	210.45	1,380.76	-172.22	-101.26	14,364,260.696	905,090.700	39.524544647°N	107.607517881°W
1,500.00	12.00	210.45	1,478.58	-190.14	-111.79	14,364,242.774	905,080.162	39.524494637°N	107.607553372°W
1,600.00	12.00	210.45	1,576.39	-208.06	-122.33	14,364,224.851	905,069.624	39.524444626°N	107.607588863°W
1,700.00	12.00	210.45	1,674.21	-225.99	-132.87	14,364,206.928	905,059.087	39.524394616°N	107.607624354°W
1,800.00	12.00	210.45	1,772.02	-243.91	-143.41	14,364,189.005	905,048.549	39.524344606°N	107.607659846°W
1,900.00	12.00	210.45	1,869.84	-261.83	-153.95	14,364,171.083	905,038.011	39.524294596°N	107.607695337°W
2,000.00	12.00	210.45	1,967.65	-279.75	-164.48	14,364,153.160	905,027.473	39.524244585°N	107.607730828°W
2,100.00	12.00	210.45	2,065.47	-297.68	-175.02	14,364,135.237	905,016.935	39.524194575°N	107.607766319°W
2,200.00	12.00	210.45	2,163.28	-315.60	-185.56	14,364,117.314	905,006.397	39.524144565°N	107.607801810°W
2,300.00	12.00	210.45	2,261.10	-333.52	-196.10	14,364,099.391	904,995.860	39.524094554°N	107.607837301°W
2,400.00	12.00	210.45	2,358.91	-351.44	-206.63	14,364,081.469	904,985.322	39.524044544°N	107.607872791°W
2,500.00	12.00	210.45	2,456.73	-369.37	-217.17	14,364,063.546	904,974.784	39.523994534°N	107.607908282°W
2,600.00	12.00	210.45	2,554.54	-387.29	-227.71	14,364,045.623	904,964.246	39.523944523°N	107.607943773°W
2,700.00	12.00	210.45	2,652.36	-405.21	-238.25	14,364,027.700	904,953.708	39.523894513°N	107.607979264°W
2,800.00	12.00	210.45	2,750.17	-423.14	-248.79	14,364,009.778	904,943.170	39.523844502°N	107.608014754°W
2,900.00	12.00	210.45	2,847.99	-441.06	-259.32	14,363,991.855	904,932.633	39.523794492°N	107.608050245°W
3,000.00	12.00	210.45	2,945.80	-458.98	-269.86	14,363,973.932	904,922.095	39.523744482°N	107.608085736°W
3,086.80	12.00	210.45	3,030.70	-474.54	-279.01	14,363,958.376	904,912.948	39.523701074°N	107.608116541°W
Drop 2.5°/100 at 3087 MD/3031 TVD									
3,100.00	11.67	210.45	3,043.62	-476.87	-280.38	14,363,956.041	904,911.576	39.523694561°N	107.608121163°W
3,200.00	9.17	210.45	3,141.97	-492.46	-289.55	14,363,940.452	904,902.410	39.523651060°N	107.608152033°W
3,300.00	6.67	210.45	3,241.00	-504.34	-296.53	14,363,928.575	904,895.427	39.523617919°N	107.608175552°W
3,400.00	4.17	210.45	3,340.55	-512.48	-301.32	14,363,920.433	904,890.640	39.523595201°N	107.608191674°W
3,500.00	1.67	210.45	3,440.41	-516.87	-303.90	14,363,916.042	904,888.058	39.523582949°N	107.608200369°W
3,519.59	1.18	210.45	3,460.00	-517.29	-304.15	14,363,915.622	904,887.811	39.523581777°N	107.608201201°W
Mesaverde									
3,566.80	0.00	0.00	3,507.20	-517.71	-304.39	14,363,915.203	904,887.565	39.523580608°N	107.608202030°W
Vertical at 3567 MD/3507 TVD									
3,600.00	0.00	0.00	3,540.40	-517.71	-304.39	14,363,915.203	904,887.565	39.523580608°N	107.608202030°W
3,700.00	0.00	0.00	3,640.40	-517.71	-304.39	14,363,915.203	904,887.565	39.523580608°N	107.608202030°W
3,800.00	0.00	0.00	3,740.40	-517.71	-304.39	14,363,915.203	904,887.565	39.523580608°N	107.608202030°W
3,900.00	0.00	0.00	3,840.40	-517.71	-304.39	14,363,915.203	904,887.565	39.523580608°N	107.608202030°W
4,000.00	0.00	0.00	3,940.40	-517.71	-304.39	14,363,915.203	904,887.565	39.523580608°N	107.608202030°W
4,100.00	0.00	0.00	4,040.40	-517.71	-304.39	14,363,915.203	904,887.565	39.523580608°N	107.608202030°W
4,200.00	0.00	0.00	4,140.40	-517.71	-304.39	14,363,915.203	904,887.565	39.523580608°N	107.608202030°W

ARK Directional Services

Planning Report - Geographic

Database:	EDM SERVER DB	Local Co-ordinate Reference:	Well McLin C16 (111204) - Slot C16
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 C16 (111204)	Survey Calculation Method:	Minimum Curvature
Wellbore:	McLin C16		
Design:	McLin C16 P02		

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	0.00	0.00	4,240.40	-517.71	-304.39	14,363,915.203	904,887.565	39.523580608°N	107.608202030°W
4,319.60	0.00	0.00	4,260.00	-517.71	-304.39	14,363,915.203	904,887.565	39.523580608°N	107.608202030°W
Price Coal									
4,400.00	0.00	0.00	4,340.40	-517.71	-304.39	14,363,915.203	904,887.565	39.523580608°N	107.608202030°W
4,500.00	0.00	0.00	4,440.40	-517.71	-304.39	14,363,915.203	904,887.565	39.523580608°N	107.608202030°W
4,600.00	0.00	0.00	4,540.40	-517.71	-304.39	14,363,915.203	904,887.565	39.523580608°N	107.608202030°W
4,700.00	0.00	0.00	4,640.40	-517.71	-304.39	14,363,915.203	904,887.565	39.523580608°N	107.608202030°W
4,800.00	0.00	0.00	4,740.40	-517.71	-304.39	14,363,915.203	904,887.565	39.523580608°N	107.608202030°W
4,900.00	0.00	0.00	4,840.40	-517.71	-304.39	14,363,915.203	904,887.565	39.523580608°N	107.608202030°W
5,000.00	0.00	0.00	4,940.40	-517.71	-304.39	14,363,915.203	904,887.565	39.523580608°N	107.608202030°W
5,019.60	0.00	0.00	4,960.00	-517.71	-304.39	14,363,915.203	904,887.565	39.523580608°N	107.608202030°W
Top Gas									
5,100.00	0.00	0.00	5,040.40	-517.71	-304.39	14,363,915.203	904,887.565	39.523580608°N	107.608202030°W
5,200.00	0.00	0.00	5,140.40	-517.71	-304.39	14,363,915.203	904,887.565	39.523580608°N	107.608202030°W
5,300.00	0.00	0.00	5,240.40	-517.71	-304.39	14,363,915.203	904,887.565	39.523580608°N	107.608202030°W
5,400.00	0.00	0.00	5,340.40	-517.71	-304.39	14,363,915.203	904,887.565	39.523580608°N	107.608202030°W
5,500.00	0.00	0.00	5,440.40	-517.71	-304.39	14,363,915.203	904,887.565	39.523580608°N	107.608202030°W
5,600.00	0.00	0.00	5,540.40	-517.71	-304.39	14,363,915.203	904,887.565	39.523580608°N	107.608202030°W
5,700.00	0.00	0.00	5,640.40	-517.71	-304.39	14,363,915.203	904,887.565	39.523580608°N	107.608202030°W
5,800.00	0.00	0.00	5,740.40	-517.71	-304.39	14,363,915.203	904,887.565	39.523580608°N	107.608202030°W
5,900.00	0.00	0.00	5,840.40	-517.71	-304.39	14,363,915.203	904,887.565	39.523580608°N	107.608202030°W
5,919.60	0.00	0.00	5,860.00	-517.71	-304.39	14,363,915.203	904,887.565	39.523580608°N	107.608202030°W
Cameo									
6,000.00	0.00	0.00	5,940.40	-517.71	-304.39	14,363,915.203	904,887.565	39.523580608°N	107.608202030°W
6,100.00	0.00	0.00	6,040.40	-517.71	-304.39	14,363,915.203	904,887.565	39.523580608°N	107.608202030°W
6,200.00	0.00	0.00	6,140.40	-517.71	-304.39	14,363,915.203	904,887.565	39.523580608°N	107.608202030°W
6,300.00	0.00	0.00	6,240.40	-517.71	-304.39	14,363,915.203	904,887.565	39.523580608°N	107.608202030°W
6,400.00	0.00	0.00	6,340.40	-517.71	-304.39	14,363,915.203	904,887.565	39.523580608°N	107.608202030°W
6,500.00	0.00	0.00	6,440.40	-517.71	-304.39	14,363,915.203	904,887.565	39.523580608°N	107.608202030°W
6,600.00	0.00	0.00	6,540.40	-517.71	-304.39	14,363,915.203	904,887.565	39.523580608°N	107.608202030°W
6,700.00	0.00	0.00	6,640.40	-517.71	-304.39	14,363,915.203	904,887.565	39.523580608°N	107.608202030°W
6,800.00	0.00	0.00	6,740.40	-517.71	-304.39	14,363,915.203	904,887.565	39.523580608°N	107.608202030°W
6,900.00	0.00	0.00	6,840.40	-517.71	-304.39	14,363,915.203	904,887.565	39.523580608°N	107.608202030°W
7,000.00	0.00	0.00	6,940.40	-517.71	-304.39	14,363,915.203	904,887.565	39.523580608°N	107.608202030°W
7,019.60	0.00	0.00	6,960.00	-517.71	-304.39	14,363,915.203	904,887.565	39.523580608°N	107.608202030°W
Rollins									
7,100.00	0.00	0.00	7,040.40	-517.71	-304.39	14,363,915.203	904,887.565	39.523580608°N	107.608202030°W
7,169.60	0.00	0.00	7,110.00	-517.71	-304.39	14,363,915.203	904,887.565	39.523580608°N	107.608202030°W

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									
C16 Top Gas	0.00	0.00	4,960.00	-517.71	-304.39	14,363,915.203	904,887.565	39.523580608°N	107.608202030°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 C16 (111204) - Slot C16
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 C16 (111204)	Survey Calculation Method:	Minimum Curvature
Wellbore:	McLin C16		
Design:	McLin C16 P02		

Casing Points					
Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (in)	Hole Diameter (in)	
1,010.00	999.29	Surf Csg at 1010 MD/1000 TVD	5.50	6.00	

Formations					
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
3,519.59	3,460.00	Mesaverde			
4,319.60	4,260.00	Price Coal			
5,019.60	4,960.00	Top Gas			
5,919.60	5,860.00	Cameo			
7,019.60	6,960.00	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 2.5°/100 at 200 MD/TVD	
680.00	676.50	-43.17	-25.38	Hold 12° at 680 MD/677 TVD	
3,086.80	3,030.70	-474.54	-279.01	Drop 2.5°/100 at 3087 MD/3031 TVD	
3,566.80	3,507.20	-517.71	-304.39	Vertical at 3567 MD/3507 TVD	
7,169.60	7,110.00	-517.71	-304.39	TD at 7170 MD/7110 TVD	