



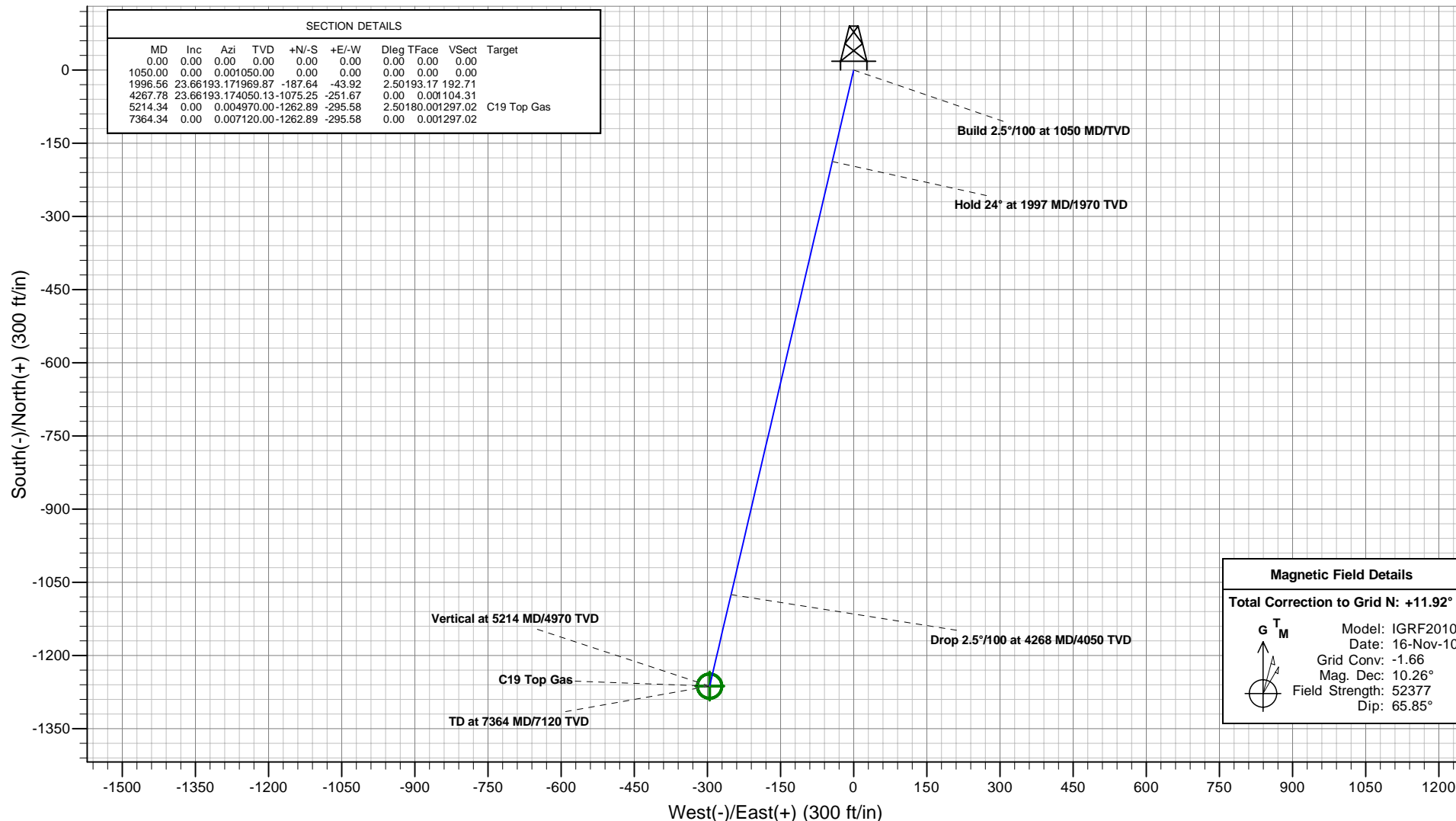
Antero Resources

McLin C19 (111237)



PLAN VIEW

Project: McLin
Site: McLin C
Well: McLin C19 (111237)
Wellbore: McLin C19
Design: McLin C19 P01



Plan: McLin C19 P01
Created By: ARK Directional Services
Date: 16:23, 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 C19 (111237) - Slot C19, Grid North
Vertical (TVD) Reference: KB @ 5750.00ft (Original Well Elev)
Section (VS) Reference: Slot - C19(0.00N, 0.00E)
Measured Depth Reference: KB @ 5750.00ft (Original Well Elev)
Calculation Method: Minimum Curvature

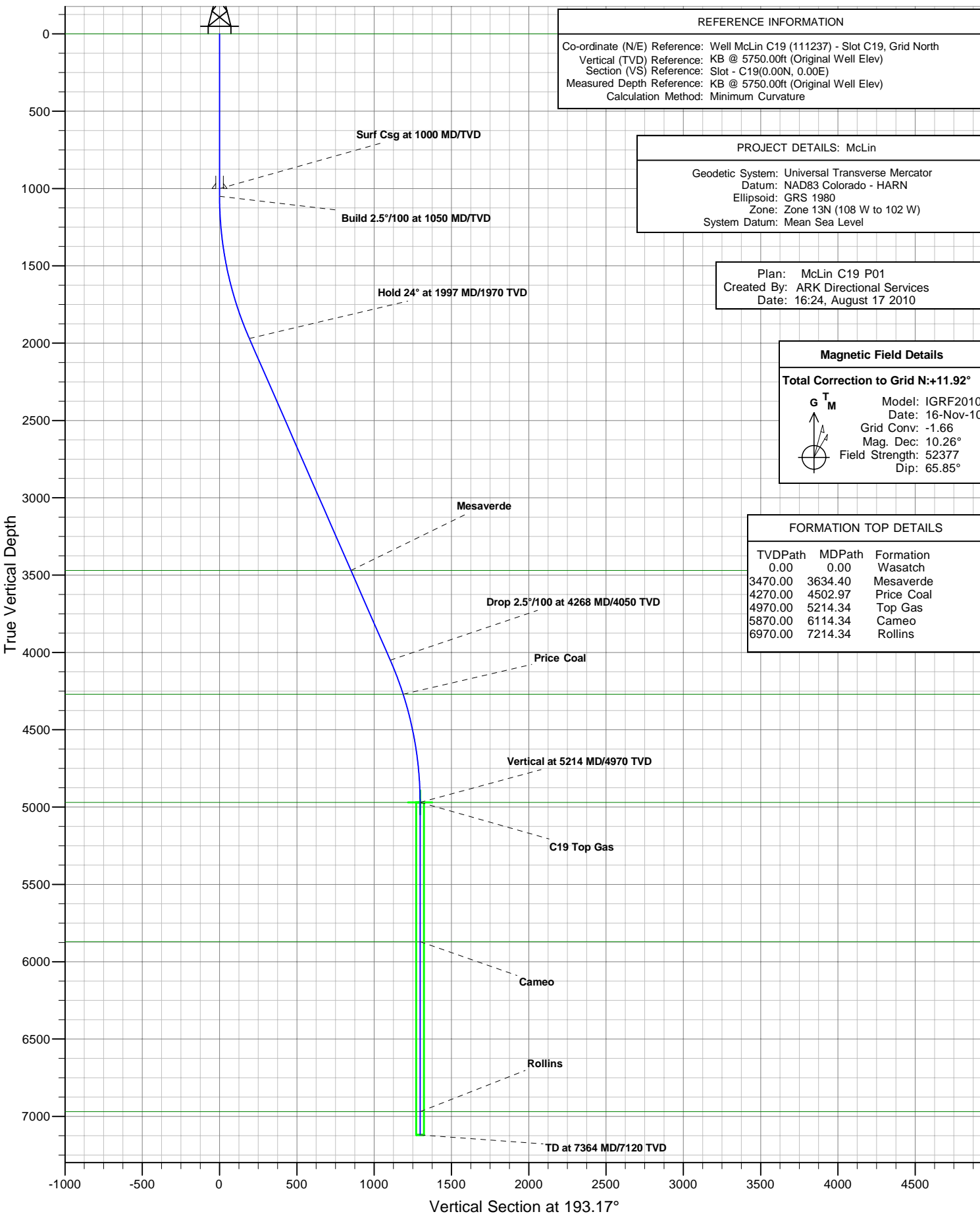


Antero Resources

McLin C19 (111237)



VERTICAL SECTION VIEW



Antero Resources

McLin

McLin C

McLin C19 (111237) - Slot C19

McLin C19

Plan: McLin C19 P01

Standard Planning Report - Geographic

17 August, 2010

ARK Directional Services

Planning Report - Geographic

Database:	EDM SERVER DB	Local Co-ordinate Reference:	Well McLin C19 (111237) - Slot C19
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 C19 (111237)	Survey Calculation Method:	Minimum Curvature
Wellbore:	McLin C19		
Design:	McLin C19 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 C19 (111237) - Slot C19		
Well Position	+N/-S	0.00 ft	Northing:
	+E/-W	0.00 ft	Easting:
Position Uncertainty	0.00 ft	Wellhead Elevation:	
		Latitude:	39.525118926°N
		Longitude:	107.607121949°W
		Ground Level:	5,726.00 ft

Wellbore	McLin C19				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	2010/11/16	10.26	65.85	52,377

Design	McLin C19 P01			
Audit Notes:				
Version:	Phase:	PROTOTYPE	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)
	0.00	0.00	0.00	193.17

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	
1,050.00	0.00	0.00	1,050.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,996.56	23.66	193.17	1,969.87	-187.64	-43.92	2.50	2.50	0.00	193.17	
4,267.78	23.66	193.17	4,050.13	-1,075.25	-251.67	0.00	0.00	0.00	0.00	
5,214.34	0.00	0.00	4,970.00	-1,262.89	-295.58	2.50	-2.50	0.00	180.00	C19 Top Gas
7,364.34	0.00	0.00	7,120.00	-1,262.89	-295.58	0.00	0.00	0.00	0.00	

ARK Directional Services

Planning Report - Geographic

Database:	EDM SERVER DB	Local Co-ordinate Reference:	Well McLin C19 (111237) - Slot C19
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 C19 (111237)	Survey Calculation Method:	Minimum Curvature
Wellbore:	McLin C19		
Design:	McLin C19 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	14,364,466.603	905,208.429	39.525118926°N	107.607121949°W
Wasatch									
100.00	0.00	0.00	100.00	0.00	0.00	14,364,466.603	905,208.429	39.525118926°N	107.607121949°W
200.00	0.00	0.00	200.00	0.00	0.00	14,364,466.603	905,208.429	39.525118926°N	107.607121949°W
300.00	0.00	0.00	300.00	0.00	0.00	14,364,466.603	905,208.429	39.525118926°N	107.607121949°W
400.00	0.00	0.00	400.00	0.00	0.00	14,364,466.603	905,208.429	39.525118926°N	107.607121949°W
500.00	0.00	0.00	500.00	0.00	0.00	14,364,466.603	905,208.429	39.525118926°N	107.607121949°W
600.00	0.00	0.00	600.00	0.00	0.00	14,364,466.603	905,208.429	39.525118926°N	107.607121949°W
700.00	0.00	0.00	700.00	0.00	0.00	14,364,466.603	905,208.429	39.525118926°N	107.607121949°W
800.00	0.00	0.00	800.00	0.00	0.00	14,364,466.603	905,208.429	39.525118926°N	107.607121949°W
900.00	0.00	0.00	900.00	0.00	0.00	14,364,466.603	905,208.429	39.525118926°N	107.607121949°W
1,000.00	0.00	0.00	1,000.00	0.00	0.00	14,364,466.603	905,208.429	39.525118926°N	107.607121949°W
Surf Csg at 1000 MD/TVD									
1,050.00	0.00	0.00	1,050.00	0.00	0.00	14,364,466.603	905,208.429	39.525118926°N	107.607121949°W
Build 2.5°/100 at 1050 MD/TVD									
1,100.00	1.25	193.17	1,100.00	-0.53	-0.12	14,364,466.072	905,208.305	39.525117459°N	107.607122335°W
1,200.00	3.75	193.17	1,199.89	-4.78	-1.12	14,364,461.825	905,207.311	39.525105729°N	107.607125420°W
1,300.00	6.25	193.17	1,299.50	-13.26	-3.10	14,364,453.339	905,205.325	39.525082290°N	107.607131585°W
1,400.00	8.75	193.17	1,398.64	-25.97	-6.08	14,364,440.631	905,202.350	39.525047188°N	107.607140818°W
1,500.00	11.25	193.17	1,497.11	-42.88	-10.04	14,364,423.725	905,198.393	39.525000489°N	107.607153100°W
1,600.00	13.75	193.17	1,594.74	-63.95	-14.97	14,364,402.652	905,193.461	39.524942283°N	107.607168410°W
1,700.00	16.25	193.17	1,691.32	-89.15	-20.87	14,364,377.453	905,187.563	39.524872679°N	107.607186717°W
1,800.00	18.75	193.17	1,786.69	-118.43	-27.72	14,364,348.176	905,180.711	39.524791811°N	107.607207986°W
1,900.00	21.25	193.17	1,880.65	-151.73	-35.51	14,364,314.877	905,172.917	39.524699833°N	107.607232178°W
1,996.56	23.66	193.17	1,969.87	-187.64	-43.92	14,364,278.967	905,164.512	39.524600642°N	107.607258267°W
Hold 24° at 1997 MD/1970 TVD									
2,000.00	23.66	193.17	1,973.03	-188.98	-44.23	14,364,277.621	905,164.197	39.524596925°N	107.607259244°W
2,100.00	23.66	193.17	2,064.62	-228.06	-53.38	14,364,238.540	905,155.050	39.524488977°N	107.607287636°W
2,200.00	23.66	193.17	2,156.21	-267.14	-62.53	14,364,199.459	905,145.904	39.524381028°N	107.607316028°W
2,300.00	23.66	193.17	2,247.80	-306.22	-71.67	14,364,160.378	905,136.757	39.524273080°N	107.607344420°W
2,400.00	23.66	193.17	2,339.39	-345.31	-80.82	14,364,121.298	905,127.610	39.524165132°N	107.607372812°W
2,500.00	23.66	193.17	2,430.99	-384.39	-89.97	14,364,082.217	905,118.463	39.524057183°N	107.607401203°W
2,600.00	23.66	193.17	2,522.58	-423.47	-99.11	14,364,043.136	905,109.316	39.523949235°N	107.607429595°W
2,700.00	23.66	193.17	2,614.17	-462.55	-108.26	14,364,004.055	905,100.169	39.523841287°N	107.607457986°W
2,800.00	23.66	193.17	2,705.76	-501.63	-117.41	14,363,964.974	905,091.022	39.523733338°N	107.607486378°W
2,900.00	23.66	193.17	2,797.35	-540.71	-126.55	14,363,925.893	905,081.875	39.523625390°N	107.607514769°W
3,000.00	23.66	193.17	2,888.94	-579.79	-135.70	14,363,886.812	905,072.728	39.523517442°N	107.607543160°W
3,100.00	23.66	193.17	2,980.54	-618.87	-144.85	14,363,847.732	905,063.581	39.523409493°N	107.607571551°W
3,200.00	23.66	193.17	3,072.13	-657.95	-154.00	14,363,808.651	905,054.434	39.523301545°N	107.607599943°W
3,300.00	23.66	193.17	3,163.72	-697.03	-163.14	14,363,769.570	905,045.287	39.523193597°N	107.607628334°W
3,400.00	23.66	193.17	3,255.31	-736.12	-172.29	14,363,730.489	905,036.140	39.523085648°N	107.607656724°W
3,500.00	23.66	193.17	3,346.90	-775.20	-181.44	14,363,691.408	905,026.993	39.522977700°N	107.607685115°W
3,600.00	23.66	193.17	3,438.49	-814.28	-190.58	14,363,652.327	905,017.846	39.522869752°N	107.607713506°W
3,634.40	23.66	193.17	3,470.00	-827.72	-193.73	14,363,638.884	905,014.700	39.522832619°N	107.607723272°W
Mesaverde									
3,700.00	23.66	193.17	3,530.09	-853.36	-199.73	14,363,613.247	905,008.699	39.522761803°N	107.607741897°W
3,800.00	23.66	193.17	3,621.68	-892.44	-208.88	14,363,574.166	904,999.552	39.522653855°N	107.607770287°W
3,900.00	23.66	193.17	3,713.27	-931.52	-218.02	14,363,535.085	904,990.405	39.522545907°N	107.607798678°W
4,000.00	23.66	193.17	3,804.86	-970.60	-227.17	14,363,496.004	904,981.258	39.522437958°N	107.607827068°W
4,100.00	23.66	193.17	3,896.45	-1,009.68	-236.32	14,363,456.923	904,972.111	39.522330010°N	107.607855459°W
4,200.00	23.66	193.17	3,988.04	-1,048.76	-245.47	14,363,417.842	904,962.964	39.522222061°N	107.607883849°W
4,267.78	23.66	193.17	4,050.13	-1,075.25	-251.67	14,363,391.352	904,956.764	39.522148891°N	107.607903093°W
Drop 2.5°/100 at 4268 MD/4050 TVD									
4,300.00	22.86	193.17	4,079.72	-1,087.64	-254.56	14,363,378.964	904,953.865	39.522114672°N	107.607912092°W

ARK Directional Services

Planning Report - Geographic

Database:	EDM SERVER DB	Local Co-ordinate Reference:	Well McLin C19 (111237) - Slot C19
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 C19 (111237)	Survey Calculation Method:	Minimum Curvature
Wellbore:	McLin C19		
Design:	McLin C19 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	
4,400.00	20.36	193.17	4,172.69	-1,123.50	-262.96	14,363,343.110	904,945.473	39.522015636°N	107.607938138°W	
4,500.00	17.86	193.17	4,267.17	-1,155.37	-270.42	14,363,311.238	904,938.013	39.521927600°N	107.607961291°W	
4,502.97	17.78	193.17	4,270.00	-1,156.25	-270.62	14,363,310.353	904,937.806	39.521925155°N	107.607961935°W	
Price Coal										
4,600.00	15.36	193.17	4,362.99	-1,183.20	-276.93	14,363,283.409	904,931.500	39.521850733°N	107.607981507°W	
4,700.00	12.86	193.17	4,459.97	-1,206.93	-282.48	14,363,259.677	904,925.945	39.521785179°N	107.607998748°W	
4,800.00	10.36	193.17	4,557.91	-1,226.52	-287.07	14,363,240.086	904,921.360	39.521731065°N	107.608012979°W	
4,900.00	7.86	193.17	4,656.65	-1,241.93	-290.68	14,363,224.673	904,917.753	39.521688493°N	107.608024176°W	
5,000.00	5.36	193.17	4,755.97	-1,253.14	-293.30	14,363,213.468	904,915.130	39.521657543°N	107.608032315°W	
5,100.00	2.86	193.17	4,855.71	-1,260.11	-294.93	14,363,206.493	904,913.498	39.521638276°N	107.608037382°W	
5,200.00	0.36	193.17	4,955.66	-1,262.85	-295.57	14,363,203.760	904,912.858	39.521630727°N	107.608039368°W	
5,214.34	0.00	0.00	4,970.00	-1,262.89	-295.58	14,363,203.717	904,912.848	39.521630607°N	107.608039399°W	
Vertical at 5214 MD/4970 TVD - Top Gas										
5,300.00	0.00	0.00	5,055.66	-1,262.89	-295.58	14,363,203.717	904,912.848	39.521630607°N	107.608039399°W	
5,400.00	0.00	0.00	5,155.66	-1,262.89	-295.58	14,363,203.717	904,912.848	39.521630607°N	107.608039399°W	
5,500.00	0.00	0.00	5,255.66	-1,262.89	-295.58	14,363,203.717	904,912.848	39.521630607°N	107.608039399°W	
5,600.00	0.00	0.00	5,355.66	-1,262.89	-295.58	14,363,203.717	904,912.848	39.521630607°N	107.608039399°W	
5,700.00	0.00	0.00	5,455.66	-1,262.89	-295.58	14,363,203.717	904,912.848	39.521630607°N	107.608039399°W	
5,800.00	0.00	0.00	5,555.66	-1,262.89	-295.58	14,363,203.717	904,912.848	39.521630607°N	107.608039399°W	
5,900.00	0.00	0.00	5,655.66	-1,262.89	-295.58	14,363,203.717	904,912.848	39.521630607°N	107.608039399°W	
6,000.00	0.00	0.00	5,755.66	-1,262.89	-295.58	14,363,203.717	904,912.848	39.521630607°N	107.608039399°W	
6,100.00	0.00	0.00	5,855.66	-1,262.89	-295.58	14,363,203.717	904,912.848	39.521630607°N	107.608039399°W	
6,114.34	0.00	0.00	5,870.00	-1,262.89	-295.58	14,363,203.717	904,912.848	39.521630607°N	107.608039399°W	
Cameo										
6,200.00	0.00	0.00	5,955.66	-1,262.89	-295.58	14,363,203.717	904,912.848	39.521630607°N	107.608039399°W	
6,300.00	0.00	0.00	6,055.66	-1,262.89	-295.58	14,363,203.717	904,912.848	39.521630607°N	107.608039399°W	
6,400.00	0.00	0.00	6,155.66	-1,262.89	-295.58	14,363,203.717	904,912.848	39.521630607°N	107.608039399°W	
6,500.00	0.00	0.00	6,255.66	-1,262.89	-295.58	14,363,203.717	904,912.848	39.521630607°N	107.608039399°W	
6,600.00	0.00	0.00	6,355.66	-1,262.89	-295.58	14,363,203.717	904,912.848	39.521630607°N	107.608039399°W	
6,700.00	0.00	0.00	6,455.66	-1,262.89	-295.58	14,363,203.717	904,912.848	39.521630607°N	107.608039399°W	
6,800.00	0.00	0.00	6,555.66	-1,262.89	-295.58	14,363,203.717	904,912.848	39.521630607°N	107.608039399°W	
6,900.00	0.00	0.00	6,655.66	-1,262.89	-295.58	14,363,203.717	904,912.848	39.521630607°N	107.608039399°W	
7,000.00	0.00	0.00	6,755.66	-1,262.89	-295.58	14,363,203.717	904,912.848	39.521630607°N	107.608039399°W	
7,100.00	0.00	0.00	6,855.66	-1,262.89	-295.58	14,363,203.717	904,912.848	39.521630607°N	107.608039399°W	
7,200.00	0.00	0.00	6,955.66	-1,262.89	-295.58	14,363,203.717	904,912.848	39.521630607°N	107.608039399°W	
7,214.34	0.00	0.00	6,970.00	-1,262.89	-295.58	14,363,203.717	904,912.848	39.521630607°N	107.608039399°W	
Rollins										
7,300.00	0.00	0.00	7,055.66	-1,262.89	-295.58	14,363,203.717	904,912.848	39.521630607°N	107.608039399°W	
7,364.34	0.00	0.00	7,120.00	-1,262.89	-295.58	14,363,203.717	904,912.848	39.521630607°N	107.608039399°W	
TD at 7364 MD/7120 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	
C19 Top Gas - plan hits target center - Circle (radius 25.00)	0.00	360.00	4,970.00	-1,262.89	-295.58	14,363,203.717	904,912.848	39.521630607°N	107.608039399°W	

ARK Directional Services

Planning Report - Geographic

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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 C19 (111237)	Survey Calculation Method:	Minimum Curvature
Wellbore:	McLin C19		
Design:	McLin C19 P01		

Casing Points					
Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (in)	Hole Diameter (in)	
1,000.00	1,000.00	Surf Csg at 1000 MD/TVD	5.50	6.00	

Formations					
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
0.00	0.00	Wasatch			
3,634.40	3,470.00	Mesaverde			
4,502.97	4,270.00	Price Coal			
5,214.34	4,970.00	Top Gas			
6,114.34	5,870.00	Cameo			
7,214.34	6,970.00	Rollins			

Plan Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates			
		+N/-S (ft)	+E/-W (ft)	Comment	
1,050.00	1,050.00	0.00	0.00	Build 2.5°/100 at 1050 MD/TVD	
1,996.56	1,969.87	-187.64	-43.92	Hold 24° at 1997 MD/1970 TVD	
4,267.78	4,050.13	-1,075.25	-251.67	Drop 2.5°/100 at 4268 MD/4050 TVD	
5,214.34	4,970.00	-1,262.89	-295.58	Vertical at 5214 MD/4970 TVD	
7,364.34	7,120.00	-1,262.89	-295.58	TD at 7364 MD/7120 TVD	