



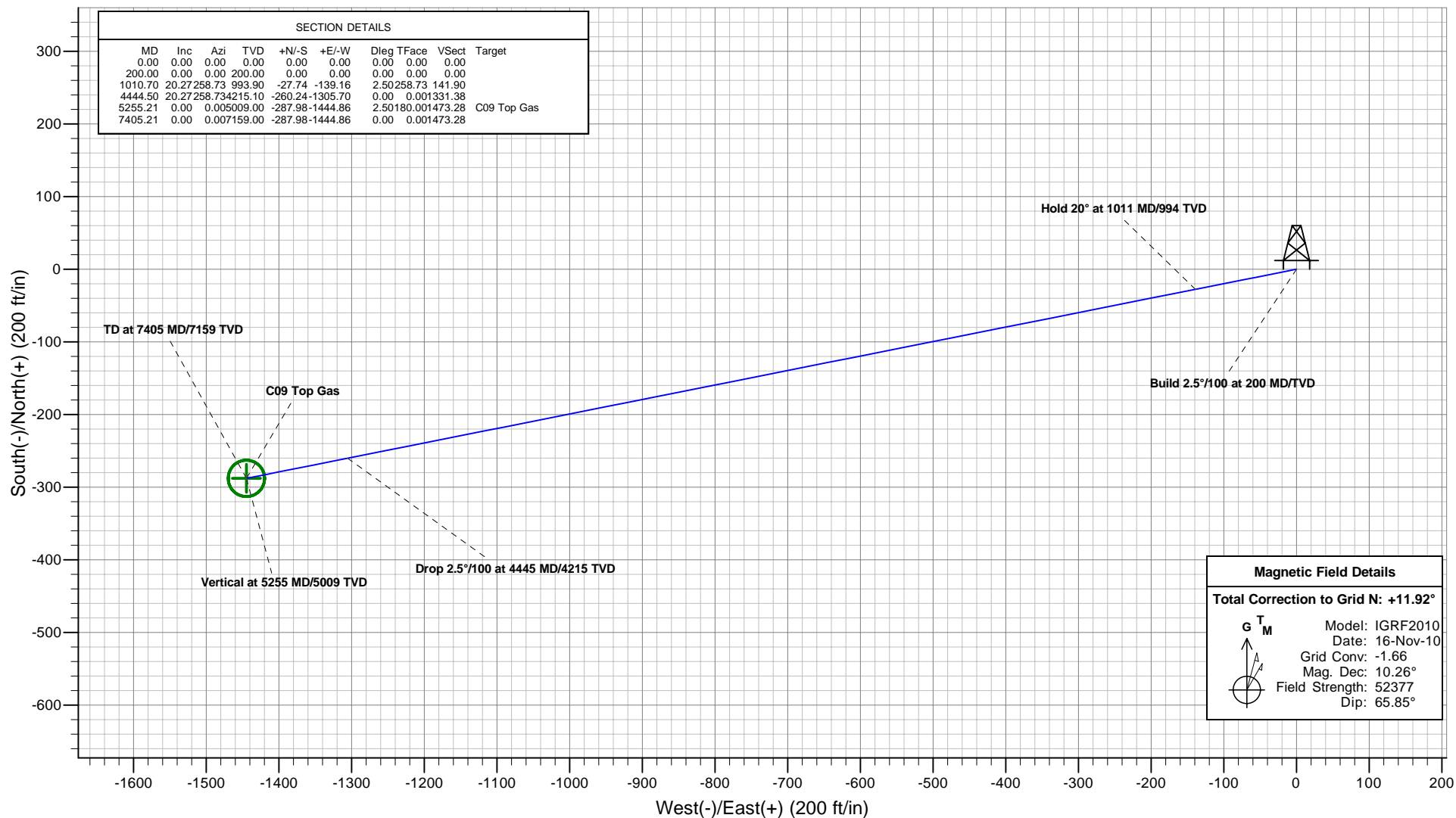
Antero Resources

McLin C09 (111228)



PLAN VIEW

Project: McLin
Site: McLin C
Well: McLin C09 (111228)
Wellbore: McLin C09
Design: McLin C09 P01



Plan: McLin C09 P01
Created By: ARK Directional Services
Date: 10:22, 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 C09 (111228) - Slot C09, Grid North
Vertical (TVD) Reference: KB @ 5750.00ft (Original Well Elev)
Section (VS) Reference: Slot - C09(0.00N, 0.00E)
Measured Depth Reference: KB @ 5750.00ft (Original Well Elev)
Calculation Method: Minimum Curvature

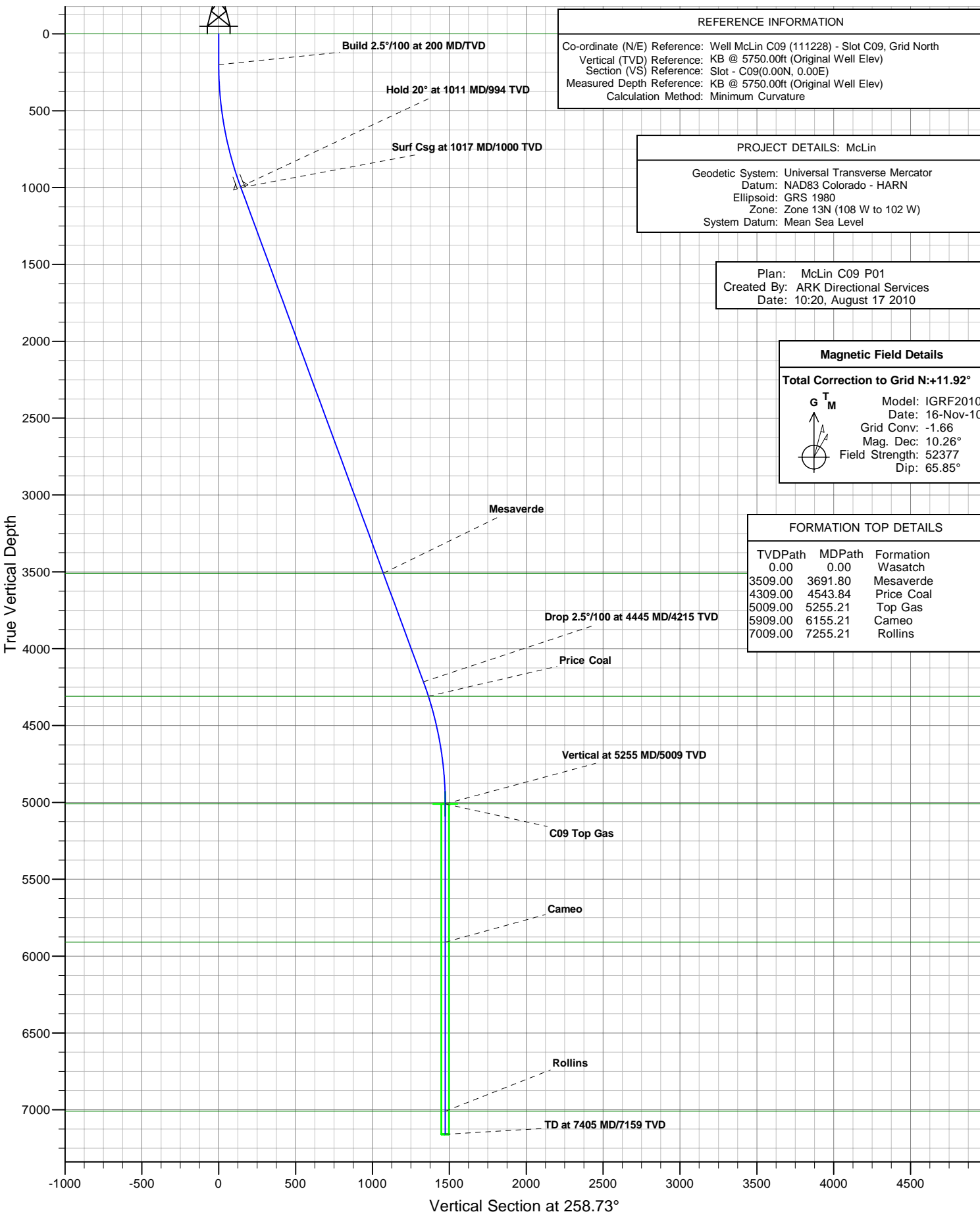


Antero Resources

McLin C09 (111228)



VERTICAL SECTION VIEW



Antero Resources

McLin

McLin C

McLin C09 (111228) - Slot C09

McLin C09

Plan: McLin C09 P01

Standard Planning Report - Geographic

20 August, 2010

ARK Directional Services

Planning Report - Geographic

Database:	EDM SERVER DB	Local Co-ordinate Reference:	Well McLin C09 (111228) - Slot C09
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 C09 (111228)	Survey Calculation Method:	Minimum Curvature
Wellbore:	McLin C09		
Design:	McLin C09 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 C09 (111228) - Slot C09		
Well Position	+N/-S	0.00 ft	Northing:
	+E/-W	0.00 ft	Easting:
Position Uncertainty	0.00 ft	Wellhead Elevation:	
		Latitude:	39.525175678°N
		Longitude:	107.607176279°W
		Ground Level:	5,726.00 ft

Wellbore	McLin C09				
Magnetics	Model Name	Sample Date	Declination	Dip Angle	Field Strength
			(°)	(°)	(nT)
	IGRF2010	2010/11/16	10.26	65.85	52,377

Design	McLin C09 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	258.73

Plan Sections										
Measured	Inclination	Azimuth	Vertical	+N/-S	+E/-W	Dogleg	Build	Turn	TFO	Target
Depth	(°)	(°)	Depth	(ft)	(ft)	Rate	Rate	Rate	(°)	
(ft)			(ft)			(°/100ft)	(°/100ft)	(°/100ft)		
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	
1,010.70	20.27	258.73	993.90	-27.74	-139.16	2.50	2.50	0.00	258.73	
4,444.50	20.27	258.73	4,215.10	-260.24	-1,305.70	0.00	0.00	0.00	0.00	
5,255.21	0.00	0.00	5,009.00	-287.98	-1,444.86	2.50	-2.50	0.00	180.00	C09 Top Gas
7,405.21	0.00	0.00	7,159.00	-287.98	-1,444.86	0.00	0.00	0.00	0.00	

ARK Directional Services

Planning Report - Geographic

Database:	EDM SERVER DB	Local Co-ordinate Reference:	Well McLin C09 (111228) - Slot C09
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 C09 (111228)	Survey Calculation Method:	Minimum Curvature
Wellbore:	McLin C09		
Design:	McLin C09 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	14,364,487.715	905,193.705	39.525175678°N	107.607176279°W
Wasatch									
100.00	0.00	0.00	100.00	0.00	0.00	14,364,487.715	905,193.705	39.525175678°N	107.607176279°W
200.00	0.00	0.00	200.00	0.00	0.00	14,364,487.715	905,193.705	39.525175678°N	107.607176279°W
Build 2.5°/100 at 200 MD/TVD									
300.00	2.50	258.73	299.97	-0.43	-2.14	14,364,487.288	905,191.566	39.525174338°N	107.607183814°W
400.00	5.00	258.73	399.75	-1.70	-8.55	14,364,486.010	905,185.152	39.525170321°N	107.607206404°W
500.00	7.50	258.73	499.14	-3.83	-19.23	14,364,483.882	905,174.476	39.525163634°N	107.607244006°W
600.00	10.00	258.73	597.97	-6.81	-34.15	14,364,480.909	905,159.559	39.525154291°N	107.607296549°W
700.00	12.50	258.73	696.04	-10.62	-53.28	14,364,477.096	905,140.427	39.525142308°N	107.607363933°W
800.00	15.00	258.73	793.17	-15.26	-76.59	14,364,472.450	905,117.119	39.525127709°N	107.607446029°W
900.00	17.50	258.73	889.17	-20.73	-104.03	14,364,466.981	905,089.678	39.525110522°N	107.607542681°W
1,000.00	20.00	258.73	983.85	-27.02	-135.55	14,364,460.698	905,058.157	39.525090779°N	107.607653705°W
1,010.70	20.27	258.73	993.90	-27.74	-139.16	14,364,459.978	905,054.544	39.525088516°N	107.607666431°W
Hold 20° at 1011 MD/994 TVD									
1,017.00	20.27	258.73	999.81	-28.16	-141.30	14,364,459.552	905,052.405	39.525087176°N	107.607673965°W
Surf Csg at 1017 MD/1000 TVD									
1,100.00	20.27	258.73	1,077.67	-33.78	-169.50	14,364,453.932	905,024.208	39.525069515°N	107.607773280°W
1,200.00	20.27	258.73	1,171.48	-40.55	-203.47	14,364,447.161	904,990.236	39.525048236°N	107.607892936°W
1,300.00	20.27	258.73	1,265.29	-47.33	-237.44	14,364,440.390	904,956.263	39.525026957°N	107.608012593°W
1,400.00	20.27	258.73	1,359.10	-54.10	-271.41	14,364,433.619	904,922.291	39.525005678°N	107.608132249°W
1,500.00	20.27	258.73	1,452.90	-60.87	-305.39	14,364,426.848	904,888.319	39.524984399°N	107.608251905°W
1,600.00	20.27	258.73	1,546.71	-67.64	-339.36	14,364,420.077	904,854.347	39.524963120°N	107.608371561°W
1,700.00	20.27	258.73	1,640.52	-74.41	-373.33	14,364,413.305	904,820.375	39.524941841°N	107.608491217°W
1,800.00	20.27	258.73	1,734.33	-81.18	-407.30	14,364,406.534	904,786.402	39.524920562°N	107.608610873°W
1,900.00	20.27	258.73	1,828.14	-87.95	-441.28	14,364,399.763	904,752.430	39.524899282°N	107.608730529°W
2,000.00	20.27	258.73	1,921.95	-94.72	-475.25	14,364,392.992	904,718.458	39.524878003°N	107.608850185°W
2,100.00	20.27	258.73	2,015.75	-101.49	-509.22	14,364,386.221	904,684.486	39.524856723°N	107.608969840°W
2,200.00	20.27	258.73	2,109.56	-108.26	-543.19	14,364,379.450	904,650.513	39.524835443°N	107.609089496°W
2,300.00	20.27	258.73	2,203.37	-115.04	-577.16	14,364,372.679	904,616.541	39.524814163°N	107.609209151°W
2,400.00	20.27	258.73	2,297.18	-121.81	-611.14	14,364,365.908	904,582.569	39.524792883°N	107.609328807°W
2,500.00	20.27	258.73	2,390.99	-128.58	-645.11	14,364,359.137	904,548.597	39.524771603°N	107.609448462°W
2,600.00	20.27	258.73	2,484.80	-135.35	-679.08	14,364,352.366	904,514.625	39.524750323°N	107.609568118°W
2,700.00	20.27	258.73	2,578.61	-142.12	-713.05	14,364,345.595	904,480.652	39.524729042°N	107.609687773°W
2,800.00	20.27	258.73	2,672.41	-148.89	-747.03	14,364,338.824	904,446.680	39.524707762°N	107.609807428°W
2,900.00	20.27	258.73	2,766.22	-155.66	-781.00	14,364,332.053	904,412.708	39.524686481°N	107.609927083°W
3,000.00	20.27	258.73	2,860.03	-162.43	-814.97	14,364,325.282	904,378.736	39.524665200°N	107.610046738°W
3,100.00	20.27	258.73	2,953.84	-169.20	-848.94	14,364,318.511	904,344.763	39.524643919°N	107.610166393°W
3,200.00	20.27	258.73	3,047.65	-175.98	-882.92	14,364,311.739	904,310.791	39.524622638°N	107.610286048°W
3,300.00	20.27	258.73	3,141.46	-182.75	-916.89	14,364,304.968	904,276.819	39.524601357°N	107.610405702°W
3,400.00	20.27	258.73	3,235.27	-189.52	-950.86	14,364,298.197	904,242.847	39.524580076°N	107.610525357°W
3,500.00	20.27	258.73	3,329.07	-196.29	-984.83	14,364,291.426	904,208.875	39.524558795°N	107.610645011°W
3,600.00	20.27	258.73	3,422.88	-203.06	-1,018.80	14,364,284.655	904,174.902	39.524537513°N	107.610764666°W
3,691.80	20.27	258.73	3,509.00	-209.28	-1,049.99	14,364,278.439	904,143.715	39.524517976°N	107.610874511°W
Mesaverde									
3,700.00	20.27	258.73	3,516.69	-209.83	-1,052.78	14,364,277.884	904,140.930	39.524516231°N	107.610884320°W
3,800.00	20.27	258.73	3,610.50	-216.60	-1,086.75	14,364,271.113	904,106.958	39.524494950°N	107.611003975°W
3,900.00	20.27	258.73	3,704.31	-223.37	-1,120.72	14,364,264.342	904,072.986	39.524473668°N	107.611123629°W
4,000.00	20.27	258.73	3,798.12	-230.14	-1,154.69	14,364,257.571	904,039.013	39.524452386°N	107.6111243283°W
4,100.00	20.27	258.73	3,891.92	-236.92	-1,188.67	14,364,250.800	904,005.041	39.524431104°N	107.611362937°W
4,200.00	20.27	258.73	3,985.73	-243.69	-1,222.64	14,364,244.029	903,971.069	39.524409821°N	107.611482591°W
4,300.00	20.27	258.73	4,079.54	-250.46	-1,256.61	14,364,237.258	903,937.097	39.524388539°N	107.611602245°W
4,400.00	20.27	258.73	4,173.35	-257.23	-1,290.58	14,364,230.487	903,903.125	39.524367257°N	107.611721899°W

ARK Directional Services

Planning Report - Geographic

Database:	EDM SERVER DB	Local Co-ordinate Reference:	Well McLin C09 (111228) - Slot C09
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 C09 (111228)	Survey Calculation Method:	Minimum Curvature
Wellbore:	McLin C09		
Design:	McLin C09 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	
4,444.50	20.27	258.73	4,215.10	-260.24	-1,305.70	14,364,227.473	903,888.006	39.524357785°N	107.611775149°W	
Drop 2.5°/100 at 4445 MD/4215 TVD										
4,500.00	18.88	258.73	4,267.39	-263.88	-1,323.94	14,364,223.839	903,869.772	39.524346362°N	107.611839369°W	
4,543.84	17.78	258.73	4,309.00	-266.57	-1,337.46	14,364,221.144	903,856.250	39.524337891°N	107.611886996°W	
Price Coal										
4,600.00	16.38	258.73	4,362.68	-269.80	-1,353.64	14,364,217.919	903,840.072	39.524327756°N	107.611943977°W	
4,700.00	13.88	258.73	4,459.21	-274.90	-1,379.23	14,364,212.818	903,814.476	39.524311721°N	107.612034128°W	
4,800.00	11.38	258.73	4,556.78	-279.17	-1,400.67	14,364,208.544	903,793.034	39.524298288°N	107.612109650°W	
4,900.00	8.88	258.73	4,655.21	-282.61	-1,417.92	14,364,205.107	903,775.786	39.524287482°N	107.612170398°W	
5,000.00	6.38	258.73	4,754.32	-285.20	-1,430.94	14,364,202.511	903,762.765	39.524279325°N	107.612216258°W	
5,100.00	3.88	258.73	4,853.91	-286.95	-1,439.71	14,364,200.764	903,753.997	39.524273832°N	107.612247142°W	
5,200.00	1.38	258.73	4,953.80	-287.85	-1,444.21	14,364,199.867	903,749.497	39.524271012°N	107.612262992°W	
5,255.21	0.00	0.00	5,009.00	-287.98	-1,444.86	14,364,199.737	903,748.845	39.524270604°N	107.612265288°W	
Vertical at 5255 MD/5009 TVD - Top Gas										
5,300.00	0.00	0.00	5,053.79	-287.98	-1,444.86	14,364,199.737	903,748.845	39.524270604°N	107.612265288°W	
5,400.00	0.00	0.00	5,153.79	-287.98	-1,444.86	14,364,199.737	903,748.845	39.524270604°N	107.612265288°W	
5,500.00	0.00	0.00	5,253.79	-287.98	-1,444.86	14,364,199.737	903,748.845	39.524270604°N	107.612265288°W	
5,600.00	0.00	0.00	5,353.79	-287.98	-1,444.86	14,364,199.737	903,748.845	39.524270604°N	107.612265288°W	
5,700.00	0.00	0.00	5,453.79	-287.98	-1,444.86	14,364,199.737	903,748.845	39.524270604°N	107.612265288°W	
5,800.00	0.00	0.00	5,553.79	-287.98	-1,444.86	14,364,199.737	903,748.845	39.524270604°N	107.612265288°W	
5,900.00	0.00	0.00	5,653.79	-287.98	-1,444.86	14,364,199.737	903,748.845	39.524270604°N	107.612265288°W	
6,000.00	0.00	0.00	5,753.79	-287.98	-1,444.86	14,364,199.737	903,748.845	39.524270604°N	107.612265288°W	
6,100.00	0.00	0.00	5,853.79	-287.98	-1,444.86	14,364,199.737	903,748.845	39.524270604°N	107.612265288°W	
6,155.21	0.00	0.00	5,909.00	-287.98	-1,444.86	14,364,199.737	903,748.845	39.524270604°N	107.612265288°W	
Cameo										
6,200.00	0.00	0.00	5,953.79	-287.98	-1,444.86	14,364,199.737	903,748.845	39.524270604°N	107.612265288°W	
6,300.00	0.00	0.00	6,053.79	-287.98	-1,444.86	14,364,199.737	903,748.845	39.524270604°N	107.612265288°W	
6,400.00	0.00	0.00	6,153.79	-287.98	-1,444.86	14,364,199.737	903,748.845	39.524270604°N	107.612265288°W	
6,500.00	0.00	0.00	6,253.79	-287.98	-1,444.86	14,364,199.737	903,748.845	39.524270604°N	107.612265288°W	
6,600.00	0.00	0.00	6,353.79	-287.98	-1,444.86	14,364,199.737	903,748.845	39.524270604°N	107.612265288°W	
6,700.00	0.00	0.00	6,453.79	-287.98	-1,444.86	14,364,199.737	903,748.845	39.524270604°N	107.612265288°W	
6,800.00	0.00	0.00	6,553.79	-287.98	-1,444.86	14,364,199.737	903,748.845	39.524270604°N	107.612265288°W	
6,900.00	0.00	0.00	6,653.79	-287.98	-1,444.86	14,364,199.737	903,748.845	39.524270604°N	107.612265288°W	
7,000.00	0.00	0.00	6,753.79	-287.98	-1,444.86	14,364,199.737	903,748.845	39.524270604°N	107.612265288°W	
7,100.00	0.00	0.00	6,853.79	-287.98	-1,444.86	14,364,199.737	903,748.845	39.524270604°N	107.612265288°W	
7,200.00	0.00	0.00	6,953.79	-287.98	-1,444.86	14,364,199.737	903,748.845	39.524270604°N	107.612265288°W	
7,255.21	0.00	0.00	7,009.00	-287.98	-1,444.86	14,364,199.737	903,748.845	39.524270604°N	107.612265288°W	
Rollins										
7,300.00	0.00	0.00	7,053.79	-287.98	-1,444.86	14,364,199.737	903,748.845	39.524270604°N	107.612265288°W	
7,400.00	0.00	0.00	7,153.79	-287.98	-1,444.86	14,364,199.737	903,748.845	39.524270604°N	107.612265288°W	
7,405.21	0.00	0.00	7,159.00	-287.98	-1,444.86	14,364,199.737	903,748.845	39.524270604°N	107.612265288°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	
C09 Top Gas - plan hits target center - Circle (radius 25.00)	0.00	0.00	5,009.00	-287.98	-1,444.86	14,364,199.737	903,748.845	39.524270604°N	107.612265288°W	

ARK Directional Services

Planning Report - Geographic

Database:	EDM SERVER DB	Local Co-ordinate Reference:	Well McLin C09 (111228) - Slot C09
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 C09 (111228)	Survey Calculation Method:	Minimum Curvature
Wellbore:	McLin C09		
Design:	McLin C09 P01		

Casing Points					
Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (in)	Hole Diameter (in)	
1,017.00	999.81	Surf Csg at 1017 MD/1000 TVD	5.50	6.00	

Formations					
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
0.00	0.00	Wasatch			
3,691.80	3,509.00	Mesaverde			
4,543.84	4,309.00	Price Coal			
5,255.21	5,009.00	Top Gas			
6,155.21	5,909.00	Cameo			
7,255.21	7,009.00	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	
1,010.70	993.90	-27.74	-139.16	Hold 20° at 1011 MD/994 TVD	
4,444.50	4,215.10	-260.24	-1,305.70	Drop 2.5°/100 at 4445 MD/4215 TVD	
5,255.21	5,009.00	-287.98	-1,444.86	Vertical at 5255 MD/5009 TVD	
7,405.21	7,159.00	-287.98	-1,444.86	TD at 7405 MD/7159 TVD	