



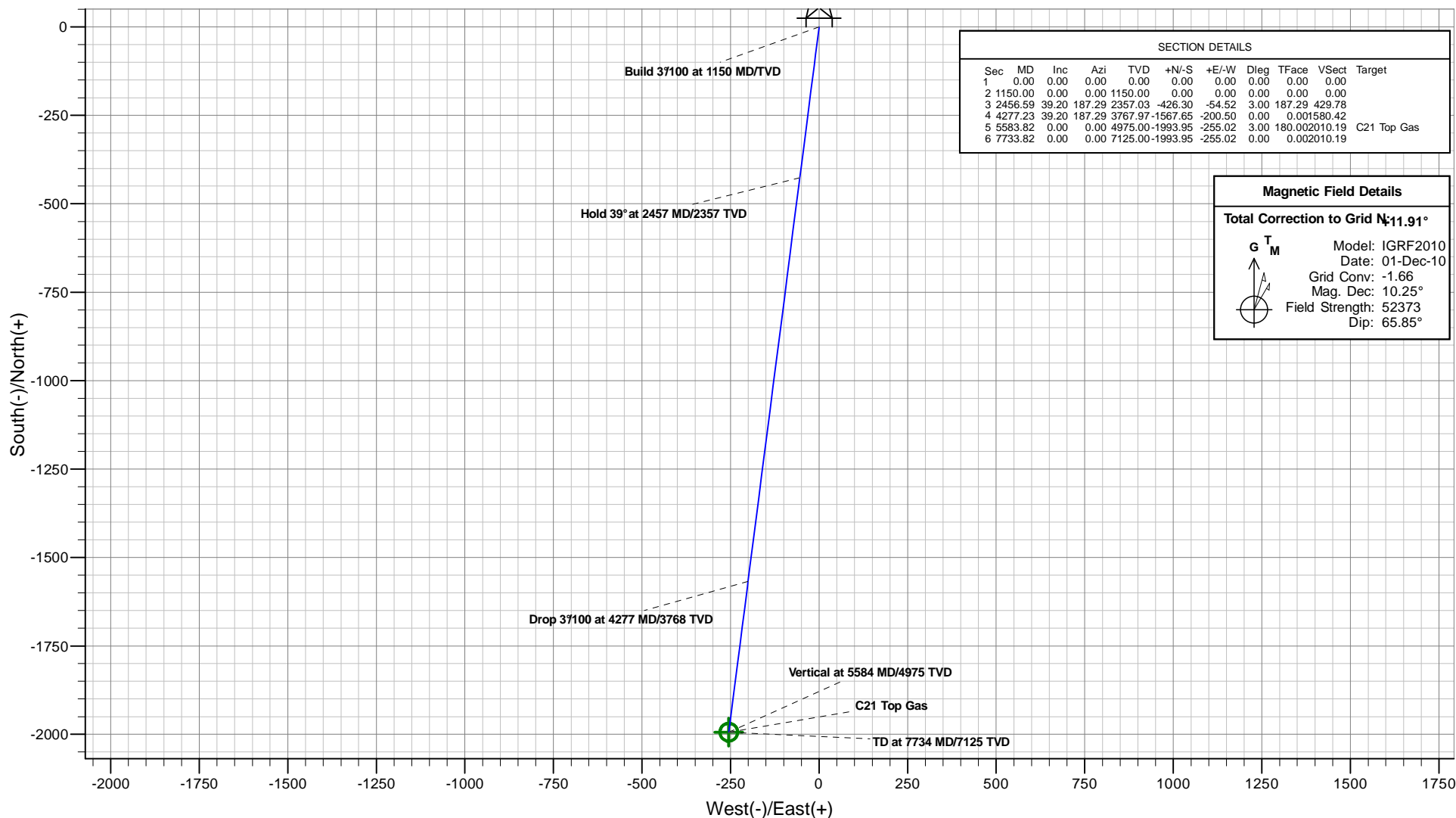
Antero Resources

McLin C21 (111244)




PLAN VIEW

Project: McLin
Site: McLin C
Well: McLin C21 (111244)
Wellbore: McLin C21
Design: McLin C21 P01



SECTION DETAILS										
Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSection	Target
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2	1150.00	0.00	0.00	1150.00	0.00	0.00	0.00	0.00	0.00	
3	2456.59	39.20	187.29	2357.03	-426.30	-54.52	3.00	187.29	429.78	
4	4277.23	39.20	187.29	3767.97	-1567.65	-200.50	0.00	0.00	1580.42	
5	5583.82	0.00	0.00	4975.00	-1993.95	-255.02	3.00	180.00	2010.19	C21 Top Gas
6	7733.82	0.00	0.00	7125.00	-1993.95	-255.02	0.00	0.00	2010.19	

Magnetic Field Details	
Total Correction to Grid N: 11.91°	
	Model: IGRF2010
	Date: 01-Dec-10
	Grid Conv: -1.66
	Mag. Dec: 10.25°
	Field Strength: 52373
	Dip: 65.85°

Plan: McLin C21 P01
Created By: ARK Directional Services
Date: 13:45, 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 C21 (111244) - Slot C21, Grid North
Vertical (TVD) Reference: KB @ 5750.00ft (Original Well Elev)
Section (VS) Reference: Slot - C21(0.00N, 0.00E)
Measured Depth Reference: KB @ 5750.00ft (Original Well Elev)
Calculation Method: Minimum Curvature

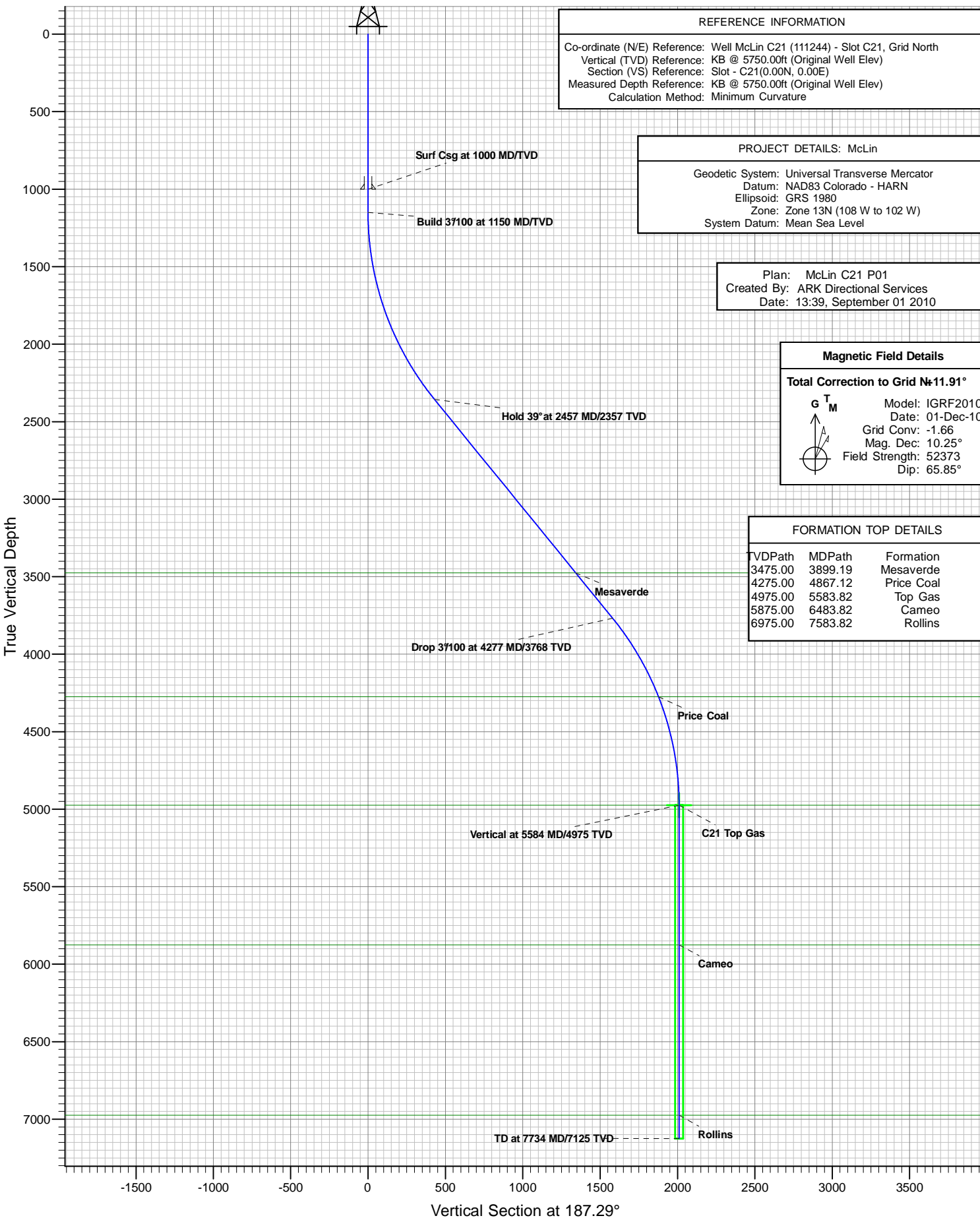


Antero Resources



McLin C21 (111244)

VERTICAL SECTION VIEW



REFERENCE INFORMATION

Co-ordinate (N/E) Reference: Well McLin C21 (111244) - Slot C21, Grid North
Vertical (TVD) Reference: KB @ 5750.00ft (Original Well Elev)
Section (VS) Reference: Slot - C21(0.00N, 0.00E)
Measured Depth Reference: KB @ 5750.00ft (Original Well Elev)
Calculation Method: Minimum Curvature

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

Plan: McLin C21 P01
Created By: ARK Directional Services
Date: 13:39, September 01 2010

Magnetic Field Details

Total Correction to Grid N=11.91°

G^T_M Model: IGRF2010
Date: 01-Dec-10
Grid Conv: -1.66
Mag. Dec: 10.25°
Field Strength: 52373
Dip: 65.85°

FORMATION TOP DETAILS

TVDPPath	MDPath	Formation
3475.00	3899.19	Mesaverde
4275.00	4867.12	Price Coal
4975.00	5583.82	Top Gas
5875.00	6483.82	Cameo
6975.00	7583.82	Rollins

Antero Resources

McLin

McLin C

McLin C21 (111244) - Slot C21

McLin C21

Plan: McLin C21 P01

Standard Planning Report - Geographic

01 September, 2010

ARK Directional Services

Planning Report - Geographic

Database:	EDM SERVER DB	Local Co-ordinate Reference:	Well McLin C21 (111244) - Slot C21
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 C21 (111244)	Survey Calculation Method:	Minimum Curvature
Wellbore:	McLin C21		
Design:	McLin C21 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 C21 (111244) - Slot C21		
Well Position	+N/-S	0.00 ft	Northing:
	+E/-W	0.00 ft	Easting:
Position Uncertainty	0.00 ft	Wellhead Elevation:	
		Latitude:	39.525181420°N
		Longitude:	107.607085357°W
		Ground Level:	5,726.00 ft

Wellbore	McLin C21				
Magnetics	Model Name	Sample Date	Declination	Dip Angle	Field Strength
			(°)	(°)	(nT)
	IGRF2010	2010/12/01	10.25	65.85	52,373

Design	McLin C21 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	187.29

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	
1,150.00	0.00	0.00	1,150.00	0.00	0.00	0.00	0.00	0.00	0.00	
2,456.59	39.20	187.29	2,357.03	-426.30	-54.52	3.00	3.00	0.00	187.29	
4,277.24	39.20	187.29	3,767.97	-1,567.65	-200.50	0.00	0.00	0.00	0.00	
5,583.82	0.00	0.00	4,975.00	-1,993.95	-255.02	3.00	-3.00	0.00	180.00	C21 Top Gas
7,733.82	0.00	0.00	7,125.00	-1,993.95	-255.02	0.00	0.00	0.00	0.00	

ARK Directional Services

Planning Report - Geographic

Database:	EDM SERVER DB	Local Co-ordinate Reference:	Well McLin C21 (111244) - Slot C21
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 C21 (111244)	Survey Calculation Method:	Minimum Curvature
Wellbore:	McLin C21		
Design:	McLin C21 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	14,364,489.063	905,219.409	39.525181420°N	107.607085357°W
100.00	0.00	0.00	100.00	0.00	0.00	14,364,489.063	905,219.409	39.525181420°N	107.607085357°W
200.00	0.00	0.00	200.00	0.00	0.00	14,364,489.063	905,219.409	39.525181420°N	107.607085357°W
300.00	0.00	0.00	300.00	0.00	0.00	14,364,489.063	905,219.409	39.525181420°N	107.607085357°W
400.00	0.00	0.00	400.00	0.00	0.00	14,364,489.063	905,219.409	39.525181420°N	107.607085357°W
500.00	0.00	0.00	500.00	0.00	0.00	14,364,489.063	905,219.409	39.525181420°N	107.607085357°W
600.00	0.00	0.00	600.00	0.00	0.00	14,364,489.063	905,219.409	39.525181420°N	107.607085357°W
700.00	0.00	0.00	700.00	0.00	0.00	14,364,489.063	905,219.409	39.525181420°N	107.607085357°W
800.00	0.00	0.00	800.00	0.00	0.00	14,364,489.063	905,219.409	39.525181420°N	107.607085357°W
900.00	0.00	0.00	900.00	0.00	0.00	14,364,489.063	905,219.409	39.525181420°N	107.607085357°W
1,000.00	0.00	0.00	1,000.00	0.00	0.00	14,364,489.063	905,219.409	39.525181420°N	107.607085357°W
Surf Csg at 1000 MD/TVD									
1,100.00	0.00	0.00	1,100.00	0.00	0.00	14,364,489.063	905,219.409	39.525181420°N	107.607085357°W
1,150.00	0.00	0.00	1,150.00	0.00	0.00	14,364,489.063	905,219.409	39.525181420°N	107.607085357°W
Build 3°/100 at 1150 MD/TVD									
1,200.00	1.50	187.29	1,199.99	-0.65	-0.08	14,364,488.414	905,219.326	39.525179632°N	107.607085584°W
1,300.00	4.50	187.29	1,299.85	-5.84	-0.75	14,364,483.223	905,218.662	39.525165338°N	107.607087403°W
1,400.00	7.50	187.29	1,399.29	-16.21	-2.07	14,364,472.856	905,217.336	39.525136790°N	107.607091036°W
1,500.00	10.50	187.29	1,498.04	-31.72	-4.06	14,364,457.340	905,215.352	39.525094065°N	107.607096473°W
1,600.00	13.50	187.29	1,595.85	-52.34	-6.69	14,364,436.720	905,212.714	39.525037281°N	107.607103700°W
1,700.00	16.50	187.29	1,692.43	-78.01	-9.98	14,364,411.050	905,209.431	39.524966593°N	107.607112695°W
1,800.00	19.50	187.29	1,787.52	-108.66	-13.90	14,364,380.401	905,205.511	39.524882195°N	107.607123435°W
1,900.00	22.50	187.29	1,880.87	-144.20	-18.44	14,364,344.858	905,200.966	39.524784319°N	107.607135891°W
2,000.00	25.50	187.29	1,972.22	-184.55	-23.60	14,364,304.518	905,195.806	39.524673232°N	107.607150028°W
2,100.00	28.50	187.29	2,061.31	-229.57	-29.36	14,364,259.491	905,190.047	39.524549239°N	107.607165806°W
2,200.00	31.50	187.29	2,147.90	-279.16	-35.70	14,364,209.901	905,183.705	39.524412681°N	107.607183184°W
2,300.00	34.50	187.29	2,231.76	-333.18	-42.61	14,364,155.883	905,176.796	39.524263930°N	107.607202114°W
2,400.00	37.50	187.29	2,312.65	-391.48	-50.07	14,364,097.586	905,169.340	39.524103396°N	107.607222543°W
2,456.59	39.20	187.29	2,357.03	-426.30	-54.52	14,364,062.761	905,164.886	39.524007497°N	107.607234746°W
Hold 39° at 2457 MD/2357 TVD									
2,500.00	39.20	187.29	2,390.67	-453.52	-58.00	14,364,035.547	905,161.405	39.523932556°N	107.607244283°W
2,600.00	39.20	187.29	2,468.17	-516.21	-66.02	14,363,972.858	905,153.388	39.523759927°N	107.607266251°W
2,700.00	39.20	187.29	2,545.66	-578.89	-74.04	14,363,910.169	905,145.370	39.523587298°N	107.607288218°W
2,800.00	39.20	187.29	2,623.16	-641.58	-82.06	14,363,847.480	905,137.352	39.523414669°N	107.607310186°W
2,900.00	39.20	187.29	2,700.66	-704.27	-90.07	14,363,784.791	905,129.334	39.523242040°N	107.607332154°W
3,000.00	39.20	187.29	2,778.15	-766.96	-98.09	14,363,722.102	905,121.317	39.523069410°N	107.607354121°W
3,100.00	39.20	187.29	2,855.65	-829.65	-106.11	14,363,659.413	905,113.299	39.522896781°N	107.607376089°W
3,200.00	39.20	187.29	2,933.15	-892.34	-114.13	14,363,596.724	905,105.281	39.522724152°N	107.607398056°W
3,300.00	39.20	187.29	3,010.65	-955.03	-122.15	14,363,534.035	905,097.263	39.522551523°N	107.607420023°W
3,400.00	39.20	187.29	3,088.14	-1,017.72	-130.16	14,363,471.346	905,089.246	39.522378894°N	107.607441990°W
3,500.00	39.20	187.29	3,165.64	-1,080.41	-138.18	14,363,408.657	905,081.228	39.522206265°N	107.607463957°W
3,600.00	39.20	187.29	3,243.14	-1,143.10	-146.20	14,363,345.968	905,073.210	39.522033636°N	107.607485924°W
3,700.00	39.20	187.29	3,320.63	-1,205.79	-154.22	14,363,283.279	905,065.192	39.521861007°N	107.607507891°W
3,800.00	39.20	187.29	3,398.13	-1,268.48	-162.23	14,363,220.590	905,057.174	39.521688377°N	107.607529858°W
3,899.19	39.20	187.29	3,475.00	-1,330.66	-170.19	14,363,158.409	905,049.222	39.521517146°N	107.607551647°W
Mesaverde									
3,900.00	39.20	187.29	3,475.63	-1,331.16	-170.25	14,363,157.901	905,049.157	39.521515748°N	107.607551825°W
4,000.00	39.20	187.29	3,553.12	-1,393.85	-178.27	14,363,095.212	905,041.139	39.521343119°N	107.607573792°W
4,100.00	39.20	187.29	3,630.62	-1,456.54	-186.29	14,363,032.523	905,033.121	39.521170490°N	107.607595758°W
4,200.00	39.20	187.29	3,708.12	-1,519.23	-194.31	14,362,969.834	905,025.103	39.520997861°N	107.607617725°W
4,277.24	39.20	187.29	3,767.97	-1,567.65	-200.50	14,362,921.416	905,018.911	39.520864531°N	107.607634690°W
Drop 3°/100 at 4277 MD/3768 TVD									
4,300.00	38.51	187.29	3,785.70	-1,581.82	-202.31	14,362,907.250	905,017.099	39.520825520°N	107.607639654°W
4,400.00	35.51	187.29	3,865.54	-1,641.52	-209.95	14,362,847.541	905,009.462	39.520661098°N	107.607660576°W

ARK Directional Services

Planning Report - Geographic

Database:	EDM SERVER DB	Local Co-ordinate Reference:	Well McLin C21 (111244) - Slot C21
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 C21 (111244)	Survey Calculation Method:	Minimum Curvature
Wellbore:	McLin C21		
Design:	McLin C21 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
4,500.00	32.51	187.29	3,948.42	-1,697.01	-217.04	14,362,792.059	905,002.366	39.520508314°N	107.607680017°W
4,600.00	29.51	187.29	4,034.11	-1,748.11	-223.58	14,362,740.955	904,995.830	39.520367588°N	107.607697924°W
4,700.00	26.51	187.29	4,122.39	-1,794.70	-229.54	14,362,694.371	904,989.872	39.520239306°N	107.607714247°W
4,800.00	23.51	187.29	4,213.00	-1,836.63	-234.90	14,362,652.432	904,984.508	39.520123818°N	107.607728942°W
4,867.12	21.50	187.29	4,275.00	-1,862.12	-238.16	14,362,626.947	904,981.249	39.520053638°N	107.607737872°W
Price Coal									
4,900.00	20.51	187.29	4,305.69	-1,873.81	-239.66	14,362,615.255	904,979.754	39.520021441°N	107.607741969°W
5,000.00	17.51	187.29	4,400.23	-1,906.13	-243.79	14,362,582.941	904,975.621	39.519932457°N	107.607753292°W
5,100.00	14.51	187.29	4,496.33	-1,933.49	-247.29	14,362,555.578	904,972.121	39.519857108°N	107.607762879°W
5,200.00	11.51	187.29	4,593.75	-1,955.82	-250.15	14,362,533.243	904,969.264	39.519795602°N	107.607770706°W
5,300.00	8.51	187.29	4,692.22	-1,973.07	-252.35	14,362,515.995	904,967.058	39.519748106°N	107.607776749°W
5,400.00	5.51	187.29	4,791.46	-1,985.18	-253.90	14,362,503.883	904,965.509	39.519714752°N	107.607780993°W
5,500.00	2.51	187.29	4,891.20	-1,992.13	-254.79	14,362,496.939	904,964.621	39.519695630°N	107.607783426°W
5,583.82	0.00	0.00	4,975.00	-1,993.95	-255.02	14,362,495.115	904,964.388	39.519690607°N	107.607784065°W
Vertical at 5584 MD/4975 TVD - Top Gas - C21 Top Gas									
5,600.00	0.00	0.00	4,991.18	-1,993.95	-255.02	14,362,495.115	904,964.388	39.519690607°N	107.607784065°W
5,700.00	0.00	0.00	5,091.18	-1,993.95	-255.02	14,362,495.115	904,964.388	39.519690607°N	107.607784065°W
5,800.00	0.00	0.00	5,191.18	-1,993.95	-255.02	14,362,495.115	904,964.388	39.519690607°N	107.607784065°W
5,900.00	0.00	0.00	5,291.18	-1,993.95	-255.02	14,362,495.115	904,964.388	39.519690607°N	107.607784065°W
6,000.00	0.00	0.00	5,391.18	-1,993.95	-255.02	14,362,495.115	904,964.388	39.519690607°N	107.607784065°W
6,100.00	0.00	0.00	5,491.18	-1,993.95	-255.02	14,362,495.115	904,964.388	39.519690607°N	107.607784065°W
6,200.00	0.00	0.00	5,591.18	-1,993.95	-255.02	14,362,495.115	904,964.388	39.519690607°N	107.607784065°W
6,300.00	0.00	0.00	5,691.18	-1,993.95	-255.02	14,362,495.115	904,964.388	39.519690607°N	107.607784065°W
6,400.00	0.00	0.00	5,791.18	-1,993.95	-255.02	14,362,495.115	904,964.388	39.519690607°N	107.607784065°W
6,483.82	0.00	0.00	5,875.00	-1,993.95	-255.02	14,362,495.115	904,964.388	39.519690607°N	107.607784065°W
Cameo									
6,500.00	0.00	0.00	5,891.18	-1,993.95	-255.02	14,362,495.115	904,964.388	39.519690607°N	107.607784065°W
6,600.00	0.00	0.00	5,991.18	-1,993.95	-255.02	14,362,495.115	904,964.388	39.519690607°N	107.607784065°W
6,700.00	0.00	0.00	6,091.18	-1,993.95	-255.02	14,362,495.115	904,964.388	39.519690607°N	107.607784065°W
6,800.00	0.00	0.00	6,191.18	-1,993.95	-255.02	14,362,495.115	904,964.388	39.519690607°N	107.607784065°W
6,900.00	0.00	0.00	6,291.18	-1,993.95	-255.02	14,362,495.115	904,964.388	39.519690607°N	107.607784065°W
7,000.00	0.00	0.00	6,391.18	-1,993.95	-255.02	14,362,495.115	904,964.388	39.519690607°N	107.607784065°W
7,100.00	0.00	0.00	6,491.18	-1,993.95	-255.02	14,362,495.115	904,964.388	39.519690607°N	107.607784065°W
7,200.00	0.00	0.00	6,591.18	-1,993.95	-255.02	14,362,495.115	904,964.388	39.519690607°N	107.607784065°W
7,300.00	0.00	0.00	6,691.18	-1,993.95	-255.02	14,362,495.115	904,964.388	39.519690607°N	107.607784065°W
7,400.00	0.00	0.00	6,791.18	-1,993.95	-255.02	14,362,495.115	904,964.388	39.519690607°N	107.607784065°W
7,500.00	0.00	0.00	6,891.18	-1,993.95	-255.02	14,362,495.115	904,964.388	39.519690607°N	107.607784065°W
7,583.82	0.00	0.00	6,975.00	-1,993.95	-255.02	14,362,495.115	904,964.388	39.519690607°N	107.607784065°W
Rollins									
7,600.00	0.00	0.00	6,991.18	-1,993.95	-255.02	14,362,495.115	904,964.388	39.519690607°N	107.607784065°W
7,700.00	0.00	0.00	7,091.18	-1,993.95	-255.02	14,362,495.115	904,964.388	39.519690607°N	107.607784065°W
7,733.82	0.00	0.00	7,125.00	-1,993.95	-255.02	14,362,495.115	904,964.388	39.519690607°N	107.607784065°W
TD at 7734 MD/7125 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									
C21 Top Gas	0.00	360.00	4,975.00	-1,993.95	-255.02	14,362,495.115	904,964.388	39.519690607°N	107.607784065°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 C21 (111244) - Slot C21
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 C21 (111244)	Survey Calculation Method:	Minimum Curvature
Wellbore:	McLin C21		
Design:	McLin C21 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 (°)
3,899.19	3,475.00	Mesaverde			
4,867.12	4,275.00	Price Coal			
5,583.82	4,975.00	Top Gas			
6,483.82	5,875.00	Cameo			
7,583.82	6,975.00	Rollins			

Plan Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates			
		+N/-S (ft)	+E/-W (ft)	Comment	
1,150.00	1,150.00	0.00	0.00	Build 3°/100 at 1150 MD/TVD	
2,456.59	2,357.03	-426.30	-54.52	Hold 39° at 2457 MD/2357 TVD	
4,277.24	3,767.97	-1,567.65	-200.50	Drop 3°/100 at 4277 MD/3768 TVD	
5,583.82	4,975.00	-1,993.95	-255.02	Vertical at 5584 MD/4975 TVD	
7,733.82	7,125.00	-1,993.95	-255.02	TD at 7734 MD/7125 TVD	