

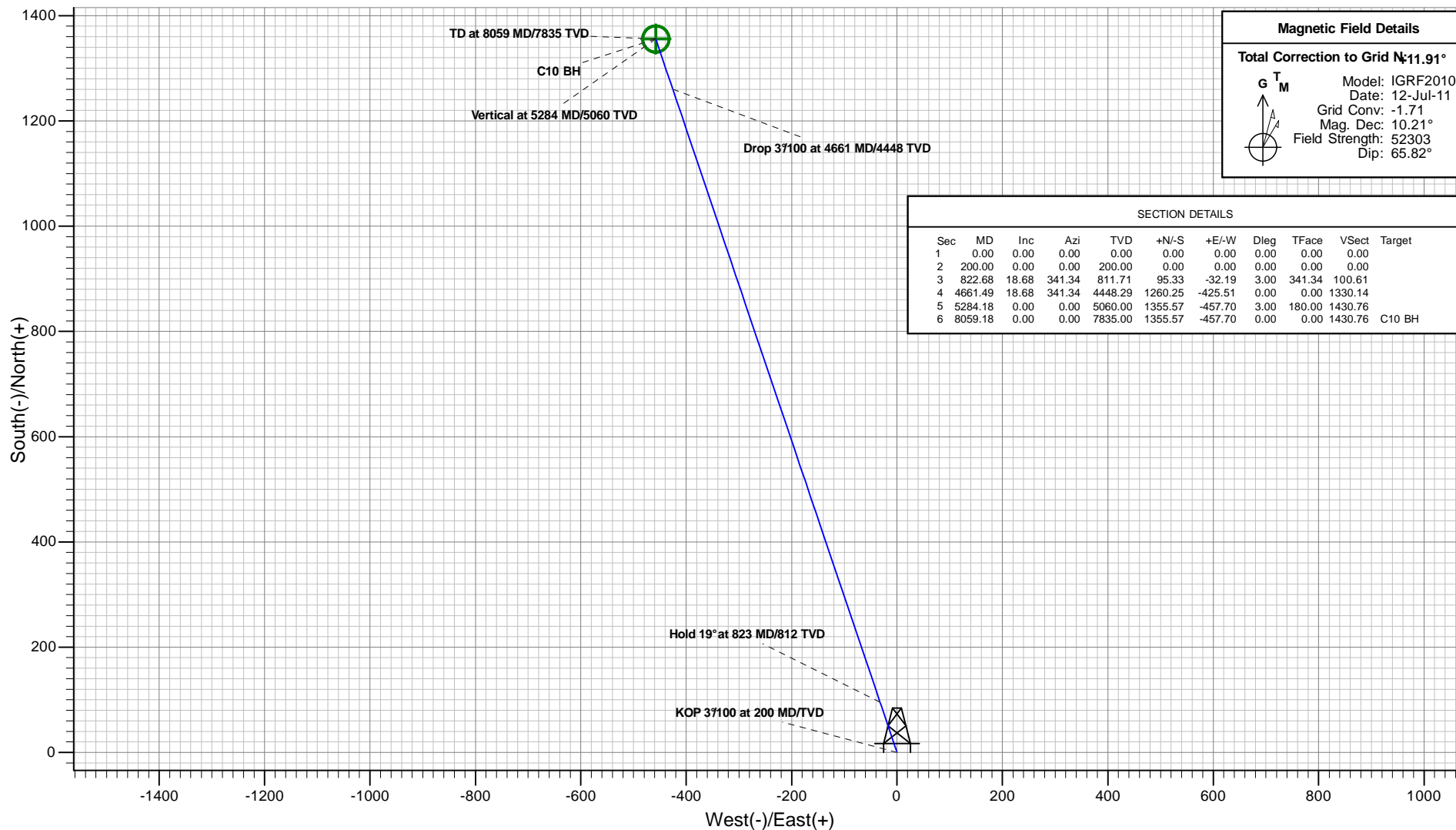


## PLAN VIEW

### Antero Resources

C10 (111370)

Project: Robinson  
Site: Robinson C Pad  
Well: C10 (111370)  
Wellbore: C10  
Design: C10\_P01



#### Magnetic Field Details

Total Correction to Grid N:  $11.91^\circ$



Model: IGRF2010  
Date: 12-Jul-11  
Grid Conv: -1.71  
Mag. Dec:  $10.21^\circ$   
Field Strength: 52303  
Dip:  $65.82^\circ$

#### PROJECT DETAILS: Robinson

Geodetic System: Universal Transverse Mercator (US Survey Feet)  
Datum: North American Datum 1983  
Ellipsoid: GRS 1980  
Zone: Zone 13N (108 W to 102 W)  
System Datum: Mean Sea Level

#### REFERENCE INFORMATION

Co-ordinate (N/E) Reference: Well C10 (111370) - Slot C10, Grid North  
Vertical (TVD) Reference: KB @ 5668.00ft (Original Well Elev)  
Section (VS) Reference: Slot - C10(0.00N, 0.00E)  
Measured Depth Reference: KB @ 5668.00ft (Original Well Elev)  
Calculation Method: Minimum Curvature

Plan: C10\_P01  
Created By: ARK Directional Services  
Date: 13:46, April 13 2011

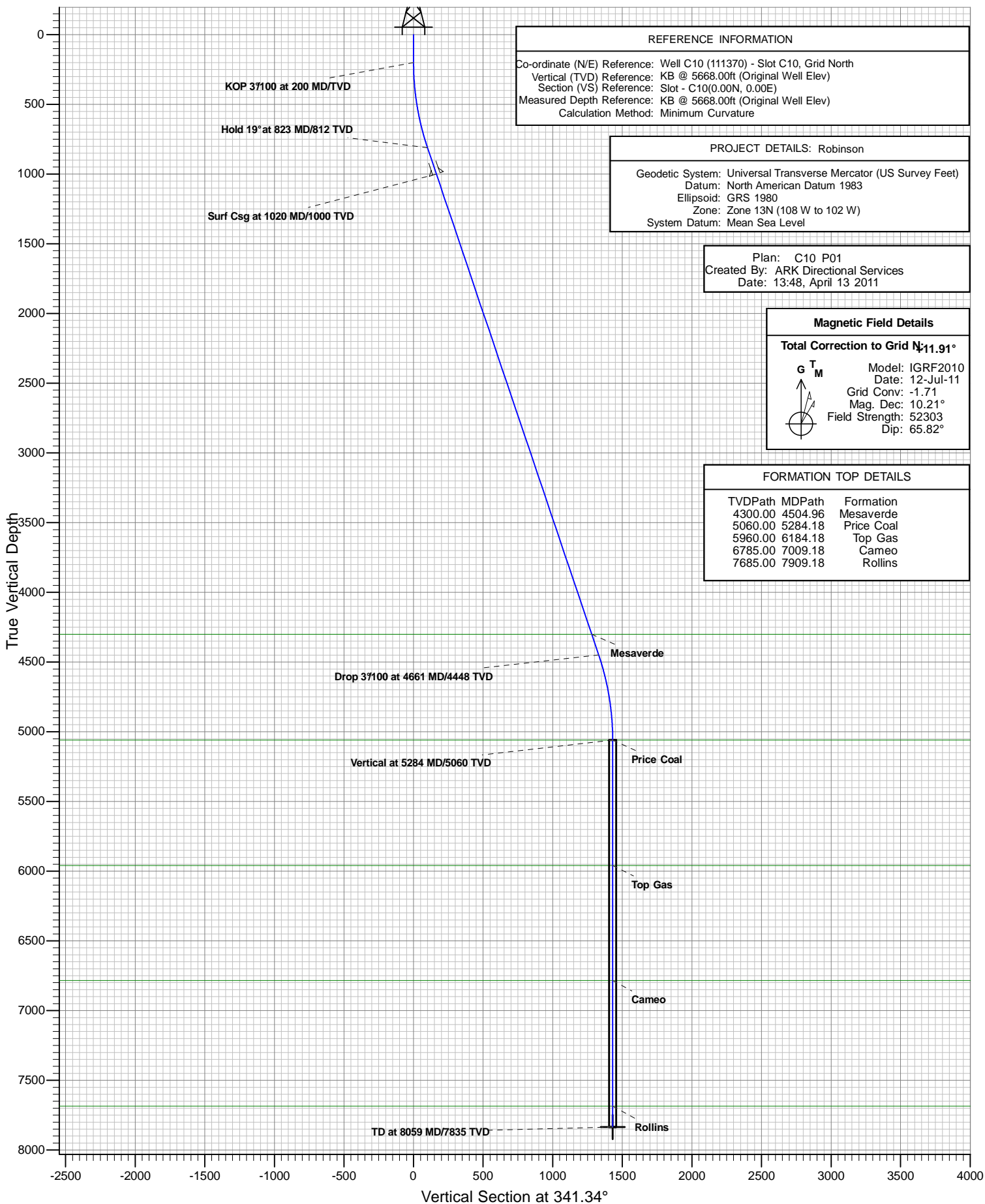


# Antero Resources



C10 (111370)

## VERTICAL SECTION VIEW



# **Antero Resources**

**Robinson**

**Robinson C Pad**

**C10 (111370) - Slot C10**

**C10**

**Plan: C10 P01**

## **Standard Planning Report - Geographic**

**13 April, 2011**

# ARK Directional Services

## Planning Report - Geographic

<b>Database:</b>	EDM SERVER DB	<b>Local Co-ordinate Reference:</b>	Well C10 (111370) - Slot C10
<b>Company:</b>	Antero Resources	<b>TVD Reference:</b>	KB @ 5668.00ft (Original Well Elev)
<b>Project:</b>	Robinson	<b>MD Reference:</b>	KB @ 5668.00ft (Original Well Elev)
<b>Site:</b>	Robinson C Pad	<b>North Reference:</b>	Grid
<b>Well:</b>	C10 (111370)	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	C10		
<b>Design:</b>	C10 P01		

<b>Project</b>	Robinson		
<b>Map System:</b>	Universal Transverse Mercator (US Survey Feet)	<b>System Datum:</b>	Mean Sea Level
<b>Geo Datum:</b>	North American Datum 1983		
<b>Map Zone:</b>	Zone 13N (108 W to 102 W)		

Site		Robinson C Pad			
Site Position:		Northing:	14,365,851.290 usft	Latitude:	39.527207654°N
From:	Map	Easting:	884,005.040 usft	Longitude:	107.682381321°W
Position Uncertainty:	0.00 ft	Slot Radius:	13.20 in	Grid Convergence:	-1.71 °

Well	C10 (111370) - Slot C10					
Well Position	+N/-S	0.00 ft	Northing:	14,365,859.582 usft	Latitude:	39.527236910°N
	+E/-W	0.00 ft	Easting:	884,084.609 usft	Longitude:	107.682100320°W
Position Uncertainty		0.00 ft	Wellhead Elevation:		Ground Level:	5,644.00 ft

<b>Wellbore</b>	C10				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	IGRF2010	2011/07/12	10.21	65.82	52,303

<b>Design</b>	C10 P01				
<b>Audit Notes:</b>					
<b>Version:</b>	<b>Phase:</b>	PROTOTYPE		<b>Tie On Depth:</b>	0.00
<b>Vertical Section:</b>	<b>Depth From (TVD) (ft)</b>	<b>+N/-S (ft)</b>	<b>+E/-W (ft)</b>	<b>Direction (°)</b>	
	7,835.00	0.00	0.00	341.34	

<b>Plan Sections</b>										
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	
822.68	18.68	341.34	811.71	95.33	-32.19	3.00	3.00	0.00	341.34	
4,661.50	18.68	341.34	4,448.29	1,260.25	-425.51	0.00	0.00	0.00	0.00	
5,284.18	0.00	0.00	5,060.00	1,355.57	-457.70	3.00	-3.00	0.00	180.00	
8,059.18	0.00	0.00	7,835.00	1,355.57	-457.70	0.00	0.00	0.00	0.00	C10 BH

# ARK Directional Services

## Planning Report - Geographic

<b>Database:</b>	EDM SERVER DB	<b>Local Co-ordinate Reference:</b>	Well C10 (111370) - Slot C10
<b>Company:</b>	Antero Resources	<b>TVD Reference:</b>	KB @ 5668.00ft (Original Well Elev)
<b>Project:</b>	Robinson	<b>MD Reference:</b>	KB @ 5668.00ft (Original Well Elev)
<b>Site:</b>	Robinson C Pad	<b>North Reference:</b>	Grid
<b>Well:</b>	C10 (111370)	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	C10		
<b>Design:</b>	C10 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	14,365,859.582	884,084.609	39.527236910°N	107.682100320°W
100.00	0.00	0.00	100.00	0.00	0.00	14,365,859.582	884,084.609	39.527236910°N	107.682100320°W
200.00	0.00	0.00	200.00	0.00	0.00	14,365,859.582	884,084.609	39.527236910°N	107.682100320°W
<b>KOP 3°/100 at 200 MD/TVD</b>									
300.00	3.00	341.34	299.95	2.48	-0.84	14,365,862.062	884,083.772	39.527243645°N	107.682103548°W
400.00	6.00	341.34	399.63	9.91	-3.35	14,365,869.494	884,081.262	39.527263831°N	107.682113223°W
500.00	9.00	341.34	498.77	22.28	-7.52	14,365,881.860	884,077.087	39.527297412°N	107.682129320°W
600.00	12.00	341.34	597.08	39.54	-13.35	14,365,899.123	884,071.258	39.527344297°N	107.682151793°W
700.00	15.00	341.34	694.31	61.66	-20.82	14,365,921.239	884,063.791	39.527404358°N	107.682180581°W
800.00	18.00	341.34	790.18	88.56	-29.90	14,365,948.145	884,054.706	39.527477428°N	107.682215606°W
822.68	18.68	341.34	811.71	95.33	-32.19	14,365,954.907	884,052.423	39.527495792°N	107.682224408°W
<b>Hold 19° at 823 MD/812 TVD</b>									
900.00	18.68	341.34	884.95	118.79	-40.11	14,365,978.369	884,044.501	39.527559512°N	107.682254951°W
1,000.00	18.68	341.34	979.69	149.13	-50.35	14,366,008.715	884,034.255	39.527641925°N	107.682294454°W
1,021.00	18.68	341.34	999.58	155.51	-52.51	14,366,015.088	884,032.103	39.527659232°N	107.682302749°W
<b>Surf Csg at 1020 MD/1000 TVD</b>									
1,100.00	18.68	341.34	1,074.42	179.48	-60.60	14,366,039.061	884,024.009	39.527724338°N	107.682333956°W
1,200.00	18.68	341.34	1,169.15	209.83	-70.85	14,366,069.407	884,013.763	39.527806750°N	107.682373459°W
1,300.00	18.68	341.34	1,263.88	240.17	-81.09	14,366,099.753	884,003.517	39.527889163°N	107.682412962°W
1,400.00	18.68	341.34	1,358.61	270.52	-91.34	14,366,130.099	883,993.271	39.527971576°N	107.682452465°W
1,500.00	18.68	341.34	1,453.35	300.86	-101.58	14,366,160.444	883,983.025	39.528053988°N	107.682491968°W
1,600.00	18.68	341.34	1,548.08	331.21	-111.83	14,366,190.790	883,972.779	39.528136401°N	107.682531472°W
1,700.00	18.68	341.34	1,642.81	361.56	-122.08	14,366,221.136	883,962.533	39.528218813°N	107.682570975°W
1,800.00	18.68	341.34	1,737.54	391.90	-132.32	14,366,251.482	883,952.287	39.528301226°N	107.682610479°W
1,900.00	18.68	341.34	1,832.27	422.25	-142.57	14,366,281.828	883,942.041	39.528383639°N	107.682649982°W
2,000.00	18.68	341.34	1,927.01	452.59	-152.81	14,366,312.174	883,931.795	39.528466051°N	107.682689486°W
2,100.00	18.68	341.34	2,021.74	482.94	-163.06	14,366,342.519	883,921.549	39.528548464°N	107.682728990°W
2,200.00	18.68	341.34	2,116.47	513.28	-173.31	14,366,372.865	883,911.303	39.528630876°N	107.682768494°W
2,300.00	18.68	341.34	2,211.20	543.63	-183.55	14,366,403.211	883,901.057	39.528713288°N	107.682807997°W
2,400.00	18.68	341.34	2,305.93	573.98	-193.80	14,366,433.557	883,890.811	39.528795701°N	107.682847502°W
2,500.00	18.68	341.34	2,400.67	604.32	-204.04	14,366,463.903	883,880.564	39.528878113°N	107.682887006°W
2,600.00	18.68	341.34	2,495.40	634.67	-214.29	14,366,494.249	883,870.318	39.528960526°N	107.682926510°W
2,700.00	18.68	341.34	2,590.13	665.01	-224.54	14,366,524.594	883,860.072	39.529042938°N	107.682966014°W
2,800.00	18.68	341.34	2,684.86	695.36	-234.78	14,366,554.940	883,849.826	39.529125351°N	107.683005519°W
2,900.00	18.68	341.34	2,779.59	725.71	-245.03	14,366,585.286	883,839.580	39.529207763°N	107.683045023°W
3,000.00	18.68	341.34	2,874.32	756.05	-255.28	14,366,615.632	883,829.334	39.529290175°N	107.683084528°W
3,100.00	18.68	341.34	2,969.06	786.40	-265.52	14,366,645.978	883,819.088	39.529372588°N	107.683124033°W
3,200.00	18.68	341.34	3,063.79	816.74	-275.77	14,366,676.324	883,808.842	39.529455000°N	107.683163538°W
3,300.00	18.68	341.34	3,158.52	847.09	-286.01	14,366,706.670	883,798.596	39.529537412°N	107.683203043°W
3,400.00	18.68	341.34	3,253.25	877.44	-296.26	14,366,737.015	883,788.350	39.529619824°N	107.683242548°W
3,500.00	18.68	341.34	3,347.98	907.78	-306.51	14,366,767.361	883,778.104	39.529702237°N	107.683282053°W
3,600.00	18.68	341.34	3,442.72	938.13	-316.75	14,366,797.707	883,767.858	39.529784649°N	107.683321558°W
3,700.00	18.68	341.34	3,537.45	968.47	-327.00	14,366,828.053	883,757.612	39.529867061°N	107.683361063°W
3,800.00	18.68	341.34	3,632.18	998.82	-337.24	14,366,858.399	883,747.366	39.529949473°N	107.683400569°W
3,900.00	18.68	341.34	3,726.91	1,029.17	-347.49	14,366,888.745	883,737.120	39.530031885°N	107.683440074°W
4,000.00	18.68	341.34	3,821.64	1,059.51	-357.74	14,366,919.090	883,726.874	39.530114298°N	107.683479580°W
4,100.00	18.68	341.34	3,916.38	1,089.86	-367.98	14,366,949.436	883,716.628	39.530196710°N	107.683519086°W
4,200.00	18.68	341.34	4,011.11	1,120.20	-378.23	14,366,979.782	883,706.382	39.530279122°N	107.683558592°W
4,300.00	18.68	341.34	4,105.84	1,150.55	-388.47	14,367,010.128	883,696.136	39.530361534°N	107.683598097°W
4,400.00	18.68	341.34	4,200.57	1,180.89	-398.72	14,367,040.474	883,685.890	39.530443946°N	107.683637603°W
4,500.00	18.68	341.34	4,295.30	1,211.24	-408.97	14,367,070.820	883,675.644	39.530526358°N	107.683677109°W
4,504.96	18.68	341.34	4,300.00	1,212.74	-409.47	14,367,072.324	883,675.136	39.530530443°N	107.683679067°W
<b>Mesaverde</b>									
4,600.00	18.68	341.34	4,390.04	1,241.59	-419.21	14,367,101.165	883,665.398	39.530608770°N	107.683716615°W

# ARK Directional Services

## Planning Report - Geographic

<b>Database:</b>	EDM SERVER DB	<b>Local Co-ordinate Reference:</b>	Well C10 (111370) - Slot C10
<b>Company:</b>	Antero Resources	<b>TVD Reference:</b>	KB @ 5668.00ft (Original Well Elev)
<b>Project:</b>	Robinson	<b>MD Reference:</b>	KB @ 5668.00ft (Original Well Elev)
<b>Site:</b>	Robinson C Pad	<b>North Reference:</b>	Grid
<b>Well:</b>	C10 (111370)	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	C10		
<b>Design:</b>	C10 P01		

Planned Survey										
Measured			Vertical			Map		Map		
Depth	Inclination	Azimuth	Depth	+N/-S	+E/-W	Northing	Easting		Latitude	Longitude
(ft)	(°)	(°)	(ft)	(ft)	(ft)	(usft)	(usft)			
4,661.50	18.68	341.34	4,448.29	1,260.25	-425.51	14,367,119.827	883,659.097		39.530659449°N	107.683740909°W
Drop 3°/100 at 4661 MD/4448 TVD										
4,700.00	17.53	341.34	4,484.89	1,271.58	-429.34	14,367,131.162	883,655.269		39.530690234°N	107.683755667°W
4,800.00	14.53	341.34	4,580.99	1,297.74	-438.17	14,367,157.315	883,646.439		39.530761258°N	107.683789714°W
4,900.00	11.53	341.34	4,678.41	1,319.09	-445.38	14,367,178.666	883,639.230		39.530819243°N	107.683817511°W
5,000.00	8.53	341.34	4,776.87	1,335.58	-450.95	14,367,195.157	883,633.662		39.530864030°N	107.683838981°W
5,100.00	5.53	341.34	4,876.11	1,347.17	-454.86	14,367,206.744	883,629.750		39.530895497°N	107.683854065°W
5,200.00	2.53	341.34	4,975.85	1,353.82	-457.11	14,367,213.394	883,627.504		39.530913557°N	107.683862723°W
5,284.18	0.00	0.00	5,060.00	1,355.57	-457.70	14,367,215.151	883,626.911		39.530918329°N	107.683865011°W
Vertical at 5284 MD/5060 TVD - Price Coal										
5,300.00	0.00	0.00	5,075.82	1,355.57	-457.70	14,367,215.151	883,626.911		39.530918329°N	107.683865011°W
5,400.00	0.00	0.00	5,175.82	1,355.57	-457.70	14,367,215.151	883,626.911		39.530918329°N	107.683865011°W
5,500.00	0.00	0.00	5,275.82	1,355.57	-457.70	14,367,215.151	883,626.911		39.530918329°N	107.683865011°W
5,600.00	0.00	0.00	5,375.82	1,355.57	-457.70	14,367,215.151	883,626.911		39.530918329°N	107.683865011°W
5,700.00	0.00	0.00	5,475.82	1,355.57	-457.70	14,367,215.151	883,626.911		39.530918329°N	107.683865011°W
5,800.00	0.00	0.00	5,575.82	1,355.57	-457.70	14,367,215.151	883,626.911		39.530918329°N	107.683865011°W
5,900.00	0.00	0.00	5,675.82	1,355.57	-457.70	14,367,215.151	883,626.911		39.530918329°N	107.683865011°W
6,000.00	0.00	0.00	5,775.82	1,355.57	-457.70	14,367,215.151	883,626.911		39.530918329°N	107.683865011°W
6,100.00	0.00	0.00	5,875.82	1,355.57	-457.70	14,367,215.151	883,626.911		39.530918329°N	107.683865011°W
6,184.18	0.00	0.00	5,960.00	1,355.57	-457.70	14,367,215.151	883,626.911		39.530918329°N	107.683865011°W
Top Gas										
6,200.00	0.00	0.00	5,975.82	1,355.57	-457.70	14,367,215.151	883,626.911		39.530918329°N	107.683865011°W
6,300.00	0.00	0.00	6,075.82	1,355.57	-457.70	14,367,215.151	883,626.911		39.530918329°N	107.683865011°W
6,400.00	0.00	0.00	6,175.82	1,355.57	-457.70	14,367,215.151	883,626.911		39.530918329°N	107.683865011°W
6,500.00	0.00	0.00	6,275.82	1,355.57	-457.70	14,367,215.151	883,626.911		39.530918329°N	107.683865011°W
6,600.00	0.00	0.00	6,375.82	1,355.57	-457.70	14,367,215.151	883,626.911		39.530918329°N	107.683865011°W
6,700.00	0.00	0.00	6,475.82	1,355.57	-457.70	14,367,215.151	883,626.911		39.530918329°N	107.683865011°W
6,800.00	0.00	0.00	6,575.82	1,355.57	-457.70	14,367,215.151	883,626.911		39.530918329°N	107.683865011°W
6,900.00	0.00	0.00	6,675.82	1,355.57	-457.70	14,367,215.151	883,626.911		39.530918329°N	107.683865011°W
7,000.00	0.00	0.00	6,775.82	1,355.57	-457.70	14,367,215.151	883,626.911		39.530918329°N	107.683865011°W
7,009.18	0.00	0.00	6,785.00	1,355.57	-457.70	14,367,215.151	883,626.911		39.530918329°N	107.683865011°W
Cameo										
7,100.00	0.00	0.00	6,875.82	1,355.57	-457.70	14,367,215.151	883,626.911		39.530918329°N	107.683865011°W
7,200.00	0.00	0.00	6,975.82	1,355.57	-457.70	14,367,215.151	883,626.911		39.530918329°N	107.683865011°W
7,300.00	0.00	0.00	7,075.82	1,355.57	-457.70	14,367,215.151	883,626.911		39.530918329°N	107.683865011°W
7,400.00	0.00	0.00	7,175.82	1,355.57	-457.70	14,367,215.151	883,626.911		39.530918329°N	107.683865011°W
7,500.00	0.00	0.00	7,275.82	1,355.57	-457.70	14,367,215.151	883,626.911		39.530918329°N	107.683865011°W
7,600.00	0.00	0.00	7,375.82	1,355.57	-457.70	14,367,215.151	883,626.911		39.530918329°N	107.683865011°W
7,700.00	0.00	0.00	7,475.82	1,355.57	-457.70	14,367,215.151	883,626.911		39.530918329°N	107.683865011°W
7,800.00	0.00	0.00	7,575.82	1,355.57	-457.70	14,367,215.151	883,626.911		39.530918329°N	107.683865011°W
7,900.00	0.00	0.00	7,675.82	1,355.57	-457.70	14,367,215.151	883,626.911		39.530918329°N	107.683865011°W
7,909.18	0.00	0.00	7,685.00	1,355.57	-457.70	14,367,215.151	883,626.911		39.530918329°N	107.683865011°W
Rollins										
8,000.00	0.00	0.00	7,775.82	1,355.57	-457.70	14,367,215.151	883,626.911		39.530918329°N	107.683865011°W
8,059.18	0.00	0.00	7,835.00	1,355.57	-457.70	14,367,215.151	883,626.911		39.530918329°N	107.683865011°W
TD at 8059 MD/7835 TVD										

# ARK Directional Services

## Planning Report - Geographic

<b>Database:</b>	EDM SERVER DB	<b>Local Co-ordinate Reference:</b>	Well C10 (111370) - Slot C10
<b>Company:</b>	Antero Resources	<b>TVD Reference:</b>	KB @ 5668.00ft (Original Well Elev)
<b>Project:</b>	Robinson	<b>MD Reference:</b>	KB @ 5668.00ft (Original Well Elev)
<b>Site:</b>	Robinson C Pad	<b>North Reference:</b>	Grid
<b>Well:</b>	C10 (111370)	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	C10		
<b>Design:</b>	C10 P01		

Design Targets									
Target Name	Dip Angle	Dip Dir.	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
- hit/miss target	(°)	(°)	(ft)	(ft)	(ft)	(usft)	(usft)		
- Shape									
C10 BH	0.00	0.00	7,835.00	1,355.57	-457.70	14,367,215.151	883,626.911	39.530918329°N	107.683865011°W
- plan hits target center									
- Circle (radius 25.00)									

Casing Points					
Measured Depth	Vertical Depth	Name		Casing Diameter	Hole Diameter
(ft)	(ft)			(in)	(in)
1,021.00	999.58	Surf Csg at 1020 MD/1000 TVD		5.50	6.00

Formations					
Measured Depth	Vertical Depth	Name		Dip	Dip Direction
(ft)	(ft)			(°)	(°)
4,504.96	4,300.00	Mesaverde			
5,284.18	5,060.00	Price Coal			
6,184.18	5,960.00	Top Gas			
7,009.18	6,785.00	Cameo			
7,909.18	7,685.00	Rollins			

Plan Annotations					
Measured Depth	Vertical Depth	Local Coordinates		Comment	
(ft)	(ft)	+N/-S (ft)	+E/-W (ft)		
200.00	200.00	0.00	0.00	KOP 3°/100 at 200 MD/TVD	
822.68	811.71	95.33	-32.19	Hold 19° at 823 MD/812 TVD	
4,661.50	4,448.29	1,260.25	-425.51	Drop 3°/100 at 4661 MD/4448 TVD	
5,284.18	5,060.00	1,355.57	-457.70	Vertical at 5284 MD/5060 TVD	
8,059.18	7,835.00	1,355.57	-457.70	TD at 8059 MD/7835 TVD	