

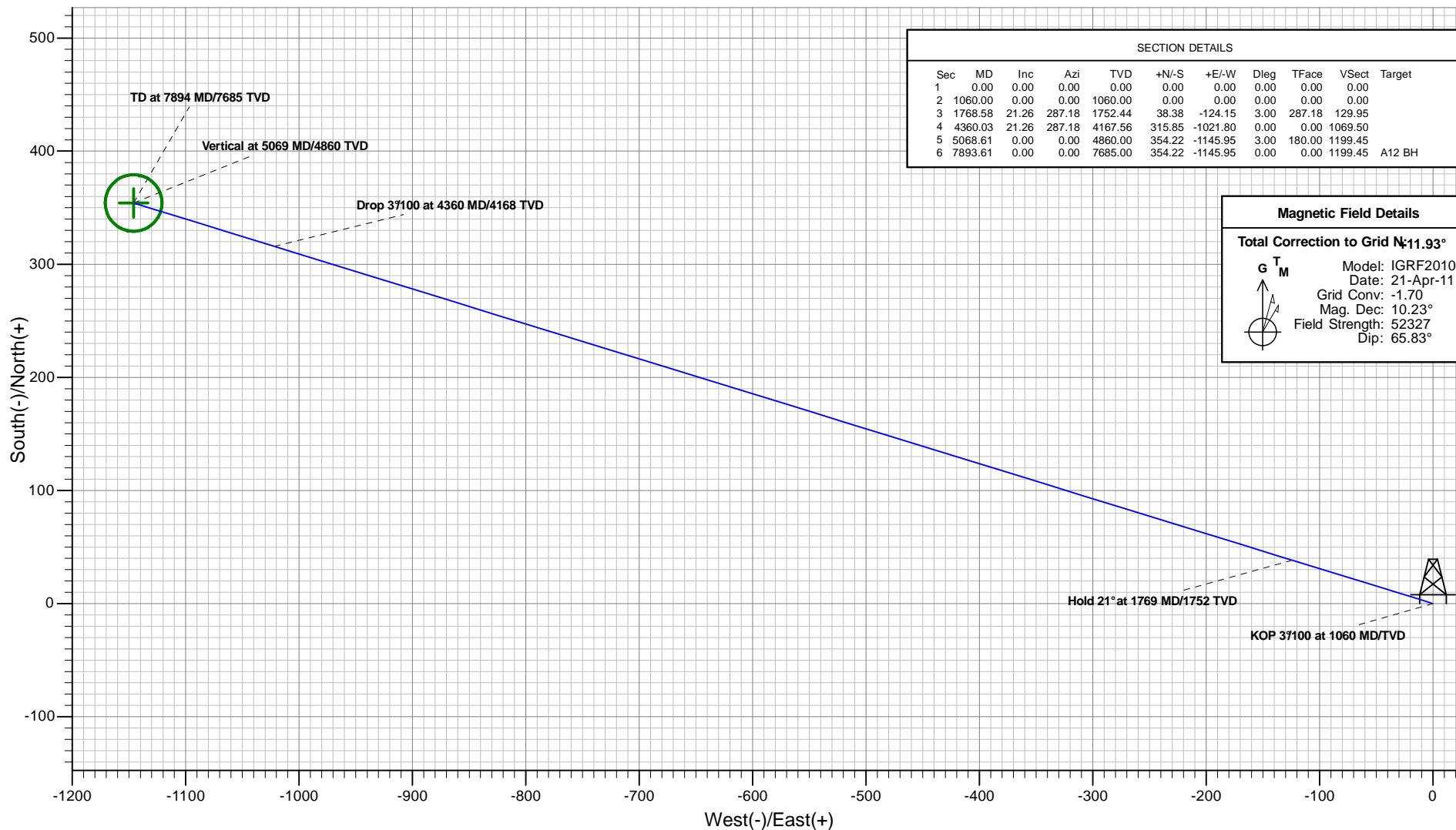


PLAN VIEW

Antero Resources

Burckle A12 (111333)

Project: Burckle
Site: Burckle A Pad
Well: Burckle A12 (111333)
Wellbore: A12
Design: Burckle A12 P01



Plan: Burckle A12 P01
Created By: ARK Directional Services
Date: 9:42, January 25 2011

PROJECT DETAILS: Burckle

Geodetic System: Universal Transverse Mercator
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 Burckle A12 (111333) - Slot A12, Grid North
Vertical (TVD) Reference: KB @ 5583.00ft (Original Well Elev)
Section (VS) Reference: Slot - A12(0.00N, 0.00E)
Measured Depth Reference: KB @ 5583.00ft (Original Well Elev)
Calculation Method: Minimum Curvature

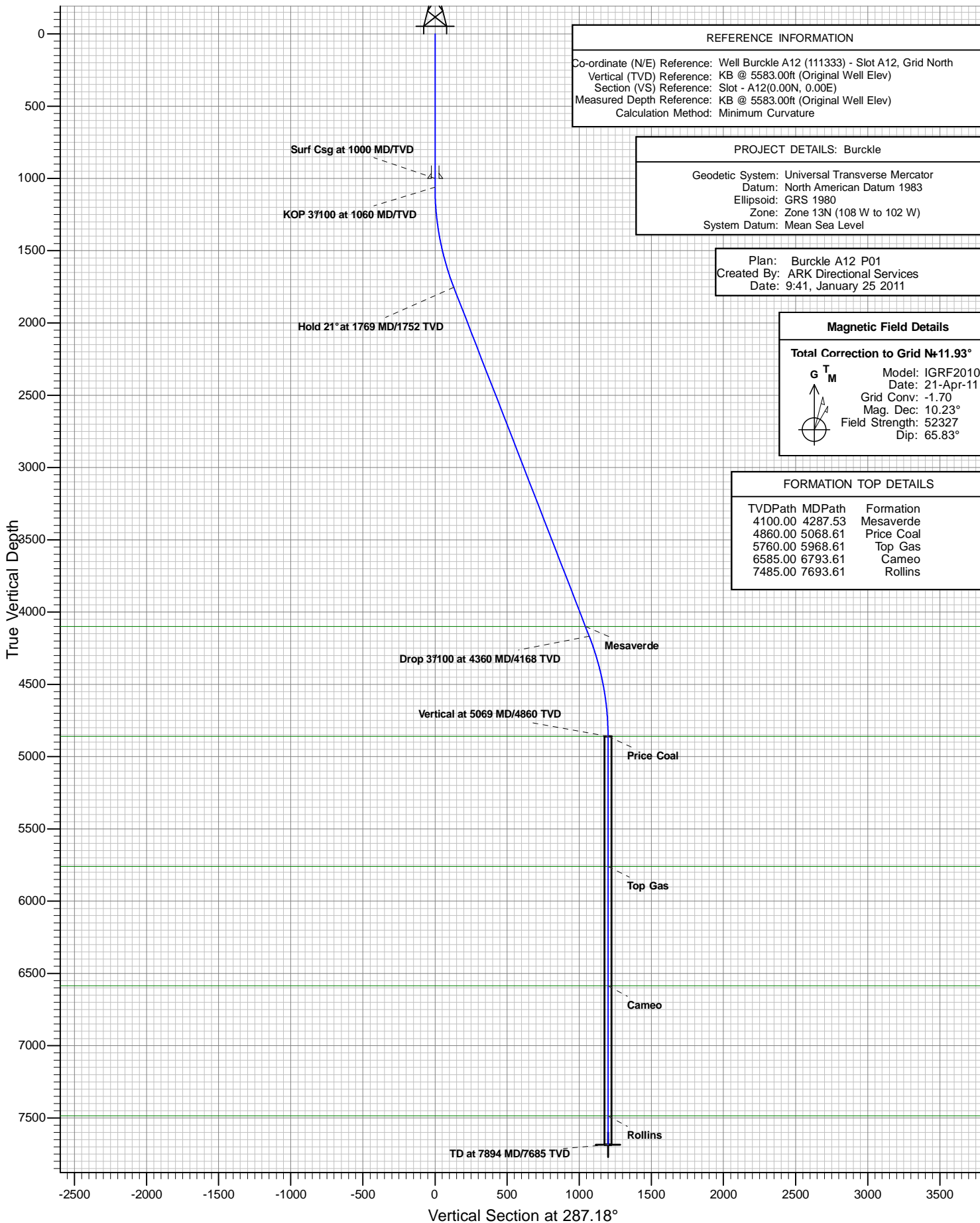


Antero Resources



VERTICAL SECTION VIEW

Burckle A12 (111333)



Antero Resources

Burckle

Burckle A Pad

Burckle A12 (111333) - Slot A12

A12

Plan: Burckle A12 P01

Standard Planning Report - Geographic

25 January, 2011

ARK Directional Services

Planning Report - Geographic

Database:	EDM SERVER DB	Local Co-ordinate Reference:	Well Burckle A12 (111333) - Slot A12
Company:	Antero Resources	TVD Reference:	KB @ 5583.00ft (Original Well Elev)
Project:	Burckle	MD Reference:	KB @ 5583.00ft (Original Well Elev)
Site:	Burckle A Pad	North Reference:	Grid
Well:	Burckle A12 (111333)	Survey Calculation Method:	Minimum Curvature
Wellbore:	A12		
Design:	Burckle A12 P01		

Project	Burckle		
Map System:	Universal Transverse Mercator	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	Zone 13N (108 W to 102 W)		

Site		Burckle A Pad			
Site Position:		Northing:	14,365,035.774 usft	Latitude:	39.525250278°N
From:	Map	Easting:	887,434.870 usft	Longitude:	107.670145154°W
Position Uncertainty:	0.00 ft	Slot Radius:	13.20 in	Grid Convergence:	-1.70 °

Well	Burckle A12 (111333) - Slot A12					
Well Position	+N/-S	0.00 ft	Northing:	14,365,046.617 usft	Latitude:	39.525276051°N
	+E/-W	0.00 ft	Easting:	887,386.060 usft	Longitude:	107.670319203°W
Position Uncertainty		0.00 ft	Wellhead Elevation:		Ground Level:	5,559.00 ft

Wellbore	A12				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	2011/04/21	10.23	65.83	52,327

Design	Burckle A12 P01				
Audit Notes:					
Version:	Phase:	PROTOTYPE	Tie On Depth:	0.00	
Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)	
	7,685.00	0.00	0.00	287.18	

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	
1,060.00	0.00	0.00	1,060.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,768.58	21.26	287.18	1,752.44	38.38	-124.15	3.00	3.00	0.00	287.18	
4,360.03	21.26	287.18	4,167.56	315.85	-1,021.80	0.00	0.00	0.00	0.00	
5,068.61	0.00	0.00	4,860.00	354.22	-1,145.95	3.00	-3.00	0.00	180.00	
7,893.61	0.00	0.00	7,685.00	354.22	-1,145.95	0.00	0.00	0.00	0.00	A12 BH

ARK Directional Services

Planning Report - Geographic

Database:	EDM SERVER DB	Local Co-ordinate Reference:	Well Burckle A12 (111333) - Slot A12
Company:	Antero Resources	TVD Reference:	KB @ 5583.00ft (Original Well Elev)
Project:	Burckle	MD Reference:	KB @ 5583.00ft (Original Well Elev)
Site:	Burckle A Pad	North Reference:	Grid
Well:	Burckle A12 (111333)	Survey Calculation Method:	Minimum Curvature
Wellbore:	A12		
Design:	Burckle A12 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	14,365,046.617	887,386.060	39.525276051°N	107.670319203°W
100.00	0.00	0.00	100.00	0.00	0.00	14,365,046.617	887,386.060	39.525276051°N	107.670319203°W
200.00	0.00	0.00	200.00	0.00	0.00	14,365,046.617	887,386.060	39.525276051°N	107.670319203°W
300.00	0.00	0.00	300.00	0.00	0.00	14,365,046.617	887,386.060	39.525276051°N	107.670319203°W
400.00	0.00	0.00	400.00	0.00	0.00	14,365,046.617	887,386.060	39.525276051°N	107.670319203°W
500.00	0.00	0.00	500.00	0.00	0.00	14,365,046.617	887,386.060	39.525276051°N	107.670319203°W
600.00	0.00	0.00	600.00	0.00	0.00	14,365,046.617	887,386.060	39.525276051°N	107.670319203°W
700.00	0.00	0.00	700.00	0.00	0.00	14,365,046.617	887,386.060	39.525276051°N	107.670319203°W
800.00	0.00	0.00	800.00	0.00	0.00	14,365,046.617	887,386.060	39.525276051°N	107.670319203°W
900.00	0.00	0.00	900.00	0.00	0.00	14,365,046.617	887,386.060	39.525276051°N	107.670319203°W
1,000.00	0.00	0.00	1,000.00	0.00	0.00	14,365,046.617	887,386.060	39.525276051°N	107.670319203°W
Surf Csg at 1000 MD/TVD									
1,060.00	0.00	0.00	1,060.00	0.00	0.00	14,365,046.617	887,386.060	39.525276051°N	107.670319203°W
KOP 3°/100 at 1060 MD/TVD									
1,100.00	1.20	287.18	1,100.00	0.12	-0.40	14,365,046.740	887,385.660	39.525276357°N	107.670320633°W
1,200.00	4.20	287.18	1,199.87	1.51	-4.90	14,365,048.131	887,381.160	39.525279807°N	107.670336721°W
1,300.00	7.20	287.18	1,299.37	4.45	-14.39	14,365,051.064	887,371.672	39.525287080°N	107.670370640°W
1,400.00	10.20	287.18	1,398.21	8.91	-28.84	14,365,055.531	887,357.222	39.525298157°N	107.670422298°W
1,500.00	13.20	287.18	1,496.12	14.90	-48.21	14,365,061.519	887,337.850	39.525313007°N	107.670491552°W
1,600.00	16.20	287.18	1,592.83	22.40	-72.45	14,365,069.012	887,313.609	39.525331590°N	107.670578214°W
1,700.00	19.20	287.18	1,688.09	31.37	-101.50	14,365,077.990	887,284.565	39.525353854°N	107.670682046°W
1,768.58	21.26	287.18	1,752.44	38.38	-124.15	14,365,084.993	887,261.909	39.525371221°N	107.670763039°W
Hold 21° at 1769 MD/1752 TVD									
1,800.00	21.26	287.18	1,781.72	41.74	-135.03	14,365,088.356	887,251.028	39.525379563°N	107.670801942°W
1,900.00	21.26	287.18	1,874.91	52.45	-169.67	14,365,099.063	887,216.389	39.525406116°N	107.670925776°W
2,000.00	21.26	287.18	1,968.11	63.15	-204.31	14,365,109.771	887,181.750	39.525432669°N	107.671049610°W
2,100.00	21.26	287.18	2,061.31	73.86	-238.95	14,365,120.478	887,147.111	39.525459222°N	107.671173444°W
2,200.00	21.26	287.18	2,154.50	84.57	-273.59	14,365,131.185	887,112.472	39.525485774°N	107.671297279°W
2,300.00	21.26	287.18	2,247.70	95.28	-308.23	14,365,141.892	887,077.833	39.525512327°N	107.671421113°W
2,400.00	21.26	287.18	2,340.89	105.98	-342.87	14,365,152.599	887,043.194	39.525538879°N	107.671544947°W
2,500.00	21.26	287.18	2,434.09	116.69	-377.51	14,365,163.306	887,008.555	39.525565431°N	107.671668782°W
2,600.00	21.26	287.18	2,527.29	127.40	-412.14	14,365,174.013	886,973.916	39.525591983°N	107.671792617°W
2,700.00	21.26	287.18	2,620.48	138.10	-446.78	14,365,184.721	886,939.277	39.525618535°N	107.671916451°W
2,800.00	21.26	287.18	2,713.68	148.81	-481.42	14,365,195.428	886,904.638	39.525645087°N	107.672040286°W
2,900.00	21.26	287.18	2,806.87	159.52	-516.06	14,365,206.135	886,870.000	39.525671639°N	107.672164121°W
3,000.00	21.26	287.18	2,900.07	170.23	-550.70	14,365,216.842	886,835.361	39.525698190°N	107.672287956°W
3,100.00	21.26	287.18	2,993.27	180.93	-585.34	14,365,227.549	886,800.722	39.525724742°N	107.672411791°W
3,200.00	21.26	287.18	3,086.46	191.64	-619.98	14,365,238.256	886,766.083	39.525751293°N	107.672535626°W
3,300.00	21.26	287.18	3,179.66	202.35	-654.62	14,365,248.963	886,731.444	39.525777844°N	107.672659461°W
3,400.00	21.26	287.18	3,272.85	213.05	-689.26	14,365,259.671	886,696.805	39.525804395°N	107.672783297°W
3,500.00	21.26	287.18	3,366.05	223.76	-723.90	14,365,270.378	886,662.166	39.525830946°N	107.672907132°W
3,600.00	21.26	287.18	3,459.25	234.47	-758.53	14,365,281.085	886,627.527	39.525857497°N	107.673030968°W
3,700.00	21.26	287.18	3,552.44	245.18	-793.17	14,365,291.792	886,592.888	39.525884047°N	107.673154803°W
3,800.00	21.26	287.18	3,645.64	255.88	-827.81	14,365,302.499	886,558.249	39.525910598°N	107.673278639°W
3,900.00	21.26	287.18	3,738.83	266.59	-862.45	14,365,313.206	886,523.610	39.525937148°N	107.673402475°W
4,000.00	21.26	287.18	3,832.03	277.30	-897.09	14,365,323.914	886,488.971	39.525963698°N	107.673526310°W
4,100.00	21.26	287.18	3,925.23	288.00	-931.73	14,365,334.621	886,454.333	39.525990248°N	107.673650146°W
4,200.00	21.26	287.18	4,018.42	298.71	-966.37	14,365,345.328	886,419.694	39.526016798°N	107.673773982°W
4,287.53	21.26	287.18	4,100.00	308.08	-996.69	14,365,354.700	886,389.373	39.526040038°N	107.673882381°W
Mesaverde									
4,300.00	21.26	287.18	4,111.62	309.42	-1,001.01	14,365,356.035	886,385.055	39.526043348°N	107.673897818°W
4,360.03	21.26	287.18	4,167.56	315.85	-1,021.80	14,365,362.462	886,364.262	39.526059284°N	107.673972152°W
Drop 3°/100 at 4360 MD/4168 TVD									
4,400.00	20.06	287.18	4,204.96	320.01	-1,035.27	14,365,366.627	886,350.789	39.526069611°N	107.674020319°W

ARK Directional Services

Planning Report - Geographic

Database:	EDM SERVER DB	Local Co-ordinate Reference:	Well Burckle A12 (111333) - Slot A12
Company:	Antero Resources	TVD Reference:	KB @ 5583.00ft (Original Well Elev)
Project:	Burckle	MD Reference:	KB @ 5583.00ft (Original Well Elev)
Site:	Burckle A Pad	North Reference:	Grid
Well:	Burckle A12 (111333)	Survey Calculation Method:	Minimum Curvature
Wellbore:	A12		
Design:	Burckle A12 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	17.06	287.18	4,299.75	329.41	-1,065.68	14,365,376.025	886,320.385	39.526092915°N	107.674129015°W	
4,600.00	14.06	287.18	4,396.08	337.33	-1,091.30	14,365,383.945	886,294.763	39.526112553°N	107.674220618°W	
4,700.00	11.06	287.18	4,493.67	343.75	-1,112.07	14,365,390.365	886,273.992	39.526128474°N	107.674294876°W	
4,800.00	8.06	287.18	4,592.27	348.65	-1,127.93	14,365,395.269	886,258.129	39.526140632°N	107.674351586°W	
4,900.00	5.06	287.18	4,691.61	352.03	-1,138.84	14,365,398.641	886,247.218	39.526148994°N	107.674390593°W	
5,000.00	2.06	287.18	4,791.40	353.86	-1,144.77	14,365,400.474	886,241.289	39.526153539°N	107.674411789°W	
5,068.61	0.00	0.00	4,860.00	354.22	-1,145.95	14,365,400.838	886,240.112	39.526154441°N	107.674415998°W	
Vertical at 5069 MD/4860 TVD - Price Coal										
5,100.00	0.00	0.00	4,891.39	354.22	-1,145.95	14,365,400.838	886,240.112	39.526154441°N	107.674415998°W	
5,200.00	0.00	0.00	4,991.39	354.22	-1,145.95	14,365,400.838	886,240.112	39.526154441°N	107.674415998°W	
5,300.00	0.00	0.00	5,091.39	354.22	-1,145.95	14,365,400.838	886,240.112	39.526154441°N	107.674415998°W	
5,400.00	0.00	0.00	5,191.39	354.22	-1,145.95	14,365,400.838	886,240.112	39.526154441°N	107.674415998°W	
5,500.00	0.00	0.00	5,291.39	354.22	-1,145.95	14,365,400.838	886,240.112	39.526154441°N	107.674415998°W	
5,600.00	0.00	0.00	5,391.39	354.22	-1,145.95	14,365,400.838	886,240.112	39.526154441°N	107.674415998°W	
5,700.00	0.00	0.00	5,491.39	354.22	-1,145.95	14,365,400.838	886,240.112	39.526154441°N	107.674415998°W	
5,800.00	0.00	0.00	5,591.39	354.22	-1,145.95	14,365,400.838	886,240.112	39.526154441°N	107.674415998°W	
5,900.00	0.00	0.00	5,691.39	354.22	-1,145.95	14,365,400.838	886,240.112	39.526154441°N	107.674415998°W	
5,968.61	0.00	0.00	5,760.00	354.22	-1,145.95	14,365,400.838	886,240.112	39.526154441°N	107.674415998°W	
Top Gas										
6,000.00	0.00	0.00	5,791.39	354.22	-1,145.95	14,365,400.838	886,240.112	39.526154441°N	107.674415998°W	
6,100.00	0.00	0.00	5,891.39	354.22	-1,145.95	14,365,400.838	886,240.112	39.526154441°N	107.674415998°W	
6,200.00	0.00	0.00	5,991.39	354.22	-1,145.95	14,365,400.838	886,240.112	39.526154441°N	107.674415998°W	
6,300.00	0.00	0.00	6,091.39	354.22	-1,145.95	14,365,400.838	886,240.112	39.526154441°N	107.674415998°W	
6,400.00	0.00	0.00	6,191.39	354.22	-1,145.95	14,365,400.838	886,240.112	39.526154441°N	107.674415998°W	
6,500.00	0.00	0.00	6,291.39	354.22	-1,145.95	14,365,400.838	886,240.112	39.526154441°N	107.674415998°W	
6,600.00	0.00	0.00	6,391.39	354.22	-1,145.95	14,365,400.838	886,240.112	39.526154441°N	107.674415998°W	
6,700.00	0.00	0.00	6,491.39	354.22	-1,145.95	14,365,400.838	886,240.112	39.526154441°N	107.674415998°W	
6,793.61	0.00	0.00	6,585.00	354.22	-1,145.95	14,365,400.838	886,240.112	39.526154441°N	107.674415998°W	
Cameo										
6,800.00	0.00	0.00	6,591.39	354.22	-1,145.95	14,365,400.838	886,240.112	39.526154441°N	107.674415998°W	
6,900.00	0.00	0.00	6,691.39	354.22	-1,145.95	14,365,400.838	886,240.112	39.526154441°N	107.674415998°W	
7,000.00	0.00	0.00	6,791.39	354.22	-1,145.95	14,365,400.838	886,240.112	39.526154441°N	107.674415998°W	
7,100.00	0.00	0.00	6,891.39	354.22	-1,145.95	14,365,400.838	886,240.112	39.526154441°N	107.674415998°W	
7,200.00	0.00	0.00	6,991.39	354.22	-1,145.95	14,365,400.838	886,240.112	39.526154441°N	107.674415998°W	
7,300.00	0.00	0.00	7,091.39	354.22	-1,145.95	14,365,400.838	886,240.112	39.526154441°N	107.674415998°W	
7,400.00	0.00	0.00	7,191.39	354.22	-1,145.95	14,365,400.838	886,240.112	39.526154441°N	107.674415998°W	
7,500.00	0.00	0.00	7,291.39	354.22	-1,145.95	14,365,400.838	886,240.112	39.526154441°N	107.674415998°W	
7,600.00	0.00	0.00	7,391.39	354.22	-1,145.95	14,365,400.838	886,240.112	39.526154441°N	107.674415998°W	
7,693.61	0.00	0.00	7,485.00	354.22	-1,145.95	14,365,400.838	886,240.112	39.526154441°N	107.674415998°W	
Rollins										
7,700.00	0.00	0.00	7,491.39	354.22	-1,145.95	14,365,400.838	886,240.112	39.526154441°N	107.674415998°W	
7,800.00	0.00	0.00	7,591.39	354.22	-1,145.95	14,365,400.838	886,240.112	39.526154441°N	107.674415998°W	
7,893.61	0.00	0.00	7,685.00	354.22	-1,145.95	14,365,400.838	886,240.112	39.526154441°N	107.674415998°W	
TD at 7894 MD/7685 TVD - A12 BH										

ARK Directional Services

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Company:	Antero Resources	TVD Reference:	KB @ 5583.00ft (Original Well Elev)
Project:	Burckle	MD Reference:	KB @ 5583.00ft (Original Well Elev)
Site:	Burckle A Pad	North Reference:	Grid
Well:	Burckle A12 (111333)	Survey Calculation Method:	Minimum Curvature
Wellbore:	A12		
Design:	Burckle A12 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									
A12 BH	0.00	360.00	7,685.00	354.22	-1,145.95	14,365,400.838	886,240.112	39.526154441°N	107.674415998°W
- plan hits target center									
- Circle (radius 25.00)									

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

Formations					
Measured Depth	Vertical Depth	Name		Dip	Dip Direction
(ft)	(ft)			(°)	(°)
4,287.53	4,100.00	Mesaverde			
5,068.61	4,860.00	Price Coal			
5,968.61	5,760.00	Top Gas			
6,793.61	6,585.00	Cameo			
7,693.61	7,485.00	Rollins			

Plan Annotations					
Measured Depth	Vertical Depth	Local Coordinates		Comment	
(ft)	(ft)	+N/-S (ft)	+E/-W (ft)		
1,060.00	1,060.00	0.00	0.00	KOP 3°/100 at 1060 MD/TVD	
1,768.58	1,752.44	38.38	-124.15	Hold 21° at 1769 MD/1752 TVD	
4,360.03	4,167.56	315.85	-1,021.80	Drop 3°/100 at 4360 MD/4168 TVD	
5,068.61	4,860.00	354.22	-1,145.95	Vertical at 5069 MD/4860 TVD	
7,893.61	7,685.00	354.22	-1,145.95	TD at 7894 MD/7685 TVD	