



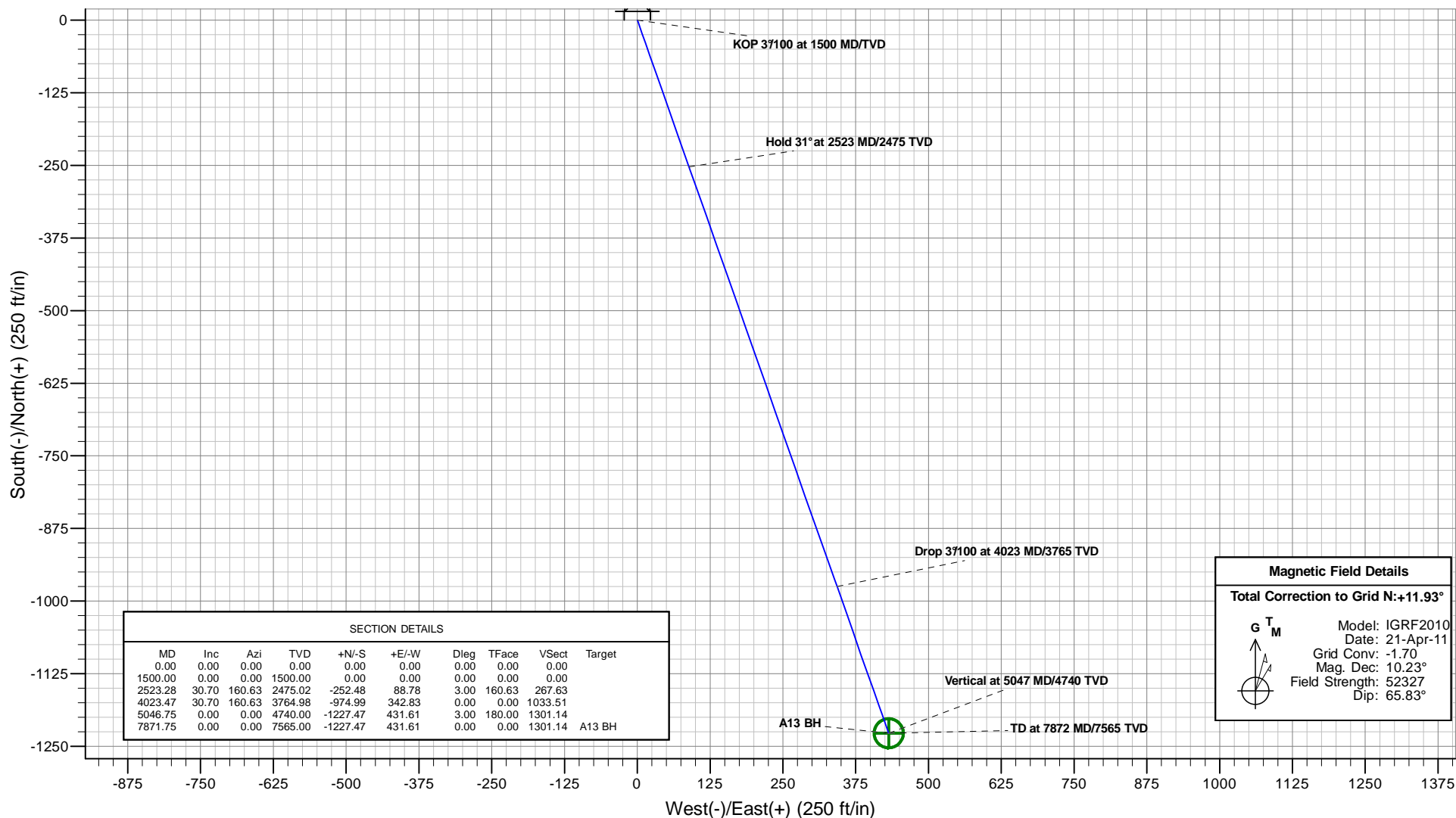
Antero Resources

Burckle A13 (111334)



PLAN VIEW

Project: Burckle
Site: Burckle A Pad
Well: Burckle A13 (111334)
Wellbore: A13
Design: Burckle A13 P01



Plan: Burckle A13 P01
Created By: ARK Directional Services
Date: 12:40, 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 A13 (111334) - Slot A13, Grid North
Vertical (TVD) Reference: KB @ 5583.00ft (Original Well Elev)
Section (VS) Reference: Slot - A13(0.00N, 0.00E)
Measured Depth Reference: KB @ 5583.00ft (Original Well Elev)
Calculation Method: Minimum Curvature

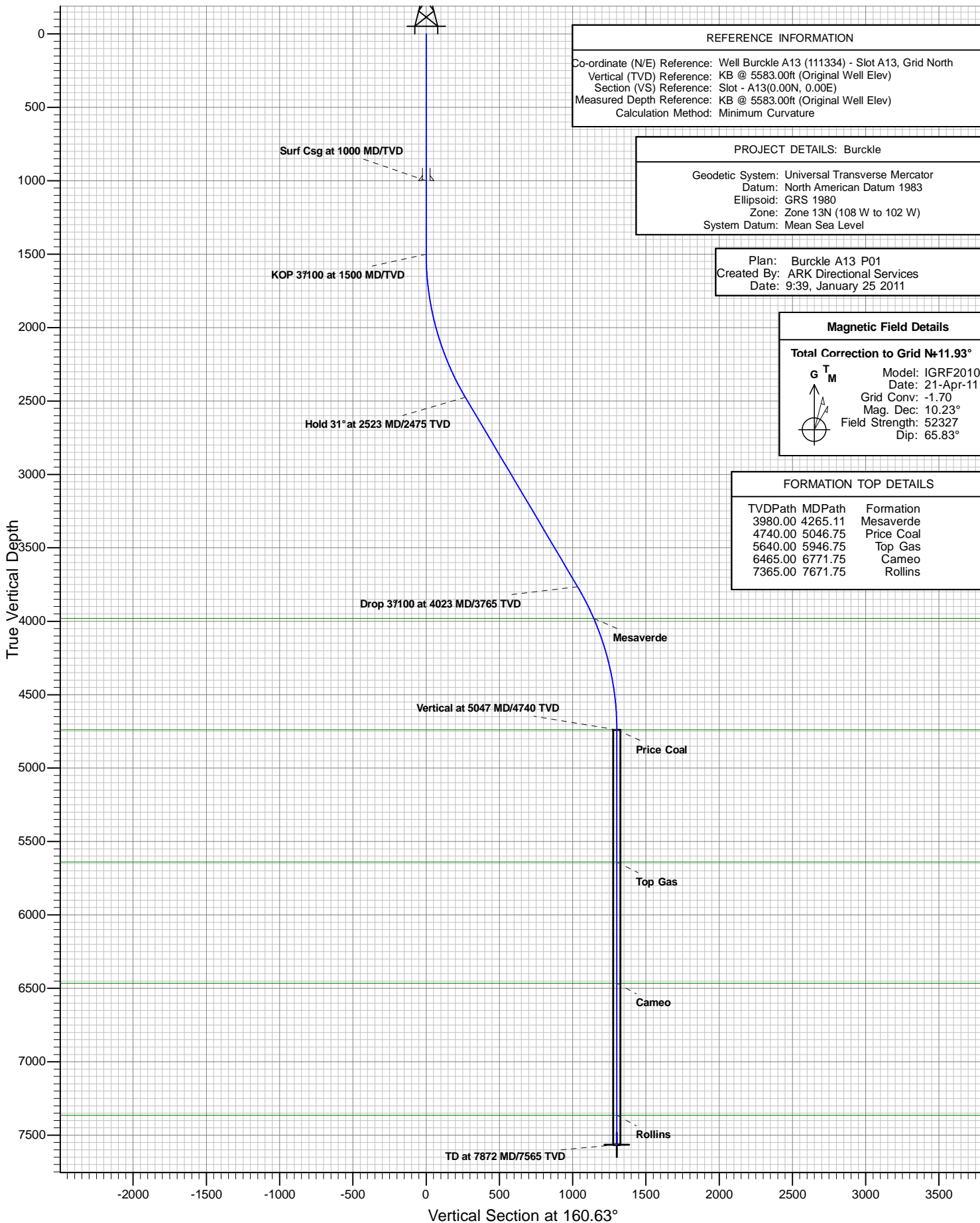


Antero Resources



VERTICAL SECTION VIEW

Burckle A13 (111334)



Antero Resources

Burckle

Burckle A Pad

Burckle A13 (111334) - Slot A13

A13

Plan: Burckle A13 P01

Standard Planning Report - Geographic

25 January, 2011

ARK Directional Services

Planning Report - Geographic

Database:	EDM SERVER DB	Local Co-ordinate Reference:	Well Burckle A13 (111334) - Slot A13
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 A13 (111334)	Survey Calculation Method:	Minimum Curvature
Wellbore:	A13		
Design:	Burckle A13 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 A13 (111334) - Slot A13					
Well Position	+N/-S	0.00 ft	Northing:	14,365,040.111 usft	Latitude:	39.525260587°N
	+E/-W	0.00 ft	Easting:	887,415.346 usft	Longitude:	107.670214774°W
Position Uncertainty		0.00 ft	Wellhead Elevation:		Ground Level:	5,559.00 ft

Wellbore	A13				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	2011/04/21	10.23	65.83	52,327

Design	Burckle A13 P01				
Audit Notes:					
Version:	Phase:	PROTOTYPE	Tie On Depth:	0.00	
Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)	
	7,565.00	0.00	0.00	160.63	

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	
1,500.00	0.00	0.00	1,500.00	0.00	0.00	0.00	0.00	0.00	0.00	
2,523.28	30.70	160.63	2,475.02	-252.48	88.78	3.00	3.00	0.00	160.63	
4,023.47	30.70	160.63	3,764.98	-974.99	342.83	0.00	0.00	0.00	0.00	
5,046.75	0.00	0.00	4,740.00	-1,227.47	431.61	3.00	-3.00	0.00	180.00	
7,871.75	0.00	0.00	7,565.00	-1,227.47	431.61	0.00	0.00	0.00	0.00	A13 BH

ARK Directional Services

Planning Report - Geographic

Database:	EDM SERVER DB	Local Co-ordinate Reference:	Well Burckle A13 (111334) - Slot A13
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 A13 (111334)	Survey Calculation Method:	Minimum Curvature
Wellbore:	A13		
Design:	Burckle A13 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	14,365,040.111	887,415.346	39.525260587°N	107.670214774°W
100.00	0.00	0.00	100.00	0.00	0.00	14,365,040.111	887,415.346	39.525260587°N	107.670214774°W
200.00	0.00	0.00	200.00	0.00	0.00	14,365,040.111	887,415.346	39.525260587°N	107.670214774°W
300.00	0.00	0.00	300.00	0.00	0.00	14,365,040.111	887,415.346	39.525260587°N	107.670214774°W
400.00	0.00	0.00	400.00	0.00	0.00	14,365,040.111	887,415.346	39.525260587°N	107.670214774°W
500.00	0.00	0.00	500.00	0.00	0.00	14,365,040.111	887,415.346	39.525260587°N	107.670214774°W
600.00	0.00	0.00	600.00	0.00	0.00	14,365,040.111	887,415.346	39.525260587°N	107.670214774°W
700.00	0.00	0.00	700.00	0.00	0.00	14,365,040.111	887,415.346	39.525260587°N	107.670214774°W
800.00	0.00	0.00	800.00	0.00	0.00	14,365,040.111	887,415.346	39.525260587°N	107.670214774°W
900.00	0.00	0.00	900.00	0.00	0.00	14,365,040.111	887,415.346	39.525260587°N	107.670214774°W
1,000.00	0.00	0.00	1,000.00	0.00	0.00	14,365,040.111	887,415.346	39.525260587°N	107.670214774°W
Surf Csg at 1000 MD/TVD									
1,100.00	0.00	0.00	1,100.00	0.00	0.00	14,365,040.111	887,415.346	39.525260587°N	107.670214774°W
1,200.00	0.00	0.00	1,200.00	0.00	0.00	14,365,040.111	887,415.346	39.525260587°N	107.670214774°W
1,300.00	0.00	0.00	1,300.00	0.00	0.00	14,365,040.111	887,415.346	39.525260587°N	107.670214774°W
1,400.00	0.00	0.00	1,400.00	0.00	0.00	14,365,040.111	887,415.346	39.525260587°N	107.670214774°W
1,500.00	0.00	0.00	1,500.00	0.00	0.00	14,365,040.111	887,415.346	39.525260587°N	107.670214774°W
KOP 3°/100 at 1500 MD/TVD									
1,600.00	3.00	160.63	1,599.95	-2.47	0.87	14,365,037.642	887,416.214	39.525253883°N	107.670211438°W
1,700.00	6.00	160.63	1,699.63	-9.87	3.47	14,365,030.241	887,418.816	39.525233792°N	107.670201441°W
1,800.00	9.00	160.63	1,798.77	-22.18	7.80	14,365,017.929	887,423.146	39.525200367°N	107.670184811°W
1,900.00	12.00	160.63	1,897.08	-39.37	13.84	14,365,000.739	887,429.190	39.525153700°N	107.670161591°W
2,000.00	15.00	160.63	1,994.31	-61.39	21.59	14,364,978.719	887,436.933	39.525093920°N	107.670131847°W
2,100.00	18.00	160.63	2,090.18	-88.18	31.01	14,364,951.928	887,446.353	39.525021189°N	107.670095660°W
2,200.00	21.00	160.63	2,184.43	-119.67	42.08	14,364,920.441	887,457.425	39.524935709°N	107.670053128°W
2,300.00	24.00	160.63	2,276.81	-155.77	54.77	14,364,884.344	887,470.117	39.524837711°N	107.670004369°W
2,400.00	27.00	160.63	2,367.06	-196.38	69.05	14,364,843.735	887,484.397	39.524727467°N	107.669949517°W
2,500.00	30.00	160.63	2,454.93	-241.38	84.88	14,364,798.726	887,500.223	39.524605276°N	107.669888721°W
2,523.28	30.70	160.63	2,475.02	-252.48	88.78	14,364,787.632	887,504.124	39.524575157°N	107.669873735°W
Hold 31° at 2523 MD/2475 TVD									
2,600.00	30.70	160.63	2,540.99	-289.43	101.77	14,364,750.681	887,517.117	39.524474842°N	107.669823823°W
2,700.00	30.70	160.63	2,626.98	-337.59	118.71	14,364,702.520	887,534.052	39.524344094°N	107.669758770°W
2,800.00	30.70	160.63	2,712.96	-385.75	135.64	14,364,654.359	887,550.986	39.524213346°N	107.669693718°W
2,900.00	30.70	160.63	2,798.95	-433.91	152.58	14,364,606.198	887,567.921	39.524082599°N	107.669628665°W
3,000.00	30.70	160.63	2,884.94	-482.08	169.51	14,364,558.037	887,584.856	39.523951851°N	107.669563613°W
3,100.00	30.70	160.63	2,970.92	-530.24	186.44	14,364,509.876	887,601.790	39.523821103°N	107.669498561°W
3,200.00	30.70	160.63	3,056.91	-578.40	203.38	14,364,461.715	887,618.725	39.523690355°N	107.669433509°W
3,300.00	30.70	160.63	3,142.90	-626.56	220.31	14,364,413.554	887,635.660	39.523559607°N	107.669368458°W
3,400.00	30.70	160.63	3,228.88	-674.72	237.25	14,364,365.393	887,652.594	39.523428859°N	107.669303407°W
3,500.00	30.70	160.63	3,314.87	-722.88	254.18	14,364,317.232	887,669.529	39.523298111°N	107.669238356°W
3,600.00	30.70	160.63	3,400.86	-771.04	271.12	14,364,269.071	887,686.464	39.523167363°N	107.669173305°W
3,700.00	30.70	160.63	3,486.84	-819.20	288.05	14,364,220.910	887,703.398	39.523036615°N	107.669108254°W
3,800.00	30.70	160.63	3,572.83	-867.36	304.99	14,364,172.749	887,720.333	39.522905867°N	107.669043204°W
3,900.00	30.70	160.63	3,658.82	-915.52	321.92	14,364,124.588	887,737.268	39.522775119°N	107.668978154°W
4,000.00	30.70	160.63	3,744.80	-963.69	338.86	14,364,076.427	887,754.202	39.522644370°N	107.668913105°W
4,023.47	30.70	160.63	3,764.98	-974.99	342.83	14,364,065.123	887,758.177	39.522613683°N	107.668897837°W
Drop 3°/100 at 4023 MD/3765 TVD									
4,100.00	28.40	160.63	3,831.56	-1,010.59	355.35	14,364,029.519	887,770.696	39.522517025°N	107.668849748°W
4,200.00	25.40	160.63	3,920.72	-1,053.27	370.36	14,363,986.839	887,785.704	39.522401156°N	107.668792102°W
4,265.11	23.45	160.63	3,980.00	-1,078.67	379.29	14,363,961.442	887,794.634	39.522332207°N	107.668757799°W
Mesaverde									
4,300.00	22.40	160.63	4,012.14	-1,091.49	383.80	14,363,948.620	887,799.143	39.522297397°N	107.668740481°W
4,400.00	19.40	160.63	4,105.54	-1,125.15	395.63	14,363,914.966	887,810.976	39.522206034°N	107.668695026°W
4,500.00	16.40	160.63	4,200.69	-1,154.14	405.83	14,363,885.970	887,821.172	39.522127315°N	107.668655863°W

ARK Directional Services

Planning Report - Geographic

Database:	EDM SERVER DB	Local Co-ordinate Reference:	Well Burckle A13 (111334) - Slot A13
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 A13 (111334)	Survey Calculation Method:	Minimum Curvature
Wellbore:	A13		
Design:	Burckle A13 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
4,600.00	13.40	160.63	4,297.32	-1,178.40	414.36	14,363,861.712	887,829.702	39.522061458°N	107.668623099°W
4,700.00	10.40	160.63	4,395.16	-1,197.86	421.20	14,363,842.257	887,836.542	39.522008643°N	107.668596823°W
4,800.00	7.40	160.63	4,493.94	-1,212.45	426.33	14,363,827.660	887,841.675	39.521969014°N	107.668577107°W
4,900.00	4.40	160.63	4,593.40	-1,222.15	429.74	14,363,817.960	887,845.086	39.521942680°N	107.668564006°W
5,000.00	1.40	160.63	4,693.26	-1,226.93	431.42	14,363,813.184	887,846.765	39.521929714°N	107.668557555°W
5,046.75	0.00	0.00	4,740.00	-1,227.47	431.61	14,363,812.644	887,846.955	39.521928249°N	107.668556826°W
Vertical at 5047 MD/4740 TVD - Price Coal									
5,100.00	0.00	0.00	4,793.25	-1,227.47	431.61	14,363,812.644	887,846.955	39.521928249°N	107.668556826°W
5,200.00	0.00	0.00	4,893.25	-1,227.47	431.61	14,363,812.644	887,846.955	39.521928249°N	107.668556826°W
5,300.00	0.00	0.00	4,993.25	-1,227.47	431.61	14,363,812.644	887,846.955	39.521928249°N	107.668556826°W
5,400.00	0.00	0.00	5,093.25	-1,227.47	431.61	14,363,812.644	887,846.955	39.521928249°N	107.668556826°W
5,500.00	0.00	0.00	5,193.25	-1,227.47	431.61	14,363,812.644	887,846.955	39.521928249°N	107.668556826°W
5,600.00	0.00	0.00	5,293.25	-1,227.47	431.61	14,363,812.644	887,846.955	39.521928249°N	107.668556826°W
5,700.00	0.00	0.00	5,393.25	-1,227.47	431.61	14,363,812.644	887,846.955	39.521928249°N	107.668556826°W
5,800.00	0.00	0.00	5,493.25	-1,227.47	431.61	14,363,812.644	887,846.955	39.521928249°N	107.668556826°W
5,900.00	0.00	0.00	5,593.25	-1,227.47	431.61	14,363,812.644	887,846.955	39.521928249°N	107.668556826°W
5,946.75	0.00	0.00	5,640.00	-1,227.47	431.61	14,363,812.644	887,846.955	39.521928249°N	107.668556826°W
Top Gas									
6,000.00	0.00	0.00	5,693.25	-1,227.47	431.61	14,363,812.644	887,846.955	39.521928249°N	107.668556826°W
6,100.00	0.00	0.00	5,793.25	-1,227.47	431.61	14,363,812.644	887,846.955	39.521928249°N	107.668556826°W
6,200.00	0.00	0.00	5,893.25	-1,227.47	431.61	14,363,812.644	887,846.955	39.521928249°N	107.668556826°W
6,300.00	0.00	0.00	5,993.25	-1,227.47	431.61	14,363,812.644	887,846.955	39.521928249°N	107.668556826°W
6,400.00	0.00	0.00	6,093.25	-1,227.47	431.61	14,363,812.644	887,846.955	39.521928249°N	107.668556826°W
6,500.00	0.00	0.00	6,193.25	-1,227.47	431.61	14,363,812.644	887,846.955	39.521928249°N	107.668556826°W
6,600.00	0.00	0.00	6,293.25	-1,227.47	431.61	14,363,812.644	887,846.955	39.521928249°N	107.668556826°W
6,700.00	0.00	0.00	6,393.25	-1,227.47	431.61	14,363,812.644	887,846.955	39.521928249°N	107.668556826°W
6,771.75	0.00	0.00	6,465.00	-1,227.47	431.61	14,363,812.644	887,846.955	39.521928249°N	107.668556826°W
Cameo									
6,800.00	0.00	0.00	6,493.25	-1,227.47	431.61	14,363,812.644	887,846.955	39.521928249°N	107.668556826°W
6,900.00	0.00	0.00	6,593.25	-1,227.47	431.61	14,363,812.644	887,846.955	39.521928249°N	107.668556826°W
7,000.00	0.00	0.00	6,693.25	-1,227.47	431.61	14,363,812.644	887,846.955	39.521928249°N	107.668556826°W
7,100.00	0.00	0.00	6,793.25	-1,227.47	431.61	14,363,812.644	887,846.955	39.521928249°N	107.668556826°W
7,200.00	0.00	0.00	6,893.25	-1,227.47	431.61	14,363,812.644	887,846.955	39.521928249°N	107.668556826°W
7,300.00	0.00	0.00	6,993.25	-1,227.47	431.61	14,363,812.644	887,846.955	39.521928249°N	107.668556826°W
7,400.00	0.00	0.00	7,093.25	-1,227.47	431.61	14,363,812.644	887,846.955	39.521928249°N	107.668556826°W
7,500.00	0.00	0.00	7,193.25	-1,227.47	431.61	14,363,812.644	887,846.955	39.521928249°N	107.668556826°W
7,600.00	0.00	0.00	7,293.25	-1,227.47	431.61	14,363,812.644	887,846.955	39.521928249°N	107.668556826°W
7,671.75	0.00	0.00	7,365.00	-1,227.47	431.61	14,363,812.644	887,846.955	39.521928249°N	107.668556826°W
Rollins									
7,700.00	0.00	0.00	7,393.25	-1,227.47	431.61	14,363,812.644	887,846.955	39.521928249°N	107.668556826°W
7,800.00	0.00	0.00	7,493.25	-1,227.47	431.61	14,363,812.644	887,846.955	39.521928249°N	107.668556826°W
7,871.75	0.00	0.00	7,565.00	-1,227.47	431.61	14,363,812.644	887,846.955	39.521928249°N	107.668556826°W
TD at 7872 MD/7565 TVD - A13 BH									

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									
A13 BH	0.00	0.00	7,565.00	-1,227.47	431.61	14,363,812.644	887,846.955	39.521928249°N	107.668556826°W
- plan hits target center									
- Circle (radius 25.00)									

ARK Directional Services

Planning Report - Geographic

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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 A13 (111334)	Survey Calculation Method:	Minimum Curvature
Wellbore:	A13		
Design:	Burckle A13 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 (°)
4,265.11	3,980.00	Mesaverde			
5,046.75	4,740.00	Price Coal			
5,946.75	5,640.00	Top Gas			
6,771.75	6,465.00	Cameo			
7,671.75	7,365.00	Rollins			

Plan Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates			
		+N/-S (ft)	+E/-W (ft)	Comment	
1,500.00	1,500.00	0.00	0.00	KOP 3°/100 at 1500 MD/TVD	
2,523.28	2,475.02	-252.48	88.78	Hold 31° at 2523 MD/2475 TVD	
4,023.47	3,764.98	-974.99	342.83	Drop 3°/100 at 4023 MD/3765 TVD	
5,046.75	4,740.00	-1,227.47	431.61	Vertical at 5047 MD/4740 TVD	
7,871.75	7,565.00	-1,227.47	431.61	TD at 7872 MD/7565 TVD	