



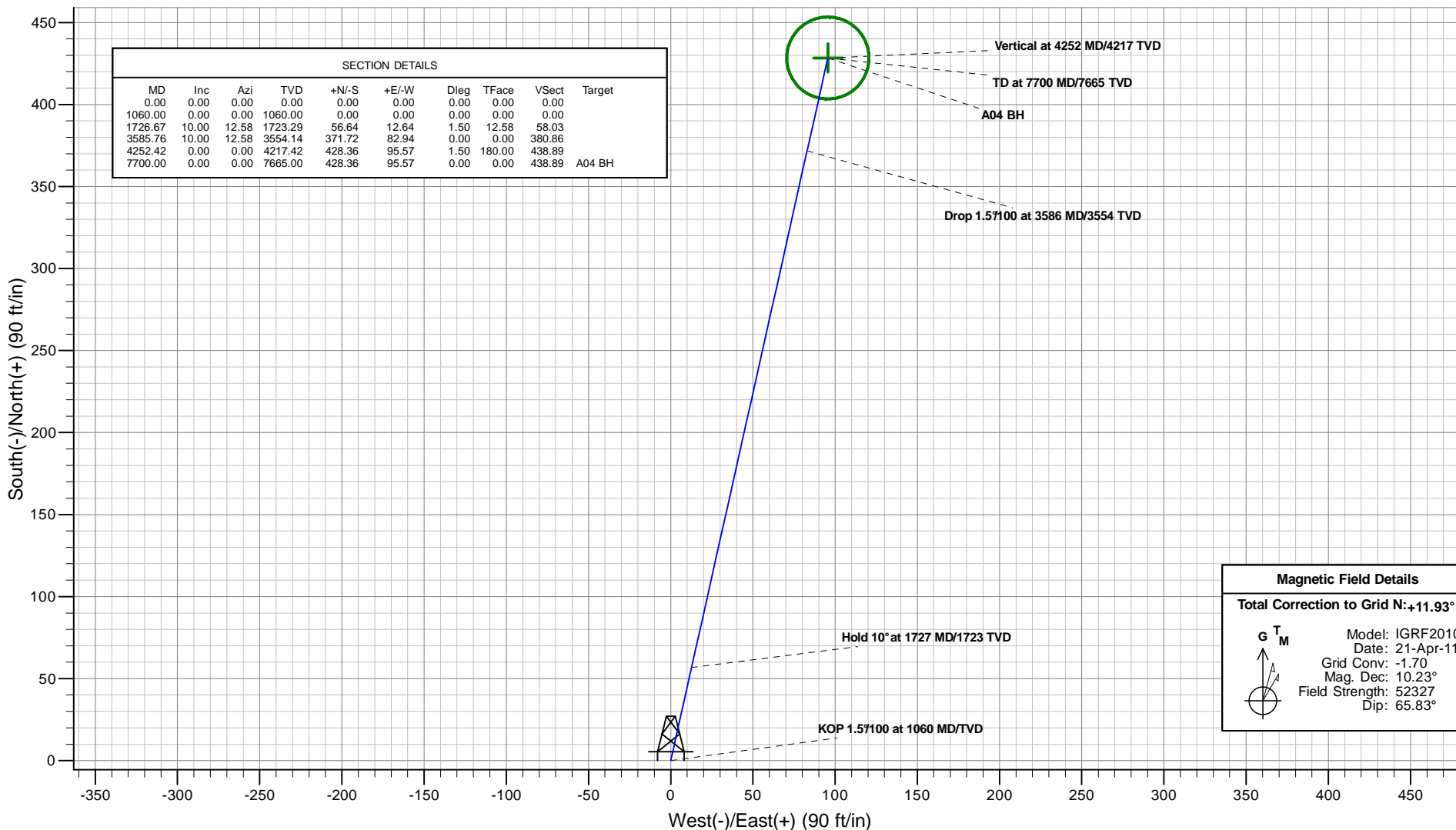
Antero Resources

Burckle A04 (111328)



PLAN VIEW

Project: Burckle
 Site: Burckle A Pad
 Well: Burckle A04 (111328)
 Wellbore: A04
 Design: Burckle A04 P01



Magnetic Field Details	
Total Correction to Grid N: +11.93°	
	Model: IGRF2010 Date: 21-Apr-11 Grid Conv: -1.70 Mag. Dec: 10.23° Field Strength: 52327 Dip: 65.83°

Plan: Burckle A04 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 A04 (111328) - Slot A04, Grid North
 Vertical (TVD) Reference: KB @ 5583.00ft (Original Well Elev)
 Section (VS) Reference: Slot - A04(0.00N, 0.00E)
 Measured Depth Reference: KB @ 5583.00ft (Original Well Elev)
 Calculation Method: Minimum Curvature

VERTICAL SECTION VIEW

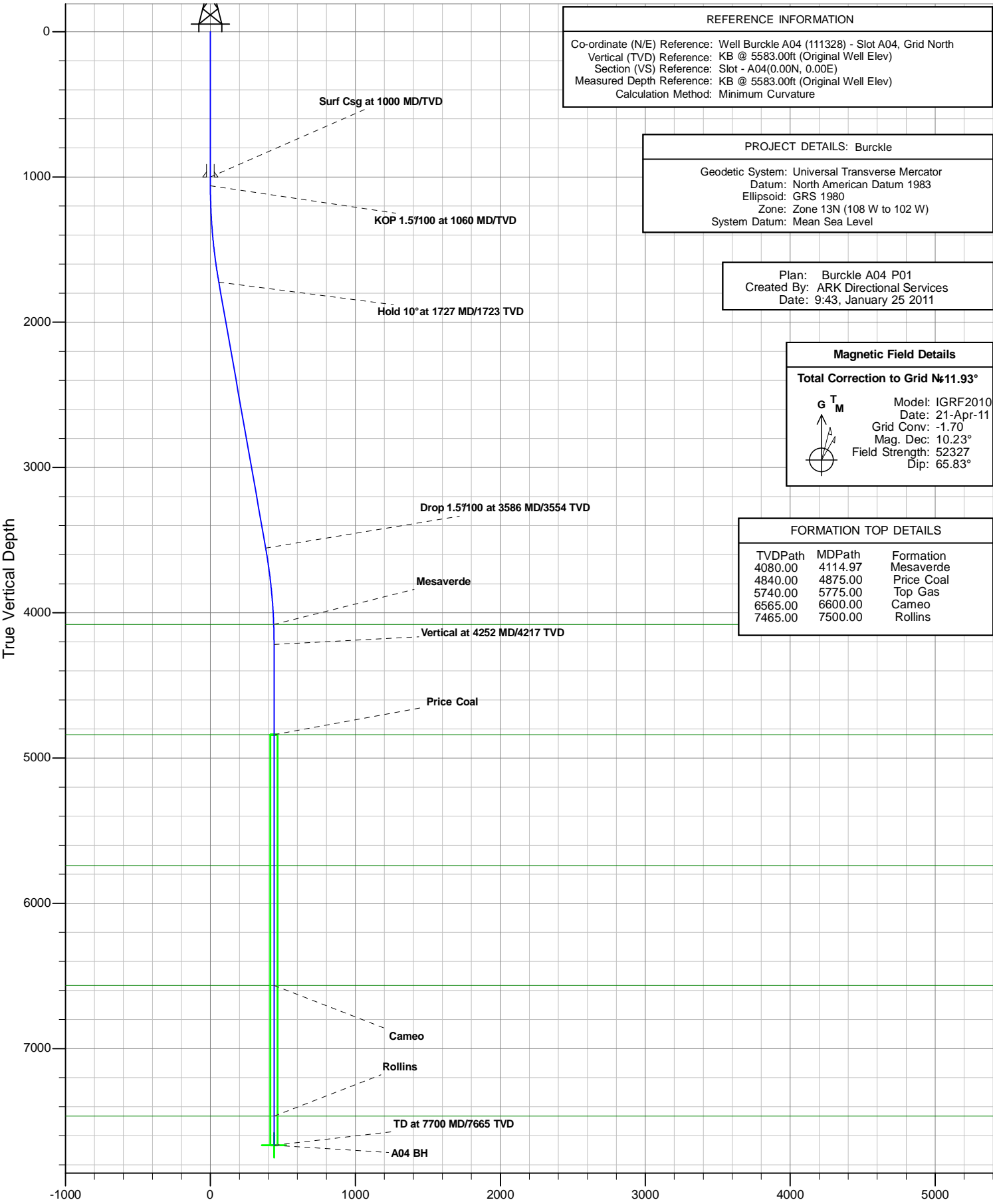
REFERENCE INFORMATION
Co-ordinate (N/E) Reference: Well Burckle A04 (111328) - Slot A04, Grid North
Vertical (TVD) Reference: KB @ 5583.00ft (Original Well Elev)
Section (VS) Reference: Slot - A04(0.00N, 0.00E)
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PROJECT DETAILS: Burckle
Geodetic System: Universal Transverse Mercator
Datum: North American Datum 1983
Ellipsoid: GRS 1980
Zone: Zone 13N (108 W to 102 W)
System Datum: Mean Sea Level

Plan: Burckle A04 P01
Created By: ARK Directional Services
Date: 9:43, January 25 2011

Magnetic Field Details							
Total Correction to Grid N=11.93°							
<table border="0"> <tr> <td rowspan="4"> </td> <td>Model: IGRF2010</td> </tr> <tr> <td>Date: 21-Apr-11</td> </tr> <tr> <td>Grid Conv: -1.70</td> </tr> <tr> <td>Mag. Dec: 10.23°</td> </tr> <tr> <td>Field Strength: 52327</td> </tr> <tr> <td>Dip: 65.83°</td> </tr> </table>		Model: IGRF2010	Date: 21-Apr-11	Grid Conv: -1.70	Mag. Dec: 10.23°	Field Strength: 52327	Dip: 65.83°
		Model: IGRF2010					
		Date: 21-Apr-11					
		Grid Conv: -1.70					
	Mag. Dec: 10.23°						
Field Strength: 52327							
Dip: 65.83°							

FORMATION TOP DETAILS		
TVDPath	MDPath	Formation
4080.00	4114.97	Mesaverde
4840.00	4875.00	Price Coal
5740.00	5775.00	Top Gas
6565.00	6600.00	Cameo
7465.00	7500.00	Rollins



Vertical Section at 12.58°

Antero Resources

Burckle

Burckle A Pad

Burckle A04 (111328) - Slot A04

A04

Plan: Burckle A04 P01

Standard Planning Report - Geographic

25 January, 2011

ARK Directional Services

Planning Report - Geographic

Database:	EDM 5000 SERVER DB	Local Co-ordinate Reference:	Well Burckle A04 (111328) - Slot A04
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 A04 (111328)	Survey Calculation Method:	Minimum Curvature
Wellbore:	A04		
Design:	Burckle A04 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 A04 (111328) - Slot A04					
Well Position	+N/-S	0.00 ft	Northing:	14,365,053.346 usft	Latitude:	39.525298804°N
	+E/-W	0.00 ft	Easting:	887,438.774 usft	Longitude:	107.670133172°W
Position Uncertainty		0.00 ft	Wellhead Elevation:		Ground Level:	5,559.00 ft

Wellbore	A04				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	21/04/2011	10.23	65.83	52,327

Design	Burckle A04 P01				
Audit Notes:					
Version:	Phase:	PROTOTYPE	Tie On Depth:	0.00	
Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)	
	0.00	0.00	0.00	12.58	

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	
1,726.67	10.00	12.58	1,723.29	56.64	12.64	1.50	1.50	0.00	12.58	
3,585.76	10.00	12.58	3,554.14	371.72	82.94	0.00	0.00	0.00	0.00	
4,252.43	0.00	0.00	4,217.42	428.36	95.57	1.50	-1.50	0.00	180.00	
7,700.00	0.00	0.00	7,665.00	428.36	95.57	0.00	0.00	0.00	0.00	A04 BH

ARK Directional Services

Planning Report - Geographic

Database:	EDM 5000 SERVER DB	Local Co-ordinate Reference:	Well Burckle A04 (111328) - Slot A04
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 A04 (111328)	Survey Calculation Method:	Minimum Curvature
Wellbore:	A04		
Design:	Burckle A04 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	14,365,053.346	887,438.774	39.525298804°N	107.670133172°W	
100.00	0.00	0.00	100.00	0.00	0.00	14,365,053.346	887,438.774	39.525298804°N	107.670133172°W	
200.00	0.00	0.00	200.00	0.00	0.00	14,365,053.346	887,438.774	39.525298804°N	107.670133172°W	
300.00	0.00	0.00	300.00	0.00	0.00	14,365,053.346	887,438.774	39.525298804°N	107.670133172°W	
400.00	0.00	0.00	400.00	0.00	0.00	14,365,053.346	887,438.774	39.525298804°N	107.670133172°W	
500.00	0.00	0.00	500.00	0.00	0.00	14,365,053.346	887,438.774	39.525298804°N	107.670133172°W	
600.00	0.00	0.00	600.00	0.00	0.00	14,365,053.346	887,438.774	39.525298804°N	107.670133172°W	
700.00	0.00	0.00	700.00	0.00	0.00	14,365,053.346	887,438.774	39.525298804°N	107.670133172°W	
800.00	0.00	0.00	800.00	0.00	0.00	14,365,053.346	887,438.774	39.525298804°N	107.670133172°W	
900.00	0.00	0.00	900.00	0.00	0.00	14,365,053.346	887,438.774	39.525298804°N	107.670133172°W	
1,000.00	0.00	0.00	1,000.00	0.00	0.00	14,365,053.346	887,438.774	39.525298804°N	107.670133172°W	
Surf Csg at 1000 MD/TVD										
1,060.00	0.00	0.00	1,060.00	0.00	0.00	14,365,053.346	887,438.774	39.525298804°N	107.670133172°W	
KOP 1.5°/100 at 1060 MD/TVD										
1,100.00	0.60	12.58	1,100.00	0.20	0.05	14,365,053.550	887,438.819	39.525299368°N	107.670133032°W	
1,200.00	2.10	12.58	1,199.97	2.50	0.56	14,365,055.849	887,439.332	39.525305718°N	107.670131456°W	
1,300.00	3.60	12.58	1,299.84	7.36	1.64	14,365,060.702	887,440.415	39.525319119°N	107.670128131°W	
1,400.00	5.10	12.58	1,399.55	14.76	3.29	14,365,068.105	887,442.067	39.525339562°N	107.670123058°W	
1,500.00	6.60	12.58	1,499.03	24.71	5.51	14,365,078.052	887,444.286	39.525367033°N	107.670116241°W	
1,600.00	8.10	12.58	1,598.20	37.19	8.30	14,365,090.538	887,447.072	39.525401514°N	107.670107686°W	
1,700.00	9.60	12.58	1,697.01	52.21	11.65	14,365,105.553	887,450.422	39.525442979°N	107.670097396°W	
1,726.67	10.00	12.58	1,723.29	56.64	12.64	14,365,109.983	887,451.411	39.525455213°N	107.670094361°W	
Hold 10° at 1727 MD/1723 TVD										
1,800.00	10.00	12.58	1,795.51	69.07	15.41	14,365,122.412	887,454.184	39.525489536°N	107.670085844°W	
1,900.00	10.00	12.58	1,893.99	86.01	19.19	14,365,139.360	887,457.965	39.525536340°N	107.670074230°W	
2,000.00	10.00	12.58	1,992.47	102.96	22.97	14,365,156.308	887,461.747	39.525583143°N	107.670062616°W	
2,100.00	10.00	12.58	2,090.95	119.91	26.75	14,365,173.256	887,465.528	39.525629947°N	107.670051002°W	
2,200.00	10.00	12.58	2,189.43	136.86	30.54	14,365,190.204	887,469.310	39.525676751°N	107.670039388°W	
2,300.00	10.00	12.58	2,287.91	153.81	34.32	14,365,207.152	887,473.091	39.525723554°N	107.670027774°W	
2,400.00	10.00	12.58	2,386.39	170.75	38.10	14,365,224.100	887,476.873	39.525770358°N	107.670016160°W	
2,500.00	10.00	12.58	2,484.87	187.70	41.88	14,365,241.048	887,480.654	39.525817162°N	107.670004547°W	
2,600.00	10.00	12.58	2,583.35	204.65	45.66	14,365,257.996	887,484.435	39.525863965°N	107.669992933°W	
2,700.00	10.00	12.58	2,681.83	221.60	49.44	14,365,274.944	887,488.217	39.525910769°N	107.669981319°W	
2,800.00	10.00	12.58	2,780.31	238.55	53.22	14,365,291.892	887,491.998	39.525957573°N	107.669969705°W	
2,900.00	10.00	12.58	2,878.80	255.49	57.01	14,365,308.840	887,495.780	39.526004376°N	107.669958091°W	
3,000.00	10.00	12.58	2,977.28	272.44	60.79	14,365,325.788	887,499.561	39.526051180°N	107.669946477°W	
3,100.00	10.00	12.58	3,075.76	289.39	64.57	14,365,342.736	887,503.343	39.526097984°N	107.669934863°W	
3,200.00	10.00	12.58	3,174.24	306.34	68.35	14,365,359.684	887,507.124	39.526144787°N	107.669923249°W	
3,300.00	10.00	12.58	3,272.72	323.29	72.13	14,365,376.632	887,510.906	39.526191591°N	107.669911635°W	
3,400.00	10.00	12.58	3,371.20	340.24	75.91	14,365,393.580	887,514.687	39.526238395°N	107.669900021°W	
3,500.00	10.00	12.58	3,469.68	357.18	79.69	14,365,410.528	887,518.469	39.526285198°N	107.669888406°W	
3,585.76	10.00	12.58	3,554.14	371.72	82.94	14,365,425.063	887,521.711	39.526325336°N	107.669878446°W	
Drop 1.5°/100 at 3586 MD/3554 TVD										
3,600.00	9.79	12.58	3,568.17	374.11	83.47	14,365,427.451	887,522.244	39.526331932°N	107.669876810°W	
3,700.00	8.29	12.58	3,666.92	389.43	86.89	14,365,442.780	887,525.664	39.526374263°N	107.669866305°W	
3,800.00	6.79	12.58	3,766.05	402.24	89.75	14,365,455.580	887,528.521	39.526409613°N	107.669857534°W	
3,900.00	5.29	12.58	3,865.50	412.50	92.04	14,365,465.843	887,530.810	39.526437956°N	107.669850500°W	
4,000.00	3.79	12.58	3,965.18	420.22	93.76	14,365,473.563	887,532.533	39.526459273°N	107.669845211°W	
4,100.00	2.29	12.58	4,065.04	425.39	94.91	14,365,478.732	887,533.686	39.526473550°N	107.669841668°W	
4,114.97	2.06	12.58	4,080.00	425.94	95.04	14,365,479.287	887,533.810	39.526475081°N	107.669841288°W	
Mesaverde										
4,200.00	0.79	12.58	4,165.00	428.00	95.50	14,365,481.349	887,534.270	39.526480776°N	107.669839875°W	
4,252.43	0.00	0.00	4,217.42	428.36	95.57	14,365,481.700	887,534.348	39.526481746°N	107.669839634°W	
Vertical at 4252 MD/4217 TVD										

ARK Directional Services

Planning Report - Geographic

Database:	EDM 5000 SERVER DB	Local Co-ordinate Reference:	Well Burckle A04 (111328) - Slot A04
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 A04 (111328)	Survey Calculation Method:	Minimum Curvature
Wellbore:	A04		
Design:	Burckle A04 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	
4,300.00	0.00	0.00	4,265.00	428.36	95.57	14,365,481.700	887,534.348	39.526481746°N	107.669839634°W	
4,400.00	0.00	0.00	4,365.00	428.36	95.57	14,365,481.700	887,534.348	39.526481746°N	107.669839634°W	
4,500.00	0.00	0.00	4,465.00	428.36	95.57	14,365,481.700	887,534.348	39.526481746°N	107.669839634°W	
4,600.00	0.00	0.00	4,565.00	428.36	95.57	14,365,481.700	887,534.348	39.526481746°N	107.669839634°W	
4,700.00	0.00	0.00	4,665.00	428.36	95.57	14,365,481.700	887,534.348	39.526481746°N	107.669839634°W	
4,800.00	0.00	0.00	4,765.00	428.36	95.57	14,365,481.700	887,534.348	39.526481746°N	107.669839634°W	
4,875.00	0.00	0.00	4,840.00	428.36	95.57	14,365,481.700	887,534.348	39.526481746°N	107.669839634°W	
Price Coal										
4,900.00	0.00	0.00	4,865.00	428.36	95.57	14,365,481.700	887,534.348	39.526481746°N	107.669839634°W	
5,000.00	0.00	0.00	4,965.00	428.36	95.57	14,365,481.700	887,534.348	39.526481746°N	107.669839634°W	
5,100.00	0.00	0.00	5,065.00	428.36	95.57	14,365,481.700	887,534.348	39.526481746°N	107.669839634°W	
5,200.00	0.00	0.00	5,165.00	428.36	95.57	14,365,481.700	887,534.348	39.526481746°N	107.669839634°W	
5,300.00	0.00	0.00	5,265.00	428.36	95.57	14,365,481.700	887,534.348	39.526481746°N	107.669839634°W	
5,400.00	0.00	0.00	5,365.00	428.36	95.57	14,365,481.700	887,534.348	39.526481746°N	107.669839634°W	
5,500.00	0.00	0.00	5,465.00	428.36	95.57	14,365,481.700	887,534.348	39.526481746°N	107.669839634°W	
5,600.00	0.00	0.00	5,565.00	428.36	95.57	14,365,481.700	887,534.348	39.526481746°N	107.669839634°W	
5,700.00	0.00	0.00	5,665.00	428.36	95.57	14,365,481.700	887,534.348	39.526481746°N	107.669839634°W	
5,775.00	0.00	0.00	5,740.00	428.36	95.57	14,365,481.700	887,534.348	39.526481746°N	107.669839634°W	
Top Gas										
5,800.00	0.00	0.00	5,765.00	428.36	95.57	14,365,481.700	887,534.348	39.526481746°N	107.669839634°W	
5,900.00	0.00	0.00	5,865.00	428.36	95.57	14,365,481.700	887,534.348	39.526481746°N	107.669839634°W	
6,000.00	0.00	0.00	5,965.00	428.36	95.57	14,365,481.700	887,534.348	39.526481746°N	107.669839634°W	
6,100.00	0.00	0.00	6,065.00	428.36	95.57	14,365,481.700	887,534.348	39.526481746°N	107.669839634°W	
6,200.00	0.00	0.00	6,165.00	428.36	95.57	14,365,481.700	887,534.348	39.526481746°N	107.669839634°W	
6,300.00	0.00	0.00	6,265.00	428.36	95.57	14,365,481.700	887,534.348	39.526481746°N	107.669839634°W	
6,400.00	0.00	0.00	6,365.00	428.36	95.57	14,365,481.700	887,534.348	39.526481746°N	107.669839634°W	
6,500.00	0.00	0.00	6,465.00	428.36	95.57	14,365,481.700	887,534.348	39.526481746°N	107.669839634°W	
6,600.00	0.00	0.00	6,565.00	428.36	95.57	14,365,481.700	887,534.348	39.526481746°N	107.669839634°W	
Cameo										
6,700.00	0.00	0.00	6,665.00	428.36	95.57	14,365,481.700	887,534.348	39.526481746°N	107.669839634°W	
6,800.00	0.00	0.00	6,765.00	428.36	95.57	14,365,481.700	887,534.348	39.526481746°N	107.669839634°W	
6,900.00	0.00	0.00	6,865.00	428.36	95.57	14,365,481.700	887,534.348	39.526481746°N	107.669839634°W	
7,000.00	0.00	0.00	6,965.00	428.36	95.57	14,365,481.700	887,534.348	39.526481746°N	107.669839634°W	
7,100.00	0.00	0.00	7,065.00	428.36	95.57	14,365,481.700	887,534.348	39.526481746°N	107.669839634°W	
7,200.00	0.00	0.00	7,165.00	428.36	95.57	14,365,481.700	887,534.348	39.526481746°N	107.669839634°W	
7,300.00	0.00	0.00	7,265.00	428.36	95.57	14,365,481.700	887,534.348	39.526481746°N	107.669839634°W	
7,400.00	0.00	0.00	7,365.00	428.36	95.57	14,365,481.700	887,534.348	39.526481746°N	107.669839634°W	
7,500.00	0.00	0.00	7,465.00	428.36	95.57	14,365,481.700	887,534.348	39.526481746°N	107.669839634°W	
Rollins										
7,600.00	0.00	0.00	7,565.00	428.36	95.57	14,365,481.700	887,534.348	39.526481746°N	107.669839634°W	
7,700.00	0.00	0.00	7,665.00	428.36	95.57	14,365,481.700	887,534.348	39.526481746°N	107.669839634°W	
TD at 7700 MD/7665 TVD - A04 BH										

Design Targets										
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (usft)	Easting (usft)	Latitude	Longitude	
A04 BH	0.00	0.00	7,665.00	428.36	95.57	14,365,481.700	887,534.348	39.526481746°N	107.669839634°W	
- hit/miss target - Shape - plan hits target center - Circle (radius 25.00)										

ARK Directional Services

Planning Report - Geographic

Database:	EDM 5000 SERVER DB	Local Co-ordinate Reference:	Well Burckle A04 (111328) - Slot A04
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 A04 (111328)	Survey Calculation Method:	Minimum Curvature
Wellbore:	A04		
Design:	Burckle A04 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 (°)
4,114.97	4,080.00	Mesaverde			
4,875.00	4,840.00	Price Coal			
5,775.00	5,740.00	Top Gas			
6,600.00	6,565.00	Cameo			
7,500.00	7,465.00	Rollins			

Plan Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment	
		+N/-S (ft)	+E/-W (ft)		
1,060.00	1,060.00	0.00	0.00		KOP 1.5°/100 at 1060 MD/TVD
1,726.67	1,723.29	56.64	12.64		Hold 10° at 1727 MD/1723 TVD
3,585.76	3,554.14	371.72	82.94		Drop 1.5°/100 at 3586 MD/3554 TVD
4,252.43	4,217.42	428.36	95.57		Vertical at 4252 MD/4217 TVD
7,700.00	7,665.00	428.36	95.57		TD at 7700 MD/7665 TVD