



End of Well Report

Prepared for



CSF 43D-10-07-91

October 18, 2010

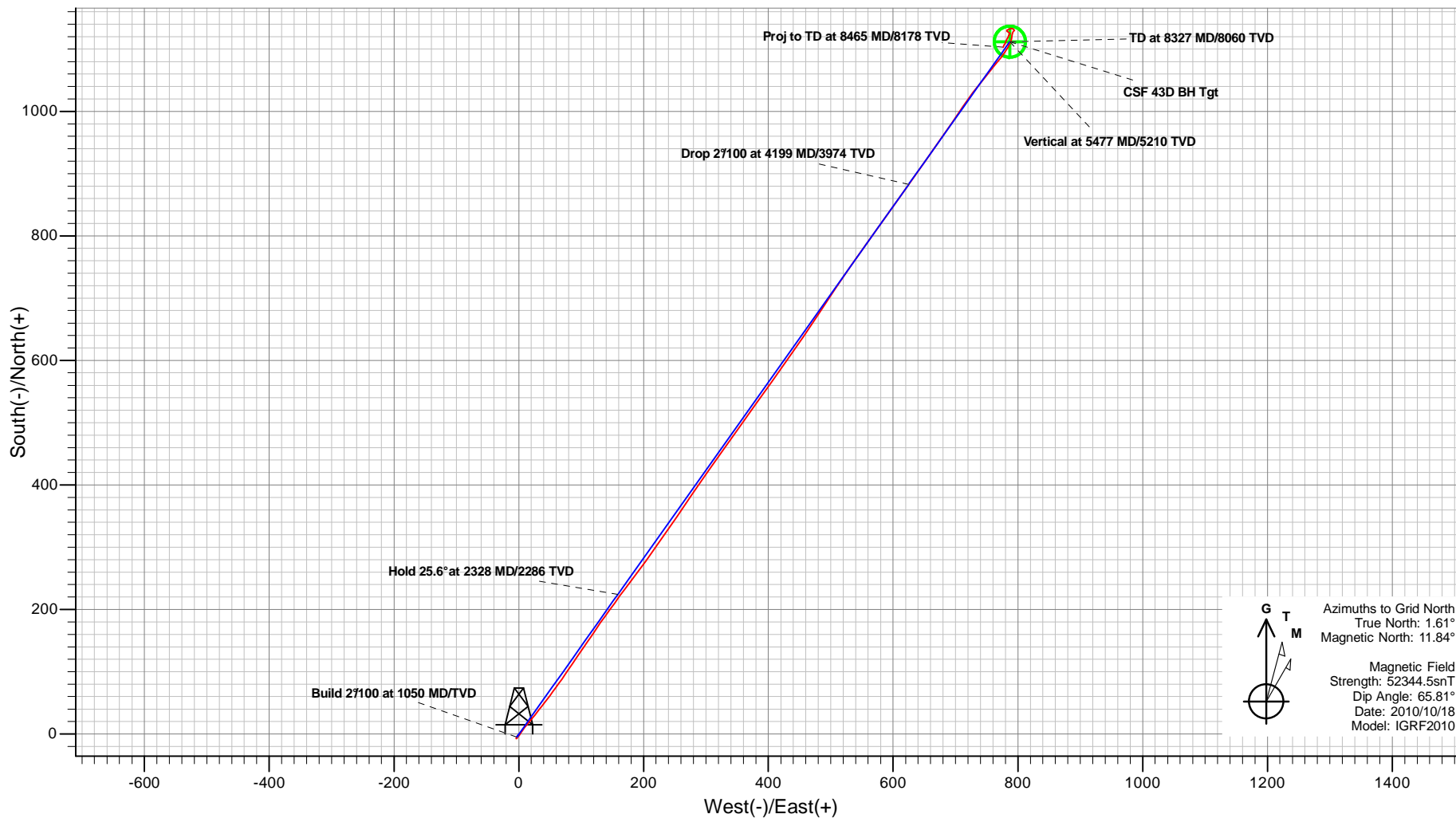
ARK Directional Services Inc
191 University Blvd, # 601
Denver, CO 80206



PLAN VIEW

Antero Resources

Project: Castle Springs Federal
Site: CSF Q Pad
Well: CSF 43D-10-07-91 (111170)
Wellbore: CSF 43D
Design: CSF 43D P03



CSF 43D P03
Created By: ARK Directional Services
Date: 7:58, October 12 2010

PROJECT DETAILS: Castle Springs Federal

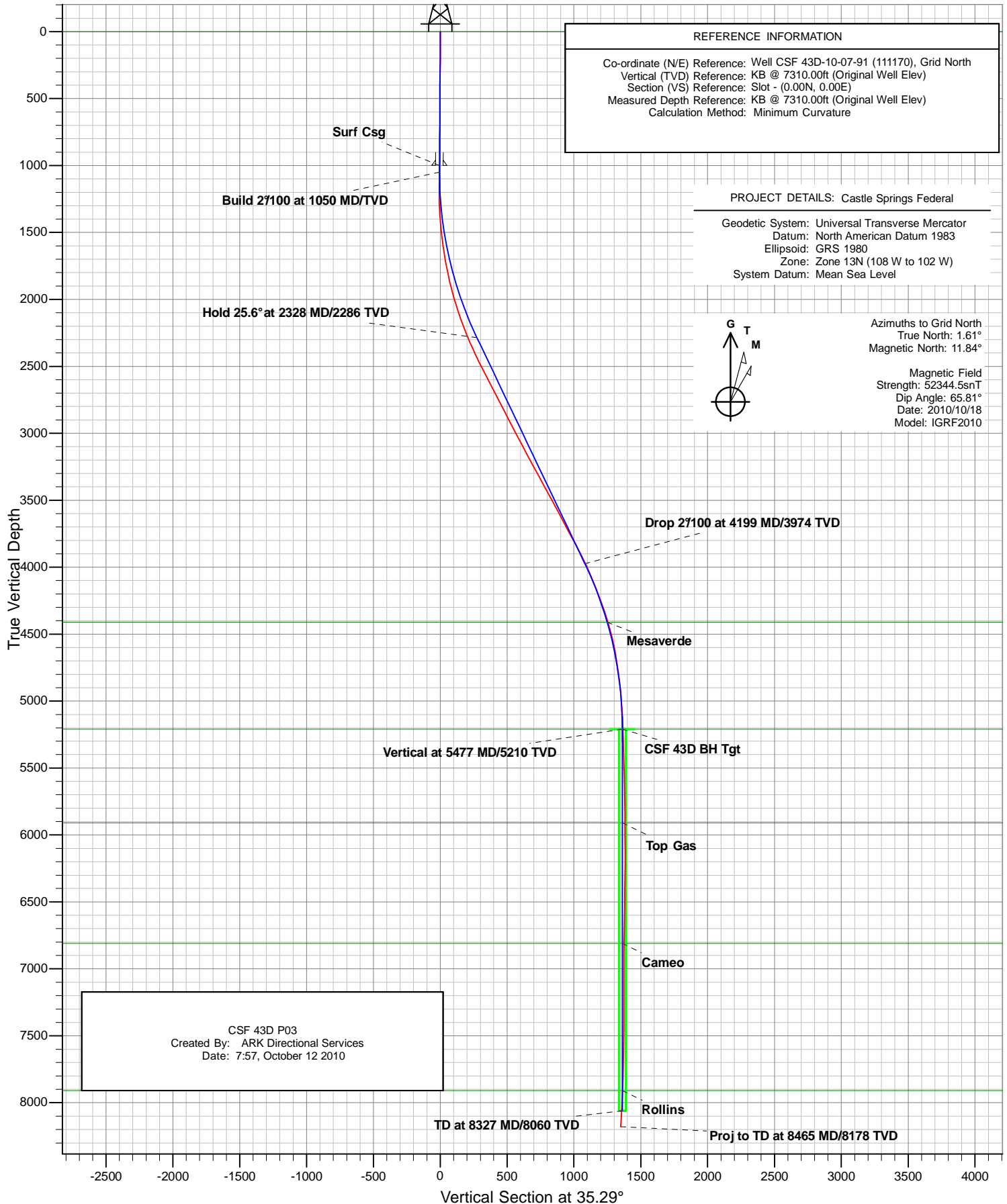
Geodetic System: Universal Transverse Mercator
Datum: North American Datum 1983
Ellipsoid: GRS 1980
Zone: Zone 13N (108 W to 102 W)
System Datum: Mean Sea Level

REFERENCE INFORMATION

Co-ordinate (N/E) Reference: Well CSF 43D-10-07-91 (111170), Grid North
Vertical (TVD) Reference: KB @ 7310.00ft (Original Well Elev)
Section (VS) Reference: Slot - (0.00N, 0.00E)
Measured Depth Reference: KB @ 7310.00ft (Original Well Elev)
Calculation Method: Minimum Curvature



Antero Resources
CSF 43D
PLANNED VS ACTUAL



Antero Resources

Castle Springs Federal

CSF Q Pad

CSF 43D-10-07-91 (111170)

CSF 43D

Survey: CSF 43D

Survey Report - Geographic

18 October, 2010

ARK Directional Services

Survey Report - Geographic

Company:	Antero Resources	Local Co-ordinate Reference:	Well CSF 43D-10-07-91 (111170)
Project:	Castle Springs Federal	TVD Reference:	KB @ 7310.00ft (Original Well Elev)
Site:	CSF Q Pad	MD Reference:	KB @ 7310.00ft (Original Well Elev)
Well:	CSF 43D-10-07-91 (111170)	North Reference:	Grid
Wellbore:	CSF 43D	Survey Calculation Method:	Minimum Curvature
Design:	CSF 43D	Database:	EDM SERVER DB

Project	Castle Springs Federal		
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	CSF Q Pad				
Site Position:		Northing:	14,338,814.560 usft	Latitude:	39.456256472°N
From:	Lat/Long	Easting:	924,580.813 usft	Longitude:	107.535929791°W
Position Uncertainty:	0.00 ft	Slot Radius:	13.20 in	Grid Convergence:	-1.61 °

Well	CSF 43D-10-07-91 (111170)					
Well Position	+N/-S	0.00 ft	Northing:	14,338,814.560 usft	Latitude:	39.456256475°N
	+E/-W	0.00 ft	Easting:	924,580.850 usft	Longitude:	107.535929658°W
Position Uncertainty		0.00 ft	Wellhead Elevation:	ft	Ground Level:	7,285.00 ft

Wellbore	CSF 43D				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	2010/10/18	10.22	65.81	52,345

Design	CSF 43D				
Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)	
	0.00	0.00	0.00	35.29	

Survey Program	Date	2010/10/18			
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
100.00	8,465.00	CSF 43D (CSF 43D)	MWD	MWD - Standard	

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	14,338,814.560	924,580.850	39.456256475°N	107.535929658°W
100.00	0.33	211.50	100.00	-0.25	-0.15	14,338,814.314	924,580.700	39.456255790°N	107.535930166°W
200.00	0.41	204.36	200.00	-0.82	-0.45	14,338,813.743	924,580.402	39.456254199°N	107.535931164°W
300.00	0.25	222.26	300.00	-1.30	-0.74	14,338,813.255	924,580.107	39.456252839°N	107.535932157°W
400.00	0.25	210.08	399.99	-1.65	-1.00	14,338,812.905	924,579.851	39.456251858°N	107.535933029°W
500.00	0.12	203.53	499.99	-1.94	-1.15	14,338,812.620	924,579.700	39.456251065°N	107.535933535°W
600.00	0.45	207.45	599.99	-2.38	-1.37	14,338,812.176	924,579.477	39.456249828°N	107.535934280°W
700.00	0.46	218.68	699.99	-3.05	-1.80	14,338,811.514	924,579.046	39.456247979°N	107.535935743°W
800.00	0.53	210.93	799.99	-3.76	-2.29	14,338,810.804	924,578.557	39.456245993°N	107.535937401°W
900.00	0.45	226.84	899.98	-4.42	-2.82	14,338,810.138	924,578.033	39.456244127°N	107.535939190°W
970.00	0.38	206.03	969.98	-4.82	-3.12	14,338,809.742	924,577.730	39.456243015°N	107.535940221°W
1,153.00	0.88	206.08	1,152.97	-6.63	-4.00	14,338,807.934	924,576.846	39.456237988°N	107.535943170°W

ARK Directional Services

Survey Report - Geographic

Company:	Antero Resources	Local Co-ordinate Reference:	Well CSF 43D-10-07-91 (111170)
Project:	Castle Springs Federal	TVD Reference:	KB @ 7310.00ft (Original Well Elev)
Site:	CSF Q Pad	MD Reference:	KB @ 7310.00ft (Original Well Elev)
Well:	CSF 43D-10-07-91 (111170)	North Reference:	Grid
Wellbore:	CSF 43D	Survey Calculation Method:	Minimum Curvature
Design:	CSF 43D	Database:	EDM SERVER DB

Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude	
1,184.00	0.70	184.55	1,183.97	-7.03	-4.12	14,338,807.532	924,576.727	39.456236874°N	107.535943553°W	
1,216.00	0.26	108.08	1,215.97	-7.25	-4.07	14,338,807.314	924,576.780	39.456236282°N	107.535943342°W	
1,247.00	1.14	72.13	1,246.96	-7.17	-3.71	14,338,807.387	924,577.140	39.456236509°N	107.535942074°W	
1,279.00	2.02	44.01	1,278.95	-6.67	-3.01	14,338,807.891	924,577.835	39.456237944°N	107.535939665°W	
1,310.00	2.46	38.21	1,309.93	-5.75	-2.22	14,338,808.806	924,578.626	39.456240517°N	107.535936956°W	
1,341.00	2.99	40.23	1,340.89	-4.61	-1.29	14,338,809.946	924,579.560	39.456243717°N	107.535933765°W	
1,373.00	3.78	36.54	1,372.84	-3.13	-0.12	14,338,811.431	924,580.727	39.456247881°N	107.535929782°W	
1,404.00	4.48	37.68	1,403.75	-1.35	1.23	14,338,813.210	924,582.076	39.456252867°N	107.535925187°W	
1,436.00	5.27	32.14	1,435.64	0.88	2.77	14,338,815.444	924,583.621	39.456259115°N	107.535919938°W	
1,467.00	5.80	34.60	1,466.49	3.38	4.42	14,338,817.939	924,585.268	39.456266087°N	107.535914358°W	
1,499.00	5.98	34.52	1,498.33	6.08	6.28	14,338,820.643	924,587.131	39.456273651°N	107.535908034°W	
1,530.00	6.68	36.45	1,529.14	8.86	8.27	14,338,823.424	924,589.117	39.456281434°N	107.535901281°W	
1,562.00	7.29	39.53	1,560.90	11.93	10.67	14,338,826.487	924,591.515	39.456290024°N	107.535893099°W	
1,593.00	8.00	39.88	1,591.62	15.10	13.30	14,338,829.659	924,594.150	39.456298932°N	107.535884089°W	
1,625.00	8.44	38.38	1,623.29	18.65	16.19	14,338,833.209	924,597.036	39.456308894°N	107.535874228°W	
1,656.00	8.70	39.70	1,653.95	22.24	19.10	14,338,836.796	924,599.946	39.456318961°N	107.535864286°W	
1,688.00	9.40	39.35	1,685.55	26.12	22.30	14,338,840.679	924,603.149	39.456329862°N	107.535853336°W	
1,719.00	10.11	38.12	1,716.10	30.22	25.58	14,338,844.777	924,606.434	39.456341360°N	107.535842118°W	
1,751.00	10.81	38.65	1,747.57	34.77	29.19	14,338,849.330	924,610.042	39.456354132°N	107.535829802°W	
1,783.00	11.34	38.03	1,778.97	39.59	33.00	14,338,854.152	924,613.854	39.456367656°N	107.535816788°W	
1,814.00	11.87	37.86	1,809.34	44.51	36.84	14,338,859.070	924,617.689	39.456381446°N	107.535803707°W	
1,846.00	12.57	38.03	1,840.61	49.85	41.00	14,338,864.411	924,621.854	39.456396422°N	107.535789497°W	
1,877.00	13.18	38.65	1,870.83	55.27	45.29	14,338,869.829	924,626.140	39.456411617°N	107.535774869°W	
1,908.00	14.24	36.80	1,900.95	61.08	49.78	14,338,875.642	924,630.631	39.456427914°N	107.535759551°W	
1,940.00	14.77	35.48	1,931.93	67.56	54.51	14,338,882.115	924,635.356	39.456446040°N	107.535743472°W	
1,971.00	15.47	35.20	1,961.86	74.15	59.18	14,338,888.711	924,640.033	39.456464499°N	107.535727576°W	
2,003.00	16.08	34.78	1,992.65	81.28	64.17	14,338,895.839	924,645.021	39.456484440°N	107.535710631°W	
2,034.00	16.88	35.22	2,022.38	88.48	69.22	14,338,903.042	924,650.066	39.456504593°N	107.535693494°W	
2,066.00	17.49	34.43	2,052.95	96.24	74.61	14,338,910.804	924,655.464	39.456526306°N	107.535675161°W	
2,097.00	18.19	34.96	2,082.46	104.05	80.02	14,338,918.611	924,660.870	39.456548147°N	107.535656803°W	
2,129.00	19.16	34.16	2,112.77	112.49	85.83	14,338,927.050	924,666.681	39.456571750°N	107.535637077°W	
2,160.00	19.60	34.16	2,142.02	121.00	91.61	14,338,935.562	924,672.457	39.456595551°N	107.535617481°W	
2,192.00	20.21	34.60	2,172.11	129.99	97.76	14,338,944.553	924,678.610	39.456620695°N	107.535596601°W	
2,224.00	20.57	34.34	2,202.10	139.19	104.07	14,338,953.745	924,684.919	39.456646402°N	107.535575183°W	
2,255.00	21.53	33.90	2,231.03	148.40	110.31	14,338,962.963	924,691.164	39.456672177°N	107.535553998°W	
2,287.00	22.41	33.90	2,260.71	158.34	116.99	14,338,972.900	924,697.841	39.456699956°N	107.535531355°W	
2,318.00	22.76	34.52	2,289.33	168.19	123.69	14,338,982.745	924,704.535	39.456727486°N	107.535508643°W	
2,350.00	23.38	35.31	2,318.77	178.47	130.86	14,338,993.027	924,711.713	39.456756250°N	107.535484262°W	
2,381.00	24.08	35.04	2,347.15	188.66	138.05	14,339,003.224	924,718.899	39.456784784°N	107.535459843°W	
2,413.00	24.87	35.57	2,376.27	199.48	145.71	14,339,014.043	924,726.562	39.456815059°N	107.535433800°W	
2,444.00	25.22	36.10	2,404.36	210.12	153.40	14,339,024.681	924,734.245	39.456844842°N	107.535407666°W	
2,476.00	25.58	36.01	2,433.27	221.22	161.47	14,339,035.778	924,742.324	39.456875913°N	107.535380178°W	
2,507.00	26.02	36.80	2,461.18	232.08	169.48	14,339,046.636	924,750.331	39.456906324°N	107.535352917°W	
2,539.00	26.72	36.98	2,489.85	243.44	178.01	14,339,058.004	924,758.864	39.456938172°N	107.535323850°W	
2,633.00	26.89	35.92	2,573.75	277.54	203.20	14,339,092.101	924,784.046	39.457033669°N	107.53528114°W	
2,728.00	27.86	35.22	2,658.11	313.07	228.60	14,339,127.633	924,809.452	39.457133124°N	107.535151733°W	
2,822.00	27.16	34.16	2,741.48	348.77	253.32	14,339,163.330	924,834.166	39.457232975°N	107.535067814°W	
2,916.00	26.81	34.16	2,825.24	384.07	277.27	14,339,198.624	924,858.116	39.457331662°N	107.534986560°W	
3,011.00	28.04	35.04	2,909.57	420.08	302.12	14,339,234.636	924,882.967	39.457432387°N	107.534902188°W	
3,106.00	28.21	35.31	2,993.35	456.68	327.92	14,339,271.240	924,908.765	39.457534814°N	107.534814522°W	
3,200.00	27.33	35.57	3,076.52	492.36	353.31	14,339,306.923	924,934.159	39.457634678°N	107.534728195°W	
3,295.00	28.30	35.57	3,160.54	528.42	379.10	14,339,342.980	924,959.945	39.457735599°N	107.534640519°W	
3,389.00	28.74	34.96	3,243.14	565.07	405.01	14,339,379.626	924,985.856	39.457838147°N	107.534552457°W	
3,484.00	28.48	35.04	3,326.54	602.33	431.10	14,339,416.889	925,011.948	39.457942402°N	107.534463816°W	
3,578.00	29.00	34.78	3,408.96	639.40	456.96	14,339,453.954	925,037.814	39.458046097°N	107.534375956°W	

ARK Directional Services

Survey Report - Geographic

Company:	Antero Resources	Local Co-ordinate Reference:	Well CSF 43D-10-07-91 (111170)
Project:	Castle Springs Federal	TVD Reference:	KB @ 7310.00ft (Original Well Elev)
Site:	CSF Q Pad	MD Reference:	KB @ 7310.00ft (Original Well Elev)
Well:	CSF 43D-10-07-91 (111170)	North Reference:	Grid
Wellbore:	CSF 43D	Survey Calculation Method:	Minimum Curvature
Design:	CSF 43D	Database:	EDM SERVER DB

Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
3,673.00	28.56	33.20	3,492.22	677.31	482.54	14,339,491.871	925,063.384	39.458152106°N	107.534289223°W
3,767.00	28.13	33.64	3,574.95	714.56	507.11	14,339,529.122	925,087.964	39.458256208°N	107.534205934°W
3,861.00	27.33	34.60	3,658.16	750.77	531.64	14,339,565.333	925,112.493	39.458357456°N	107.534122719°W
3,955.00	29.00	35.31	3,741.02	787.13	557.07	14,339,601.691	925,137.918	39.458459178°N	107.534036346°W
4,050.00	28.48	36.01	3,824.32	824.25	583.70	14,339,638.806	925,164.546	39.458563066°N	107.533945794°W
4,144.00	27.07	35.13	3,907.49	859.87	609.18	14,339,674.430	925,190.032	39.458662776°N	107.533859133°W
4,239.00	24.26	35.04	3,993.11	893.54	632.83	14,339,708.095	925,213.680	39.458756969°N	107.533778779°W
4,333.00	23.03	35.04	4,079.21	924.40	654.48	14,339,738.962	925,235.326	39.458843330°N	107.533705239°W
4,428.00	21.53	35.04	4,167.12	953.89	675.16	14,339,768.450	925,256.004	39.458925835°N	107.533634981°W
4,522.00	20.39	33.72	4,254.90	981.64	694.15	14,339,796.194	925,274.999	39.459003422°N	107.533570512°W
4,617.00	18.19	34.43	4,344.56	1,007.63	711.72	14,339,822.192	925,292.572	39.459076113°N	107.533510900°W
4,711.00	16.00	37.68	4,434.40	1,029.99	727.94	14,339,844.550	925,308.788	39.459138708°N	107.533455727°W
4,805.00	13.62	37.94	4,525.27	1,048.98	742.67	14,339,863.535	925,323.514	39.459191933°N	107.533405495°W
4,900.00	10.46	39.53	4,618.17	1,064.45	755.03	14,339,879.011	925,335.883	39.459235351°N	107.533363255°W
4,994.00	8.88	37.94	4,710.83	1,076.76	764.93	14,339,891.315	925,345.775	39.459269873°N	107.533329465°W
5,089.00	7.47	39.26	4,804.87	1,087.32	773.34	14,339,901.880	925,354.192	39.459299510°N	107.533300726°W
5,183.00	5.98	33.46	4,898.22	1,096.14	779.91	14,339,910.696	925,360.759	39.459324207°N	107.533278359°W
5,278.00	4.22	28.54	4,992.84	1,103.34	784.31	14,339,917.896	925,365.158	39.459344301°N	107.533263506°W
5,372.00	3.52	27.13	5,086.62	1,108.95	787.28	14,339,923.503	925,368.126	39.459359913°N	107.533253557°W
5,466.00	2.64	17.11	5,180.49	1,113.58	789.23	14,339,928.140	925,370.079	39.459372787°N	107.533247107°W
5,495.40	2.47	15.05	5,209.86	1,114.84	789.59	14,339,929.399	925,370.443	39.459376269°N	107.533245945°W
CSF 43D BH Tgt									
5,560.00	2.11	9.38	5,274.41	1,117.36	790.15	14,339,931.916	925,370.998	39.459383219°N	107.533244230°W
5,655.00	1.58	354.88	5,369.36	1,120.39	790.32	14,339,934.946	925,371.166	39.459391546°N	107.533243936°W
5,749.00	2.02	15.18	5,463.31	1,123.28	790.64	14,339,937.836	925,371.484	39.459399499°N	107.533243098°W
5,844.00	1.67	25.46	5,558.26	1,126.14	791.67	14,339,940.702	925,372.518	39.459407442°N	107.533239725°W
5,938.00	1.14	22.65	5,652.23	1,128.24	792.62	14,339,942.801	925,373.467	39.459413276°N	107.533236575°W
6,032.00	0.70	58.42	5,746.22	1,129.41	793.47	14,339,943.965	925,374.316	39.459416534°N	107.533233685°W
6,127.00	0.44	77.76	5,841.22	1,129.79	794.32	14,339,944.346	925,375.167	39.459417646°N	107.533230711°W
6,221.00	0.62	337.12	5,935.22	1,130.33	794.47	14,339,944.891	925,375.322	39.459419153°N	107.533230217°W
6,315.00	0.70	298.54	6,029.21	1,131.08	793.77	14,339,945.634	925,374.620	39.459421137°N	107.533232776°W
6,410.00	0.88	325.26	6,124.20	1,131.95	792.85	14,339,946.511	925,373.694	39.459423472°N	107.533236139°W
6,504.00	0.88	293.53	6,218.19	1,132.83	791.77	14,339,947.392	925,372.621	39.459425807°N	107.533240026°W
6,599.00	1.41	268.30	6,313.17	1,133.09	789.94	14,339,947.649	925,370.784	39.459426369°N	107.533246554°W
6,693.00	0.79	256.53	6,407.15	1,132.91	788.15	14,339,947.464	925,368.998	39.459425723°N	107.533252858°W
6,788.00	0.70	241.32	6,502.15	1,132.48	787.00	14,339,947.033	925,367.852	39.459424452°N	107.533256871°W
6,882.00	0.70	257.14	6,596.14	1,132.07	785.94	14,339,946.629	925,366.788	39.459423263°N	107.533260596°W
6,977.00	1.23	244.93	6,691.13	1,131.51	784.45	14,339,946.068	925,365.299	39.459421609°N	107.533265811°W
7,071.00	1.23	233.24	6,785.10	1,130.48	782.73	14,339,945.037	925,363.577	39.459418646°N	107.533271804°W
7,166.00	0.44	179.62	6,880.09	1,129.50	781.91	14,339,944.062	925,362.762	39.459415908°N	107.533274590°W
7,260.00	1.23	125.92	6,974.08	1,128.55	782.73	14,339,943.109	925,363.582	39.459413357°N	107.533271595°W
7,354.00	1.41	118.28	7,068.06	1,127.41	784.57	14,339,941.969	925,365.417	39.459410371°N	107.533264984°W
7,449.00	1.32	131.02	7,163.03	1,126.14	786.42	14,339,940.697	925,367.272	39.459407025°N	107.533258292°W
7,543.00	0.26	99.20	7,257.02	1,125.40	787.45	14,339,939.953	925,368.299	39.459405060°N	107.533254581°W
7,638.00	0.44	196.67	7,352.02	1,125.01	787.56	14,339,939.569	925,368.407	39.459404015°N	107.533254161°W
7,733.00	0.44	231.13	7,447.02	1,124.43	787.17	14,339,938.990	925,368.019	39.459402399°N	107.533255479°W
7,827.00	0.62	225.94	7,541.02	1,123.85	786.52	14,339,938.410	925,367.372	39.459400757°N	107.533257709°W
7,922.00	0.97	208.01	7,636.01	1,122.79	785.78	14,339,937.343	925,366.625	39.459397771°N	107.533260247°W
8,016.00	0.79	204.32	7,729.99	1,121.49	785.14	14,339,936.050	925,365.985	39.459394174°N	107.533262385°W
8,110.00	1.23	205.46	7,823.98	1,119.99	784.44	14,339,934.548	925,365.284	39.459390000°N	107.533264716°W
8,205.00	2.64	203.97	7,918.92	1,117.07	783.11	14,339,931.628	925,363.957	39.459381886°N	107.533269123°W
8,300.00	3.08	204.85	8,013.81	1,112.76	781.15	14,339,927.313	925,361.996	39.459369895°N	107.533275636°W
8,363.00	3.60	208.45	8,076.70	1,109.48	779.49	14,339,924.038	925,360.342	39.459360782°N	107.533281163°W
8,419.00	4.22	206.17	8,132.57	1,106.09	777.75	14,339,920.643	925,358.596	39.459351332°N	107.533287006°W

ARK Directional Services

Survey Report - Geographic

Company:	Antero Resources	Local Co-ordinate Reference:	Well CSF 43D-10-07-91 (111170)
Project:	Castle Springs Federal	TVD Reference:	KB @ 7310.00ft (Original Well Elev)
Site:	CSF Q Pad	MD Reference:	KB @ 7310.00ft (Original Well Elev)
Well:	CSF 43D-10-07-91 (111170)	North Reference:	Grid
Wellbore:	CSF 43D	Survey Calculation Method:	Minimum Curvature
Design:	CSF 43D	Database:	EDM SERVER DB

Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
8,465.00	4.22	206.17	8,178.44	1,103.05	776.25	14,339,917.605	925,357.103	39.459342882°N	107.533291987°W
Proj to TD at 8465 MD/8178 TVD									

Survey Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates			
		+N/-S (ft)	+E/-W (ft)	Comment	
8,465.00	8,178.44	1,103.05	776.25	Proj to TD at 8465 MD/8178 TVD	

Checked By: _____ Approved By: _____ Date: _____