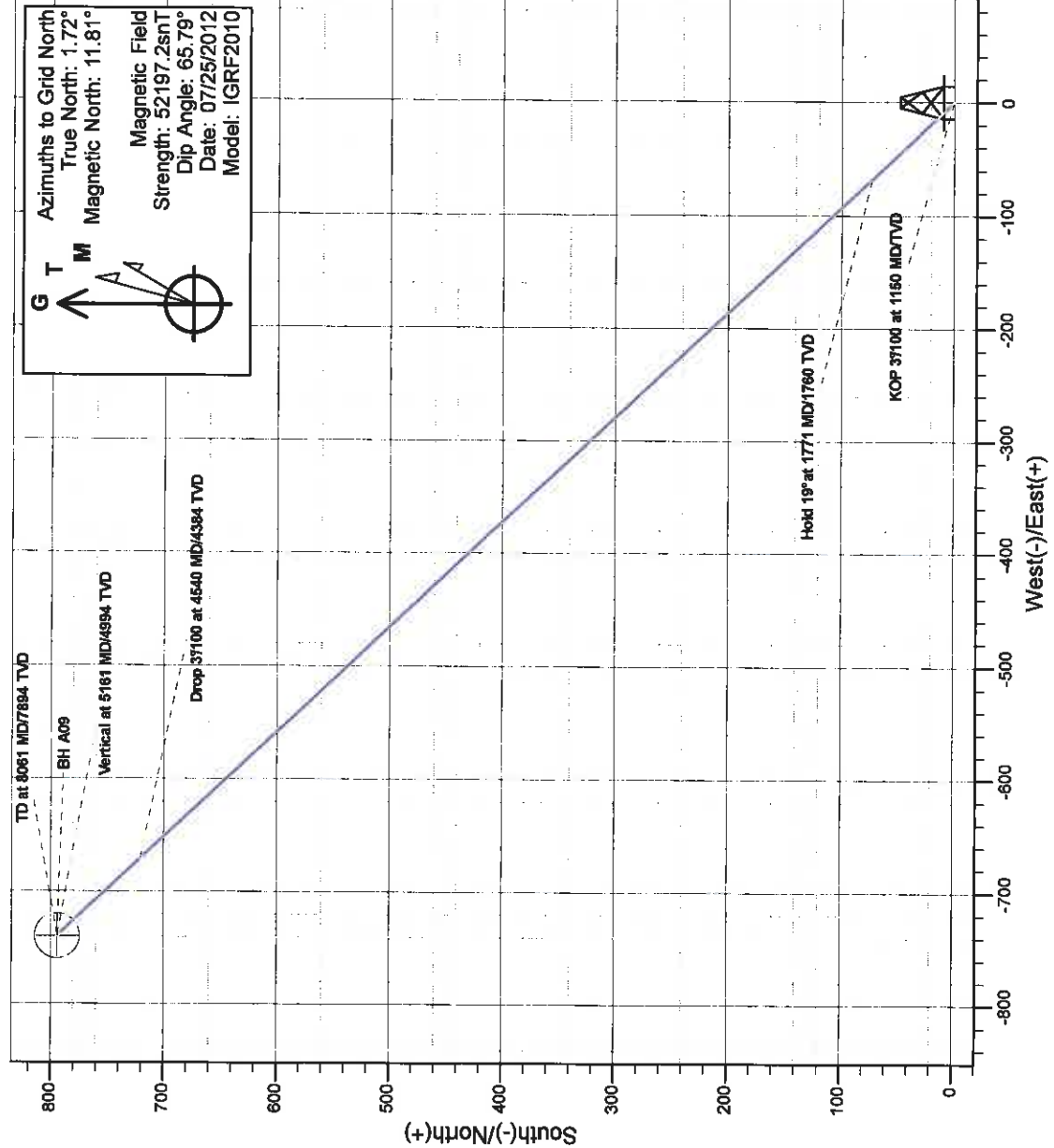


REFERENCE INFORMATION	
ordinate (N/E)	Reference: Well Dixon A09 (112015) - Slot A09, Grid North
erical (TVD)	Reference: KB @ 5559.00ft (Original Well Elev)
Section (VS)	Reference: Slot - A09(0.00N, 0.00E)
asured Depth	Reference: KB @ 5559.00ft (Original Well Elev)
Calculation Method: Minimum Curvature	



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Azimuths to Grid North

True North: 1.72°

Magnetic North: 11.81°

Magnetic Field

Strength: 52197.2snT

Dip Angle: 65.79°

Date: 07/25/2012

Model: GRF2010

PROJECT DETAILS: Dixon	
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

SECTION DETAILS									
MD	Inc	Azi	TVD	+N-S	+E-W	Dleg	TFace	V/Sect	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
1150.00	0.00	0.00	1150.00	0.00	0.00	0.00	0.00	0.00	
1771.35	18.64	317.05	1760.45	73.32	-68.27	3.00	317.05	100.19	
4539.68	18.64	317.05	4383.55	720.93	-671.22	0.00	0.00	985.02	
5161.02	0.00	317.05	4994.00	794.25	-739.48	3.00	180.00	1085.21	BH A09
8061.02	0.00	317.05	7894.00	794.25	-739.48	0.00	317.05	1085.21	BH A09

Antero Resources

Dixon

Dixon A

Dixon A09 (112015) - Slot A09

Dixon A09

Plan: Dixon A09 P01

Standard Planning Report - Geographic

26 April, 2012

Planning Report - Geographic

Database:	EDM5000-New	Local Co-ordinate Reference:	Well Dixon A09 (112015) - Slot A09
Company:	Antero Resources	TVD Reference:	KB @ 5559.00ft (Original Well Elev)
Project:	Dixon	MD Reference:	KB @ 5559.00ft (Original Well Elev)
Site:	Dixon A	North Reference:	Grd
Well:	Dixon A09 (112015)	Survey Calculation Method:	Minimum Curvature
Wellbore:	Dixon A09		
Design:	Dixon A09 P01		

Project	Dixon		
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	Dixon A				
Site Position:		Northing:	14,366,922.96 usft	Latitude:	39.529609988°N
From:	Map	Easting:	877,460.93 usft	Longitude:	107.705677999°W
Position Uncertainty:	0.00 ft	Slot Radius:	13.200 in	Grid Convergence:	-1.72 °

Well	Dixon A09 (112015) - Slot A09					
Well Position	+N/-S	0.00 ft	Northing:	14,366,924.47 usft	Latitude:	39.529605857°N
	+E/-W	0.00 ft	Easting:	877,360.79 usft	Longitude:	107.706032919°W
Position Uncertainty		0.00 ft	Wellhead Elevation:		Ground Level:	5,535.00 ft

Wellbore	Dixon A09				
Magnetics	Model Name	Sample Date	Declination	Dip Angle	Field Strength
			(°)	(°)	(nT)
	IGRF2010	07/25/12	10.08	65.79	52,197

Design	Dixon A09 P01			
Audit Notes:				
Version:	Phase:	PROTOTYPE	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W	Direction
	(ft)	(ft)	(ft)	(°)
	0.00	0.00	0.00	317.05

Plan Sections										
Measured Depth	Inclination	Azimuth	Vertical Depth	+N/-S	+E/-W	Dogleg Rate	Build Rate	Turn Rate	TFO	Target
(ft)	(°)	(°)	(ft)	(ft)	(ft)	(°/100ft)	(°/100ft)	(°/100ft)	(°)	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,150.00	0.00	0.00	1,150.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,771.35	18.64	317.05	1,760.45	73.32	-68.27	3.00	3.00	0.00	317.05	
4,539.68	18.64	317.05	4,383.55	720.93	-671.22	0.00	0.00	0.00	0.00	
5,161.02	0.00	317.05	4,994.00	794.25	-739.48	3.00	-3.00	0.00	180.00	
8,061.03	0.00	317.05	7,894.00	794.25	-739.48	0.00	0.00	0.00	317.05	BH A09

Planning Report - Geographic

Database:	EDM5000-New	Local Co-ordinate Reference:	Well Dixon A09 (112015) - Slot A09
Company:	Antero Resources	TVD Reference:	KB @ 5559.00ft (Original Well Elev)
Project:	Dixon	MD Reference:	KB @ 5559.00ft (Original Well Elev)
Site:	Dixon A	North Reference:	Grid
Well:	Dixon A09 (112015)	Survey Calculation Method:	Minimum Curvature
Wellbore:	Dixon A09		
Design:	Dixon A09 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	14,366,924.47	877,360.79	39.529605857°N	107.706032919°W	
Wasatch										
100.00	0.00	0.00	100.00	0.00	0.00	14,366,924.47	877,360.79	39.529605857°N	107.706032919°W	
200.00	0.00	0.00	200.00	0.00	0.00	14,366,924.47	877,360.79	39.529605857°N	107.706032919°W	
300.00	0.00	0.00	300.00	0.00	0.00	14,366,924.47	877,360.79	39.529605857°N	107.706032919°W	
400.00	0.00	0.00	400.00	0.00	0.00	14,366,924.47	877,360.79	39.529605857°N	107.706032919°W	
500.00	0.00	0.00	500.00	0.00	0.00	14,366,924.47	877,360.79	39.529605857°N	107.706032919°W	
600.00	0.00	0.00	600.00	0.00	0.00	14,366,924.47	877,360.79	39.529605857°N	107.706032919°W	
700.00	0.00	0.00	700.00	0.00	0.00	14,366,924.47	877,360.79	39.529605857°N	107.706032919°W	
800.00	0.00	0.00	800.00	0.00	0.00	14,366,924.47	877,360.79	39.529605857°N	107.706032919°W	
900.00	0.00	0.00	900.00	0.00	0.00	14,366,924.47	877,360.79	39.529605857°N	107.706032919°W	
1,000.00	0.00	0.00	1,000.00	0.00	0.00	14,366,924.47	877,360.79	39.529605857°N	107.706032919°W	
Surf Csg at 1000 MD/TVD										
1,100.00	0.00	0.00	1,100.00	0.00	0.00	14,366,924.47	877,360.79	39.529605857°N	107.706032919°W	
1,150.00	0.00	0.00	1,150.00	0.00	0.00	14,366,924.47	877,360.79	39.529605857°N	107.706032919°W	
KOP 3°/100 at 1150 MD/TVD										
1,200.00	1.50	317.05	1,199.99	0.48	-0.45	14,366,924.95	877,360.35	39.529607134°N	107.706034550°W	
1,300.00	4.50	317.05	1,299.85	4.31	-4.01	14,366,928.78	877,356.78	39.529617347°N	107.706047590°W	
1,400.00	7.50	317.05	1,399.29	11.96	-11.13	14,366,936.43	877,349.66	39.529637744°N	107.706073636°W	
1,500.00	10.50	317.05	1,498.04	23.41	-21.79	14,366,947.88	877,339.00	39.529668270°N	107.706112615°W	
1,600.00	13.50	317.05	1,595.85	38.62	-35.96	14,366,963.09	877,324.83	39.529708841°N	107.706164421°W	
1,700.00	16.50	317.05	1,692.43	57.56	-53.59	14,366,982.03	877,307.20	39.529759346°N	107.706228911°W	
1,771.35	18.64	317.05	1,760.45	73.32	-68.27	14,366,997.79	877,292.52	39.529801378°N	107.706282582°W	
Hold 19° at 1771 MD/1760 TVD										
1,800.00	18.64	317.05	1,787.59	80.03	-74.51	14,367,004.50	877,286.28	39.529819250°N	107.706305403°W	
1,900.00	18.64	317.05	1,882.35	103.42	-96.29	14,367,027.89	877,264.50	39.529881628°N	107.706385055°W	
2,000.00	18.64	317.05	1,977.10	126.81	-118.07	14,367,051.28	877,242.72	39.529944006°N	107.706464707°W	
2,100.00	18.64	317.05	2,071.86	150.21	-139.85	14,367,074.68	877,220.94	39.530006384°N	107.706544360°W	
2,200.00	18.64	317.05	2,166.61	173.60	-161.63	14,367,098.07	877,199.16	39.530068762°N	107.706624012°W	
2,300.00	18.64	317.05	2,261.37	196.99	-183.41	14,367,121.46	877,177.38	39.530131140°N	107.706703665°W	
2,400.00	18.64	317.05	2,356.12	220.39	-205.19	14,367,144.86	877,155.60	39.530193518°N	107.706783317°W	
2,500.00	18.64	317.05	2,450.87	243.78	-226.97	14,367,168.25	877,133.82	39.530255896°N	107.706862970°W	
2,600.00	18.64	317.05	2,545.63	267.17	-248.75	14,367,191.64	877,112.04	39.530318273°N	107.706942623°W	
2,700.00	18.64	317.05	2,640.38	290.57	-270.53	14,367,215.04	877,090.26	39.530380651°N	107.707022276°W	
2,800.00	18.64	317.05	2,735.14	313.96	-292.31	14,367,238.43	877,068.48	39.530443029°N	107.707101930°W	
2,900.00	18.64	317.05	2,829.89	337.35	-314.09	14,367,261.82	877,046.70	39.530505406°N	107.707181583°W	
3,000.00	18.64	317.05	2,924.65	360.75	-335.87	14,367,285.22	877,024.92	39.530567784°N	107.707261236°W	
3,100.00	18.64	317.05	3,019.40	384.14	-357.65	14,367,308.61	877,003.14	39.530630161°N	107.707340890°W	
3,200.00	18.64	317.05	3,114.15	407.53	-379.43	14,367,332.00	876,981.36	39.530692538°N	107.707420544°W	
3,300.00	18.64	317.05	3,208.91	430.93	-401.21	14,367,355.40	876,959.58	39.530754916°N	107.707500198°W	
3,400.00	18.64	317.05	3,303.66	454.32	-422.99	14,367,378.79	876,937.80	39.530817293°N	107.707579852°W	
3,500.00	18.64	317.05	3,398.42	477.71	-444.77	14,367,402.18	876,916.02	39.530879670°N	107.707659506°W	
3,600.00	18.64	317.05	3,493.17	501.11	-466.55	14,367,425.58	876,894.24	39.530942047°N	107.707739161°W	
3,700.00	18.64	317.05	3,587.93	524.50	-488.33	14,367,448.97	876,872.46	39.531004424°N	107.707818815°W	
3,800.00	18.64	317.05	3,682.68	547.89	-510.11	14,367,472.36	876,850.68	39.531066801°N	107.707898470°W	
3,900.00	18.64	317.05	3,777.43	571.29	-531.89	14,367,495.75	876,828.90	39.531129178°N	107.707978125°W	
4,000.00	18.64	317.05	3,872.19	594.68	-553.67	14,367,519.15	876,807.12	39.531191555°N	107.708057780°W	
4,100.00	18.64	317.05	3,966.94	618.07	-575.45	14,367,542.54	876,785.34	39.531253932°N	107.708137435°W	
4,200.00	18.64	317.05	4,061.70	641.47	-597.23	14,367,565.93	876,763.56	39.531316309°N	107.708217090°W	
4,300.00	18.64	317.05	4,156.45	664.86	-619.01	14,367,589.33	876,741.78	39.531378685°N	107.708296746°W	
4,339.63	18.64	317.05	4,194.00	674.13	-627.65	14,367,598.60	876,733.15	39.531403404°N	107.708328311°W	
Mesaverde										
4,400.00	18.64	317.05	4,251.21	688.25	-640.79	14,367,612.72	876,720.00	39.531441062°N	107.708376401°W	
4,500.00	18.64	317.05	4,345.96	711.65	-662.57	14,367,636.11	876,698.22	39.531503436°N	107.708458057°W	

Planning Report - Geographic

Database:	EDM5000-New	Local Co-ordinate Reference:	Well Dixon A09 (112015) - Slot A09
Company:	Antero Resources	TVD Reference:	KB @ 5559.00ft (Original Well Elev)
Project:	Dixon	MD Reference:	KB @ 5559.00ft (Original Well Elev)
Site:	Dixon A	North Reference:	Grd
Well:	Dixon A09 (112015)	Survey Calculation Method:	Minimum Curvature
Wellbore:	Dixon A09		
Design:	Dixon A09 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	
4,539.68	18.64	317.05	4,383.55	720.93	-671.22	14,367,645.40	876,689.58	39.531528187°N	107.708487661°W	
Drop 3°/100 at 4540 MD/4384 TVD										
4,600.00	16.83	317.05	4,441.01	734.38	-683.74	14,367,658.84	876,677.06	39.531564047°N	107.708533455°W	
4,700.00	13.83	317.05	4,537.44	753.73	-701.75	14,367,678.19	876,659.04	39.531615638°N	107.708599338°W	
4,800.00	10.83	317.05	4,635.12	769.35	-716.30	14,367,693.82	876,644.49	39.531657309°N	107.708652552°W	
4,900.00	7.83	317.05	4,733.79	781.22	-727.35	14,367,705.69	876,633.44	39.531688946°N	107.708692954°W	
5,000.00	4.83	317.05	4,833.17	789.29	-734.86	14,367,713.76	876,625.93	39.531710463°N	107.708720431°W	
5,100.00	1.83	317.05	4,932.99	793.54	-738.82	14,367,718.01	876,621.97	39.531721800°N	107.708734909°W	
5,161.02	0.00	317.05	4,994.00	794.25	-739.48	14,367,718.72	876,621.31	39.531723702°N	107.708737338°W	
Vertical at 5161 MD/4994 TVD - Price Coal										
5,200.00	0.00	317.05	5,032.98	794.25	-739.48	14,367,718.72	876,621.31	39.531723702°N	107.708737338°W	
5,300.00	0.00	317.05	5,132.98	794.25	-739.48	14,367,718.72	876,621.31	39.531723702°N	107.708737338°W	
5,400.00	0.00	317.05	5,232.98	794.25	-739.48	14,367,718.72	876,621.31	39.531723702°N	107.708737338°W	
5,500.00	0.00	317.05	5,332.98	794.25	-739.48	14,367,718.72	876,621.31	39.531723702°N	107.708737338°W	
5,600.00	0.00	317.05	5,432.98	794.25	-739.48	14,367,718.72	876,621.31	39.531723702°N	107.708737338°W	
5,700.00	0.00	317.05	5,532.98	794.25	-739.48	14,367,718.72	876,621.31	39.531723702°N	107.708737338°W	
5,800.00	0.00	317.05	5,632.98	794.25	-739.48	14,367,718.72	876,621.31	39.531723702°N	107.708737338°W	
5,861.02	0.00	317.05	5,694.00	794.25	-739.48	14,367,718.72	876,621.31	39.531723702°N	107.708737338°W	
Top Gas										
5,900.00	0.00	317.05	5,732.98	794.25	-739.48	14,367,718.72	876,621.31	39.531723702°N	107.708737338°W	
6,000.00	0.00	317.05	5,832.98	794.25	-739.48	14,367,718.72	876,621.31	39.531723702°N	107.708737338°W	
6,100.00	0.00	317.05	5,932.98	794.25	-739.48	14,367,718.72	876,621.31	39.531723702°N	107.708737338°W	
6,200.00	0.00	317.05	6,032.98	794.25	-739.48	14,367,718.72	876,621.31	39.531723702°N	107.708737338°W	
6,300.00	0.00	317.05	6,132.98	794.25	-739.48	14,367,718.72	876,621.31	39.531723702°N	107.708737338°W	
6,400.00	0.00	317.05	6,232.98	794.25	-739.48	14,367,718.72	876,621.31	39.531723702°N	107.708737338°W	
6,500.00	0.00	317.05	6,332.98	794.25	-739.48	14,367,718.72	876,621.31	39.531723702°N	107.708737338°W	
6,600.00	0.00	317.05	6,432.98	794.25	-739.48	14,367,718.72	876,621.31	39.531723702°N	107.708737338°W	
6,700.00	0.00	317.05	6,532.98	794.25	-739.48	14,367,718.72	876,621.31	39.531723702°N	107.708737338°W	
6,761.02	0.00	317.05	6,594.00	794.25	-739.48	14,367,718.72	876,621.31	39.531723702°N	107.708737338°W	
Cameo										
6,800.00	0.00	317.05	6,632.98	794.25	-739.48	14,367,718.72	876,621.31	39.531723702°N	107.708737338°W	
6,900.00	0.00	317.05	6,732.98	794.25	-739.48	14,367,718.72	876,621.31	39.531723702°N	107.708737338°W	
7,000.00	0.00	317.05	6,832.98	794.25	-739.48	14,367,718.72	876,621.31	39.531723702°N	107.708737338°W	
7,100.00	0.00	317.05	6,932.98	794.25	-739.48	14,367,718.72	876,621.31	39.531723702°N	107.708737338°W	
7,200.00	0.00	317.05	7,032.98	794.25	-739.48	14,367,718.72	876,621.31	39.531723702°N	107.708737338°W	
7,300.00	0.00	317.05	7,132.98	794.25	-739.48	14,367,718.72	876,621.31	39.531723702°N	107.708737338°W	
7,400.00	0.00	317.05	7,232.98	794.25	-739.48	14,367,718.72	876,621.31	39.531723702°N	107.708737338°W	
7,500.00	0.00	317.05	7,332.98	794.25	-739.48	14,367,718.72	876,621.31	39.531723702°N	107.708737338°W	
7,600.00	0.00	317.05	7,432.98	794.25	-739.48	14,367,718.72	876,621.31	39.531723702°N	107.708737338°W	
7,700.00	0.00	317.05	7,532.98	794.25	-739.48	14,367,718.72	876,621.31	39.531723702°N	107.708737338°W	
7,800.00	0.00	317.05	7,632.98	794.25	-739.48	14,367,718.72	876,621.31	39.531723702°N	107.708737338°W	
7,861.03	0.00	317.05	7,694.00	794.25	-739.48	14,367,718.72	876,621.31	39.531723702°N	107.708737338°W	
Rollins										
7,900.00	0.00	317.05	7,732.98	794.25	-739.48	14,367,718.72	876,621.31	39.531723702°N	107.708737338°W	
8,000.00	0.00	317.05	7,832.98	794.25	-739.48	14,367,718.72	876,621.31	39.531723702°N	107.708737338°W	
8,061.03	0.00	317.05	7,894.00	794.25	-739.48	14,367,718.72	876,621.31	39.531723702°N	107.708737338°W	
TD at 8061 MD/7894 TVD										

Planning Report - Geographic

Database:	EDM5000-New	Local Co-ordinate Reference:	Well Dixon A09 (112015) - Slot A09
Company:	Antero Resources	TVD Reference:	KB @ 5559.00ft (Original Well Elev)
Project:	Dixon	MD Reference:	KB @ 5559.00ft (Original Well Elev)
Site:	Dixon A	North Reference:	Grid
Well:	Dixon A09 (112015)	Survey Calculation Method:	Minimum Curvature
Wellbore:	Dixon A09		
Design:	Dixon A09 P01		

Design Targets									
Target Name									
- hit/miss target	Dip Angle	Dip Dir.	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
- Shape	(°)	(°)	(ft)	(ft)	(ft)	(usft)	(usft)		
BH A09	0.00	0.00	7,894.00	794.25	-739.48	14,367,718.72	876,621.31	39.531723702°N	107.708737338°W
- plan hits target center									
- Circle (radius 20.00)									

Casing Points				
Measured Depth	Vertical Depth		Casing Diameter	Hole Diameter
(ft)	(ft)	Name	(in)	(in)
1,000.00	1,000.00	Surf Csg at 1000 MD/TVD	5.500	6.000

Formations					
Measured Depth	Vertical Depth			Dip	Dip Direction
(ft)	(ft)	Name	Lithology	(°)	(°)
0.00	0.00	Wasatch			
4,339.63	4,194.00	Mesaverde			
5,161.02	4,994.00	Price Coal			
5,861.02	5,694.00	Top Gas			
6,761.02	6,594.00	Cameo			
7,861.03	7,694.00	Rollins			

Plan Annotations				
Measured Depth	Vertical Depth	Local Coordinates		
(ft)	(ft)	+N/-S (ft)	+E/-W (ft)	Comment
1,150.00	1,150.00	0.00	0.00	KOP 3°/100 at 1150 MD/TVD
1,771.35	1,760.45	73.32	-68.27	Hold 19° at 1771 MD/1760 TVD
4,539.68	4,383.55	720.93	-671.22	Drop 3°/100 at 4540 MD/4384 TVD
5,161.02	4,994.00	794.25	-739.48	Vertical at 5161 MD/4994 TVD
8,061.03	7,694.00	794.25	-739.48	TD at 8061 MD/7694 TVD