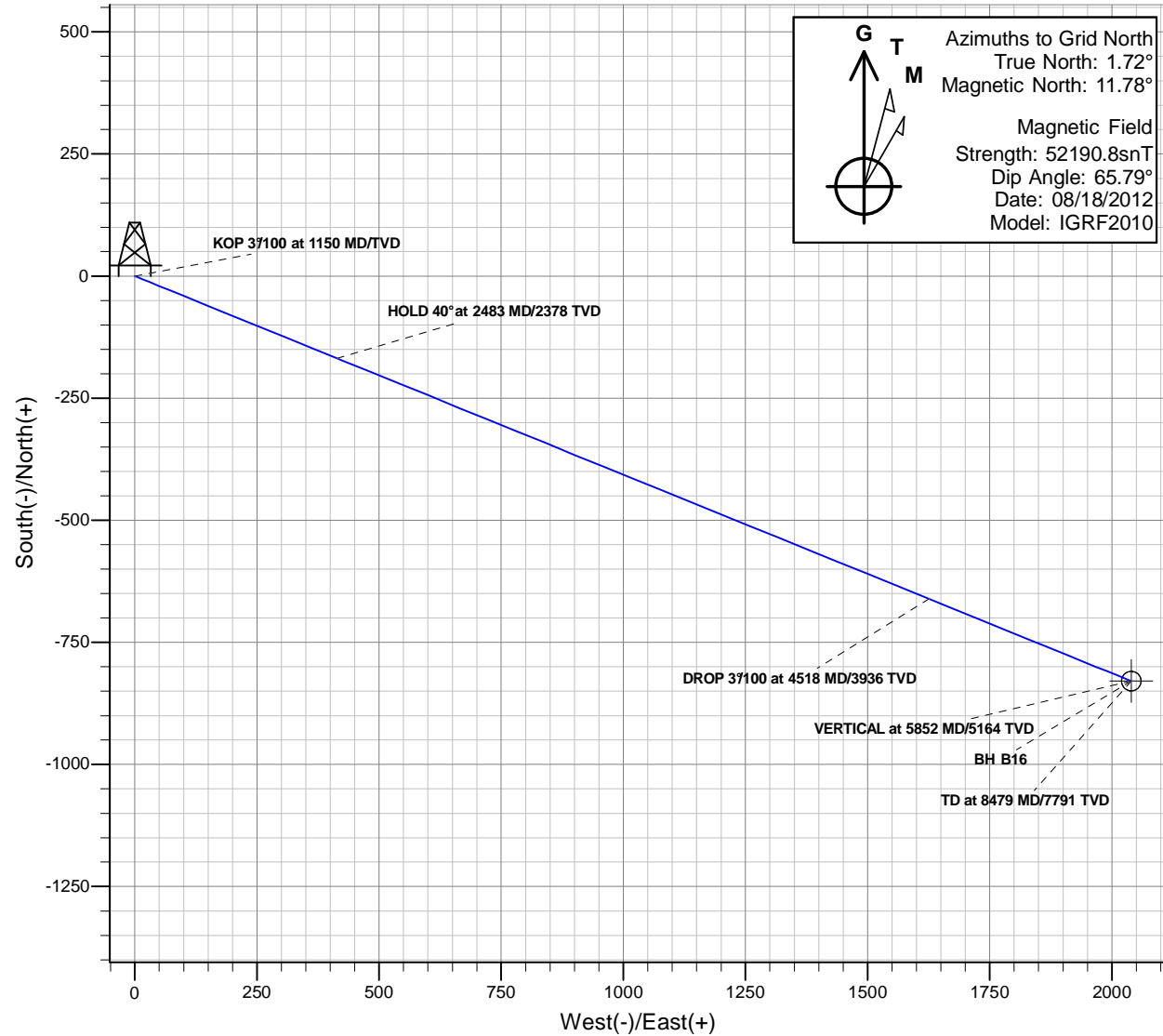
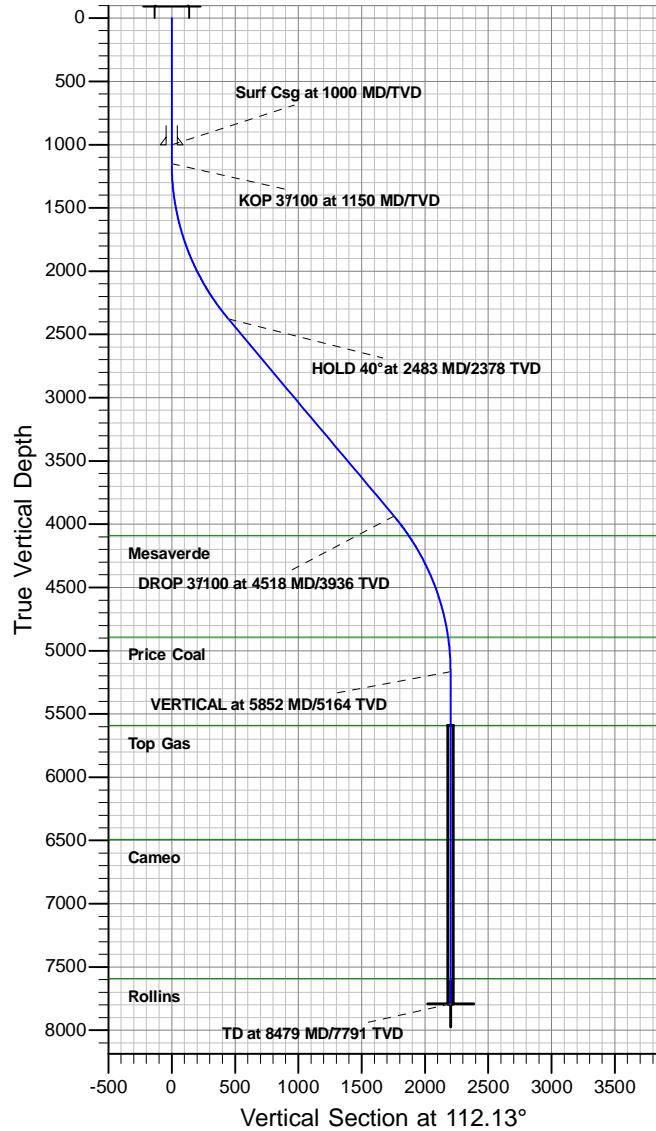




Antero Resources

Gentry B16 (112020)
Gentry B16 P01



REFERENCE INFORMATION

Co-ordinate (N/E) Reference: Well Gentry B16 (112020) - Slot B16, Grid North
Vertical (TVD) Reference: KB @ 5648.00ft (Original Well Elev)
Section (VS) Reference: Slot - B16(0.00N, 0.00E)
Measured Depth Reference: KB @ 5648.00ft (Original Well Elev)
Calculation Method: Minimum Curvature

PROJECT DETAILS: Gentry

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	VSecl	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	
2483.48	40.00	112.13	2377.74	-168.32	414.00	3.00	112.13	446.91	
4518.10	40.00	112.13	3936.26	-660.94	1625.64	0.00	0.00	1754.86	
5851.58	0.00	0.00	5164.00	-829.26	2039.64	3.00	180.00	2201.78	
8478.58	0.00	0.00	7791.00	-829.26	2039.64	0.00	0.00	2201.78	BH B16



Antero Resources

Gentry

Gentry B

Gentry B16 (112020) - Slot B16

Gentry B16

Plan: Gentry B16 P01

Standard Planning Report - Geographic

29 May, 2012



Database:	EDM5000-New	Local Co-ordinate Reference:	Well Gentry B16 (112020) - Slot B16
Company:	Antero Resources	TVD Reference:	KB @ 5648.00ft (Original Well Elev)
Project:	Gentry	MD Reference:	KB @ 5648.00ft (Original Well Elev)
Site:	Gentry B	North Reference:	Grid
Well:	Gentry B16 (112020)	Survey Calculation Method:	Minimum Curvature
Wellbore:	Gentry B16		
Design:	Gentry B16 P01		

Project	Gentry		
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	Gentry B				
Site Position:		Northing:	14,366,383.28 usft	Latitude:	39.528393199°N
From:	Map	Easting:	880,664.23 usft	Longitude:	107.694272643°W
Position Uncertainty:	0.00 ft	Slot Radius:	13.200 in	Grid Convergence:	-1.72 °

Well	Gentry B16 (112020) - Slot B16					
Well Position	+N/-S	0.00 ft	Northing:	14,366,387.86 usft	Latitude:	39.528413374°N
	+E/-W	0.00 ft	Easting:	880,756.89 usft	Longitude:	107.693944885°W
Position Uncertainty		0.00 ft	Wellhead Elevation:		Ground Level:	5,624.00 ft

Wellbore	Gentry B16				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	08/18/12	10.07	65.79	52,191

Design	Gentry B16 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	112.13

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	
1,150.00	0.00	0.00	1,150.00	0.00	0.00	0.00	0.00	0.00	0.00	
2,483.48	40.00	112.13	2,377.74	-168.32	414.00	3.00	3.00	0.00	112.13	
4,518.10	40.00	112.13	3,936.26	-660.94	1,625.64	0.00	0.00	0.00	0.00	
5,851.58	0.00	0.00	5,164.00	-829.26	2,039.64	3.00	-3.00	0.00	180.00	
8,478.58	0.00	0.00	7,791.00	-829.26	2,039.64	0.00	0.00	0.00	0.00	BH B16



Database:	EDM5000-New	Local Co-ordinate Reference:	Well Gentry B16 (112020) - Slot B16
Company:	Antero Resources	TVD Reference:	KB @ 5648.00ft (Original Well Elev)
Project:	Gentry	MD Reference:	KB @ 5648.00ft (Original Well Elev)
Site:	Gentry B	North Reference:	Grid
Well:	Gentry B16 (112020)	Survey Calculation Method:	Minimum Curvature
Wellbore:	Gentry B16		
Design:	Gentry B16 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	14,366,387.86	880,756.89	39.528413374°N	107.693944885°W
100.00	0.00	0.00	100.00	0.00	0.00	14,366,387.86	880,756.89	39.528413374°N	107.693944885°W
200.00	0.00	0.00	200.00	0.00	0.00	14,366,387.86	880,756.89	39.528413374°N	107.693944885°W
300.00	0.00	0.00	300.00	0.00	0.00	14,366,387.86	880,756.89	39.528413374°N	107.693944885°W
400.00	0.00	0.00	400.00	0.00	0.00	14,366,387.86	880,756.89	39.528413374°N	107.693944885°W
500.00	0.00	0.00	500.00	0.00	0.00	14,366,387.86	880,756.89	39.528413374°N	107.693944885°W
600.00	0.00	0.00	600.00	0.00	0.00	14,366,387.86	880,756.89	39.528413374°N	107.693944885°W
700.00	0.00	0.00	700.00	0.00	0.00	14,366,387.86	880,756.89	39.528413374°N	107.693944885°W
800.00	0.00	0.00	800.00	0.00	0.00	14,366,387.86	880,756.89	39.528413374°N	107.693944885°W
900.00	0.00	0.00	900.00	0.00	0.00	14,366,387.86	880,756.89	39.528413374°N	107.693944885°W
1,000.00	0.00	0.00	1,000.00	0.00	0.00	14,366,387.86	880,756.89	39.528413374°N	107.693944885°W
Surf Csg at 1000 MD/TVD									
1,100.00	0.00	0.00	1,100.00	0.00	0.00	14,366,387.86	880,756.89	39.528413374°N	107.693944885°W
1,150.00	0.00	0.00	1,150.00	0.00	0.00	14,366,387.86	880,756.89	39.528413374°N	107.693944885°W
KOP 3°/100 at 1150 MD/TVD									
1,200.00	1.50	112.13	1,199.99	-0.25	0.61	14,366,387.61	880,757.50	39.528412747°N	107.693942711°W
1,300.00	4.50	112.13	1,299.85	-2.22	5.45	14,366,385.64	880,762.34	39.528407739°N	107.693925329°W
1,400.00	7.50	112.13	1,399.29	-6.15	15.14	14,366,381.70	880,772.03	39.528397735°N	107.693890612°W
1,500.00	10.50	112.13	1,498.04	-12.05	29.63	14,366,375.81	880,786.52	39.528382764°N	107.693838656°W
1,600.00	13.50	112.13	1,595.85	-19.87	48.88	14,366,367.98	880,805.77	39.528362866°N	107.693769603°W
1,700.00	16.50	112.13	1,692.43	-29.62	72.86	14,366,358.23	880,829.75	39.528338096°N	107.693683642°W
1,800.00	19.50	112.13	1,787.52	-41.26	101.48	14,366,346.60	880,858.37	39.528308522°N	107.693581009°W
1,900.00	22.50	112.13	1,880.87	-54.75	134.67	14,366,333.10	880,891.56	39.528274225°N	107.693461985°W
2,000.00	25.50	112.13	1,972.22	-70.07	172.35	14,366,317.78	880,929.24	39.528235298°N	107.693326897°W
2,100.00	28.50	112.13	2,061.31	-87.17	214.40	14,366,300.69	880,971.29	39.528191849°N	107.693176115°W
2,200.00	31.50	112.13	2,147.90	-106.00	260.71	14,366,281.86	881,017.60	39.528143996°N	107.693010053°W
2,300.00	34.50	112.13	2,231.76	-126.51	311.16	14,366,261.35	881,068.05	39.528091871°N	107.692829164°W
2,400.00	37.50	112.13	2,312.65	-148.64	365.60	14,366,239.21	881,122.49	39.528035616°N	107.692633946°W
2,483.48	40.00	112.13	2,377.75	-168.32	414.01	14,366,219.53	881,170.90	39.527985603°N	107.692460390°W
HOLD 40° at 2483 MD/2378 TVD									
2,500.00	40.00	112.13	2,390.40	-172.32	423.84	14,366,215.53	881,180.73	39.527975438°N	107.692425115°W
2,600.00	40.00	112.13	2,467.00	-196.54	483.40	14,366,191.32	881,240.28	39.527913905°N	107.692211587°W
2,700.00	40.00	112.13	2,543.60	-220.75	542.95	14,366,167.11	881,299.84	39.527852372°N	107.691998059°W
2,800.00	40.00	112.13	2,620.20	-244.96	602.50	14,366,142.90	881,359.39	39.527790839°N	107.691784531°W
2,900.00	40.00	112.13	2,696.80	-269.17	662.05	14,366,118.68	881,418.94	39.527729306°N	107.691571004°W
3,000.00	40.00	112.13	2,773.40	-293.38	721.60	14,366,094.47	881,478.49	39.527667772°N	107.691357477°W
3,100.00	40.00	112.13	2,850.00	-317.59	781.15	14,366,070.26	881,538.04	39.527606237°N	107.691143950°W
3,200.00	40.00	112.13	2,926.60	-341.81	840.70	14,366,046.05	881,597.59	39.527544703°N	107.690930424°W
3,300.00	40.00	112.13	3,003.20	-366.02	900.25	14,366,021.84	881,657.14	39.527483167°N	107.690716898°W
3,400.00	40.00	112.13	3,079.80	-390.23	959.80	14,365,997.63	881,716.69	39.527421632°N	107.690503372°W
3,500.00	40.00	112.13	3,156.40	-414.44	1,019.35	14,365,973.41	881,776.24	39.527360096°N	107.690289847°W
3,600.00	40.00	112.13	3,233.00	-438.65	1,078.90	14,365,949.20	881,835.79	39.527298559°N	107.690076322°W
3,700.00	40.00	112.13	3,309.60	-462.86	1,138.45	14,365,924.99	881,895.34	39.527237023°N	107.689862798°W
3,800.00	40.00	112.13	3,386.20	-487.08	1,198.00	14,365,900.78	881,954.89	39.527175485°N	107.689649273°W
3,900.00	40.00	112.13	3,462.80	-511.29	1,257.55	14,365,876.57	882,014.44	39.527113948°N	107.689435750°W
4,000.00	40.00	112.13	3,539.39	-535.50	1,317.11	14,365,852.36	882,073.99	39.527052410°N	107.689222226°W
4,100.00	40.00	112.13	3,615.99	-559.71	1,376.66	14,365,828.14	882,133.54	39.526990871°N	107.689008703°W
4,200.00	40.00	112.13	3,692.59	-583.92	1,436.21	14,365,803.93	882,193.09	39.526929332°N	107.688795180°W
4,300.00	40.00	112.13	3,769.19	-608.14	1,495.76	14,365,779.72	882,252.65	39.526867793°N	107.688581658°W
4,400.00	40.00	112.13	3,845.79	-632.35	1,555.31	14,365,755.51	882,312.20	39.526806253°N	107.688368136°W
4,500.00	40.00	112.13	3,922.39	-656.56	1,614.86	14,365,731.30	882,371.75	39.526744713°N	107.688154614°W
4,518.10	40.00	112.13	3,936.26	-660.94	1,625.64	14,365,726.92	882,382.53	39.526733575°N	107.688115967°W
DROP 3°/100 at 4518 MD/3936 TVD									
4,600.00	37.55	112.13	4,000.10	-680.26	1,673.15	14,365,707.60	882,430.04	39.526684476°N	107.687945614°W

Database:	EDM5000-New	Local Co-ordinate Reference:	Well Gentry B16 (112020) - Slot B16
Company:	Antero Resources	TVD Reference:	KB @ 5648.00ft (Original Well Elev)
Project:	Gentry	MD Reference:	KB @ 5648.00ft (Original Well Elev)
Site:	Gentry B	North Reference:	Grid
Well:	Gentry B16 (112020)	Survey Calculation Method:	Minimum Curvature
Wellbore:	Gentry B16		
Design:	Gentry B16 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
4,700.00	34.55	112.13	4,080.95	-702.42	1,727.65	14,365,685.44	882,484.54	39.526628149°N	107.687750182°W
4,712.18	34.18	112.13	4,091.00	-705.01	1,734.02	14,365,682.85	882,490.91	39.526621567°N	107.687727346°W
Mesaverde									
4,800.00	31.55	112.13	4,164.76	-722.96	1,778.17	14,365,664.90	882,535.05	39.526575949°N	107.687569072°W
4,900.00	28.55	112.13	4,251.31	-741.81	1,824.55	14,365,646.04	882,581.43	39.526528019°N	107.687402779°W
5,000.00	25.55	112.13	4,340.36	-758.94	1,866.66	14,365,628.92	882,623.55	39.526484492°N	107.687251760°W
5,100.00	22.55	112.13	4,431.67	-774.28	1,904.41	14,365,613.57	882,661.30	39.526445486°N	107.687116428°W
5,200.00	19.55	112.13	4,524.99	-787.81	1,937.67	14,365,600.05	882,694.56	39.526411108°N	107.686997155°W
5,300.00	16.55	112.13	4,620.06	-799.47	1,966.37	14,365,588.38	882,723.26	39.526381452°N	107.686894267°W
5,400.00	13.55	112.13	4,716.62	-809.25	1,990.42	14,365,578.61	882,747.30	39.526356601°N	107.686808046°W
5,500.00	10.55	112.13	4,814.41	-817.11	2,009.75	14,365,570.75	882,766.64	39.526336621°N	107.686738729°W
5,577.64	8.22	112.13	4,891.00	-821.88	2,021.47	14,365,565.98	882,778.36	39.526324505°N	107.686696691°W
Price Coal									
5,600.00	7.55	112.13	4,913.15	-823.03	2,024.31	14,365,564.82	882,781.20	39.526321569°N	107.686686505°W
5,700.00	4.55	112.13	5,012.58	-827.00	2,034.07	14,365,560.86	882,790.96	39.526311484°N	107.686651517°W
5,800.00	1.55	112.13	5,112.43	-829.00	2,039.00	14,365,558.85	882,795.88	39.526306396°N	107.686633862°W
5,851.58	0.00	0.00	5,164.00	-829.26	2,039.64	14,365,558.59	882,796.53	39.526305729°N	107.686631550°W
VERTICAL at 5852 MD/5164 TVD									
5,900.00	0.00	0.00	5,212.42	-829.26	2,039.64	14,365,558.59	882,796.53	39.526305729°N	107.686631550°W
6,000.00	0.00	0.00	5,312.42	-829.26	2,039.64	14,365,558.59	882,796.53	39.526305729°N	107.686631550°W
6,100.00	0.00	0.00	5,412.42	-829.26	2,039.64	14,365,558.59	882,796.53	39.526305729°N	107.686631550°W
6,200.00	0.00	0.00	5,512.42	-829.26	2,039.64	14,365,558.59	882,796.53	39.526305729°N	107.686631550°W
6,278.58	0.00	0.00	5,591.00	-829.26	2,039.64	14,365,558.59	882,796.53	39.526305729°N	107.686631550°W
Top Gas									
6,300.00	0.00	0.00	5,612.42	-829.26	2,039.64	14,365,558.59	882,796.53	39.526305729°N	107.686631550°W
6,400.00	0.00	0.00	5,712.42	-829.26	2,039.64	14,365,558.59	882,796.53	39.526305729°N	107.686631550°W
6,500.00	0.00	0.00	5,812.42	-829.26	2,039.64	14,365,558.59	882,796.53	39.526305729°N	107.686631550°W
6,600.00	0.00	0.00	5,912.42	-829.26	2,039.64	14,365,558.59	882,796.53	39.526305729°N	107.686631550°W
6,700.00	0.00	0.00	6,012.42	-829.26	2,039.64	14,365,558.59	882,796.53	39.526305729°N	107.686631550°W
6,800.00	0.00	0.00	6,112.42	-829.26	2,039.64	14,365,558.59	882,796.53	39.526305729°N	107.686631550°W
6,900.00	0.00	0.00	6,212.42	-829.26	2,039.64	14,365,558.59	882,796.53	39.526305729°N	107.686631550°W
7,000.00	0.00	0.00	6,312.42	-829.26	2,039.64	14,365,558.59	882,796.53	39.526305729°N	107.686631550°W
7,100.00	0.00	0.00	6,412.42	-829.26	2,039.64	14,365,558.59	882,796.53	39.526305729°N	107.686631550°W
7,178.58	0.00	0.00	6,491.00	-829.26	2,039.64	14,365,558.59	882,796.53	39.526305729°N	107.686631550°W
Cameo									
7,200.00	0.00	0.00	6,512.42	-829.26	2,039.64	14,365,558.59	882,796.53	39.526305729°N	107.686631550°W
7,300.00	0.00	0.00	6,612.42	-829.26	2,039.64	14,365,558.59	882,796.53	39.526305729°N	107.686631550°W
7,400.00	0.00	0.00	6,712.42	-829.26	2,039.64	14,365,558.59	882,796.53	39.526305729°N	107.686631550°W
7,500.00	0.00	0.00	6,812.42	-829.26	2,039.64	14,365,558.59	882,796.53	39.526305729°N	107.686631550°W
7,600.00	0.00	0.00	6,912.42	-829.26	2,039.64	14,365,558.59	882,796.53	39.526305729°N	107.686631550°W
7,700.00	0.00	0.00	7,012.42	-829.26	2,039.64	14,365,558.59	882,796.53	39.526305729°N	107.686631550°W
7,800.00	0.00	0.00	7,112.42	-829.26	2,039.64	14,365,558.59	882,796.53	39.526305729°N	107.686631550°W
7,900.00	0.00	0.00	7,212.42	-829.26	2,039.64	14,365,558.59	882,796.53	39.526305729°N	107.686631550°W
8,000.00	0.00	0.00	7,312.42	-829.26	2,039.64	14,365,558.59	882,796.53	39.526305729°N	107.686631550°W
8,100.00	0.00	0.00	7,412.42	-829.26	2,039.64	14,365,558.59	882,796.53	39.526305729°N	107.686631550°W
8,200.00	0.00	0.00	7,512.42	-829.26	2,039.64	14,365,558.59	882,796.53	39.526305729°N	107.686631550°W
8,278.58	0.00	0.00	7,591.00	-829.26	2,039.64	14,365,558.59	882,796.53	39.526305729°N	107.686631550°W
Rollins									
8,300.00	0.00	0.00	7,612.42	-829.26	2,039.64	14,365,558.59	882,796.53	39.526305729°N	107.686631550°W
8,400.00	0.00	0.00	7,712.42	-829.26	2,039.64	14,365,558.59	882,796.53	39.526305729°N	107.686631550°W
8,478.00	0.00	0.00	7,790.42	-829.26	2,039.64	14,365,558.59	882,796.53	39.526305729°N	107.686631550°W
TD at 8479 MD/7791 TVD									
8,478.58	0.00	0.00	7,791.00	-829.26	2,039.64	14,365,558.59	882,796.53	39.526305729°N	107.686631550°W

Database:	EDM5000-New	Local Co-ordinate Reference:	Well Gentry B16 (112020) - Slot B16
Company:	Antero Resources	TVD Reference:	KB @ 5648.00ft (Original Well Elev)
Project:	Gentry	MD Reference:	KB @ 5648.00ft (Original Well Elev)
Site:	Gentry B	North Reference:	Grid
Well:	Gentry B16 (112020)	Survey Calculation Method:	Minimum Curvature
Wellbore:	Gentry B16		
Design:	Gentry B16 P01		

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									
BH B16	0.00	0.00	7,791.00	-829.26	2,039.64	14,365,558.59	882,796.53	39.526305729°N	107.686631550°W
- plan hits target center									
- Circle (radius 20.00)									

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	5.500	6.000	

Formations					
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
4,712.18	4,091.00	Mesaverde			
5,577.64	4,891.00	Price Coal			
6,278.58	5,591.00	Top Gas			
7,178.58	6,491.00	Cameo			
8,278.58	7,591.00	Rollins			

Plan Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates			
		+N/-S (ft)	+E/-W (ft)	Comment	
1,150.00	1,150.00	0.00	0.00	KOP 3°/100 at 1150 MD/TVD	
2,483.48	2,377.75	-168.32	414.01	HOLD 40° at 2483 MD/2378 TVD	
4,518.10	3,936.26	-660.94	1,625.64	DROP 3°/100 at 4518 MD/3936 TVD	
5,851.58	5,164.00	-829.26	2,039.64	VERTICAL at 5852 MD/5164 TVD	
8,478.00	7,790.42	-829.26	2,039.64	TD at 8479 MD/7791 TVD	