



## REFERENCE INFORMATION

Co-ordinate (N/E) Reference: Well Gentry B13 (112000) - Slot B13, Grid North  
Vertical (TVD) Reference: KB @ 5648.00ft (Original Well Elev)  
Section (VS) Reference: Slot - B13(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	VSec	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	
2179.72	30.89	301.55	2130.55	141.74	-230.90	3.00	301.55	270.93	
4485.75	30.89	301.55	4109.45	761.16	-1239.89	0.00	0.00	1454.89	
5515.47	0.00	301.55	5090.00	902.90	-1470.79	3.00	180.00	1725.82	
8340.47	0.00	301.55	7915.00	902.90	-1470.79	0.00	301.55	1725.82	B13 Tgt

# **Antero Resources**

**Gentry**

**Gentry B**

**Gentry B13 (112000) - Slot B13**

**Gentry B13 (112000)**

**Plan: P02**

## **Standard Planning Report - Geographic**

**01 March, 2012**

## Planning Report - Geographic

<b>Database:</b>	EDM5000-New	<b>Local Co-ordinate Reference:</b>	Well Gentry B13 (112000) - Slot B13
<b>Company:</b>	Antero Resources	<b>TVD Reference:</b>	KB @ 5648.00ft (Original Well Elev)
<b>Project:</b>	Gentry	<b>MD Reference:</b>	KB @ 5648.00ft (Original Well Elev)
<b>Site:</b>	Gentry B	<b>North Reference:</b>	Grid
<b>Well:</b>	Gentry B13 (112000)	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Gentry B13 (112000)		
<b>Design:</b>	P02		

<b>Project</b>	Gentry		
<b>Map System:</b>	Universal Transverse Mercator	<b>System Datum:</b>	Mean Sea Level
<b>Geo Datum:</b>	North American Datum 1983		
<b>Map Zone:</b>	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:	13.20 in	Grid Convergence:	-1.72 °

Well	Gentry B13 (112000) - Slot B13					
Well Position	+N/-S	0.00 ft	Northing:	14,366,383.28 usft	Latitude:	39.528393199°N
	+E/-W	0.00 ft	Easting:	880,664.23 usft	Longitude:	107.694272643°W
Position Uncertainty		0.00 ft	Wellhead Elevation:		Ground Level:	5,624.00 ft

<b>Wellbore</b>	Gentry B13 (112000)				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	IGRF2010	05/24/12	10.10	65.80	52,215

<b>Design</b>	P02			
<b>Audit Notes:</b>				
<b>Version:</b>	<b>Phase:</b>	PLAN	<b>Tie On Depth:</b>	0.00
<b>Vertical Section:</b>	<b>Depth From (TVD) (ft)</b>	<b>+N/-S (ft)</b>	<b>+E/-W (ft)</b>	<b>Direction (°)</b>
	7,915.00	0.00	0.00	301.55

<b>Plan Sections</b>										
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	
2,179.72	30.89	301.55	2,130.55	141.75	-230.90	3.00	3.00	0.00	301.55	
4,485.75	30.89	301.55	4,109.45	761.16	-1,239.89	0.00	0.00	0.00	0.00	
5,515.47	0.00	301.55	5,090.00	902.90	-1,470.79	3.00	-3.00	0.00	180.00	
8,340.47	0.00	301.55	7,915.00	902.90	-1,470.79	0.00	0.00	0.00	301.55	B13 Tgt

# Planning Report - Geographic

<b>Database:</b>	EDM5000-New	<b>Local Co-ordinate Reference:</b>	Well Gentry B13 (112000) - Slot B13
<b>Company:</b>	Antero Resources	<b>TVD Reference:</b>	KB @ 5648.00ft (Original Well Elev)
<b>Project:</b>	Gentry	<b>MD Reference:</b>	KB @ 5648.00ft (Original Well Elev)
<b>Site:</b>	Gentry B	<b>North Reference:</b>	Grid
<b>Well:</b>	Gentry B13 (112000)	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Gentry B13 (112000)		
<b>Design:</b>	P02		

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	14,366,383.28	880,664.23	39.528393199°N	107.694272643°W
<b>Wasatch</b>									
100.00	0.00	0.00	100.00	0.00	0.00	14,366,383.28	880,664.23	39.528393199°N	107.694272643°W
200.00	0.00	0.00	200.00	0.00	0.00	14,366,383.28	880,664.23	39.528393199°N	107.694272643°W
300.00	0.00	0.00	300.00	0.00	0.00	14,366,383.28	880,664.23	39.528393199°N	107.694272643°W
400.00	0.00	0.00	400.00	0.00	0.00	14,366,383.28	880,664.23	39.528393199°N	107.694272643°W
500.00	0.00	0.00	500.00	0.00	0.00	14,366,383.28	880,664.23	39.528393199°N	107.694272643°W
600.00	0.00	0.00	600.00	0.00	0.00	14,366,383.28	880,664.23	39.528393199°N	107.694272643°W
700.00	0.00	0.00	700.00	0.00	0.00	14,366,383.28	880,664.23	39.528393199°N	107.694272643°W
800.00	0.00	0.00	800.00	0.00	0.00	14,366,383.28	880,664.23	39.528393199°N	107.694272643°W
900.00	0.00	0.00	900.00	0.00	0.00	14,366,383.28	880,664.23	39.528393199°N	107.694272643°W
1,000.00	0.00	0.00	1,000.00	0.00	0.00	14,366,383.28	880,664.23	39.528393199°N	107.694272643°W
<b>Surf Csg at 1000 MD/TVD</b>									
1,100.00	0.00	0.00	1,100.00	0.00	0.00	14,366,383.28	880,664.23	39.528393199°N	107.694272643°W
1,150.00	0.00	0.00	1,150.00	0.00	0.00	14,366,383.28	880,664.23	39.528393199°N	107.694272643°W
<b>KOP 3°/100 at 1150 MD/TVD</b>									
1,200.00	1.50	301.55	1,199.99	0.34	-0.56	14,366,383.62	880,663.68	39.528394093°N	107.694274655°W
1,300.00	4.50	301.55	1,299.85	3.08	-5.02	14,366,386.36	880,659.22	39.528401237°N	107.694290745°W
1,400.00	7.50	301.55	1,399.29	8.55	-13.92	14,366,391.82	880,650.31	39.528415506°N	107.694322879°W
1,500.00	10.50	301.55	1,498.04	16.73	-27.25	14,366,400.01	880,636.98	39.528436860°N	107.694370971°W
1,600.00	13.50	301.55	1,595.85	27.61	-44.97	14,366,410.88	880,619.26	39.528465242°N	107.694434888°W
1,700.00	16.50	301.55	1,692.43	41.15	-67.03	14,366,424.42	880,597.21	39.528500572°N	107.694514455°W
1,800.00	19.50	301.55	1,787.52	57.31	-93.36	14,366,440.59	880,570.88	39.528542755°N	107.694609454°W
1,900.00	22.50	301.55	1,880.87	76.06	-123.90	14,366,459.33	880,540.34	39.528591675°N	107.694719625°W
2,000.00	25.50	301.55	1,972.22	97.34	-158.56	14,366,480.61	880,505.68	39.528647197°N	107.694844666°W
2,100.00	28.50	301.55	2,061.31	121.08	-197.24	14,366,504.36	880,466.99	39.528709169°N	107.694984234°W
2,179.72	30.89	301.55	2,130.55	141.75	-230.90	14,366,525.02	880,433.34	39.528763083°N	107.695105654°W
<b>Hold 31° at 2180 MD/2131 TVD</b>									
2,200.00	30.89	301.55	2,147.95	147.19	-239.77	14,366,530.47	880,424.46	39.528777296°N	107.695137663°W
2,300.00	30.89	301.55	2,233.77	174.05	-283.52	14,366,557.33	880,380.71	39.528847387°N	107.695295519°W
2,400.00	30.89	301.55	2,319.58	200.91	-327.28	14,366,584.19	880,336.96	39.528917479°N	107.695453375°W
2,500.00	30.89	301.55	2,405.40	227.77	-371.03	14,366,611.05	880,293.20	39.528987570°N	107.695611232°W
2,600.00	30.89	301.55	2,491.21	254.63	-414.79	14,366,637.91	880,249.45	39.529057662°N	107.695769089°W
2,700.00	30.89	301.55	2,577.02	281.49	-458.54	14,366,664.77	880,205.69	39.529127753°N	107.695926946°W
2,800.00	30.89	301.55	2,662.84	308.35	-502.30	14,366,691.63	880,161.94	39.529197843°N	107.696084803°W
2,900.00	30.89	301.55	2,748.65	335.22	-546.05	14,366,718.49	880,118.18	39.529267934°N	107.696242661°W
3,000.00	30.89	301.55	2,834.47	362.08	-589.81	14,366,745.35	880,074.43	39.529338024°N	107.696400519°W
3,100.00	30.89	301.55	2,920.28	388.94	-633.56	14,366,772.21	880,030.67	39.529408114°N	107.696558377°W
3,200.00	30.89	301.55	3,006.09	415.80	-677.32	14,366,799.07	879,986.92	39.529478204°N	107.696716236°W
3,300.00	30.89	301.55	3,091.91	442.66	-721.07	14,366,825.93	879,943.16	39.529548293°N	107.696874094°W
3,400.00	30.89	301.55	3,177.72	469.52	-764.83	14,366,852.79	879,899.41	39.529618383°N	107.697031954°W
3,500.00	30.89	301.55	3,263.54	496.38	-808.58	14,366,879.65	879,855.65	39.529688472°N	107.697189813°W
3,600.00	30.89	301.55	3,349.35	523.24	-852.34	14,366,906.51	879,811.90	39.529758561°N	107.697347673°W
3,700.00	30.89	301.55	3,435.16	550.10	-896.09	14,366,933.37	879,768.15	39.529828650°N	107.697505533°W
3,800.00	30.89	301.55	3,520.98	576.96	-939.84	14,366,960.24	879,724.39	39.529898738°N	107.697663394°W
3,900.00	30.89	301.55	3,606.79	603.82	-983.60	14,366,987.10	879,680.64	39.529968826°N	107.697821254°W
4,000.00	30.89	301.55	3,692.61	630.68	-1,027.35	14,367,013.96	879,636.88	39.530038914°N	107.697979115°W
4,100.00	30.89	301.55	3,778.42	657.54	-1,071.11	14,367,040.82	879,593.13	39.530109002°N	107.698136977°W
4,200.00	30.89	301.55	3,864.23	684.40	-1,114.86	14,367,067.68	879,549.37	39.530179089°N	107.698294839°W
4,300.00	30.89	301.55	3,950.05	711.26	-1,158.62	14,367,094.54	879,505.62	39.530249177°N	107.698452701°W
4,400.00	30.89	301.55	4,035.86	738.12	-1,202.37	14,367,121.40	879,461.86	39.530319264°N	107.698610563°W
4,485.75	30.89	301.55	4,109.45	761.16	-1,239.89	14,367,144.43	879,424.34	39.530379363°N	107.698745930°W
<b>Drop 3°/100 at 4486 MD/4109 TVD</b>									
4,500.00	30.46	301.55	4,121.70	764.96	-1,246.09	14,367,148.23	879,418.15	39.530389288°N	107.698768285°W

# Planning Report - Geographic

<b>Database:</b>	EDM5000-New	<b>Local Co-ordinate Reference:</b>	Well Gentry B13 (112000) - Slot B13
<b>Company:</b>	Antero Resources	<b>TVD Reference:</b>	KB @ 5648.00ft (Original Well Elev)
<b>Project:</b>	Gentry	<b>MD Reference:</b>	KB @ 5648.00ft (Original Well Elev)
<b>Site:</b>	Gentry B	<b>North Reference:</b>	Grid
<b>Well:</b>	Gentry B13 (112000)	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Gentry B13 (112000)		
<b>Design:</b>	P02		

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	27.46	301.55	4,209.18	790.29	-1,287.35	14,367,173.57	879,376.88	39.530455388°N	107.698917167°W
4,700.00	24.46	301.55	4,299.08	813.20	-1,324.66	14,367,196.47	879,339.57	39.530515146°N	107.699051767°W
4,733.83	23.45	301.55	4,330.00	820.38	-1,336.37	14,367,203.66	879,327.87	39.530533900°N	107.699094008°W
<b>Mesaverde</b>									
4,800.00	21.46	301.55	4,391.15	833.60	-1,357.91	14,367,216.88	879,306.33	39.530568400°N	107.699171717°W
4,900.00	18.46	301.55	4,485.13	851.47	-1,387.00	14,367,234.74	879,277.23	39.530615003°N	107.699276688°W
5,000.00	15.46	301.55	4,580.76	866.73	-1,411.87	14,367,250.00	879,252.37	39.530654828°N	107.699366391°W
5,100.00	12.46	301.55	4,677.80	879.35	-1,432.43	14,367,262.63	879,231.81	39.530687766°N	107.699440581°W
5,200.00	9.46	301.55	4,775.96	889.30	-1,448.64	14,367,272.58	879,215.60	39.530713727°N	107.699499056°W
5,300.00	6.46	301.55	4,874.98	896.55	-1,460.44	14,367,279.82	879,203.79	39.530732638°N	107.699541653°W
5,400.00	3.46	301.55	4,974.60	901.08	-1,467.82	14,367,284.35	879,196.42	39.530744449°N	107.699568257°W
5,500.00	0.46	301.55	5,074.53	902.87	-1,470.74	14,367,286.14	879,193.50	39.530749127°N	107.699578794°W
5,515.47	0.00	301.55	5,090.00	902.90	-1,470.79	14,367,286.18	879,193.45	39.530749213°N	107.699578987°W
<b>Vertical at 5515 MD/5090 TVD - Price Coal</b>									
5,600.00	0.00	301.55	5,174.53	902.90	-1,470.79	14,367,286.18	879,193.45	39.530749213°N	107.699578987°W
5,700.00	0.00	301.55	5,274.53	902.90	-1,470.79	14,367,286.18	879,193.45	39.530749213°N	107.699578987°W
5,800.00	0.00	301.55	5,374.53	902.90	-1,470.79	14,367,286.18	879,193.45	39.530749213°N	107.699578987°W
5,900.00	0.00	301.55	5,474.53	902.90	-1,470.79	14,367,286.18	879,193.45	39.530749213°N	107.699578987°W
6,000.00	0.00	301.55	5,574.53	902.90	-1,470.79	14,367,286.18	879,193.45	39.530749213°N	107.699578987°W
6,100.00	0.00	301.55	5,674.53	902.90	-1,470.79	14,367,286.18	879,193.45	39.530749213°N	107.699578987°W
6,200.00	0.00	301.55	5,774.53	902.90	-1,470.79	14,367,286.18	879,193.45	39.530749213°N	107.699578987°W
6,300.00	0.00	301.55	5,874.53	902.90	-1,470.79	14,367,286.18	879,193.45	39.530749213°N	107.699578987°W
6,400.00	0.00	301.55	5,974.53	902.90	-1,470.79	14,367,286.18	879,193.45	39.530749213°N	107.699578987°W
6,415.47	0.00	301.55	5,990.00	902.90	-1,470.79	14,367,286.18	879,193.45	39.530749213°N	107.699578987°W
<b>Top Gas</b>									
6,500.00	0.00	301.55	6,074.53	902.90	-1,470.79	14,367,286.18	879,193.45	39.530749213°N	107.699578987°W
6,600.00	0.00	301.55	6,174.53	902.90	-1,470.79	14,367,286.18	879,193.45	39.530749213°N	107.699578987°W
6,700.00	0.00	301.55	6,274.53	902.90	-1,470.79	14,367,286.18	879,193.45	39.530749213°N	107.699578987°W
6,800.00	0.00	301.55	6,374.53	902.90	-1,470.79	14,367,286.18	879,193.45	39.530749213°N	107.699578987°W
6,900.00	0.00	301.55	6,474.53	902.90	-1,470.79	14,367,286.18	879,193.45	39.530749213°N	107.699578987°W
7,000.00	0.00	301.55	6,574.53	902.90	-1,470.79	14,367,286.18	879,193.45	39.530749213°N	107.699578987°W
7,100.00	0.00	301.55	6,674.53	902.90	-1,470.79	14,367,286.18	879,193.45	39.530749213°N	107.699578987°W
7,200.00	0.00	301.55	6,774.53	902.90	-1,470.79	14,367,286.18	879,193.45	39.530749213°N	107.699578987°W
7,240.47	0.00	301.55	6,815.00	902.90	-1,470.79	14,367,286.18	879,193.45	39.530749213°N	107.699578987°W
<b>Cameo</b>									
7,300.00	0.00	301.55	6,874.53	902.90	-1,470.79	14,367,286.18	879,193.45	39.530749213°N	107.699578987°W
7,400.00	0.00	301.55	6,974.53	902.90	-1,470.79	14,367,286.18	879,193.45	39.530749213°N	107.699578987°W
7,500.00	0.00	301.55	7,074.53	902.90	-1,470.79	14,367,286.18	879,193.45	39.530749213°N	107.699578987°W
7,600.00	0.00	301.55	7,174.53	902.90	-1,470.79	14,367,286.18	879,193.45	39.530749213°N	107.699578987°W
7,700.00	0.00	301.55	7,274.53	902.90	-1,470.79	14,367,286.18	879,193.45	39.530749213°N	107.699578987°W
7,800.00	0.00	301.55	7,374.53	902.90	-1,470.79	14,367,286.18	879,193.45	39.530749213°N	107.699578987°W
7,900.00	0.00	301.55	7,474.53	902.90	-1,470.79	14,367,286.18	879,193.45	39.530749213°N	107.699578987°W
8,000.00	0.00	301.55	7,574.53	902.90	-1,470.79	14,367,286.18	879,193.45	39.530749213°N	107.699578987°W
8,100.00	0.00	301.55	7,674.53	902.90	-1,470.79	14,367,286.18	879,193.45	39.530749213°N	107.699578987°W
8,140.47	0.00	301.55	7,715.00	902.90	-1,470.79	14,367,286.18	879,193.45	39.530749213°N	107.699578987°W
<b>Rollins</b>									
8,200.00	0.00	301.55	7,774.53	902.90	-1,470.79	14,367,286.18	879,193.45	39.530749213°N	107.699578987°W
8,300.00	0.00	301.55	7,874.53	902.90	-1,470.79	14,367,286.18	879,193.45	39.530749213°N	107.699578987°W
8,340.47	0.00	301.55	7,915.00	902.90	-1,470.79	14,367,286.18	879,193.45	39.530749213°N	107.699578987°W
<b>TD at 8340 MD/7915 TVD - B13 Tgt</b>									

## Planning Report - Geographic

<b>Database:</b>	EDM5000-New	<b>Local Co-ordinate Reference:</b>	Well Gentry B13 (112000) - Slot B13
<b>Company:</b>	Antero Resources	<b>TVD Reference:</b>	KB @ 5648.00ft (Original Well Elev)
<b>Project:</b>	Gentry	<b>MD Reference:</b>	KB @ 5648.00ft (Original Well Elev)
<b>Site:</b>	Gentry B	<b>North Reference:</b>	Grid
<b>Well:</b>	Gentry B13 (112000)	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Gentry B13 (112000)		
<b>Design:</b>	P02		

Design Targets									
Target Name	Dip Angle	Dip Dir.	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
- hit/miss target	(°)	(°)	(ft)	(ft)	(ft)	(usft)	(usft)		
- Shape									
B13 Tgt	0.00	0.00	7,915.00	902.90	-1,470.79	14,367,286.18	879,193.45	39.530749213°N	107.699578987°W
- plan hits target center									
- Circle (radius 20.00)									

Casing Points					
Measured Depth	Vertical Depth	Name		Casing Diameter	Hole Diameter
(ft)	(ft)			(in)	(in)
1,000.00	1,000.00	Surf Csg at 1000 MD/TVD		5.50	6.00

Formations					
Measured Depth	Vertical Depth	Name		Dip	Dip Direction
(ft)	(ft)			(°)	(°)
0.00	0.00	Wasatch		0.00	
4,733.83	4,330.00	Mesaverde		0.00	
5,515.47	5,090.00	Price Coal		0.00	
6,415.47	5,990.00	Top Gas		0.00	
7,240.47	6,815.00	Cameo		0.00	
8,140.47	7,715.00	Rollins		0.00	

Plan Annotations					
Measured Depth	Vertical Depth	Local Coordinates		Comment	
(ft)	(ft)	+N/-S (ft)	+E/-W (ft)		
1,150.00	1,150.00	0.00	0.00	KOP 3°/100 at 1150 MD/TVD	
2,179.72	2,130.55	141.75	-230.90	Hold 31° at 2180 MD/2131 TVD	
4,485.75	4,109.45	761.16	-1,239.89	Drop 3°/100 at 4486 MD/4109 TVD	
5,515.47	5,090.00	902.90	-1,470.79	Vertical at 5515 MD/5090 TVD	
8,340.47	7,915.00	902.90	-1,470.79	TD at 8340 MD/7915 TVD	