

# **Antero Resources**

**Gentry**

**Gentry B**

**Gentry B08 (111422) - Slot B8**

**Gentry B08**

**Survey: B08 MWD**

## **Survey Report - Geographic**

**30 April, 2012**

# Survey Report - Geographic

<b>Company:</b>	Antero Resources	<b>Local Co-ordinate Reference:</b>	Well Gentry B08 (111422) - Slot B8
<b>Project:</b>	Gentry	<b>TVD Reference:</b>	KB @ 5648.00ft (Original Well Elev)
<b>Site:</b>	Gentry B	<b>MD Reference:</b>	KB @ 5648.00ft (Original Well Elev)
<b>Well:</b>	Gentry B08 (111422)	<b>North Reference:</b>	Grid
<b>Wellbore:</b>	Gentry B08	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	Gentry B08	<b>Database:</b>	EDM5000-New

<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)		

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

<b>Well</b>	Gentry B08 (111422) - Slot B8		
<b>Well Position</b>	<b>+N/-S</b>	0.00 ft	<b>Northing:</b>
	<b>+E/-W</b>	0.00 ft	<b>Easting:</b>
<b>Position Uncertainty</b>	0.00 ft	<b>Wellhead Elevation:</b>	ft
		<b>Latitude:</b>	39.528366036°N
		<b>Longitude:</b>	107.694062897°W
		<b>Ground Level:</b>	5,624.00 ft

<b>Wellbore</b>	Gentry B08		
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination</b>
			(°)
	IGRF2010	06/02/12	10.10
			Dip Angle
			(°)
			65.80
			Field Strength
			(nT)
			52,212

<b>Design</b>	Gentry B08		
<b>Audit Notes:</b>			
<b>Version:</b>	1.0	<b>Phase:</b>	ACTUAL
		<b>Tie On Depth:</b>	0.00
<b>Vertical Section:</b>	<b>Depth From (TVD)</b>	<b>+N/-S</b>	<b>+E/-W</b>
	(ft)	(ft)	(ft)
	0.00	0.00	0.00
			Direction
			(°)
			129.08

<b>Survey Program</b>	<b>Date</b>	04/30/12		
<b>From</b>	<b>To</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Description</b>
(ft)	(ft)			
100.00	980.00	B08 gyro (Gentry B08)	NS-GYRO-MS	North sensing gyrocompassing m/s
1,000.00	8,179.00	B08 MWD (Gentry B08)	MWD	MWD - Standard

<b>Survey</b>										
<b>Measured</b>	<b>Inclination</b>	<b>Azimuth</b>	<b>Vertical</b>	<b>+N/-S</b>	<b>+E/-W</b>	<b>Map</b>	<b>Map</b>			
<b>Depth</b>	(°)	(°)	<b>Depth</b>	(ft)	(ft)	<b>Northing</b>	<b>Easting</b>	<b>Latitude</b>	<b>Longitude</b>	
(ft)			(ft)			(usft)	(usft)			
980.00	0.99	262.08	979.98	-3.11	-0.95	14,366,368.50	880,722.14	39.528357425°N	107.694065948°W	
1,000.00	0.99	262.08	999.98	-3.16	-1.30	14,366,368.45	880,721.80	39.528357266°N	107.694067155°W	
1,077.13	0.99	262.08	1,077.10	-3.34	-2.62	14,366,368.27	880,720.48	39.528356654°N	107.694071812°W	
1,090.00	0.09	233.03	1,089.97	-3.36	-2.73	14,366,368.25	880,720.36	39.528356585°N	107.694072228°W	
1,153.00	0.70	117.72	1,152.97	-3.57	-2.43	14,366,368.04	880,720.66	39.528356037°N	107.694071139°W	
1,247.00	3.38	157.71	1,246.90	-6.40	-0.87	14,366,365.21	880,722.22	39.528348397°N	107.694065314°W	
1,341.00	5.58	149.49	1,340.61	-12.91	2.50	14,366,358.71	880,725.59	39.528330836°N	107.694052679°W	
1,436.00	8.48	140.31	1,434.89	-22.28	9.32	14,366,349.33	880,732.41	39.528305687°N	107.694027525°W	
1,530.00	10.68	133.89	1,527.57	-33.65	20.02	14,366,337.96	880,743.11	39.528275365°N	107.693988395°W	
1,625.00	13.10	129.50	1,620.53	-46.60	34.68	14,366,325.01	880,757.77	39.528241034°N	107.693935109°W	
1,719.00	15.90	132.53	1,711.53	-62.09	52.39	14,366,309.53	880,775.48	39.528200013°N	107.693870720°W	

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<b>Site:</b>	Gentry B	<b>MD Reference:</b>	KB @ 5648.00ft (Original Well Elev)
<b>Well:</b>	Gentry B08 (111422)	<b>North Reference:</b>	Grid
<b>Wellbore:</b>	Gentry B08	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	Gentry B08	<b>Database:</b>	EDM5000-New

Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
1,813.00	16.92	127.83	1,801.70	-79.18	72.68	14,366,292.43	880,795.77	39.528154783°N	107.693797014°W
1,908.00	19.91	130.02	1,891.83	-98.07	95.99	14,366,273.55	880,819.09	39.528104890°N	107.693712426°W
2,002.00	22.28	130.59	1,979.52	-119.96	121.79	14,366,251.66	880,844.88	39.528046957°N	107.693618732°W
2,097.00	24.61	130.81	2,066.67	-144.60	150.44	14,366,227.01	880,873.53	39.527981691°N	107.693514618°W
2,194.00	28.61	130.42	2,153.38	-172.87	183.42	14,366,198.74	880,906.51	39.527906846°N	107.693394783°W
2,286.00	31.90	131.43	2,232.84	-203.25	218.42	14,366,168.36	880,941.52	39.527826390°N	107.693267556°W
2,380.00	32.21	128.31	2,312.51	-235.22	256.71	14,366,136.40	880,979.80	39.527741837°N	107.693128550°W
2,474.00	31.90	127.30	2,392.18	-265.80	296.12	14,366,105.81	881,019.21	39.527661179°N	107.692985679°W
2,569.00	31.11	126.90	2,473.18	-295.75	335.72	14,366,075.87	881,058.81	39.527582274°N	107.692842240°W
2,663.00	30.41	128.70	2,553.96	-325.20	373.70	14,366,046.41	881,096.79	39.527504583°N	107.692704544°W
2,758.00	30.81	129.01	2,635.72	-355.55	411.37	14,366,016.06	881,134.46	39.527424422°N	107.692567881°W
2,852.00	30.50	128.70	2,716.58	-385.62	448.69	14,365,986.00	881,171.79	39.527345000°N	107.692432478°W
2,947.00	30.89	128.92	2,798.27	-416.01	486.48	14,365,955.60	881,209.57	39.527264721°N	107.692295392°W
3,041.00	31.11	128.92	2,878.85	-446.43	524.15	14,365,925.19	881,247.24	39.527184374°N	107.692158732°W
3,136.00	30.50	129.72	2,960.44	-477.25	561.79	14,365,894.36	881,284.88	39.527102900°N	107.692022129°W
3,230.00	30.72	129.41	3,041.34	-507.74	598.69	14,365,863.88	881,321.78	39.527022293°N	107.691888184°W
3,324.00	30.98	128.92	3,122.04	-538.18	636.06	14,365,833.43	881,359.15	39.526941848°N	107.691752563°W
3,419.00	30.81	126.81	3,203.57	-568.12	674.56	14,365,803.50	881,397.65	39.526862876°N	107.691612995°W
3,513.00	31.11	127.52	3,284.17	-597.33	713.10	14,365,774.28	881,436.19	39.526785894°N	107.691473390°W
3,608.00	30.59	127.61	3,365.73	-627.03	751.71	14,365,744.58	881,474.80	39.526707587°N	107.691333450°W
3,702.00	31.11	126.99	3,446.43	-656.24	790.06	14,365,715.37	881,513.15	39.526630605°N	107.691194520°W
3,797.00	30.50	125.72	3,528.03	-685.08	829.23	14,365,686.53	881,552.32	39.526554696°N	107.691052681°W
3,891.00	29.18	124.31	3,609.57	-711.93	867.53	14,365,659.69	881,590.62	39.526484193°N	107.690914171°W
3,986.00	28.39	126.60	3,692.83	-738.45	904.79	14,365,633.17	881,627.88	39.526414494°N	107.690779359°W
4,080.00	30.01	130.02	3,774.89	-766.89	940.74	14,365,604.72	881,663.83	39.526339411°N	107.690649001°W
4,175.00	30.89	129.41	3,856.78	-797.65	977.78	14,365,573.96	881,700.87	39.526258064°N	107.690514544°W
4,269.00	28.39	128.92	3,938.48	-827.01	1,013.81	14,365,544.60	881,736.90	39.526180467°N	107.690383779°W
4,364.00	27.29	125.72	4,022.49	-853.92	1,049.07	14,365,517.70	881,772.16	39.526109547°N	107.690256035°W
4,458.00	25.18	125.41	4,106.80	-878.09	1,082.86	14,365,493.52	881,805.95	39.526046011°N	107.690133750°W
4,552.00	22.50	125.41	4,192.77	-900.10	1,113.83	14,365,471.51	881,836.92	39.525988163°N	107.690021734°W
4,650.00	18.72	128.22	4,284.48	-920.70	1,141.48	14,365,450.91	881,864.57	39.525933911°N	107.689921607°W
4,741.00	16.30	129.50	4,371.26	-937.86	1,162.81	14,365,433.75	881,885.89	39.525888584°N	107.689844229°W
4,835.00	14.50	128.22	4,461.88	-953.54	1,182.23	14,365,418.08	881,905.32	39.525847181°N	107.689773755°W
4,930.00	12.39	126.60	4,554.27	-966.97	1,199.76	14,365,404.64	881,922.85	39.525811758°N	107.689710240°W
5,024.00	10.99	128.09	4,646.32	-978.51	1,214.91	14,365,393.10	881,938.00	39.525781340°N	107.689655354°W
5,119.00	9.49	133.23	4,739.81	-989.46	1,227.74	14,365,382.15	881,950.83	39.525752350°N	107.689608730°W
5,213.00	7.29	134.59	4,832.80	-998.96	1,237.64	14,365,372.65	881,960.73	39.525727111°N	107.689572674°W
5,308.00	5.41	138.59	4,927.21	-1,006.55	1,244.89	14,365,365.06	881,967.98	39.525706882°N	107.689546168°W
5,402.00	4.48	132.79	5,020.86	-1,012.37	1,250.52	14,365,359.25	881,973.61	39.525691383°N	107.689525625°W
5,497.00	2.29	143.21	5,115.69	-1,016.41	1,254.38	14,365,355.20	881,977.47	39.525680614°N	107.689511523°W
5,592.00	0.22	163.60	5,210.66	-1,018.10	1,255.57	14,365,353.51	881,978.65	39.525676061°N	107.689507134°W
5,686.00	0.31	342.10	5,304.66	-1,018.04	1,255.54	14,365,353.58	881,978.63	39.525676248°N	107.689507238°W
5,781.00	1.32	352.69	5,399.65	-1,016.71	1,255.32	14,365,354.91	881,978.41	39.525679879°N	107.689508152°W
5,875.00	1.01	347.02	5,493.63	-1,014.82	1,255.00	14,365,356.79	881,978.09	39.525685013°N	107.689509498°W
5,970.00	0.48	340.39	5,588.62	-1,013.63	1,254.67	14,365,357.98	881,977.76	39.525688253°N	107.689510764°W
6,065.00	0.70	341.09	5,683.62	-1,012.71	1,254.35	14,365,358.90	881,977.44	39.525690761°N	107.689512001°W
6,159.00	0.48	301.89	5,777.61	-1,011.96	1,253.83	14,365,359.66	881,976.92	39.525692779°N	107.689513924°W
6,254.00	0.79	290.03	5,872.61	-1,011.52	1,252.88	14,365,360.09	881,975.97	39.525693893°N	107.689517347°W
6,348.00	0.70	321.23	5,966.60	-1,010.85	1,251.91	14,365,360.76	881,975.00	39.525695651°N	107.689520848°W
6,442.00	0.48	215.89	6,060.60	-1,010.73	1,251.32	14,365,360.89	881,974.41	39.525695956°N	107.689522953°W
6,537.00	0.62	177.92	6,155.59	-1,011.56	1,251.11	14,365,360.05	881,974.19	39.525693645°N	107.689523625°W
6,631.00	0.48	133.89	6,249.59	-1,012.34	1,251.41	14,365,359.27	881,974.50	39.525691526°N	107.689522472°W
6,726.00	0.48	177.79	6,344.58	-1,013.02	1,251.71	14,365,358.60	881,974.80	39.525689703°N	107.689521330°W
6,820.00	0.40	204.60	6,438.58	-1,013.71	1,251.59	14,365,357.91	881,974.68	39.525687795°N	107.689521687°W
6,915.00	0.40	339.60	6,533.58	-1,013.70	1,251.33	14,365,357.91	881,974.42	39.525687800°N	107.689522586°W

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<b>Company:</b>	Antero Resources	<b>Local Co-ordinate Reference:</b>	Well Gentry B08 (111422) - Slot B8
<b>Project:</b>	Gentry	<b>TVD Reference:</b>	KB @ 5648.00ft (Original Well Elev)
<b>Site:</b>	Gentry B	<b>MD Reference:</b>	KB @ 5648.00ft (Original Well Elev)
<b>Well:</b>	Gentry B08 (111422)	<b>North Reference:</b>	Grid
<b>Wellbore:</b>	Gentry B08	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	Gentry B08	<b>Database:</b>	EDM5000-New

Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude	
7,009.00	0.31	211.89	6,627.58	-1,013.61	1,251.09	14,365,358.01	881,974.18	39.525688031°N	107.689523477°W	
7,103.00	1.01	220.42	6,721.57	-1,014.45	1,250.41	14,365,357.16	881,973.50	39.525685653°N	107.689525766°W	
7,198.00	0.31	296.80	6,816.57	-1,014.98	1,249.64	14,365,356.64	881,972.73	39.525684159°N	107.689528447°W	
7,292.00	0.31	211.19	6,910.57	-1,015.08	1,249.28	14,365,356.54	881,972.37	39.525683848°N	107.689529706°W	
7,387.00	1.32	80.72	7,005.56	-1,015.12	1,250.23	14,365,356.49	881,973.32	39.525683806°N	107.689526348°W	
7,481.00	0.79	83.62	7,099.54	-1,014.88	1,251.94	14,365,356.74	881,975.03	39.525684623°N	107.689520307°W	
7,576.00	0.88	62.83	7,194.53	-1,014.47	1,253.24	14,365,357.14	881,976.33	39.525685843°N	107.689515745°W	
7,670.00	1.10	50.61	7,288.52	-1,013.57	1,254.58	14,365,358.05	881,977.67	39.525688428°N	107.689511096°W	
7,764.00	0.62	101.59	7,382.51	-1,013.10	1,255.78	14,365,358.52	881,978.87	39.525689817°N	107.689506910°W	
7,858.00	0.22	232.33	7,476.51	-1,013.31	1,256.13	14,365,358.30	881,979.22	39.525689263°N	107.689505629°W	
7,953.00	0.62	185.13	7,571.50	-1,013.93	1,255.94	14,365,357.68	881,979.03	39.525687537°N	107.689506237°W	
8,079.00	1.10	174.89	7,697.49	-1,015.82	1,255.99	14,365,355.80	881,979.08	39.525682374°N	107.689505872°W	
8,125.00	1.32	175.20	7,743.48	-1,016.78	1,256.07	14,365,354.83	881,979.16	39.525679725°N	107.689505473°W	
8,179.00	1.32	175.20	7,797.47	-1,018.02	1,256.18	14,365,353.59	881,979.27	39.525676333°N	107.689504973°W	
Proj to TD at 8179 MD/7797 TVD										

Survey Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates			
		+N/-S (ft)	+E/-W (ft)	Comment	
8,179.00	7,797.47	-1,018.02	1,256.18	Proj to TD at 8179 MD/7797 TVD	

Checked By: _____	Approved By: _____	Date: _____
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