

# **Antero Resources**

**Gentry**

**Gentry B**

**Gentry B07 (111421) - Slot B7**

**Gentry B07**

**Survey: B07 MWD**

## **Survey Report - Geographic**

**27 April, 2012**

# Survey Report - Geographic

<b>Company:</b>	Antero Resources	<b>Local Co-ordinate Reference:</b>	Well Gentry B07 (111421) - Slot B7
<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 B07 (111421)	<b>North Reference:</b>	Grid
<b>Wellbore:</b>	Gentry B07	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	Gentry B07	<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 B07 (111421) - Slot B7		
<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>	39.528375096°N
		<b>Longitude:</b>	107.694132815°W
		<b>Ground Level:</b>	5,624.00 ft

<b>Wellbore</b>	Gentry B07		
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination</b>
			(°)
	IGRF2010	02/28/12	10.13
			(°)
			65.80
			52,238

<b>Design</b>	Gentry B07		
<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
			167.12

<b>Survey Program</b>	<b>Date</b>	04/25/12		
<b>From</b>	<b>To</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Description</b>
(ft)	(ft)			
100.00	900.00	B07 gyro (Gentry B07)	NS-GYRO-MS	North sensing gyrocompassing m/s
1,000.00	7,976.00	B07 MWD (Gentry B07)	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>Latitude</b>	<b>Longitude</b>
<b>Depth</b>	(°)	(°)	<b>Depth</b>	(ft)	(ft)	<b>Northing</b>	<b>Easting</b>		
(ft)			(ft)			(usft)	(usft)		
900.00	0.20	111.56	900.00	-0.55	1.01	14,366,374.95	880,704.48	39.528373676°N	107.694129187°W
1,000.00	0.20	111.56	1,000.00	-0.68	1.33	14,366,374.83	880,704.80	39.528373351°N	107.694128023°W
1,077.60	0.20	111.56	1,077.60	-0.78	1.58	14,366,374.73	880,705.06	39.528373098°N	107.694127120°W
1,089.00	0.09	141.01	1,089.00	-0.79	1.61	14,366,374.71	880,705.08	39.528373061°N	107.694127033°W
1,152.00	1.32	159.99	1,151.99	-1.51	1.89	14,366,373.99	880,705.36	39.528371108°N	107.694125967°W
1,249.00	5.19	164.12	1,248.82	-6.78	3.47	14,366,368.72	880,706.94	39.528356776°N	107.694119798°W
1,341.00	8.00	167.82	1,340.20	-17.04	5.96	14,366,358.46	880,709.43	39.528328827°N	107.694109889°W
1,436.00	9.10	168.61	1,434.14	-30.87	8.84	14,366,344.63	880,712.31	39.528291132°N	107.694098225°W
1,530.00	10.50	168.43	1,526.77	-46.55	12.03	14,366,328.95	880,715.50	39.528248381°N	107.694085275°W
1,625.00	12.92	165.22	1,619.79	-65.30	16.47	14,366,310.20	880,719.94	39.528197301°N	107.694067535°W
1,719.00	15.69	164.30	1,710.86	-87.70	22.59	14,366,287.80	880,726.06	39.528136348°N	107.694043472°W

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<b>Well:</b>	Gentry B07 (111421)	<b>North Reference:</b>	Grid
<b>Wellbore:</b>	Gentry B07	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	Gentry B07	<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	18.72	164.70	1,800.65	-114.50	30.01	14,366,261.01	880,733.49	39.528063457°N	107.694014339°W	
1,908.00	19.69	167.29	1,890.36	-144.81	37.56	14,366,230.69	880,741.03	39.527980904°N	107.693984397°W	
2,002.00	20.92	168.83	1,978.52	-176.73	44.29	14,366,198.78	880,747.77	39.527893908°N	107.693957150°W	
2,097.00	20.79	167.99	2,067.29	-209.86	51.09	14,366,165.65	880,754.56	39.527803578°N	107.693929568°W	
2,191.00	20.30	168.12	2,155.31	-242.13	57.92	14,366,133.37	880,761.39	39.527715599°N	107.693901955°W	
2,285.00	20.00	167.73	2,243.56	-273.80	64.69	14,366,101.71	880,768.16	39.527629288°N	107.693874602°W	
2,380.00	19.60	168.61	2,332.94	-305.29	71.29	14,366,070.21	880,774.76	39.527543427°N	107.693847883°W	
2,474.00	19.91	170.50	2,421.41	-336.53	77.04	14,366,038.97	880,780.52	39.527458191°N	107.693824180°W	
2,569.00	19.82	168.21	2,510.76	-368.25	83.00	14,366,007.25	880,786.48	39.527371660°N	107.693799699°W	
2,663.00	19.20	167.60	2,599.36	-398.95	89.58	14,365,976.55	880,793.05	39.527287988°N	107.693773150°W	
2,758.00	19.51	167.29	2,688.99	-429.68	96.42	14,365,945.82	880,799.90	39.527204242°N	107.693745642°W	
2,852.00	20.48	166.10	2,777.33	-460.96	103.83	14,365,914.55	880,807.30	39.527119049°N	107.693716096°W	
2,947.00	20.30	165.62	2,866.38	-493.05	111.91	14,365,882.45	880,815.39	39.527031663°N	107.693684049°W	
3,041.00	20.39	166.63	2,954.51	-524.78	119.75	14,365,850.72	880,823.22	39.526945269°N	107.693652924°W	
3,136.00	20.08	167.02	3,043.65	-556.77	127.24	14,365,818.73	880,830.71	39.526858117°N	107.693622998°W	
3,230.00	19.60	166.72	3,132.07	-587.84	134.49	14,365,787.66	880,837.96	39.526773478°N	107.693594033°W	
3,324.00	20.39	166.41	3,220.40	-619.10	141.96	14,365,756.40	880,845.43	39.526688328°N	107.693564256°W	
3,419.00	20.00	166.81	3,309.56	-651.01	149.55	14,365,724.50	880,853.02	39.526601429°N	107.693533965°W	
3,513.00	19.60	165.71	3,398.00	-681.94	157.11	14,365,693.57	880,860.58	39.526517199°N	107.693503904°W	
3,608.00	19.91	168.61	3,487.42	-713.24	164.24	14,365,662.27	880,867.71	39.526431920°N	107.693475335°W	
3,702.00	19.69	167.51	3,575.86	-744.39	170.82	14,365,631.12	880,874.30	39.526347000°N	107.693448701°W	
3,797.00	18.90	166.89	3,665.52	-775.00	177.78	14,365,600.51	880,881.25	39.526263594°N	107.693420830°W	
3,891.00	18.59	166.50	3,754.54	-804.39	184.73	14,365,571.11	880,888.20	39.526183519°N	107.693393089°W	
3,986.00	20.30	166.50	3,844.11	-835.15	192.11	14,365,540.36	880,895.58	39.526099764°N	107.693363675°W	
4,080.00	19.82	166.01	3,932.41	-866.46	199.77	14,365,509.04	880,903.24	39.526014474°N	107.693333221°W	
4,175.00	20.39	170.19	4,021.63	-898.40	206.48	14,365,477.10	880,909.95	39.525927409°N	107.693306051°W	
4,269.00	19.51	170.32	4,109.98	-930.01	211.91	14,365,445.49	880,915.38	39.525841138°N	107.693283465°W	
4,364.00	18.28	168.30	4,199.86	-960.24	217.60	14,365,415.26	880,921.07	39.525758677°N	107.693260106°W	
4,458.00	18.50	169.22	4,289.06	-989.33	223.38	14,365,386.18	880,926.85	39.525679358°N	107.693236550°W	
4,552.00	17.09	168.12	4,378.56	-1,017.49	229.01	14,365,358.01	880,932.48	39.525602546°N	107.693213608°W	
4,647.00	14.50	167.99	4,469.97	-1,042.79	234.36	14,365,332.71	880,937.83	39.525533586°N	107.693191976°W	
4,741.00	12.22	168.83	4,561.42	-1,064.06	238.74	14,365,311.44	880,942.21	39.525475586°N	107.693174217°W	
4,835.00	10.59	173.79	4,653.56	-1,082.41	241.60	14,365,293.09	880,945.07	39.525425484°N	107.693162133°W	
4,930.00	8.92	175.20	4,747.19	-1,098.43	243.16	14,365,277.07	880,946.63	39.525381667°N	107.693154906°W	
5,025.00	5.19	170.80	4,841.45	-1,110.02	244.46	14,365,265.49	880,947.94	39.525349992°N	107.693149059°W	
5,121.00	1.19	173.40	4,937.28	-1,115.29	245.27	14,365,260.21	880,948.74	39.525335577°N	107.693145633°W	
5,213.00	0.22	46.31	5,029.28	-1,116.12	245.51	14,365,259.38	880,948.98	39.525333328°N	107.693144704°W	
5,308.00	0.62	290.03	5,124.27	-1,115.82	245.16	14,365,259.68	880,948.63	39.525334128°N	107.693145979°W	
5,402.00	0.88	336.21	5,218.27	-1,114.98	244.39	14,365,260.52	880,947.86	39.525336355°N	107.693148792°W	
5,497.00	1.10	3.90	5,313.25	-1,113.41	244.16	14,365,262.10	880,947.63	39.525340663°N	107.693149782°W	
5,592.00	0.62	25.70	5,408.24	-1,112.03	244.44	14,365,263.47	880,947.92	39.525344453°N	107.693148918°W	
5,686.00	1.01	14.80	5,502.23	-1,110.78	244.88	14,365,264.73	880,948.35	39.525347943°N	107.693147521°W	
5,781.00	0.70	17.70	5,597.22	-1,109.41	245.27	14,365,266.09	880,948.74	39.525351712°N	107.693146283°W	
5,875.00	0.48	53.91	5,691.22	-1,108.63	245.76	14,365,266.87	880,949.23	39.525353890°N	107.693144620°W	
5,970.00	1.32	42.70	5,786.21	-1,107.60	246.82	14,365,267.91	880,950.29	39.525356826°N	107.693140962°W	
6,065.00	1.01	76.89	5,881.19	-1,106.60	248.38	14,365,268.90	880,951.85	39.525359681°N	107.693135550°W	
6,159.00	1.01	102.82	5,975.17	-1,106.60	249.99	14,365,268.91	880,953.47	39.525359825°N	107.693129830°W	
6,254.00	0.70	87.40	6,070.16	-1,106.76	251.39	14,365,268.75	880,954.86	39.525359502°N	107.693124868°W	
6,348.00	0.31	78.30	6,164.16	-1,106.68	252.21	14,365,268.83	880,955.68	39.525359783°N	107.693121962°W	
6,442.00	0.31	226.39	6,258.16	-1,106.80	252.28	14,365,268.70	880,955.75	39.525359448°N	107.693121719°W	
6,537.00	0.40	328.39	6,353.16	-1,106.70	251.92	14,365,268.81	880,955.39	39.525359707°N	107.693123005°W	
6,631.00	0.40	328.00	6,447.15	-1,106.14	251.57	14,365,269.36	880,955.04	39.525361209°N	107.693124289°W	
6,726.00	0.31	40.73	6,542.15	-1,105.66	251.56	14,365,269.84	880,955.04	39.525362514°N	107.693124368°W	
6,820.00	0.31	140.13	6,636.15	-1,105.67	251.89	14,365,269.84	880,955.36	39.525362534°N	107.693123203°W	
6,915.00	0.70	149.31	6,731.15	-1,106.36	252.35	14,365,269.14	880,955.83	39.525360662°N	107.693121496°W	

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<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 B07 (111421)	<b>North Reference:</b>	Grid
<b>Wellbore:</b>	Gentry B07	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	Gentry B07	<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	0.40	211.10	6,825.14	-1,107.14	252.48	14,365,268.37	880,955.95	39.525358547°N	107.693120976°W
7,103.00	0.22	22.23	6,919.14	-1,107.25	252.38	14,365,268.25	880,955.85	39.525358226°N	107.693121323°W
7,198.00	0.48	55.40	7,014.14	-1,106.86	252.77	14,365,268.65	880,956.24	39.525359341°N	107.693119960°W
7,292.00	0.70	87.79	7,108.14	-1,106.61	253.67	14,365,268.89	880,957.14	39.525360089°N	107.693116805°W
7,387.00	0.31	221.43	7,203.14	-1,106.78	254.08	14,365,268.72	880,957.55	39.525359656°N	107.693115335°W
7,481.00	0.40	3.33	7,297.13	-1,106.64	253.93	14,365,268.86	880,957.40	39.525360019°N	107.693115878°W
7,576.00	0.70	223.01	7,392.13	-1,106.74	253.56	14,365,268.77	880,957.03	39.525359732°N	107.693117203°W
7,670.00	1.49	222.22	7,486.11	-1,108.06	252.34	14,365,267.44	880,955.81	39.525355998°N	107.693121359°W
7,764.00	1.71	208.03	7,580.08	-1,110.21	250.86	14,365,265.30	880,954.33	39.525349997°N	107.693126375°W
7,858.00	1.71	204.20	7,674.04	-1,112.72	249.63	14,365,262.78	880,953.10	39.525342990°N	107.693130480°W
7,922.00	1.71	201.83	7,738.01	-1,114.48	248.88	14,365,261.02	880,952.35	39.525338107°N	107.693132938°W
7,976.00	1.71	201.83	7,791.98	-1,115.98	248.28	14,365,259.53	880,951.75	39.525333954°N	107.693134902°W
Proj to TD at 7976 MD/7792 TVD									

Survey Annotations				
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
7,976.00	7,791.98	-1,115.98	248.28	Proj to TD at 7976 MD/7792 TVD

Checked By: _____	Approved By: _____	Date: _____
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