



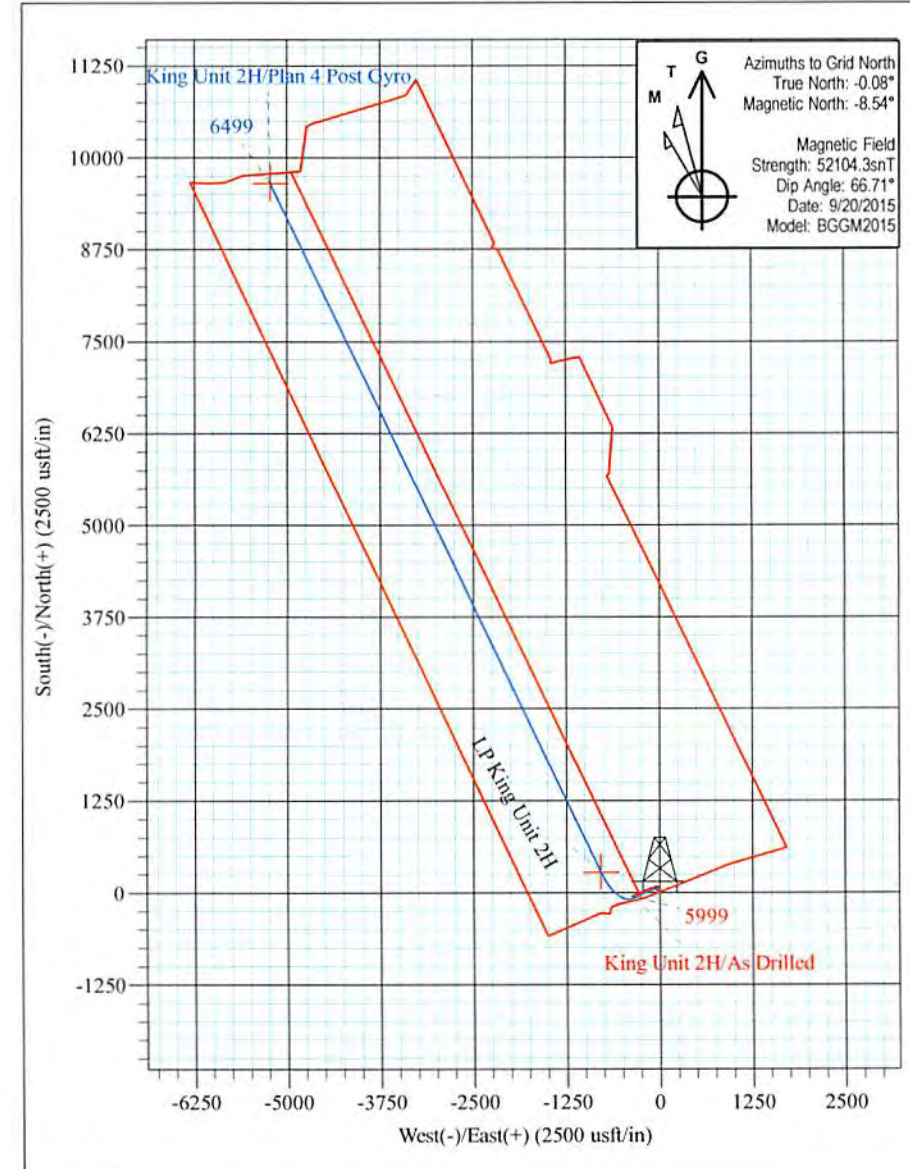
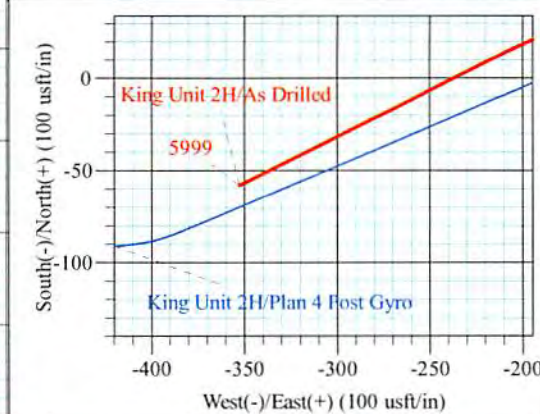
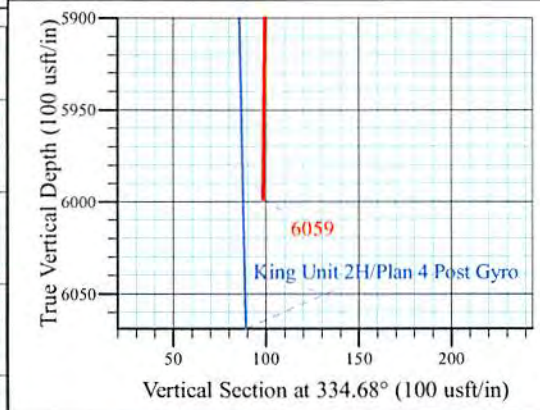
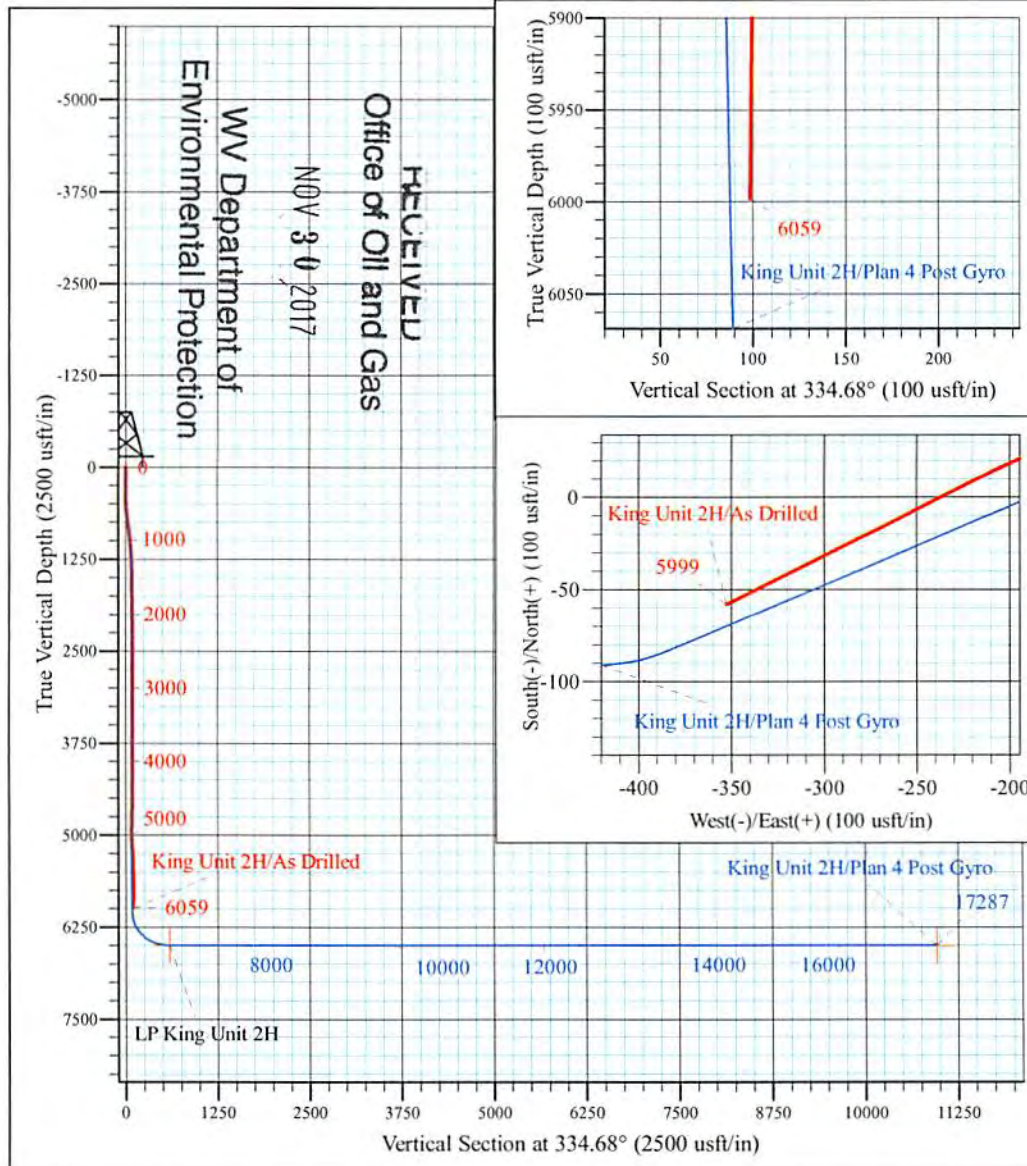
James Webb Pad: Hunter/King/Mahogany/Mary Jane  
 King Unit 2H  
 Plan 4 Post Gyro  
 Hall 3: 991' GL + 13' KB @ 1004.0usft  
 Doddridge County WV

PROJECT DETAILS:  
 Geodetic System: Universal Transverse Mercator (US Survey Feet)  
 Datum: NAD 1927 (NADCON CONUS)  
 Ellipsoid: Clarke 1866  
 Zone: Zone 17N (84 W to 78 W)  
 System Datum: Mean Sea Level



WELL DETAILS: **King Unit 2H SHL**

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.0	0.0	14248813.54	1676252.99	39° 14' 18.735 N	80° 52' 24.364 W



**King Unit 2H**  
**Approx. BHL**  
 39° 14' 18.167 N 80° 52' 28.847 W

Shane Rhodes  
 14:06, September 28 2015  
 Scientific Drilling International  
 124 Vista Drive  
 Charleroi, PA 15022



<b>Company:</b>	Antero Resources	<b>Local Co-ordinate Reference:</b>	Well King Unit 2H
<b>Project:</b>	Doddridge County WV	<b>TVD Reference:</b>	Hall 3: 991' GL + 13' KB @ 1004.0usft
<b>Site:</b>	James Webb Pad: Hunter/King/Mahogany/Mary Jane	<b>MD Reference:</b>	Hall 3: 991' GL + 13' KB @ 1004.0usft
<b>Well:</b>	King Unit 2H	<b>North Reference:</b>	Grid
<b>Wellbore:</b>	Original Wellpath	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	As Drilled	<b>Database:</b>	Antero NE

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<b>Project</b>	Doddridge County WV, McClellan District		
<b>Map System:</b>	Universal Transverse Mercator (US Survey Feet)	<b>System Datum:</b>	Mean Sea Level
<b>Geo Datum:</b>	NAD 1927 (NADCON CONUS)		
<b>Map Zone:</b>	Zone 17N (84 W to 78 W)		

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Environmental Protection

<b>Site</b>	James Webb Pad: Hunter/King/Mahogany/Mary Jane				
<b>Site Position:</b>		<b>Northing:</b>	14,248,842.41 usft	<b>Latitude:</b>	39° 14' 19.020 N
<b>From:</b>	Map	<b>Easting:</b>	1,676,305.50 usft	<b>Longitude:</b>	80° 52' 23.695 W
<b>Position Uncertainty:</b>	0.0 usft	<b>Slot Radius:</b>	13-3/16 "	<b>Grid Convergence:</b>	0.08 °

<b>Well</b>	King Unit 2H, Marcellus					
<b>Well Position</b>	<b>+N/-S</b>	0.0 usft	<b>Northing:</b>	14,248,813.54 usft	<b>Latitude:</b>	39° 14' 18.735 N
	<b>+E/-W</b>	0.0 usft	<b>Easting:</b>	1,676,252.99 usft	<b>Longitude:</b>	80° 52' 24.364 W
<b>Position Uncertainty</b>		2.0 usft	<b>Wellhead Elevation:</b>	1,004.0 usft	<b>Ground Level:</b>	991.0 usft

<b>Wellbore</b>	Original Wellpath				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	BGGM2015	9/20/2015	-8.46	66.71	52,104

<b>Design</b>	As Drilled				
<b>Audit Notes:</b>					
<b>Version:</b>	1.0	<b>Phase:</b>	ACTUAL	<b>Tie On Depth:</b>	0.0
<b>Vertical Section:</b>	<b>Depth From (TVD) (usft)</b>	<b>+N/-S (usft)</b>	<b>+E/-W (usft)</b>	<b>Direction (°)</b>	
	0.0	0.0	0.0	334.68	

<b>Survey Program</b>	<b>Date</b>	9/28/2015			
<b>From (usft)</b>	<b>To (usft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Description</b>	
100.0	6,059.0	Survey #7 Final Gyro (Original Wellpath)	Standard Keeper 104	Standard Wireline Keeper ver 1.0.4	

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00	
100.0	0.44	263.99	100.0	0.0	-0.4	0.1	0.44	0.44	0.00	
<b>First SDI Gyro @ 100 MD</b>										
125.0	0.45	264.06	125.0	-0.1	-0.6	0.2	0.04	0.04	0.28	
150.0	0.50	263.37	150.0	-0.1	-0.8	0.3	0.20	0.20	-2.76	
175.0	0.50	265.97	175.0	-0.1	-1.0	0.3	0.09	0.00	10.40	
200.0	0.49	269.10	200.0	-0.1	-1.2	0.4	0.12	-0.04	12.52	
225.0	0.48	272.92	225.0	-0.1	-1.4	0.5	0.14	-0.04	15.28	
250.0	0.49	272.41	250.0	-0.1	-1.6	0.6	0.04	0.04	-2.04	
275.0	0.40	274.70	275.0	-0.1	-1.8	0.7	0.37	-0.36	9.16	



Scientific Drilling International  
Survey Report



<b>Company:</b>	Antero Resources	<b>Local Co-ordinate Reference:</b>	Well King Unit 2H
<b>Project:</b>	Doddridge County WW	<b>TVD Reference:</b>	Hall 3: 991' GL + 13' KB @ 1004.0usft
<b>Site:</b>	James Webb Pad: Hunter/King/Mahogany/Mary Jane	<b>MD Reference:</b>	Hall 3: 991' GL + 13' KB @ 1004.0usft
<b>Well:</b>	King Unit 2H	<b>North Reference:</b>	Grid
<b>Wellbore:</b>	Original Wellpath	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	As Drilled	<b>Database:</b>	Antero NE

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Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
300.0	0.36	279.98	300.0	-0.1	-2.0	0.8	0.21	-0.16	21.12
325.0	0.27	275.05	325.0	0.0	-2.1	0.9	0.38	-0.36	-19.72
350.0	0.31	272.69	350.0	0.0	-2.3	0.9	0.17	0.16	-9.44
375.0	0.31	267.07	375.0	0.0	-2.4	1.0	0.12	0.00	-22.48
400.0	0.32	265.30	400.0	0.0	-2.5	1.0	0.06	0.04	-7.08
425.0	0.37	274.88	425.0	0.0	-2.7	1.1	0.30	0.20	38.32
450.0	0.67	297.09	450.0	0.0	-2.9	1.3	1.42	1.20	88.84
475.0	1.78	321.71	475.0	0.4	-3.3	1.8	4.81	4.44	98.48
500.0	2.48	326.80	500.0	1.2	-3.8	2.7	2.90	2.80	20.36
525.0	2.99	328.52	524.9	2.2	-4.4	3.9	2.07	2.04	6.88
550.0	3.45	327.72	549.9	3.4	-5.2	5.2	1.85	1.84	-3.20
575.0	3.78	328.58	574.8	4.7	-6.0	6.8	1.34	1.32	3.44
600.0	5.12	332.02	599.8	6.4	-7.0	8.7	5.46	5.36	13.76
625.0	6.31	334.45	624.6	8.6	-8.1	11.2	4.86	4.76	9.72
650.0	7.39	336.05	649.5	11.3	-9.3	14.2	4.39	4.32	6.40
675.0	7.97	336.00	674.2	14.4	-10.7	17.6	2.32	2.32	-0.20
700.0	8.08	336.17	699.0	17.6	-12.1	21.0	0.45	0.44	0.68
725.0	8.17	336.80	723.7	20.8	-13.5	24.6	0.51	0.36	2.52
750.0	8.11	337.08	748.5	24.1	-14.9	28.1	0.29	-0.24	1.12
775.0	8.21	336.10	773.2	27.3	-16.3	31.7	0.69	0.40	-3.92
800.0	8.20	336.40	798.0	30.6	-17.7	35.2	0.18	-0.04	1.20
825.0	7.64	333.12	822.7	33.7	-19.2	38.7	2.88	-2.24	-13.12
850.0	7.34	332.05	847.5	36.6	-20.7	41.9	1.32	-1.20	-4.28
875.0	7.12	332.26	872.3	39.4	-22.2	45.1	0.89	-0.88	0.84
900.0	6.94	332.00	897.1	42.1	-23.6	48.1	0.73	-0.72	-1.04
925.0	6.41	333.65	922.0	44.7	-24.9	51.0	2.25	-2.12	6.60
950.0	6.10	333.03	946.8	47.1	-26.2	53.8	1.27	-1.24	-2.48
975.0	5.97	331.48	971.7	49.4	-27.4	56.4	0.83	-0.52	-6.20
1,000.0	5.54	332.96	996.6	51.6	-28.5	58.9	1.82	-1.72	5.92
1,025.0	5.25	332.86	1,021.5	53.7	-29.6	61.2	1.16	-1.16	-0.40
1,050.0	4.88	332.66	1,046.4	55.7	-30.6	63.4	1.48	-1.48	-0.80
1,075.0	4.68	331.40	1,071.3	57.5	-31.6	65.5	0.90	-0.80	-5.04
1,100.0	4.38	332.81	1,096.2	59.3	-32.5	67.5	1.28	-1.20	5.64
1,125.0	4.13	332.28	1,121.1	60.9	-33.4	69.3	1.01	-1.00	-2.12
1,150.0	3.89	332.39	1,146.1	62.5	-34.2	71.1	0.96	-0.96	0.44
1,175.0	3.60	333.55	1,171.0	63.9	-34.9	72.7	1.20	-1.16	4.64
1,200.0	3.27	332.92	1,196.0	65.3	-35.6	74.2	1.33	-1.32	-2.52
1,225.0	3.04	330.03	1,220.9	66.5	-36.3	75.6	1.12	-0.92	-11.56
1,250.0	2.82	332.59	1,245.9	67.6	-36.9	76.9	1.02	-0.88	10.24
1,275.0	2.58	331.15	1,270.9	68.6	-37.4	78.0	1.00	-0.96	-5.76
1,300.0	2.42	332.84	1,295.8	69.6	-37.9	79.1	0.70	-0.64	6.76
1,325.0	2.21	331.66	1,320.8	70.5	-38.4	80.1	0.86	-0.84	-4.72

WV Department of Environmental Protection



Scientific Drilling International  
Survey Report



**Company:** Antero Resources  
**Project:** Doddridge County WV  
**Site:** James Webb Pad: Hunter/King/Mahogany/Mary Jane  
**Well:** King Unit 2H  
**Wellbore:** Original Wellpath  
**Design:** As Drilled

**Local Co-ordinate Reference:** Well King Unit 2H  
**TVD Reference:** Hall 3: 991' GL + 13' KB @ 1004.0usft  
**MD Reference:** Hall 3: 991' GL + 13' KB @ 1004.0usft  
**North Reference:** Grid  
**Survey Calculation Method:** Minimum Curvature  
**Database:** Antero NE

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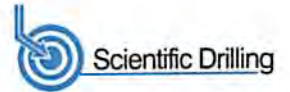
Survey

WV Department of  
Environmental Protection

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
1,350.0	2.02	333.49	1,345.8	71.3	-38.8	81.1	0.81	-0.76	7.32
1,375.0	1.93	332.90	1,370.8	72.1	-39.2	81.9	0.37	-0.36	-2.36
1,400.0	1.68	330.31	1,395.8	72.8	-39.6	82.7	1.05	-1.00	-10.36
1,425.0	1.52	330.36	1,420.8	73.4	-39.9	83.4	0.64	-0.64	0.20
1,450.0	1.43	330.25	1,445.8	73.9	-40.3	84.1	0.36	-0.36	-0.44
1,475.0	1.41	330.58	1,470.8	74.5	-40.6	84.7	0.09	-0.08	1.32
1,500.0	1.22	332.85	1,495.7	75.0	-40.8	85.2	0.79	-0.76	9.08
1,525.0	1.07	321.59	1,520.7	75.4	-41.1	85.7	1.08	-0.60	-45.04
1,550.0	1.03	324.81	1,545.7	75.8	-41.4	86.2	0.29	-0.16	12.88
1,575.0	0.96	323.20	1,570.7	76.1	-41.6	86.6	0.30	-0.28	-6.44
1,600.0	0.87	325.49	1,595.7	76.4	-41.9	87.0	0.39	-0.36	9.16
1,625.0	0.82	312.60	1,620.7	76.7	-42.1	87.4	0.78	-0.20	-51.56
1,650.0	0.73	307.78	1,645.7	76.9	-42.4	87.7	0.44	-0.36	-19.28
1,675.0	0.71	302.31	1,670.7	77.1	-42.6	87.9	0.29	-0.08	-21.88
1,700.0	0.66	298.03	1,695.7	77.3	-42.9	88.2	0.29	-0.20	-17.12
1,725.0	0.58	301.34	1,720.7	77.4	-43.1	88.4	0.35	-0.32	13.24
1,750.0	0.61	287.53	1,745.7	77.5	-43.4	88.6	0.58	0.12	-55.24
1,775.0	0.50	288.10	1,770.7	77.6	-43.6	88.8	0.44	-0.44	2.28
1,800.0	0.61	280.86	1,795.7	77.6	-43.8	88.9	0.52	0.44	-28.96
1,825.0	0.59	283.59	1,820.7	77.7	-44.1	89.1	0.14	-0.08	10.92
1,850.0	0.56	286.15	1,845.7	77.8	-44.3	89.2	0.16	-0.12	10.24
1,875.0	0.55	279.26	1,870.7	77.8	-44.6	89.4	0.27	-0.04	-27.56
1,900.0	0.48	283.60	1,895.7	77.9	-44.8	89.5	0.32	-0.28	17.36
1,925.0	0.44	292.17	1,920.7	77.9	-45.0	89.7	0.32	-0.16	34.28
1,950.0	0.31	278.19	1,945.7	78.0	-45.1	89.8	0.63	-0.52	-55.92
1,975.0	0.48	262.00	1,970.7	78.0	-45.3	89.8	0.81	0.68	-64.76
2,000.0	0.43	272.32	1,995.7	77.9	-45.5	89.9	0.38	-0.20	41.28
2,025.0	0.41	274.65	2,020.7	78.0	-45.7	90.0	0.11	-0.08	9.32
2,050.0	0.36	273.57	2,045.7	78.0	-45.8	90.1	0.20	-0.20	-4.32
2,075.0	0.37	278.85	2,070.7	78.0	-46.0	90.2	0.14	0.04	21.12
2,100.0	0.25	277.07	2,095.7	78.0	-46.1	90.2	0.48	-0.48	-7.12
2,125.0	0.32	272.38	2,120.7	78.0	-46.3	90.3	0.29	0.28	-18.76
2,150.0	0.27	264.92	2,145.7	78.0	-46.4	90.4	0.25	-0.20	-29.84
2,175.0	0.26	287.21	2,170.7	78.0	-46.5	90.4	0.41	-0.04	89.16
2,200.0	0.21	275.78	2,195.7	78.0	-46.6	90.5	0.27	-0.20	-45.72
2,225.0	0.28	303.36	2,220.7	78.1	-46.7	90.6	0.54	0.28	110.32
2,250.0	0.31	279.40	2,245.7	78.1	-46.8	90.6	0.50	0.12	-95.84
2,275.0	0.40	307.67	2,270.7	78.2	-46.9	90.8	0.78	0.36	113.08
2,300.0	0.20	297.91	2,295.7	78.3	-47.1	90.9	0.82	-0.80	-39.04
2,325.0	0.40	290.04	2,320.7	78.3	-47.2	91.0	0.81	0.80	-31.48
2,350.0	0.41	267.82	2,345.7	78.3	-47.3	91.1	0.63	0.04	-88.88
2,375.0	0.41	287.20	2,370.7	78.4	-47.5	91.2	0.55	0.00	77.52
2,400.0	0.34	278.60	2,395.7	78.4	-47.7	91.3	0.36	-0.28	-34.40



Scientific Drilling International  
Survey Report



**Company:** Antero Resources  
**Project:** Doddridge County WV  
**Site:** James Webb Pad: Hunter/King/Mahogany/Mary Jane  
**Well:** King Unit 2H  
**Wellbore:** Original Wellpath  
**Design:** As Drilled

**Local Co-ordinate Reference:** Well King Unit 2H  
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**North Reference:** Grid  
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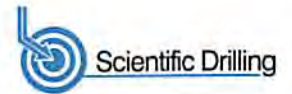
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Survey										WV Department of Environmental Protection
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Rate (°/100usft)	Rate (°/100usft)	Rate (°/100usft)
2,425.0	0.24	289.88	2,420.7	78.4	-47.8	91.3	0.46	-0.40	45.12	
2,450.0	0.15	313.12	2,445.7	78.5	-47.9	91.4	0.47	-0.36	92.96	
2,475.0	0.11	303.02	2,470.7	78.5	-47.9	91.5	0.18	-0.16	-40.40	
2,500.0	0.13	313.44	2,495.7	78.5	-48.0	91.5	0.12	0.08	41.68	
2,525.0	0.09	299.70	2,520.7	78.6	-48.0	91.5	0.19	-0.16	-54.96	
2,550.0	0.15	285.90	2,545.7	78.6	-48.0	91.6	0.26	0.24	-55.20	
2,575.0	0.08	299.66	2,570.7	78.6	-48.1	91.6	0.30	-0.28	55.04	
2,600.0	0.16	275.20	2,595.7	78.6	-48.1	91.7	0.37	0.32	-97.84	
2,625.0	0.11	266.25	2,620.7	78.6	-48.2	91.7	0.22	-0.20	-35.80	
2,650.0	0.12	285.66	2,645.7	78.6	-48.3	91.7	0.16	0.04	77.64	
2,675.0	0.12	287.76	2,670.7	78.6	-48.3	91.7	0.02	0.00	8.40	
2,700.0	0.14	291.00	2,695.7	78.7	-48.4	91.8	0.09	0.08	12.96	
2,725.0	0.13	295.91	2,720.7	78.7	-48.4	91.8	0.06	-0.04	19.64	
2,750.0	0.10	254.70	2,745.7	78.7	-48.5	91.9	0.34	-0.12	-164.84	
2,775.0	0.15	271.32	2,770.7	78.7	-48.5	91.9	0.25	0.20	66.48	
2,800.0	0.20	270.80	2,795.7	78.7	-48.6	91.9	0.20	0.20	-2.08	
2,825.0	0.19	283.76	2,820.7	78.7	-48.7	92.0	0.18	-0.04	51.84	
2,850.0	0.14	258.15	2,845.7	78.7	-48.7	92.0	0.35	-0.20	-102.44	
2,875.0	0.17	285.10	2,870.7	78.7	-48.8	92.0	0.31	0.12	107.80	
2,900.0	0.17	244.46	2,895.7	78.7	-48.9	92.0	0.47	0.00	-162.56	
2,925.0	0.19	260.85	2,920.7	78.7	-49.0	92.1	0.22	0.08	65.56	
2,950.0	0.23	263.86	2,945.7	78.7	-49.0	92.1	0.17	0.16	12.04	
2,975.0	0.25	300.85	2,970.7	78.7	-49.1	92.1	0.61	0.08	147.96	
3,000.0	0.19	271.60	2,995.7	78.7	-49.2	92.2	0.50	-0.24	-117.00	
3,025.0	0.20	288.39	3,020.7	78.7	-49.3	92.3	0.23	0.04	67.16	
3,050.0	0.19	295.92	3,045.7	78.8	-49.4	92.3	0.11	-0.04	30.12	
3,075.0	0.16	246.02	3,070.7	78.8	-49.5	92.3	0.60	-0.12	-199.60	
3,100.0	0.15	257.97	3,095.7	78.7	-49.5	92.4	0.14	-0.04	47.80	
3,125.0	0.18	259.60	3,120.7	78.7	-49.6	92.4	0.12	0.12	6.52	
3,150.0	0.24	268.32	3,145.7	78.7	-49.7	92.4	0.27	0.24	34.88	
3,175.0	0.10	255.08	3,170.7	78.7	-49.8	92.4	0.58	-0.56	-52.96	
3,200.0	0.09	250.66	3,195.7	78.7	-49.8	92.4	0.05	-0.04	-17.68	
3,225.0	0.05	258.06	3,220.7	78.7	-49.8	92.4	0.16	-0.16	29.60	
3,250.0	0.07	244.42	3,245.7	78.7	-49.8	92.4	0.10	0.08	-54.56	
3,275.0	0.16	212.90	3,270.7	78.6	-49.9	92.4	0.43	0.36	-126.08	
3,300.0	0.15	200.75	3,295.7	78.6	-49.9	92.4	0.14	-0.04	-48.60	
3,325.0	0.15	228.06	3,320.7	78.5	-49.9	92.4	0.28	0.00	109.24	
3,350.0	0.16	272.24	3,345.7	78.5	-50.0	92.4	0.47	0.04	176.72	
3,375.0	0.11	240.92	3,370.7	78.5	-50.1	92.4	0.35	-0.20	-125.28	
3,400.0	0.08	229.00	3,395.7	78.5	-50.1	92.4	0.14	-0.12	-47.68	
3,425.0	0.11	195.54	3,420.7	78.4	-50.1	92.3	0.25	0.12	-133.84	
3,450.0	0.11	257.23	3,445.7	78.4	-50.1	92.3	0.45	0.00	246.76	



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<b>Company:</b>	Antero Resources	<b>Local Co-ordinate Reference:</b>	Well King Unit 2H
<b>Project:</b>	Doddridge County WV	<b>TVD Reference:</b>	Hall 3: 991' GL + 13' KB @ 1004.0usft
<b>Site:</b>	James Webb Pad: Hunter/King/Mahogany/Mary Jane	<b>MD Reference:</b>	Hall 3: 991' GL + 13' KB @ 1004.0usft
<b>Well:</b>	King Unit 2H	<b>North Reference:</b>	Grid
<b>Wellbore:</b>	Original Wellpath	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	As Drilled	<b>Database:</b>	Antero NE

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WV Department of Environmental Protection

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	FWA Rate (°/100usft)	FWA Rate (°/100usft)
3,475.0	0.16	214.09	3,470.7	78.4	-50.2	92.3	0.44	0.20	-172.56
3,500.0	0.15	228.12	3,495.7	78.3	-50.2	92.3	0.16	-0.04	56.12
3,525.0	0.14	229.45	3,520.7	78.3	-50.3	92.3	0.04	-0.04	5.32
3,550.0	0.13	237.93	3,545.7	78.3	-50.3	92.3	0.09	-0.04	33.92
3,575.0	0.06	222.07	3,570.7	78.2	-50.4	92.3	0.30	-0.28	-63.44
3,600.0	0.07	212.22	3,595.7	78.2	-50.4	92.2	0.06	0.04	-39.40
3,625.0	0.11	232.26	3,620.7	78.2	-50.4	92.2	0.20	0.16	80.16
3,650.0	0.13	194.68	3,645.7	78.1	-50.4	92.2	0.32	0.08	-150.32
3,675.0	0.17	197.14	3,670.7	78.1	-50.4	92.2	0.16	0.16	9.84
3,700.0	0.15	202.87	3,695.7	78.0	-50.5	92.1	0.10	-0.08	22.92
3,725.0	0.16	218.75	3,720.7	78.0	-50.5	92.1	0.18	0.04	63.52
3,750.0	0.04	234.27	3,745.7	77.9	-50.5	92.0	0.49	-0.48	62.08
3,775.0	0.22	199.45	3,770.7	77.9	-50.6	92.0	0.75	0.72	-139.28
3,800.0	0.13	200.43	3,795.7	77.8	-50.6	92.0	0.36	-0.36	3.92
3,825.0	0.14	205.10	3,820.7	77.7	-50.6	91.9	0.06	0.04	18.68
3,850.0	0.16	228.43	3,845.7	77.7	-50.6	91.9	0.25	0.08	93.32
3,875.0	0.13	196.89	3,870.7	77.6	-50.7	91.9	0.34	-0.12	-126.16
3,900.0	0.05	219.12	3,895.7	77.6	-50.7	91.8	0.34	-0.32	88.92
3,925.0	0.04	144.04	3,920.7	77.6	-50.7	91.8	0.22	-0.04	-300.32
3,950.0	0.03	175.09	3,945.7	77.6	-50.7	91.8	0.08	-0.04	124.20
3,975.0	0.10	71.68	3,970.7	77.6	-50.7	91.8	0.44	0.28	-413.64
4,000.0	0.20	65.50	3,995.7	77.6	-50.6	91.8	0.40	0.40	-24.72
4,025.0	0.22	78.78	4,020.7	77.6	-50.5	91.8	0.21	0.08	53.12
4,050.0	0.22	55.92	4,045.7	77.7	-50.4	91.8	0.35	0.00	-91.44
4,075.0	0.18	69.33	4,070.7	77.7	-50.4	91.8	0.25	-0.16	53.64
4,100.0	0.26	98.22	4,095.7	77.7	-50.3	91.7	0.54	0.32	115.56
4,125.0	0.23	97.53	4,120.7	77.7	-50.2	91.7	0.12	-0.12	-2.76
4,150.0	0.24	103.04	4,145.7	77.7	-50.1	91.6	0.10	0.04	22.04
4,175.0	0.29	115.17	4,170.7	77.6	-50.0	91.5	0.30	0.20	48.52
4,200.0	0.21	88.68	4,195.7	77.6	-49.9	91.5	0.55	-0.32	-105.96
4,225.0	0.33	99.04	4,220.7	77.6	-49.7	91.4	0.52	0.48	41.44
4,250.0	0.38	133.42	4,245.7	77.5	-49.6	91.3	0.86	0.20	137.52
4,275.0	0.44	127.97	4,270.7	77.4	-49.5	91.1	0.29	0.24	-21.80
4,300.0	0.41	121.17	4,295.7	77.3	-49.3	91.0	0.23	-0.12	-27.20
4,325.0	0.40	127.47	4,320.7	77.2	-49.2	90.8	0.18	-0.04	25.20
4,350.0	0.64	134.14	4,345.7	77.1	-49.0	90.6	0.99	0.96	26.68
4,375.0	0.50	122.23	4,370.7	76.9	-48.8	90.4	0.73	-0.56	-47.64
4,400.0	0.55	136.68	4,395.7	76.8	-48.6	90.2	0.56	0.20	57.80
4,425.0	0.88	137.42	4,420.7	76.5	-48.4	89.9	1.32	1.32	2.96
4,450.0	0.78	134.61	4,445.7	76.3	-48.2	89.5	0.43	-0.40	-11.24
4,475.0	0.85	130.88	4,470.7	76.0	-47.9	89.2	0.36	0.28	-15.72
4,500.0	0.85	131.18	4,495.7	75.8	-47.6	88.9	0.03	0.00	2.00
4,525.0	0.82	137.63	4,520.7	75.5	-47.4	88.5	0.39	-0.12	25.80



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Survey Report



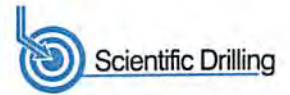
<b>Company:</b>	Antero Resources	<b>Local Co-ordinate Reference:</b>	Well King Unit 2H
<b>Project:</b>	Doddridge County WV	<b>TVD Reference:</b>	Hall 3: 991' GL + 13' KB @ 1004.0usft
<b>Site:</b>	James Webb Pad: Hunter/King/Mahogany/Mary Jane	<b>MD Reference:</b>	Hall 3: 991' GL + 13' KB @ 1004.0usft
<b>Well:</b>	King Unit 2H	<b>North Reference:</b>	Grid
<b>Wellbore:</b>	Original Wellpath	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	As Drilled	<b>Database:</b>	Antero NE

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Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Survey Rate (°/100usft)	Rate (°/100usft)
4,550.0	0.78	137.09	4,545.7	75.3	-47.1	88.2	0.16	-0.16	-2.16
4,575.0	0.69	137.59	4,570.7	75.0	-46.9	87.9	0.36	-0.36	2.00
4,600.0	0.94	139.96	4,595.7	74.8	-46.7	87.6	1.01	1.00	9.48
4,625.0	1.00	146.33	4,620.7	74.4	-46.4	87.1	0.49	0.24	25.48
4,650.0	0.93	146.88	4,645.7	74.1	-46.2	86.7	0.28	-0.28	2.20
4,675.0	1.01	151.98	4,670.7	73.7	-46.0	86.3	0.47	0.32	20.40
4,700.0	1.09	154.67	4,695.7	73.3	-45.8	85.8	0.38	0.32	10.76
4,725.0	1.12	151.52	4,720.6	72.9	-45.6	85.4	0.27	0.12	-12.60
4,750.0	1.16	154.72	4,745.6	72.4	-45.3	84.9	0.30	0.16	12.80
4,775.0	1.13	150.71	4,770.6	72.0	-45.1	84.4	0.34	-0.12	-16.04
4,800.0	1.23	156.74	4,795.6	71.5	-44.9	83.9	0.64	0.40	24.12
4,825.0	1.61	201.34	4,820.6	71.0	-44.9	83.3	4.53	1.52	178.40
4,850.0	1.97	210.76	4,845.6	70.3	-45.2	82.9	1.86	1.44	37.68
4,875.0	2.55	220.17	4,870.6	69.5	-45.8	82.4	2.75	2.32	37.64
4,900.0	3.47	229.25	4,895.6	68.6	-46.8	82.0	4.13	3.68	36.32
4,925.0	4.53	236.65	4,920.5	67.5	-48.2	81.6	4.71	4.24	29.60
4,950.0	5.65	242.41	4,945.4	66.4	-50.1	81.4	4.92	4.48	23.04
4,975.0	6.65	245.17	4,970.3	65.2	-52.5	81.4	4.17	4.00	11.04
5,000.0	7.69	247.37	4,995.1	64.0	-55.3	81.5	4.30	4.16	8.80
5,025.0	8.23	248.98	5,019.8	62.7	-58.5	81.7	2.34	2.16	6.44
5,050.0	9.32	251.72	5,044.5	61.4	-62.1	82.1	4.67	4.36	10.96
5,075.0	10.18	253.88	5,069.2	60.2	-66.2	82.7	3.74	3.44	8.64
5,100.0	10.99	255.49	5,093.7	59.0	-70.6	83.5	3.45	3.24	6.44
5,125.0	12.00	257.96	5,118.2	57.8	-75.5	84.5	4.49	4.04	9.88
5,150.0	12.49	258.52	5,142.7	56.7	-80.7	85.8	2.02	1.96	2.24
5,175.0	12.77	258.31	5,167.1	55.6	-86.0	87.1	1.13	1.12	-0.84
5,200.0	13.03	258.48	5,191.4	54.5	-91.5	88.4	1.05	1.04	0.68
5,225.0	12.88	257.74	5,215.8	53.4	-97.0	89.7	0.89	-0.60	-2.96
5,250.0	12.75	256.75	5,240.2	52.1	-102.4	90.9	1.02	-0.52	-3.96
5,275.0	12.92	256.28	5,264.5	50.8	-107.8	92.0	0.80	0.68	-1.88
5,300.0	12.97	254.18	5,288.9	49.4	-113.2	93.1	1.89	0.20	-8.40
5,325.0	13.47	253.27	5,313.3	47.8	-118.7	94.0	2.17	2.00	-3.64
5,350.0	13.58	252.02	5,337.6	46.1	-124.3	94.8	1.25	0.44	-5.00
5,375.0	13.92	251.08	5,361.8	44.2	-129.9	95.5	1.63	1.36	-3.76
5,400.0	14.26	251.00	5,386.1	42.2	-135.6	96.2	1.36	1.36	-0.32
5,425.0	14.60	250.57	5,410.3	40.2	-141.5	96.8	1.43	1.36	-1.72
5,450.0	15.12	251.10	5,434.5	38.1	-147.6	97.5	2.15	2.08	2.12
5,475.0	15.85	251.14	5,458.6	35.9	-153.9	98.3	2.92	2.92	0.16
5,500.0	16.39	251.72	5,482.6	33.7	-160.5	99.1	2.25	2.16	2.32
5,525.0	17.14	251.31	5,506.5	31.4	-167.3	99.9	3.04	3.00	-1.64
5,550.0	17.87	250.57	5,530.4	28.9	-174.4	100.8	3.05	2.92	-2.96
5,575.0	18.43	249.35	5,554.1	26.3	-181.7	101.5	2.71	2.24	-4.88

WV Department of Environmental Protection



<b>Company:</b>	Antero Resources	<b>Local Co-ordinate Reference:</b>	Well King Unit 2H
<b>Project:</b>	Doddridge County WW	<b>TVD Reference:</b>	Hall 3: 991' GL + 13' KB @ 1004.0usft
<b>Site:</b>	James Webb Pad: Hunter/King/Mahogany/Mary Jane	<b>MD Reference:</b>	Hall 3: 991' GL + 13' KB @ 1004.0usft
<b>Well:</b>	King Unit 2H	<b>North Reference:</b>	Grid
<b>Wellbore:</b>	Original Wellpath	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	As Drilled	<b>Database:</b>	Antero NE

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
5,600.0	18.93	247.69	5,577.8	23.3	-189.2	102.0	2.92	2.00	-6.64	
5,625.0	19.60	246.01	5,601.4	20.1	-196.8	102.3	3.48	2.68	-6.72	
5,650.0	19.73	244.54	5,624.9	16.6	-204.4	102.4	2.05	0.52	-5.88	
5,675.0	20.02	243.45	5,648.4	12.8	-212.1	102.3	1.88	1.16	-4.36	
5,700.0	20.55	243.01	5,671.9	8.9	-219.8	102.1	2.21	2.12	-1.76	
5,725.0	21.44	242.53	5,695.2	4.8	-227.8	101.8	3.63	3.56	-1.92	
5,750.0	22.26	242.33	5,718.4	0.5	-236.0	101.4	3.29	3.28	-0.80	
5,775.0	23.14	242.81	5,741.5	-3.9	-244.6	101.1	3.60	3.52	1.92	
5,800.0	24.16	243.46	5,764.4	-8.4	-253.5	100.8	4.22	4.08	2.68	
5,825.0	25.08	243.51	5,787.1	-13.1	-262.8	100.6	3.68	3.68	0.12	
5,850.0	25.44	243.95	5,809.7	-17.8	-272.4	100.4	1.62	1.44	1.76	
5,875.0	25.39	243.35	5,832.3	-22.6	-282.0	100.2	1.05	-0.20	-2.40	
<b>Last SDI Gyro @ 5875 MD</b>										
6,059.0	25.39	243.35	5,998.5	-58.0	-352.5	98.4	0.00	0.00	0.00	
<b>Projection To Bit # 6059 MD / 5998 TVD</b>										

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
100.0	100.0	0.0	-0.4	First SDI Gyro @ 100 MD
5,875.0	5,832.3	-22.6	-282.0	Last SDI Gyro @ 5875 MD
6,059.0	5,998.5	-58.0	-352.5	Projection To Bit # 6059 MD / 5998 TVD

Checked By: \_\_\_\_\_ Approved By: \_\_\_\_\_ Date: \_\_\_\_\_

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