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WV GEOLOGICAL SURVEY  
MORGANTOWN, WV



**Carr Unit 2H**  
Doddridge County WV  
Northing: 14229754.71  
Easting: 1725464.93  
As Drilled

WELL DETAILS		Carr Unit 2H	
+N/-S	+E/-W	Northing	Longitude
0.0	0.0	14229754.71	80° 41' 59.473 W
		Easting	Latitude
		1725464.93	39° 11' 9.141 N
			80° 41' 59.473 W

PATT 325: Carr 2H 1098 GL + 24 KB @ 1120.0uwt  
Gr: 1098.0

**LEGEND**

- Gearhart Unit 2H, Original Wellpath, As Drilled V0
- Farrow Unit 3H, Original Wellpath, As Drilled V0
- Nickers Unit 3H, Original Wellpath, As Drilled V0
- Farrow Unit 2H, Original Wellpath, As Drilled V0
- Nickers Unit 2H, Original Wellpath, As Drilled V0
- Carr Unit 2H, Original Wellpath, Plan 5 V0
- As Drilled

**DESIGN TARGET DETAILS**

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
SHL Carr Unit 2H	0.0	0.0	0.0	0 0 4229754.71	1725464.92	39° 11' 9.141 N	80° 41' 59.473 W
Actual BHL Carr Unit 2H	155.0	-8562.8	4766.7	142291172.15	1730250.61	39° 9' 44.117 N	80° 40' 59.053 W



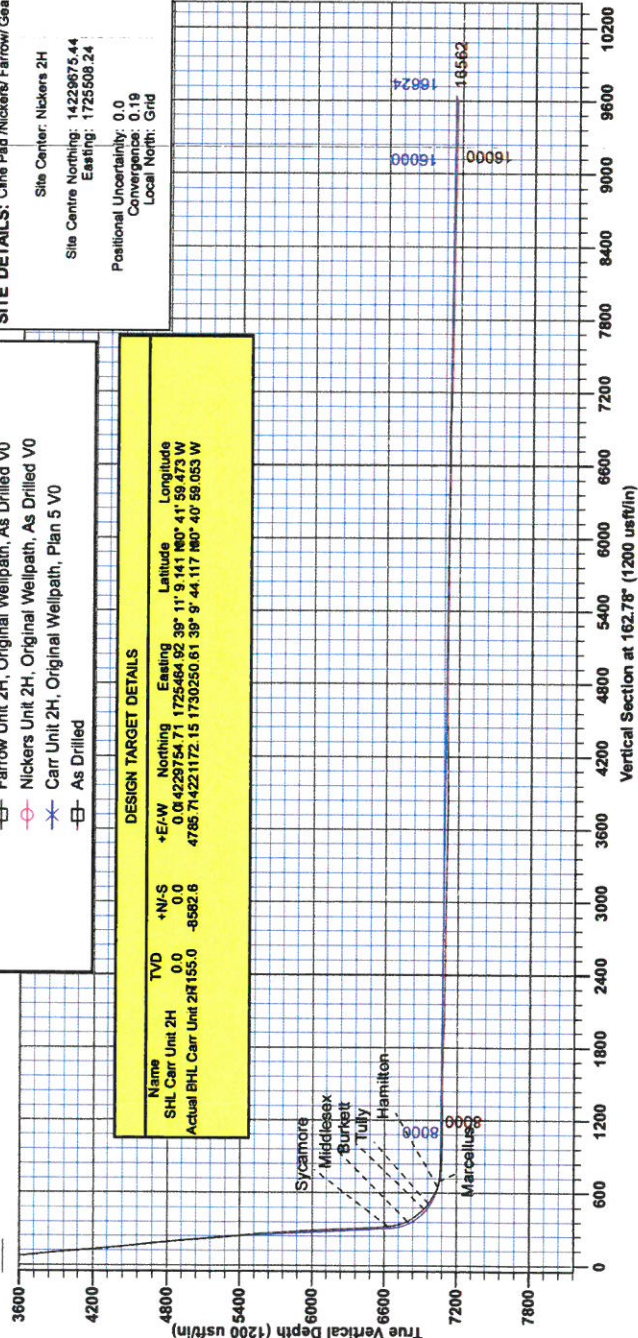
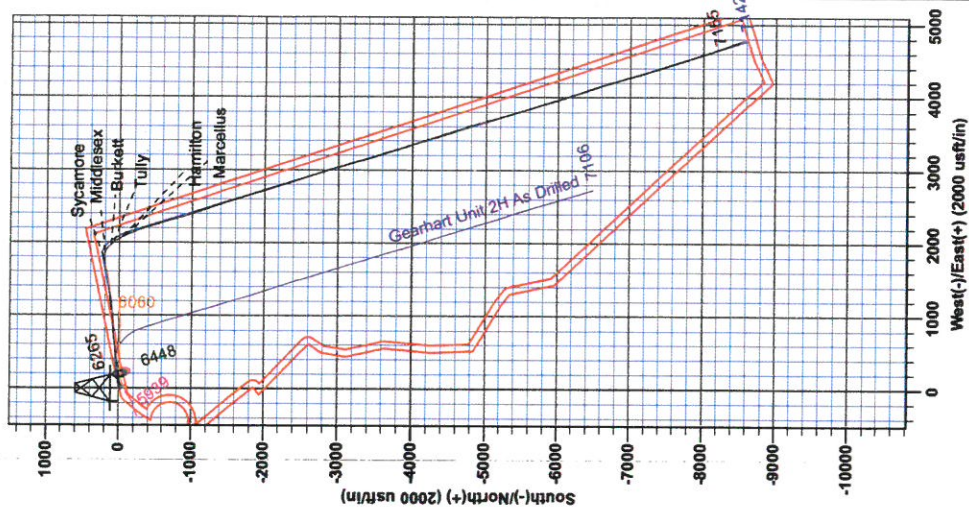
Genie Lightfoot  
10/31, May 09 2014  
Scientific Drilling  
421 South Eagle Lane  
Oklahoma City, OK 73128

**PROJECT DETAILS:** Doddridge County WV  
Geodetic System: Universal Transverse Mercator (US Survey feet)  
Datum: NAD 1983 (NADCON CONUS)  
Ellipsoid: Clarke 1866  
Zone: Zone 17N (64 W to 78 W)  
System Datum: Mean Sea Level

**SITE DETAILS:** Che Pad Nickers/ Farrow/ Gearhart/ Carr  
Site Center: Nickers 2H  
Site Centre Northing: 14229675.44  
Easting: 1725508.24  
Positional Uncertainty: 0.0  
Convergence: 0.19  
Local North: Grid

Azimuths to Grid North  
True North: -0.19°  
Magnetic North: -8.69°  
Magnetic Field  
Strength: 52261.8gaT  
Dip Angle: 66.74°  
Date: 3/18/2014  
Model: IGRF2010

To convert Magnetic North to Grid, Subtract 8.69°  
To convert True North to Grid, Subtract 0.19°





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WV GEOLOGICAL SURVEY  
MORGANTOWN, WV

## **Antero Resources**

**Doddridge County WV**

**Cline Pad /Nickers/ Farrow/ Gearhart/Carr**

**Carr Unit 2H**

**Original Wellpath**

**Design: As Drilled**

## **EOW Completion Report**

**09 May, 2014**



**Scientific Drilling**



<b>Company:</b>	Antero Resources	<b>Local Co-ordinate Reference:</b>	Well Carr Unit 2H
<b>Project:</b>	Doddridge County WV	<b>TVD Reference:</b>	PATT 325: Carr 2H 1096 GL + 24 KB @ 1120.0usf
<b>Site:</b>	Cline Pad /Nickers/ Farrow/ Gearhart/Carr	<b>MD Reference:</b>	PATT 325: Carr 2H 1096 GL + 24 KB @ 1120.0usf
<b>Well:</b>	Carr 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>	Oklahoma District

<b>Project</b>	Doddridge County WV, McClellan District		
<b>Map System:</b>	Universal Transverse Mercator (US Survey Fee	<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)		

<b>Site</b>	Cline Pad /Nickers/ Farrow/ Gearhart/Carr				
<b>Site Position:</b>		<b>Northing:</b>	14,229,675.44 usft	<b>Latitude:</b>	39° 11' 8.355 N
<b>From:</b>	Map	<b>Easting:</b>	1,725,508.24 usft	<b>Longitude:</b>	80° 41' 58.926 W
<b>Position Uncertainty:</b>	0.0 usft	<b>Slot Radius:</b>	13-3/16"	<b>Grid Convergence:</b>	0.19 °

<b>Well</b>	Carr Unit 2H, Marcellus					
<b>Well Position</b>	<b>+N/-S</b>	0.0 usft	<b>Northing:</b>	14,229,754.71 usf	<b>Latitude:</b>	39° 11' 9.141 N
	<b>+E/-W</b>	0.0 usft	<b>Easting:</b>	1,725,464.93 usf	<b>Longitude:</b>	80° 41' 59.473 W
<b>Position Uncertainty</b>	2.8 usft		<b>Wellhead Elevation:</b>	1,120.0 usf	<b>Ground Level:</b>	1,096.0 usft

<b>Wellbore</b>	Original Wellpath				
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Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	3/18/2014	-8.50	66.74	52,262

<b>Design</b>	As Drilled				
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<b>Audit Notes:</b>					
<b>Version:</b>	1.0	<b>Phase:</b>	ACTUAL	<b>Tie On Depth:</b>	0.0

Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.0	0.0	0.0	162.78

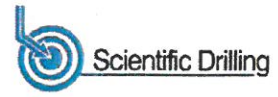
Survey Program	Date	5/9/2014			
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
100.0	1,519.2	Survey #2 Gyro (Original Wellpath)	SDI Standard Keeper	Scientific Drilling Intl. Standard Wireline Keeper	
1,600.0	2,401.6	Survey #4 Def Gyro to Int (Original Wellpa	SDI Standard Keeper	Scientific Drilling Intl. Standard Wireline Keeper	
2,500.0	5,429.9	Survey #5 Def Gyro to 5429.94' (Original v	SDI Standard Keeper	Scientific Drilling Intl. Standard Wireline Keeper	
5,430.0	16,562.0	Survey #6 MWD (Original Wellpath)	MWD SDI	MWD - Standard ver 1.0.1	

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00
100.0	0.17	248.74	100.0	-0.1	-0.1	0.0	0.17
200.0	0.26	224.45	200.0	-0.3	-0.4	0.1	0.13
300.0	0.31	213.59	300.0	-0.7	-0.7	0.4	0.07
400.0	0.30	238.60	400.0	-1.0	-1.1	0.6	0.13
500.0	0.17	218.62	500.0	-1.3	-1.4	0.8	0.15
600.0	0.15	203.48	600.0	-1.5	-1.6	1.0	0.05
700.0	0.19	193.65	700.0	-1.8	-1.7	1.2	0.05
800.0	0.15	234.84	800.0	-2.0	-1.8	1.4	0.13

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EOW Completion Report



<b>Company:</b>	Antero Resources	<b>Local Co-ordinate Reference:</b>	Well Carr Unit 2H
<b>Project:</b>	Doddridge County WV	<b>TVD Reference:</b>	PATT 325: Carr 2H 1096 GL + 24 KB @ 1120.0us
<b>Site:</b>	Cline Pad /Nickers/ Farrow/ Gearhart/Carr	<b>MD Reference:</b>	PATT 325: Carr 2H 1096 GL + 24 KB @ 1120.0us
<b>Well:</b>	Carr 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>	Oklahoma District

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	EW (usft)	V. Sec (usft)	DLeg (°/100usft)
900.0	0.14	178.99	900.0	-2.2	-1.9	1.6	0.14
1,000.0	0.16	208.13	1,000.0	-2.5	-2.0	1.8	0.08
1,100.0	0.17	186.70	1,100.0	-2.7	-2.1	2.0	0.06
1,200.0	0.20	197.02	1,200.0	-3.1	-2.1	2.3	0.04
1,300.0	0.11	180.67	1,300.0	-3.3	-2.2	2.5	0.10
1,400.0	0.25	194.28	1,400.0	-3.6	-2.2	2.8	0.15
1,500.0	0.21	145.34	1,500.0	-4.0	-2.2	3.2	0.19
1,519.2	0.30	142.14	1,519.2	-4.1	-2.1	3.2	0.47
1,600.0	2.45	102.84	1,600.0	-4.6	-0.3	4.3	2.76
1,700.0	4.06	93.16	1,699.8	-5.3	5.3	6.6	1.70
1,800.0	7.36	74.07	1,799.3	-3.7	15.0	8.0	3.76
1,900.0	8.49	72.06	1,898.3	0.3	28.2	8.0	1.16
2,000.0	8.48	70.85	1,997.2	5.0	42.2	7.7	0.18
2,100.0	8.23	78.61	2,096.2	8.8	56.1	8.2	1.15
2,200.0	7.81	84.29	2,195.2	10.9	69.9	10.3	0.90
2,300.0	6.91	85.19	2,294.4	12.1	82.7	12.9	0.91
2,400.0	5.52	86.72	2,393.8	12.9	93.5	15.4	1.40
2,401.6	5.58	86.75	2,395.4	12.9	93.6	15.4	3.75
2,500.0	4.39	90.91	2,493.4	13.1	102.2	17.7	1.26
2,600.0	7.12	75.44	2,592.9	14.6	112.0	19.2	3.12
2,700.0	7.98	74.05	2,692.0	18.1	124.7	19.6	0.88
2,800.0	8.58	87.22	2,791.0	20.3	138.8	21.7	1.98
2,900.0	8.33	84.56	2,889.9	21.4	153.5	25.0	0.46
3,000.0	10.91	82.72	2,988.5	23.3	170.1	28.1	2.60
3,100.0	14.72	84.51	3,086.0	25.7	192.1	32.3	3.83
3,200.0	17.03	83.59	3,182.2	28.5	219.3	37.7	2.32
3,300.0	18.66	82.43	3,277.4	32.3	249.7	43.1	1.67
3,400.0	21.36	83.86	3,371.3	36.3	283.7	49.3	2.74
3,500.0	24.05	85.61	3,463.6	39.9	322.1	57.3	2.77
3,600.0	25.70	85.90	3,554.3	43.0	364.1	66.7	1.65
3,700.0	25.53	85.68	3,644.5	46.1	407.2	76.5	0.19
3,800.0	25.21	85.86	3,734.8	49.3	449.9	86.1	0.33
3,900.0	25.49	85.73	3,825.2	52.4	492.6	95.7	0.29
4,000.0	26.53	84.83	3,915.1	56.1	536.3	105.2	1.11
4,100.0	25.71	83.24	4,004.8	60.6	580.1	113.8	1.08
4,200.0	24.05	82.09	4,095.6	66.0	621.8	121.1	1.73
4,300.0	24.37	82.01	4,186.8	71.7	662.4	127.7	0.32
4,400.0	24.88	83.83	4,277.7	76.8	703.8	135.0	0.91
4,500.0	23.91	86.66	4,368.7	80.2	744.9	143.9	1.52
4,600.0	25.35	87.24	4,459.6	82.4	786.5	154.1	1.46
4,700.0	26.16	85.98	4,549.7	85.0	829.9	164.5	0.98
4,800.0	24.47	85.68	4,640.1	88.1	872.6	174.1	1.69
4,900.0	22.99	85.74	4,731.6	91.1	912.7	183.2	1.48
5,000.0	25.51	85.07	4,822.8	94.4	953.6	192.1	2.53

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EOW Completion Report



**Company:** Antero Resources  
**Project:** Doddridge County WV  
**Site:** Cline Pad /Nickers/ Farrow/ Gearhart/Carr  
**Well:** Carr Unit 2H  
**Wellbore:** Original Wellpath  
**Design:** As Drilled

**Local Co-ordinate Reference:** Well Carr Unit 2H  
**TVD Reference:** PATT 325: Carr 2H 1096 GL + 24 KB @ 1120.0us  
**MD Reference:** PATT 325: Carr 2H 1096 GL + 24 KB @ 1120.0us  
**North Reference:** Grid  
**Survey Calculation Method:** Minimum Curvature  
**Database:** Oklahoma District

Survey

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)
5,100.0	26.94	84.75	4,912.5	98.4	997.6	201.4	1.44
5,200.0	26.59	83.14	5,001.8	103.1	1,042.4	210.1	0.81
5,300.0	24.88	81.50	5,091.9	108.9	1,085.4	217.3	1.85
5,400.0	25.47	82.24	5,182.4	114.9	1,127.6	224.1	0.67
5,429.9	25.63	82.72	5,209.4	116.6	1,140.4	226.2	0.87
5,564.0	25.70	83.42	5,330.2	123.6	1,198.0	236.6	0.23
5,658.0	26.93	84.61	5,414.5	127.9	1,239.4	244.7	1.42
5,752.0	25.37	85.48	5,498.9	131.5	1,280.7	253.5	1.71
5,846.0	25.07	81.56	5,583.9	136.0	1,320.5	261.0	1.81
5,941.0	23.18	81.01	5,670.6	141.9	1,358.9	266.7	2.00
6,035.0	22.58	81.31	5,757.2	147.5	1,395.0	272.1	0.65
6,129.0	22.87	82.44	5,843.9	152.6	1,430.9	277.8	0.56
6,223.0	25.73	79.92	5,929.6	158.6	1,469.1	283.4	3.24
6,317.0	26.59	79.90	6,013.9	165.9	1,509.9	288.6	0.91
6,412.0	25.52	78.75	6,099.3	173.6	1,550.9	293.3	1.25
6,506.0	23.52	77.46	6,184.8	181.6	1,589.1	297.0	2.20
6,600.0	22.20	76.76	6,271.4	189.8	1,624.7	299.7	1.43
6,694.0	24.70	78.50	6,357.7	197.7	1,661.2	302.9	2.76
6,788.0	26.63	79.80	6,442.4	205.4	1,701.2	307.4	2.14
6,882.0	24.62	80.52	6,527.1	212.4	1,741.3	312.7	2.16
6,976.0	24.75	84.04	6,612.5	217.6	1,780.2	319.1	1.57
7,001.0	24.72	84.65	6,635.3	218.7	1,790.6	321.2	1.03
<b>Sycamore</b>							
7,008.0	24.71	84.82	6,641.6	218.9	1,793.5	321.8	1.03
7,039.0	25.32	91.06	6,669.7	219.4	1,806.6	325.3	8.73
7,070.0	27.34	97.80	6,697.5	218.3	1,820.3	330.4	11.63
7,102.0	29.83	102.52	6,725.6	215.6	1,835.3	337.4	10.50
7,133.0	32.01	107.92	6,752.2	211.4	1,850.7	346.0	11.38
7,165.0	34.00	114.83	6,779.0	205.0	1,866.9	356.9	13.30
7,181.0	35.25	118.08	6,792.2	200.9	1,875.0	363.1	13.93
<b>Middlesex</b>							
7,196.0	36.49	120.95	6,804.4	196.6	1,882.6	369.5	13.93
7,227.0	38.37	126.32	6,829.0	186.2	1,898.3	384.1	12.15
7,259.0	40.23	130.48	6,853.8	173.6	1,914.2	400.9	10.08
7,293.0	42.91	134.22	6,879.2	158.4	1,930.8	420.3	10.74
7,321.0	46.08	136.94	6,899.2	144.4	1,944.5	437.8	13.21
7,353.0	49.15	136.80	6,920.7	127.1	1,960.7	459.0	9.60
7,368.0	50.04	137.55	6,930.5	118.7	1,968.5	469.3	7.05
<b>Burkett</b>							
7,384.0	51.00	138.32	6,940.6	109.6	1,976.7	480.5	7.05
7,415.0	52.60	141.66	6,959.8	90.9	1,992.4	503.0	9.92
7,426.0	53.32	142.92	6,966.4	84.0	1,997.8	511.2	11.20
<b>Tully</b>							
7,447.0	54.72	145.25	6,978.8	70.2	2,007.7	527.3	11.20
7,478.0	57.81	147.26	6,996.0	48.8	2,022.0	552.0	11.33

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## EOW Completion Report



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**Project:** Doddridge County WV  
**Site:** Cline Pad /Nickers/ Farrow/ Gearhart/Carr  
**Well:** Carr Unit 2H  
**Wellbore:** Original Wellpath  
**Design:** As Drilled

**Local Co-ordinate Reference:** Well Carr Unit 2H  
**TVD Reference:** PATT 325: Carr 2H 1096 GL + 24 KB @ 1120.0usf  
**MD Reference:** PATT 325: Carr 2H 1096 GL + 24 KB @ 1120.0usf  
**North Reference:** Grid  
**Survey Calculation Method:** Minimum Curvature  
**Database:** Oklahoma District

### Survey

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	EW (usft)	V. Sec (usft)	DLeg (°/100usft)
7,509.0	61.99	148.03	7,011.5	26.1	2,036.4	577.9	13.65
7,541.0	65.91	149.41	7,025.6	1.5	2,051.3	605.8	12.85
7,572.0	69.91	151.71	7,037.2	-23.5	2,065.4	633.9	14.62
7,592.0	72.65	152.60	7,043.7	-40.2	2,074.2	652.5	14.34
<b>Hamilton</b>							
7,603.0	74.16	153.08	7,046.8	-49.6	2,079.1	662.9	14.34
7,635.0	76.98	153.84	7,054.8	-77.3	2,092.9	693.4	9.11
7,637.0	77.15	153.94	7,055.2	-79.1	2,093.8	695.4	9.98
<b>Marcellus</b>							
7,666.0	79.67	155.40	7,061.0	-104.8	2,105.9	723.5	9.98
7,697.0	82.31	156.16	7,065.9	-132.7	2,118.5	753.9	8.85
7,729.0	84.33	156.80	7,069.6	-161.8	2,131.2	785.5	6.62
7,749.0	85.20	157.99	7,071.4	-180.2	2,138.8	805.3	7.35
7,792.0	89.03	161.60	7,073.6	-220.5	2,153.6	848.2	12.23
7,886.0	89.57	162.29	7,074.8	-309.9	2,182.8	942.2	0.93
7,980.0	89.53	162.22	7,075.5	-399.4	2,211.4	1,036.1	0.09
8,074.0	89.30	161.43	7,076.5	-488.7	2,240.7	1,130.1	0.88
8,168.0	89.06	164.00	7,077.8	-578.4	2,268.7	1,224.1	2.75
8,262.0	88.66	163.48	7,079.7	-668.6	2,295.0	1,318.1	0.70
8,356.0	89.83	165.03	7,080.9	-759.1	2,320.5	1,412.0	2.07
8,450.0	90.27	163.16	7,080.8	-849.5	2,346.2	1,506.0	2.04
8,544.0	89.73	161.85	7,080.8	-939.1	2,374.5	1,600.0	1.51
8,639.0	88.26	162.01	7,082.5	-1,029.4	2,404.0	1,695.0	1.56
8,733.0	87.99	161.70	7,085.6	-1,118.7	2,433.2	1,788.9	0.44
8,827.0	87.52	160.91	7,089.2	-1,207.7	2,463.3	1,882.8	0.98
8,921.0	87.82	161.41	7,093.1	-1,296.6	2,493.6	1,976.7	0.62
9,015.0	89.23	162.50	7,095.5	-1,385.9	2,522.8	2,070.6	1.90
9,109.0	89.73	162.24	7,096.3	-1,475.5	2,551.2	2,164.6	0.60
9,203.0	89.46	162.63	7,097.0	-1,565.1	2,579.6	2,258.6	0.50
9,297.0	89.36	163.42	7,098.0	-1,655.0	2,607.0	2,352.6	0.85
9,392.0	89.56	163.22	7,098.9	-1,746.0	2,634.3	2,447.6	0.30
9,486.0	90.13	162.83	7,099.1	-1,835.9	2,661.7	2,541.6	0.73
9,580.0	89.63	161.81	7,099.3	-1,925.5	2,690.3	2,635.6	1.21
9,674.0	88.79	161.49	7,100.6	-2,014.7	2,719.9	2,729.6	0.96
9,769.0	88.96	161.83	7,102.5	-2,104.9	2,749.8	2,824.5	0.40
9,863.0	89.50	162.70	7,103.7	-2,194.4	2,778.4	2,918.5	1.09
9,957.0	89.73	162.71	7,104.4	-2,284.1	2,806.3	3,012.5	0.24
10,048.0	89.33	162.18	7,105.1	-2,370.9	2,833.8	3,103.5	0.73
10,139.0	89.03	162.18	7,106.4	-2,457.5	2,861.6	3,194.5	0.33
10,230.0	89.33	161.85	7,107.7	-2,544.1	2,889.7	3,285.5	0.49
10,322.0	89.26	161.21	7,108.9	-2,631.3	2,918.9	3,377.5	0.70
10,412.0	88.66	159.37	7,110.5	-2,716.0	2,949.2	3,467.4	2.15
10,503.0	88.59	161.08	7,112.7	-2,801.6	2,980.0	3,558.2	1.88
10,594.0	89.53	163.29	7,114.2	-2,888.2	3,007.8	3,649.2	2.64

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EOW Completion Report



<b>Company:</b>	Antero Resources	<b>Local Co-ordinate Reference:</b>	Well Carr Unit 2H
<b>Project:</b>	Doddridge County WV	<b>TVD Reference:</b>	PATT 325: Carr 2H 1096 GL + 24 KB @ 1120.0us
<b>Site:</b>	Cline Pad /Nickers/ Farrow/ Gearhart/Carr	<b>MD Reference:</b>	PATT 325: Carr 2H 1096 GL + 24 KB @ 1120.0us
<b>Well:</b>	Carr 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>	Oklahoma District

Survey

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	EW (usft)	V. Sec (usft)	DLeg (°/100usft)
10,686.0	89.83	163.63	7,114.7	-2,976.4	3,034.0	3,741.2	0.49
10,777.0	90.00	164.00	7,114.8	-3,063.8	3,059.4	3,832.2	0.45
10,867.0	90.30	164.72	7,114.6	-3,150.5	3,083.6	3,922.2	0.87
10,958.0	89.87	165.40	7,114.4	-3,238.4	3,107.1	4,013.1	0.88
11,050.0	90.50	163.50	7,114.2	-3,327.0	3,131.8	4,105.0	2.18
11,144.0	90.40	164.03	7,113.4	-3,417.3	3,158.1	4,199.0	0.57
11,238.0	90.84	161.51	7,112.4	-3,507.1	3,185.9	4,293.0	2.72
11,333.0	91.18	162.23	7,110.7	-3,597.3	3,215.4	4,388.0	0.84
11,427.0	91.10	161.55	7,108.9	-3,686.7	3,244.7	4,482.0	0.73
11,522.0	91.07	161.31	7,107.1	-3,776.7	3,274.9	4,576.9	0.25
11,616.0	89.53	162.84	7,106.6	-3,866.1	3,303.8	4,670.9	2.31
11,710.0	89.97	162.41	7,107.0	-3,955.8	3,331.9	4,764.9	0.65
11,804.0	89.70	161.20	7,107.2	-4,045.1	3,361.3	4,858.9	1.32
11,898.0	89.77	160.83	7,107.7	-4,134.0	3,391.8	4,952.8	0.40
11,992.0	89.43	160.85	7,108.3	-4,222.8	3,422.7	5,046.8	0.36
12,086.0	90.40	164.28	7,108.5	-4,312.5	3,450.8	5,140.8	3.79
12,180.0	89.33	162.08	7,108.7	-4,402.4	3,478.0	5,234.7	2.60
12,274.0	90.17	162.73	7,109.1	-4,492.0	3,506.5	5,328.7	1.13
12,369.0	88.69	160.40	7,110.0	-4,582.2	3,536.5	5,423.7	2.91
12,463.0	89.46	161.24	7,111.6	-4,670.9	3,567.4	5,517.6	1.21
12,557.0	91.07	162.16	7,111.1	-4,760.2	3,596.9	5,611.6	1.97
12,651.0	90.37	163.93	7,110.0	-4,850.1	3,624.3	5,705.6	2.02
12,744.0	90.17	164.48	7,109.5	-4,939.6	3,649.6	5,798.6	0.63
12,839.0	90.40	163.84	7,109.0	-5,030.9	3,675.5	5,893.5	0.72
12,933.0	88.76	165.64	7,109.7	-5,121.6	3,700.3	5,987.5	2.59
13,027.0	89.06	166.34	7,111.5	-5,212.8	3,723.0	6,081.3	0.81
13,120.0	90.13	163.79	7,112.2	-5,302.7	3,747.0	6,174.2	2.97
13,215.0	89.06	163.71	7,112.8	-5,393.9	3,773.6	6,269.2	1.13
13,308.0	89.08	163.22	7,114.4	-5,483.0	3,800.0	6,362.2	0.53
13,403.0	88.66	161.41	7,116.2	-5,573.5	3,828.9	6,457.2	1.96
13,497.0	91.08	164.07	7,116.4	-5,663.2	3,856.8	6,551.2	3.83
13,591.0	91.45	163.39	7,114.4	-5,753.5	3,883.1	6,645.1	0.82
13,685.0	90.60	161.78	7,112.7	-5,843.1	3,911.2	6,739.1	1.94
13,779.0	89.80	162.21	7,112.4	-5,932.5	3,940.3	6,833.1	0.97
13,873.0	87.59	161.84	7,114.5	-6,021.9	3,969.3	6,927.0	2.38
13,967.0	87.49	161.88	7,118.5	-6,111.2	3,998.5	7,021.0	0.11
14,061.0	88.39	161.90	7,121.9	-6,200.4	4,027.7	7,114.9	0.96
14,155.0	87.72	160.33	7,125.1	-6,289.3	4,058.1	7,208.8	1.82
14,249.0	88.36	161.16	7,128.3	-6,378.0	4,089.1	7,302.7	1.11
14,344.0	89.20	162.81	7,130.3	-6,468.3	4,118.5	7,397.6	1.95
14,438.0	89.33	162.39	7,131.5	-6,558.0	4,146.6	7,491.6	0.47
14,532.0	89.26	164.48	7,132.7	-6,648.1	4,173.4	7,585.6	2.22
14,720.0	89.87	164.85	7,134.1	-6,829.4	4,223.1	7,773.5	0.38
14,814.0	89.13	164.51	7,135.0	-6,920.1	4,247.9	7,867.4	0.87

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WV GEOLOGICAL SURVEY  
MORGANTOWN, WV

EOW Completion Report



**Company:** Antero Resources  
**Project:** Doddridge County WV  
**Site:** Cline Pad /Nickers/ Farrow/ Gearhart/Carr  
**Well:** Carr Unit 2H  
**Wellbore:** Original Wellpath  
**Design:** As Drilled

**Local Co-ordinate Reference:** Well Carr Unit 2H  
**TVD Reference:** PATT 325: Carr 2H 1096 GL + 24 KB @ 1120.0us  
**MD Reference:** PATT 325: Carr 2H 1096 GL + 24 KB @ 1120.0us  
**North Reference:** Grid  
**Survey Calculation Method:** Minimum Curvature  
**Database:** Oklahoma District

Survey

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)
14,908.0	89.30	165.08	7,136.2	-7,010.8	4,272.6	7,961.4	0.63
15,002.0	89.67	165.07	7,137.1	-7,101.6	4,296.8	8,055.3	0.39
15,096.0	89.10	162.76	7,138.1	-7,191.9	4,322.8	8,149.3	2.53
15,190.0	89.60	162.88	7,139.2	-7,281.7	4,350.6	8,243.3	0.55
15,284.0	88.63	162.85	7,140.6	-7,371.5	4,378.3	8,337.2	1.03
15,378.0	88.93	162.61	7,142.6	-7,461.3	4,406.2	8,431.2	0.41
15,472.0	89.30	161.81	7,144.1	-7,550.7	4,434.9	8,525.2	0.94
15,567.0	89.93	161.90	7,144.7	-7,641.0	4,464.5	8,620.2	0.67
15,661.0	90.33	161.40	7,144.5	-7,730.2	4,494.1	8,714.2	0.68
15,755.0	88.66	161.74	7,145.3	-7,819.4	4,523.8	8,808.1	1.81
15,849.0	88.76	161.78	7,147.4	-7,908.7	4,553.2	8,902.1	0.11
15,943.0	88.93	161.48	7,149.3	-7,997.9	4,582.8	8,996.1	0.37
16,038.0	89.43	162.78	7,150.7	-8,088.3	4,612.0	9,091.0	1.47
16,132.0	89.43	161.02	7,151.6	-8,177.6	4,641.2	9,185.0	1.87
16,226.0	89.66	159.91	7,152.4	-8,266.2	4,672.6	9,278.9	1.21
16,320.0	89.93	159.96	7,152.7	-8,354.5	4,704.9	9,372.8	0.29
16,414.0	89.13	160.17	7,153.5	-8,442.8	4,736.9	9,466.7	0.88
16,506.0	89.53	160.36	7,154.6	-8,529.4	4,768.0	9,558.6	0.48
16,562.0	89.50	162.78	7,155.0	-8,582.6	4,785.7	9,614.6	4.32

Design Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
7,001.0	6,635.3	218.7	1,790.6	Sycamore
7,181.0	6,792.2	200.9	1,875.0	Middlesex
7,368.0	6,930.5	118.7	1,968.5	Burkett
7,426.0	6,966.4	84.0	1,997.8	Tully
7,592.0	7,043.7	-40.2	2,074.2	Hamilton
7,637.0	7,055.2	-79.1	2,093.8	Marcellus

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