

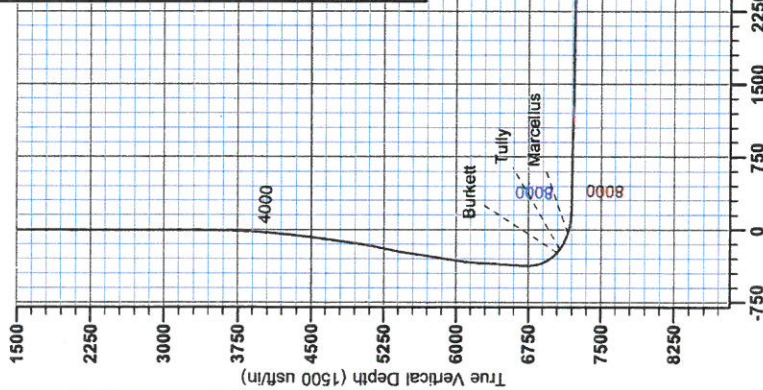
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WV GEOLOGICAL SURVEY  
MORGANTOWN, WV



**Antero Resources**  
Heflin Unit 1H  
Doddridge County WV  
Northing: 14276955.47  
Easting: 1721742.61  
As Drilled



**WELL DETAILS:** Heflin Unit 1H  
Ground Level: 1361.0  
Northing: 14276955.47  
Easting: 1721742.61  
Longitude: 90° 42' 44.860" W  
Latitude: 39° 19' 56.984" N

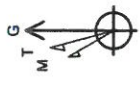
**REFERENCE INFORMATION**  
Coordinate Reference: West Heflin Unit 1H Grid North  
Datum: NAD 83 (NAD83 CONUS)  
Elevation: Mean Sea Level  
Zone: Zone 17N (84 W to 78 W)  
System Datum: Mean Sea Level



Genie Lightfoot  
14:54, February 21 2014  
Scientific Drilling  
421 South Eagle Lane  
Oklahoma City, OK

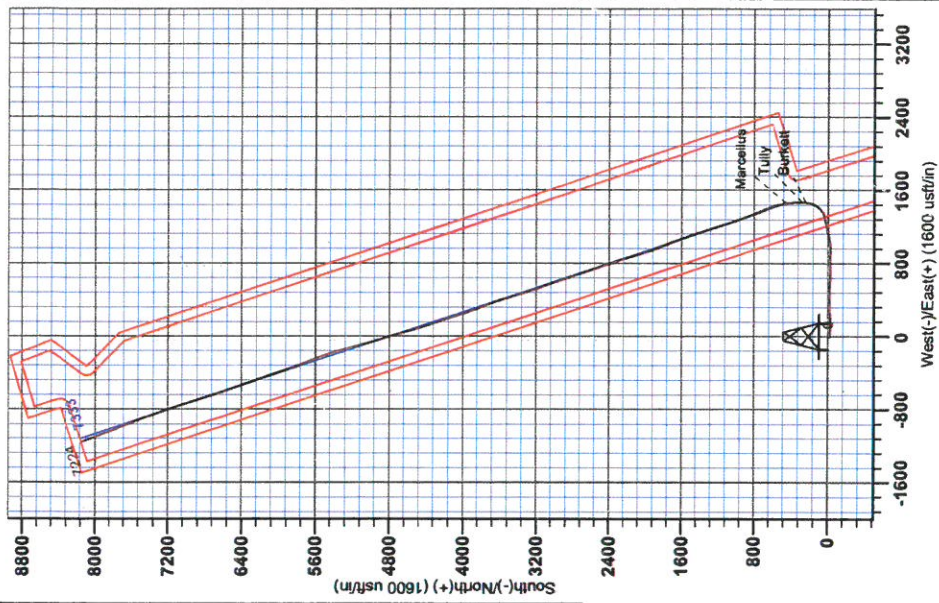
**LEGEND**  
- Heflin Unit 1H, Original Wellpath, Plan 5 VD  
- As Drilled

DESIGN TARGET DETAILS			
Name	TVD	+N/S	+E/W
SHL Heflin Unit 1H	0.0	0.0	0.0
Actual BHL Heflin Unit 1H	14224.2	8143.5	-1155.81426586 92 1720586.7689 20 16.516 1607 42 59.246 W



To convert Magnetic North to Grid, Subtract 8.89°  
To convert True North to Grid, Subtract 0.18°  
Magnetic North: -8.89°  
True North: -0.18°  
Magnetic North: -8.69°

**Magnetic Field**  
Strength: 52352.8nT  
Dip Angle: 66.87°  
Date: 1/27/2014  
Model: IGRF2010



Vertical Section at 341.54° (1500 usft/m)



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WV GEOLOGICAL SURVEY  
MORGANTOWN, WV

# **Antero Resources**

**Doddridge County WV  
Heflin/McConnell Pad  
Heflin Unit 1H  
Original Wellpath**

**Design: As Drilled**

## **EOW Completion Report**

**21 February, 2014**



JUN 08 2015



## EOW Completion Report



<b>Company:</b> Antero Resources	<b>Local Co-ordinate Reference:</b> Well Heflin Unit 1H
<b>Project:</b> Doddridge County WV	<b>TVD Reference:</b> Heflin 1H 1381 GL + 23 KB @ 1404.0usft
<b>Site:</b> Heflin/McConnell Pad	<b>MD Reference:</b> Heflin 1H 1381 GL + 23 KB @ 1404.0usft
<b>Well:</b> Heflin Unit 1H	<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 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)		

<b>Site</b>	Heflin/McConnell Pad				
<b>Site Position:</b>		<b>Northing:</b>	14,276,955.47 usft	<b>Latitude:</b>	39° 18' 55.964 N
<b>From:</b>	Map	<b>Easting:</b>	1,721,742.61 usft	<b>Longitude:</b>	80° 42' 44.860 W
<b>Position Uncertainty:</b>	2.0 usft	<b>Slot Radius:</b>	13-3/16"	<b>Grid Convergence:</b>	0.18 °

<b>Well</b>	Heflin Unit 1H, Marcellus					
<b>Well Position</b>	<b>+N/-S</b>	0.0 usft	<b>Northing:</b>	14,276,955.47 usft	<b>Latitude:</b>	39° 18' 55.964 N
	<b>+E/-W</b>	0.0 usft	<b>Easting:</b>	1,721,742.61 usft	<b>Longitude:</b>	80° 42' 44.860 W
<b>Position Uncertainty</b>	2.0 usft		<b>Wellhead Elevation:</b>	1,404.0 usft	<b>Ground Level:</b>	1,381.0 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>
	IGRF2010	1/2/2014	-8.51	66.87	52,353

<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	341.54	

<b>Survey Program</b>	Date 2/21/2014				
<b>From (usft)</b>	<b>To (usft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Description</b>	
100.0	3,538.0	Survey #1 Gyro to INT (Original Wellpath)	SDI Standard Keeper	Scientific Drilling Intl. Standard Wireline Keeper	
3,600.0	6,035.6	Survey #3 Gyro to KOP (Original Wellpath)	SDI Standard Keeper	Scientific Drilling Intl. Standard Wireline Keeper	
6,095.0	15,817.0	Survey #4 MWD (Original Wellpath)	MWD SDI	MWD - Standard ver 1.0.1	

<b>Survey</b>									
<b>MD (usft)</b>	<b>Inc (°)</b>	<b>Azi (azimuth) (°)</b>	<b>TVD (usft)</b>	<b>N/S (usft)</b>	<b>E/W (usft)</b>	<b>V. Sec (usft)</b>	<b>DLeg (°/100usft)</b>		
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.0	0.00	
100.0	0.19	288.17	100.0	0.1	-0.2	0.1	0.19	0.19	
200.0	0.17	261.52	200.0	0.1	-0.5	0.2	0.09	0.09	
300.0	0.06	191.94	300.0	0.0	-0.6	0.2	0.16	0.16	
400.0	0.20	110.53	400.0	-0.1	-0.5	0.0	0.20	0.20	
500.0	0.24	130.04	500.0	-0.3	-0.1	-0.2	0.08	0.08	
600.0	0.22	138.69	600.0	-0.6	0.1	-0.6	0.04	0.04	
700.0	0.30	140.69	700.0	-0.9	0.4	-1.0	0.08	0.08	
800.0	0.22	155.02	800.0	-1.3	0.7	-1.5	0.10	0.10	
900.0	0.23	153.74	900.0	-1.7	0.9	-1.8	0.01	0.01	

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EOW Completion Report



Company: Antero Resources  
 Project: Doddridge County WV  
 Site: Heflin/McConnell Pad  
 Well: Heflin Unit 1H  
 Wellbore: Original Wellpath  
 Design: As Drilled

Local Co-ordinate Reference: Well Heflin Unit 1H  
 TVD Reference: Heflin 1H 1381 GL + 23 KB @ 1404.0usft  
 MD Reference: Heflin 1H 1381 GL + 23 KB @ 1404.0usft  
 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)
1,000.0	0.20	189.88	1,000.0	-2.0	0.9	-2.2	0.14
1,100.0	0.29	200.08	1,100.0	-2.4	0.8	-2.5	0.10
1,200.0	0.09	171.98	1,200.0	-2.7	0.7	-2.8	0.21
1,300.0	0.27	203.12	1,300.0	-3.0	0.6	-3.1	0.20
1,400.0	0.30	200.04	1,400.0	-3.5	0.5	-3.5	0.03
1,500.0	0.37	183.39	1,500.0	-4.1	0.3	-4.0	0.12
1,600.0	0.60	188.18	1,600.0	-4.9	0.3	-4.7	0.23
1,700.0	0.52	181.27	1,700.0	-5.9	0.2	-5.6	0.10
1,800.0	0.51	180.60	1,800.0	-6.8	0.2	-6.5	0.01
1,900.0	0.41	177.50	1,900.0	-7.6	0.2	-7.2	0.10
2,000.0	0.44	189.12	2,000.0	-8.3	0.1	-7.9	0.09
2,100.0	0.20	199.03	2,100.0	-8.9	0.0	-8.4	0.25
2,200.0	0.20	190.17	2,200.0	-9.2	-0.1	-8.7	0.03
2,300.0	0.18	174.01	2,300.0	-9.5	-0.1	-9.0	0.06
2,400.0	0.17	166.37	2,400.0	-9.8	0.0	-9.3	0.03
2,500.0	0.11	197.18	2,500.0	-10.1	0.0	-9.5	0.09
2,600.0	0.19	199.56	2,600.0	-10.3	-0.1	-9.7	0.08
2,700.0	0.39	231.78	2,700.0	-10.7	-0.4	-10.0	0.25
2,800.0	0.27	240.82	2,800.0	-11.0	-0.9	-10.1	0.13
2,900.0	0.41	245.99	2,900.0	-11.3	-1.5	-10.2	0.14
3,000.0	0.26	235.14	3,000.0	-11.5	-2.0	-10.3	0.16
3,100.0	0.63	253.88	3,100.0	-11.8	-2.7	-10.4	0.39
3,200.0	0.55	245.29	3,200.0	-12.2	-3.6	-10.4	0.12
3,300.0	0.62	249.93	3,299.9	-12.6	-4.6	-10.5	0.08
3,400.0	0.76	229.32	3,399.9	-13.2	-5.6	-10.7	0.28
3,500.0	0.71	204.14	3,499.9	-14.2	-6.4	-11.4	0.32
3,538.0	0.78	220.82	3,538.0	-14.6	-6.6	-11.7	0.60
3,600.0	0.73	99.23	3,599.9	-15.0	-6.5	-12.1	2.13
3,700.0	4.37	90.15	3,699.8	-15.1	-2.1	-13.6	3.65
3,800.0	6.28	96.39	3,799.4	-15.7	7.2	-17.2	1.99
3,900.0	8.26	96.74	3,898.6	-17.1	19.7	-22.5	1.98
4,000.0	10.84	94.08	3,997.2	-18.7	36.3	-29.2	2.62
4,100.0	13.18	92.07	4,095.0	-19.7	57.0	-36.8	2.38
4,200.0	14.99	89.50	4,192.0	-20.0	81.4	-44.8	1.91
4,300.0	17.02	95.76	4,288.1	-21.4	108.9	-54.8	2.66
4,400.0	20.08	89.57	4,382.9	-22.7	140.6	-66.1	3.63
4,500.0	23.08	86.86	4,475.9	-21.5	177.3	-76.6	3.16
4,600.0	25.89	86.97	4,566.9	-19.3	218.7	-87.6	2.81
4,700.0	27.16	88.56	4,656.3	-17.6	263.4	-100.1	1.45
4,800.0	28.27	87.79	4,744.9	-16.1	309.8	-113.4	1.17
4,900.0	27.10	87.17	4,833.4	-14.0	356.2	-126.1	1.20
5,000.0	26.46	87.76	4,922.7	-12.1	401.3	-138.5	0.69
5,100.0	26.71	90.34	5,012.1	-11.3	446.0	-152.0	1.18
5,200.0	26.61	92.27	5,101.5	-12.3	490.8	-167.1	0.87
5,300.0	27.81	93.97	5,190.4	-14.8	536.5	-184.0	1.43

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## EOW Completion Report



**Company:** Antero Resources  
**Project:** Doddridge County WV  
**Site:** Heflin/McConnell Pad  
**Well:** Heflin Unit 1H  
**Wellbore:** Original Wellpath  
**Design:** As Drilled

**Local Co-ordinate Reference:** Well Heflin Unit 1H  
**TVD Reference:** Heflin 1H 1381 GL + 23 KB @ 1404.0usft  
**MD Reference:** Heflin 1H 1381 GL + 23 KB @ 1404.0usft  
**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)
5,400.0	28.80	93.52	5,278.5	-17.9	583.8	-201.9	1.01
5,500.0	28.77	92.76	5,366.1	-20.6	631.9	-219.6	0.37
5,600.0	27.39	91.53	5,454.3	-22.3	678.9	-236.2	1.50
5,700.0	25.50	90.22	5,543.9	-23.0	723.5	-250.9	1.98
5,800.0	27.40	86.84	5,633.4	-21.9	768.0	-263.9	2.42
5,900.0	26.83	84.49	5,722.4	-18.4	813.4	-275.0	1.21
6,000.0	26.12	95.12	5,812.0	-18.2	857.8	-288.9	4.79
6,035.6	25.67	96.01	5,844.0	-19.7	873.3	-295.2	1.67
6,095.0	23.53	93.72	5,898.0	-21.8	897.9	-305.0	3.94
6,126.0	22.69	93.64	5,926.5	-22.6	910.1	-309.6	2.71
6,158.0	23.30	92.69	5,956.0	-23.3	922.5	-314.2	2.23
6,190.0	24.08	92.15	5,985.3	-23.9	935.4	-318.8	2.53
6,221.0	24.82	91.06	6,013.5	-24.2	948.2	-323.2	2.80
6,253.0	25.82	88.00	6,042.4	-24.1	961.9	-327.4	5.15
6,284.0	26.83	85.64	6,070.2	-23.3	975.6	-331.0	4.69
6,316.0	27.79	83.59	6,098.7	-21.9	990.2	-334.4	4.20
6,348.0	27.89	82.57	6,127.0	-20.1	1,005.1	-337.4	1.52
6,412.0	27.57	80.64	6,183.6	-15.8	1,034.5	-342.6	1.49
6,443.0	28.14	78.44	6,211.0	-13.2	1,048.8	-344.6	3.79
6,507.0	28.09	76.86	6,267.5	-6.7	1,078.2	-347.8	1.17
6,539.0	30.07	75.32	6,295.4	-3.0	1,093.3	-349.0	6.61
6,570.0	30.01	75.08	6,322.3	1.0	1,108.3	-350.0	0.43
6,634.0	28.94	77.22	6,378.0	8.5	1,138.9	-352.5	2.35
6,665.0	28.50	78.57	6,405.2	11.7	1,153.4	-354.2	2.53
6,728.0	27.17	79.47	6,460.9	17.3	1,182.3	-358.0	2.21
6,824.0	27.84	79.00	6,546.0	25.6	1,225.9	-363.9	0.73
6,919.0	29.01	76.27	6,629.6	35.3	1,270.0	-368.7	1.84
6,982.0	27.78	75.83	6,685.0	42.5	1,299.1	-371.1	1.98
7,014.0	26.66	76.82	6,713.5	45.9	1,313.3	-372.3	3.78
7,046.0	26.58	72.99	6,742.1	49.7	1,327.2	-373.1	5.37
7,078.0	28.19	65.60	6,770.5	54.9	1,340.9	-372.5	11.74
7,109.0	30.50	59.82	6,797.5	61.9	1,354.4	-370.2	11.78
7,141.0	33.11	55.46	6,824.7	70.9	1,368.6	-366.1	10.86
7,172.0	35.35	50.81	6,850.3	81.4	1,382.5	-360.6	11.10
7,204.0	37.59	46.49	6,876.1	94.0	1,396.8	-353.2	10.65
7,236.0	39.89	41.39	6,901.0	108.4	1,410.7	-343.9	12.29
7,268.0	41.33	35.23	6,925.3	124.7	1,423.5	-332.5	13.31
7,299.0	41.95	29.08	6,948.5	142.1	1,434.5	-319.4	13.33
7,330.0	42.74	22.91	6,971.4	160.9	1,443.6	-304.5	13.64
7,362.0	43.97	17.45	6,994.7	181.5	1,451.2	-287.3	12.33
7,393.0	46.16	13.49	7,016.6	202.6	1,457.0	-269.1	11.47
7,424.0	49.24	9.22	7,037.5	225.1	1,461.5	-249.2	14.23
7,445.0	51.51	7.03	7,050.9	241.1	1,463.8	-234.8	13.46

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Geological Survey  
Reservoir  
MORGANTOWN, WV

EOW Completion Report



Company: Antero Resources  
Project: Doddridge County WV  
Site: Heflin/McConnell Pad  
Well: Heflin Unit 1H  
Wellbore: Original Wellpath  
Design: As Drilled

Local Co-ordinate Reference: Well Heflin Unit 1H  
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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)
7,454.0	52.49	6.13	7,056.4	248.2	1,464.6	-228.4	13.46
7,486.0	56.05	3.60	7,075.1	274.0	1,466.8	-204.5	12.84
7,492.0	56.84	3.20	7,078.4	279.0	1,467.1	-199.9	14.35
<b>Tully</b>							
7,517.0	60.16	1.59	7,091.5	300.3	1,468.0	-179.9	14.35
7,549.0	62.63	358.93	7,106.8	328.4	1,468.1	-153.3	10.62
7,581.0	64.78	357.39	7,121.0	357.1	1,467.2	-125.8	7.98
7,613.0	67.30	355.45	7,134.0	386.3	1,465.3	-97.6	9.63
7,645.0	70.16	354.02	7,145.6	416.0	1,462.6	-68.6	9.86
7,676.0	72.54	352.46	7,155.5	445.1	1,459.1	-39.8	9.04
7,683.0	72.95	352.11	7,157.6	451.8	1,458.2	-33.2	7.55
<b>Marcellus</b>							
7,707.0	74.34	350.90	7,164.3	474.5	1,454.8	-10.6	7.55
7,739.0	76.60	348.86	7,172.4	505.0	1,449.4	20.1	9.38
7,771.0	79.32	346.57	7,179.0	535.6	1,442.7	51.2	11.01
7,802.0	81.80	343.58	7,184.1	565.1	1,434.9	81.7	12.43
7,835.0	84.75	341.64	7,188.0	596.4	1,425.1	114.5	10.68
7,920.0	88.96	337.18	7,192.6	675.8	1,395.2	199.3	7.21
7,944.0	89.26	336.82	7,193.0	697.9	1,385.8	223.2	1.95
8,039.0	89.70	337.97	7,193.9	785.6	1,349.3	317.9	1.30
8,134.0	88.79	339.26	7,195.1	874.0	1,314.7	412.8	1.66
8,229.0	90.50	340.42	7,195.7	963.2	1,282.0	507.7	2.18
8,322.0	89.06	340.37	7,196.1	1,050.8	1,250.8	600.7	1.55
8,417.0	88.66	341.99	7,198.0	1,140.7	1,220.1	695.7	1.76
8,513.0	88.79	341.49	7,200.1	1,231.9	1,190.0	791.7	0.54
8,608.0	89.36	343.43	7,201.6	1,322.4	1,161.4	886.6	2.13
8,703.0	86.67	342.78	7,204.9	1,413.3	1,133.8	981.5	2.91
8,797.0	88.09	341.66	7,209.2	1,502.7	1,105.2	1,075.4	1.92
8,893.0	88.32	339.75	7,212.2	1,593.2	1,073.4	1,171.4	2.00
8,986.0	87.71	337.14	7,215.5	1,679.7	1,039.3	1,264.2	2.88
9,081.0	88.66	336.86	7,218.5	1,767.1	1,002.2	1,358.8	1.04
9,172.0	91.07	340.57	7,218.7	1,851.9	969.2	1,449.7	4.86
9,262.0	90.60	341.16	7,217.4	1,936.9	939.7	1,539.7	0.84
9,353.0	90.77	342.32	7,216.3	2,023.3	911.2	1,630.7	1.29
9,443.0	90.54	343.12	7,215.2	2,109.2	884.4	1,720.6	0.92
9,534.0	89.23	343.61	7,215.4	2,196.4	858.4	1,811.6	1.54
9,624.0	88.76	342.56	7,217.0	2,282.5	832.2	1,901.5	1.28
9,714.0	90.03	341.58	7,218.0	2,368.1	804.5	1,991.5	1.78
9,802.0	90.07	341.30	7,217.9	2,451.5	776.5	2,079.5	0.32
9,893.0	90.17	340.90	7,217.7	2,537.6	747.0	2,170.5	0.45
9,985.0	88.56	341.73	7,218.7	2,624.8	717.5	2,262.5	1.97
10,075.0	88.99	341.85	7,220.6	2,710.2	689.4	2,352.5	0.50
10,165.0	90.03	341.73	7,221.4	2,795.7	661.3	2,442.5	1.16
10,259.0	89.70	341.46	7,221.6	2,884.9	631.6	2,536.5	0.45

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EOW Completion Report



**Company:** Antero Resources  
**Project:** Doddridge County WV  
**Site:** Heflin/McConnell Pad  
**Well:** Heflin Unit 1H  
**Wellbore:** Original Wellpath  
**Design:** As Drilled

**Local Co-ordinate Reference:** Well Heflin Unit 1H  
**TVD Reference:** Heflin 1H 1381 GL + 23 KB @ 1404.0usft  
**MD Reference:** Heflin 1H 1381 GL + 23 KB @ 1404.0usft  
**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)
10,353.0	88.02	339.78	7,223.5	2,973.6	600.4	2,630.4	2.53
10,448.0	88.15	339.43	7,226.7	3,062.6	567.4	2,725.3	0.39
10,542.0	89.63	341.45	7,228.5	3,151.1	535.9	2,819.3	2.66
10,636.0	91.68	341.83	7,227.4	3,240.3	506.3	2,913.3	2.22
10,731.0	92.22	341.46	7,224.2	3,330.4	476.4	3,008.2	0.69
10,826.0	91.24	342.36	7,221.3	3,420.7	446.9	3,103.2	1.40
10,921.0	91.95	344.18	7,218.7	3,511.6	419.6	3,198.1	2.06
11,015.0	90.81	343.30	7,216.4	3,601.9	393.3	3,292.0	1.53
11,110.0	89.13	337.49	7,216.5	3,691.3	361.4	3,386.9	6.37
11,205.0	87.92	337.61	7,218.9	3,779.1	325.1	3,481.7	1.28
11,300.0	88.39	341.21	7,222.0	3,867.9	291.7	3,576.5	3.82
11,396.0	88.83	341.82	7,224.3	3,959.0	261.3	3,672.5	0.78
11,491.0	90.77	341.70	7,224.6	4,049.2	231.6	3,767.5	2.05
11,585.0	90.74	341.31	7,223.4	4,138.3	201.8	3,861.5	0.42
11,680.0	89.23	340.95	7,223.4	4,228.2	171.0	3,956.5	1.63
11,774.0	88.99	342.77	7,224.9	4,317.5	141.8	4,050.5	1.95
11,870.0	89.26	342.30	7,226.3	4,409.1	113.0	4,146.4	0.56
11,963.0	90.00	342.19	7,226.9	4,497.7	84.6	4,239.4	0.80
12,058.0	89.87	343.78	7,227.0	4,588.5	56.8	4,334.4	1.68
12,153.0	90.84	343.77	7,226.5	4,679.7	30.3	4,429.3	1.02
12,248.0	89.87	343.77	7,225.9	4,770.9	3.7	4,524.3	1.02
12,344.0	88.62	343.97	7,227.1	4,863.1	-22.9	4,620.2	1.32
12,439.0	88.79	343.31	7,229.3	4,954.3	-49.7	4,715.1	0.72
12,534.0	90.27	345.32	7,230.1	5,045.7	-75.4	4,810.0	2.63
12,628.0	89.33	344.71	7,230.4	5,136.5	-99.7	4,903.8	1.19
12,724.0	90.50	344.80	7,230.5	5,229.1	-124.9	4,999.6	1.22
12,819.0	89.16	343.98	7,230.8	5,320.6	-150.5	5,094.5	1.65
12,914.0	87.91	342.61	7,233.2	5,411.6	-177.8	5,189.4	1.95
13,009.0	89.03	340.78	7,235.8	5,501.7	-207.6	5,284.4	2.26
13,104.0	90.07	338.42	7,236.5	5,590.8	-240.7	5,379.3	2.71
13,199.0	91.51	338.22	7,235.2	5,679.0	-275.8	5,474.2	1.53
13,294.0	92.72	339.47	7,231.7	5,767.6	-310.1	5,569.0	1.83
13,388.0	91.44	340.65	7,228.3	5,855.9	-342.1	5,662.9	1.85
13,483.0	91.71	341.34	7,225.7	5,945.7	-373.0	5,757.8	0.78
13,579.0	90.03	340.80	7,224.2	6,036.5	-404.2	5,853.8	1.84
13,675.0	90.17	340.55	7,224.1	6,127.1	-435.9	5,949.8	0.30
13,769.0	90.27	338.96	7,223.7	6,215.2	-468.5	6,043.8	1.69
13,864.0	89.56	341.03	7,223.8	6,304.5	-501.0	6,138.7	2.30
13,959.0	89.56	341.72	7,224.6	6,394.5	-531.3	6,233.7	0.73
14,054.0	90.23	340.24	7,224.7	6,484.3	-562.3	6,328.7	1.71
14,149.0	88.79	339.51	7,225.6	6,573.5	-594.9	6,423.7	1.70
14,244.0	88.99	341.27	7,227.4	6,663.0	-626.8	6,518.6	1.86
14,338.0	89.40	342.10	7,228.7	6,752.2	-656.4	6,612.6	0.98
14,434.0	90.24	342.53	7,229.0	6,843.7	-685.5	6,708.6	0.98
14,529.0	88.66	342.79	7,229.9	6,934.4	-713.8	6,803.6	1.69



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**Survey**

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14,623.0	87.58	341.75	7,233.0	7,023.8	-742.4	6,897.5	1.59
14,718.0	88.25	341.31	7,236.5	7,113.9	-772.5	6,992.5	0.84
14,812.0	88.62	341.42	7,239.0	7,202.9	-802.5	7,086.4	0.41
14,907.0	89.19	339.04	7,240.9	7,292.3	-834.7	7,181.4	2.58
15,002.0	91.48	339.76	7,240.3	7,381.2	-868.1	7,276.3	2.53
15,097.0	91.58	338.80	7,237.8	7,470.0	-901.7	7,371.2	1.02
15,193.0	90.64	340.99	7,235.9	7,560.2	-934.7	7,467.1	2.48
15,288.0	90.44	338.66	7,235.0	7,649.3	-967.4	7,562.1	2.46
15,381.0	90.20	337.64	7,234.5	7,735.7	-1,002.1	7,654.9	1.13
15,476.0	90.67	339.03	7,233.8	7,823.9	-1,037.1	7,749.8	1.54
15,571.0	91.75	340.15	7,231.8	7,913.0	-1,070.2	7,844.7	1.64
15,665.0	91.71	339.08	7,228.9	8,001.0	-1,103.0	7,938.6	1.14
15,758.0	92.19	339.54	7,225.8	8,088.0	-1,135.8	8,031.5	0.71
15,817.0	90.87	340.80	7,224.2	8,143.5	-1,155.8	8,090.4	3.09

**Design Annotations**

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
7,445.0	7,050.9	241.1	1,463.8	Burkett
7,492.0	7,078.4	279.0	1,467.1	Tully
7,683.0	7,157.6	451.8	1,458.2	Marcellus

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

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