

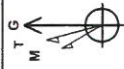
RECEIVED

JUL 20 2015

WV GEOLOGICAL SURVEY  
MORGANTOWN, WV



Washington Unit 2H  
Doddridge County WV  
Northing: 14247236.72  
Easting: 1685710.20  
As Drilled



Azimuths to Grid North  
True North: -0.10°  
Magnetic North: -8.51°  
To convert Magnetic North to Grid, Subtract Magnetic North  
To convert True North to Grid, Subtract 0.10°  
Magnetic Field Strength: 52307 Gauss  
Dip Angle: 66.80°  
Date: 3/5/2014  
Model: IGRF-2010

**WELL DETAILS** Washington Unit 2H

+N/-S	+E/-W	Northing	Ground Level:	1053.0	Longitude
0.0	0.0	14247236.72	Easting	1685710.20	50° 24' 15.7" W

**PROJECT DETAILS**-Doddridge County WV

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

**LEGEND**

- Washington Unit 2H, Original Wellpath, Plan 7 VO
- As Drilled

**SITE DETAILS:** Fritz Pad

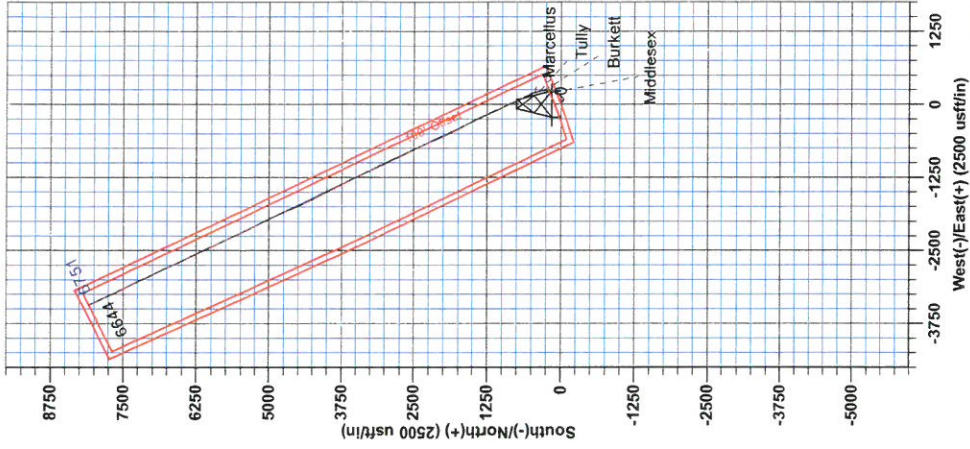
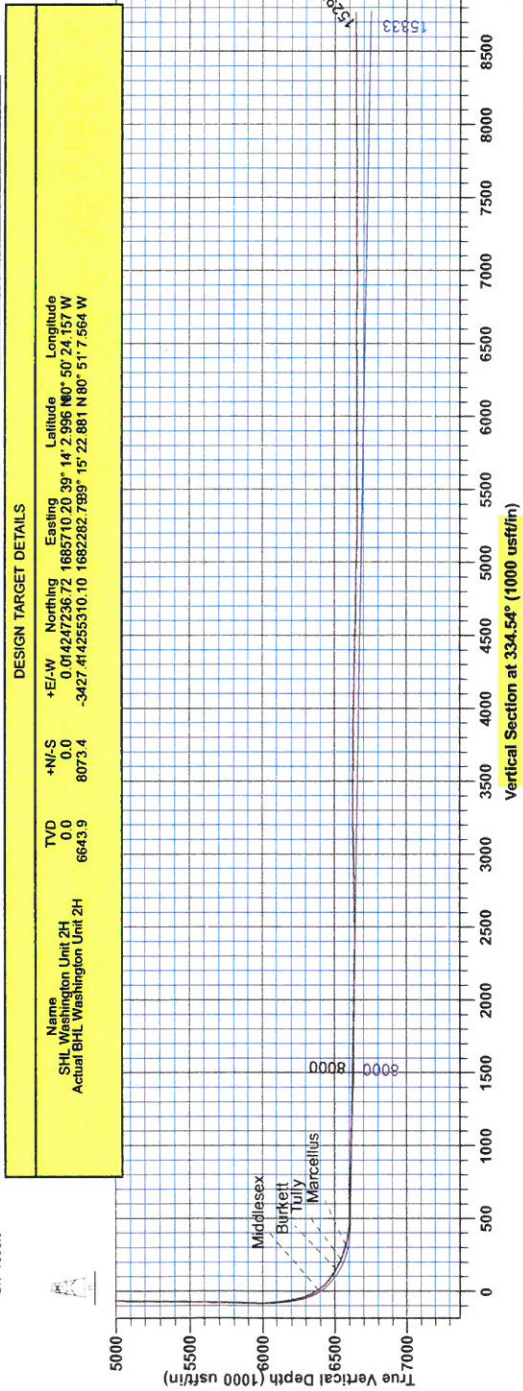
Site Center Hayden 1H  
Site Centre Northing: 14247222.50  
Easting: 1685696.44

Positional Uncertainty: 2.0  
Convergence: 0.10  
Local North: Grid

Genie Lightfoot  
9:30, September 22, 2014  
Scientific Drilling  
421 South Eagle Lane  
Oklahoma City, OK 73128



Pattern 325: GL 1053 \* 24 KB @ 1077 /userf  
Gr: 1053.0





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MORGANTOWN, WV

## **Antero Resources**

**Doddridge County WV  
Fritz Pad: Hayden/Washington/Sheep/Hileman  
Washington Unit 2H  
Original Wellpath**

**Design: As Drilled**

## **EOW Completion Report**

**19 September, 2014**



JUL 20 2015



WV GEOLOGICAL SURVEY  
MORGANTOWN, WV

EOW Completion Report



<b>Company:</b>	Antero Resources	<b>Local Co-ordinate Reference:</b>	Well Washington Unit 2H
<b>Project:</b>	Doddridge County WV	<b>TVD Reference:</b>	Patterson 325: GL 1053' + 24' KB @ 1077.0usft
<b>Site:</b>	Fritz Pad: Hayden/Washington/Sheep/Hileman	<b>MD Reference:</b>	Patterson 325: GL 1053' + 24' KB @ 1077.0usft
<b>Well:</b>	Washington 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 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>	Fritz Pad: Hayden/Washington/Sheep/Hileman				
<b>Site Position:</b>		<b>Northing:</b>	14,247,222.50 usft	<b>Latitude:</b>	39° 14' 2.856 N
<b>From:</b>	Map	<b>Easting:</b>	1,685,696.44 usft	<b>Longitude:</b>	80° 50' 24.332 W
<b>Position Uncertainty:</b>	2.0 usft	<b>Slot Radius:</b>	13-3/16"	<b>Grid Convergence:</b>	0.10 °

<b>Well</b>	Washington Unit 2H, Marcellus					
<b>Well Position</b>	<b>+N/-S</b>	0.0 usft	<b>Northing:</b>	14,247,236.72 usft	<b>Latitude:</b>	39° 14' 2.996 N
	<b>+E/-W</b>	0.0 usft	<b>Easting:</b>	1,685,710.20 usft	<b>Longitude:</b>	80° 50' 24.157 W
<b>Position Uncertainty</b>	2.0 usft		<b>Wellhead Elevation:</b>	1,077.0 usft	<b>Ground Level:</b>	1,053.0 usft

<b>Wellbore</b>	Original Wellpath				
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Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	3/5/2014	-8.41	66.80	52,308

<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

<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	334.54

<b>Survey Program</b>	<b>Date</b>	9/19/2014			
<b>From (usft)</b>	<b>To (usft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Description</b>	
113.0	5,808.1	Survey #1 Gyro to KOP (Original Wellpath)	SDI Standard Keeper	Scientific Drilling Intl. Standard Wireline Keeper	
5,853.0	15,297.0	Survey #2 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
113.0	0.36	93.53	113.0	0.0	0.4	-0.2	0.32
213.0	0.12	88.55	213.0	0.0	0.8	-0.4	0.24
313.0	0.27	101.82	313.0	-0.1	1.1	-0.6	0.16
413.0	0.49	105.27	413.0	-0.2	1.8	-1.0	0.22
513.0	0.52	120.26	513.0	-0.6	2.6	-1.6	0.14
613.0	0.49	114.17	613.0	-1.0	3.3	-2.3	0.06
713.0	0.59	115.57	713.0	-1.4	4.2	-3.1	0.10
813.0	0.69	107.89	813.0	-1.8	5.2	-3.9	0.13
913.0	0.76	98.52	913.0	-2.1	6.5	-4.7	0.14
1,013.0	0.95	96.96	1,013.0	-2.3	7.9	-5.5	0.19

JUL 20 2015



WV GEOLOGICAL SURVEY  
MORGANTOWN, WV

EOW Completion Report



**Company:** Antero Resources  
**Project:** Doddridge County WV  
**Site:** Fritz Pad: Hayden/Washington/Sheep/Hileman  
**Well:** Washington Unit 2H  
**Wellbore:** Original Wellpath  
**Design:** As Drilled

**Local Co-ordinate Reference:** Well Washington Unit 2H  
**TVD Reference:** Patterson 325: GL 1053' + 24' KB @ 1077.0usft  
**MD Reference:** Patterson 325: GL 1053' + 24' KB @ 1077.0usft  
**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)
1,113.0	1.00	102.92	1,112.9	-2.6	9.6	-6.5	0.11
1,213.0	1.04	109.14	1,212.9	-3.1	11.3	-7.6	0.12
1,313.0	0.92	106.93	1,312.9	-3.6	12.9	-8.8	0.13
1,413.0	1.01	103.41	1,412.9	-4.0	14.6	-9.9	0.11
1,513.0	1.27	108.66	1,512.9	-4.6	16.5	-11.2	0.28
1,613.0	1.21	117.54	1,612.9	-5.4	18.5	-12.8	0.20
1,713.0	1.14	113.46	1,712.8	-6.3	20.3	-14.4	0.11
1,813.0	1.32	116.00	1,812.8	-7.2	22.3	-16.1	0.19
1,913.0	1.13	116.18	1,912.8	-8.2	24.2	-17.8	0.19
2,013.0	1.00	121.18	2,012.8	-9.0	25.8	-19.3	0.16
2,113.0	0.88	112.06	2,112.8	-9.8	27.3	-20.6	0.19
2,213.0	0.90	109.70	2,212.7	-10.3	28.7	-21.7	0.04
2,313.0	0.93	116.08	2,312.7	-11.0	30.2	-22.9	0.11
2,413.0	0.80	125.93	2,412.7	-11.7	31.5	-24.1	0.20
2,513.0	0.86	117.33	2,512.7	-12.5	32.7	-25.3	0.14
2,613.0	1.03	119.16	2,612.7	-13.3	34.2	-26.7	0.17
2,713.0	1.00	128.40	2,712.7	-14.2	35.6	-28.2	0.17
2,813.0	0.90	129.70	2,812.7	-15.3	36.9	-29.7	0.10
2,913.0	0.91	130.81	2,912.7	-16.3	38.1	-31.1	0.02
3,013.0	0.96	126.32	3,012.6	-17.3	39.4	-32.6	0.09
3,113.0	0.82	128.91	3,112.6	-18.3	40.6	-34.0	0.15
3,213.0	0.84	121.34	3,212.6	-19.1	41.8	-35.2	0.11
3,313.0	0.90	132.44	3,312.6	-20.0	43.0	-36.6	0.18
3,413.0	0.73	129.16	3,412.6	-20.9	44.1	-37.9	0.18
3,513.0	0.95	131.84	3,512.6	-21.9	45.2	-39.2	0.22
3,613.0	0.64	136.44	3,612.6	-22.9	46.2	-40.5	0.32
3,713.0	0.97	126.19	3,712.6	-23.8	47.3	-41.8	0.36
3,813.0	0.95	130.57	3,812.6	-24.8	48.6	-43.3	0.08
3,913.0	1.05	132.92	3,912.5	-26.0	49.9	-44.9	0.11
4,013.0	0.71	117.16	4,012.5	-26.9	51.1	-46.2	0.41
4,113.0	1.04	118.49	4,112.5	-27.6	52.5	-47.5	0.33
4,213.0	1.03	112.45	4,212.5	-28.4	54.1	-48.9	0.11
4,313.0	1.27	114.87	4,312.5	-29.2	55.9	-50.4	0.24
4,413.0	1.50	116.46	4,412.4	-30.2	58.1	-52.3	0.23
4,513.0	1.60	116.02	4,512.4	-31.4	60.5	-54.4	0.10
4,613.0	1.75	122.15	4,612.4	-32.8	63.1	-56.8	0.23
4,713.0	1.83	125.13	4,712.3	-34.6	65.7	-59.5	0.12
4,813.0	1.92	131.68	4,812.3	-36.6	68.2	-62.4	0.23
4,913.0	1.36	137.38	4,912.2	-38.6	70.3	-65.1	0.58
5,013.0	1.42	119.18	5,012.2	-40.1	72.2	-67.2	0.44
5,113.0	1.12	115.63	5,112.2	-41.1	74.1	-69.0	0.31
5,213.0	1.19	107.77	5,212.2	-41.8	76.0	-70.4	0.17
5,313.0	1.17	117.31	5,312.1	-42.6	77.9	-72.0	0.20
5,413.0	1.14	107.98	5,412.1	-43.4	79.8	-73.5	0.19



EOW Completion Report



**Company:** Antero Resources  
**Project:** Doddridge County WV  
**Site:** Fritz Pad: Hayden/Washington/Sheep/Hileman  
**Well:** Washington Unit 2H  
**Wellbore:** Original Wellpath  
**Design:** As Drilled

**Local Co-ordinate Reference:** Well Washington Unit 2H  
**TVD Reference:** Patterson 325: GL 1053' + 24' KB @ 1077.0usft  
**MD Reference:** Patterson 325: GL 1053' + 24' KB @ 1077.0usft  
**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)
5,513.0	1.29	106.99	5,512.1	-44.0	81.8	-74.9	0.15
5,613.0	1.37	114.76	5,612.1	-44.9	83.9	-76.6	0.20
5,713.0	1.52	120.39	5,712.0	-46.0	86.2	-78.6	0.21
5,808.1	1.22	119.62	5,807.2	-47.2	88.1	-80.5	0.32
5,853.0	1.08	126.53	5,852.0	-47.7	88.9	-81.2	0.44
5,947.0	1.28	123.66	5,946.0	-48.8	90.5	-82.9	0.22
5,978.0	1.04	104.65	5,977.0	-49.0	91.0	-83.4	1.45
6,009.0	3.11	55.56	6,007.9	-48.6	92.0	-83.5	8.23
6,041.0	6.80	40.38	6,039.8	-46.7	94.0	-82.5	12.14
6,072.0	11.84	37.33	6,070.4	-42.8	97.1	-80.3	16.33
6,104.0	16.09	37.94	6,101.5	-36.7	101.8	-76.9	13.29
6,135.0	18.79	40.84	6,131.0	-29.5	107.7	-72.9	9.15
6,167.0	22.24	42.95	6,161.0	-21.2	115.2	-68.6	11.02
6,198.0	25.58	44.22	6,189.3	-12.1	123.9	-64.1	10.90
6,229.0	27.85	44.68	6,217.0	-2.1	133.6	-59.4	7.35
6,261.0	31.51	44.15	6,244.8	9.2	144.7	-53.9	11.47
6,292.0	34.83	43.03	6,270.8	21.5	156.4	-47.8	10.89
6,324.0	37.27	39.20	6,296.6	35.7	168.8	-40.3	10.38
6,355.0	39.55	32.70	6,320.9	51.3	180.0	-31.1	14.95
6,386.0	41.87	27.64	6,344.4	68.7	190.2	-19.7	13.01
6,418.0	43.44	24.06	6,368.0	88.3	199.6	-6.1	9.03
6,445.0	45.01	20.91	6,387.3	105.7	206.8	6.5	10.00
<b>Middlesex</b>							
6,449.0	45.25	20.46	6,390.1	108.3	207.8	8.5	10.00
6,481.0	48.15	16.28	6,412.1	130.4	215.1	25.3	13.13
6,512.0	51.40	12.82	6,432.1	153.3	221.0	43.4	13.51
6,543.0	54.98	8.95	6,450.7	177.7	225.7	63.4	15.27
6,575.0	57.61	6.11	6,468.4	204.1	229.2	85.7	11.05
6,606.0	59.11	4.60	6,484.7	230.3	231.6	108.4	6.37
6,637.0	60.96	2.72	6,500.2	257.1	233.4	131.8	7.95
6,660.0	63.02	0.11	6,511.0	277.4	233.9	150.0	13.43
<b>Burkett</b>							
6,668.0	63.75	359.23	6,514.6	284.6	233.8	156.4	13.43
6,700.0	66.29	355.04	6,528.1	313.5	232.4	183.2	14.28
6,731.0	68.84	351.01	6,539.9	342.0	228.9	210.4	14.56
6,740.0	69.41	350.29	6,543.1	350.3	227.5	218.5	9.79
<b>Tully</b>							
6,762.0	70.82	348.56	6,550.6	370.6	223.7	238.4	9.79
6,794.0	71.38	346.54	6,561.0	400.2	217.2	267.9	6.22
6,825.0	74.63	342.74	6,570.0	428.7	209.3	297.1	15.73
6,845.0	75.71	340.09	6,575.2	447.1	203.2	316.3	13.87
<b>Marcellus</b>							
6,856.0	76.31	338.65	6,577.8	457.1	199.4	326.9	13.87
6,888.0	76.70	336.74	6,585.3	485.8	187.6	358.0	5.93
6,919.0	78.85	335.55	6,591.9	513.5	175.3	388.3	7.89

JUL 20 2015



## EOW Completion Report



<b>Company:</b>	Antero Resources	<b>Local Co-ordinate Reference:</b>	Well Washington Unit 2H
<b>Project:</b>	Doddridge County WV	<b>TVD Reference:</b>	Patterson 325: GL 1053' + 24' KB @ 1077.0usft
<b>Site:</b>	Fritz Pad: Hayden/Washington/Sheep/Hileman	<b>MD Reference:</b>	Patterson 325: GL 1053' + 24' KB @ 1077.0usft
<b>Well:</b>	Washington 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)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)
6,951.0	83.06	335.07	6,596.9	542.3	162.1	419.9	13.24
6,982.0	85.93	334.37	6,599.9	570.2	149.0	450.7	9.53
7,043.0	88.52	332.16	6,602.8	624.6	121.6	511.7	5.58
7,137.0	90.60	333.83	6,603.5	708.3	78.9	605.6	2.84
7,232.0	89.70	334.74	6,603.3	793.9	37.7	700.6	1.35
7,326.0	87.38	335.58	6,605.7	879.2	-1.8	794.6	2.62
7,420.0	87.71	335.48	6,609.7	964.6	-40.7	888.5	0.37
7,514.0	88.09	335.36	6,613.2	1,050.1	-79.8	982.4	0.42
7,608.0	88.46	335.98	6,616.0	1,135.7	-118.5	1,076.3	0.77
7,702.0	89.06	336.29	6,618.0	1,221.6	-156.5	1,170.3	0.72
7,797.0	87.28	333.96	6,621.1	1,307.7	-196.5	1,265.2	3.09
7,891.0	87.41	333.66	6,625.4	1,392.0	-237.9	1,359.1	0.35
7,985.0	88.59	332.21	6,628.7	1,475.7	-280.6	1,453.0	1.99
8,080.0	89.33	331.83	6,630.4	1,559.5	-325.2	1,547.9	0.88
8,174.0	89.73	331.42	6,631.2	1,642.2	-369.9	1,641.8	0.61
8,268.0	90.57	333.39	6,630.9	1,725.5	-413.4	1,735.7	2.28
8,362.0	89.53	334.26	6,630.9	1,809.9	-454.9	1,829.7	1.44
8,456.0	88.42	332.80	6,632.5	1,894.0	-496.8	1,923.6	1.95
8,550.0	89.13	334.56	6,634.5	1,978.3	-538.4	2,017.6	2.02
8,644.0	90.24	337.23	6,635.1	2,064.1	-576.8	2,111.6	3.08
8,738.0	89.06	336.78	6,635.6	2,150.6	-613.5	2,205.5	1.34
8,833.0	89.26	336.26	6,637.0	2,237.7	-651.4	2,300.4	0.59
8,927.0	89.29	336.66	6,638.2	2,323.9	-688.9	2,394.4	0.43
9,021.0	90.50	335.86	6,638.4	2,409.9	-726.8	2,488.3	1.54
9,115.0	90.00	333.69	6,638.0	2,495.0	-766.8	2,582.3	2.37
9,209.0	90.40	331.75	6,637.7	2,578.5	-809.9	2,676.2	2.11
9,303.0	91.04	332.46	6,636.5	2,661.6	-853.9	2,770.2	1.02
9,397.0	91.34	334.45	6,634.5	2,745.6	-895.9	2,864.1	2.14
9,492.0	91.71	334.01	6,632.0	2,831.2	-937.2	2,959.1	0.61
9,586.0	91.24	335.18	6,629.6	2,916.0	-977.5	3,053.0	1.34
9,680.0	90.07	335.66	6,628.5	3,001.5	-1,016.6	3,147.0	1.35
9,776.0	90.64	335.37	6,627.9	3,088.9	-1,056.4	3,243.0	0.67
9,871.0	91.04	335.05	6,626.5	3,175.1	-1,096.2	3,338.0	0.54
9,966.0	89.63	334.84	6,626.0	3,261.2	-1,136.4	3,433.0	1.50
10,055.0	89.19	334.32	6,626.9	3,341.5	-1,174.6	3,522.0	0.77
10,147.0	89.90	334.94	6,627.6	3,424.7	-1,214.0	3,614.0	1.02
10,237.0	90.00	334.47	6,627.7	3,506.0	-1,252.5	3,704.0	0.53
10,328.0	89.60	334.89	6,628.0	3,588.3	-1,291.4	3,795.0	0.64
10,420.0	88.92	333.47	6,629.2	3,671.1	-1,331.5	3,887.0	1.71
10,512.0	89.83	334.41	6,630.2	3,753.7	-1,371.9	3,978.9	1.42
10,603.0	87.78	332.59	6,632.1	3,835.2	-1,412.5	4,069.9	3.01
10,695.0	89.43	333.52	6,634.3	3,917.1	-1,454.2	4,161.8	2.06
10,786.0	88.59	332.73	6,635.9	3,998.3	-1,495.3	4,252.8	1.27
10,877.0	89.13	333.16	6,637.7	4,079.3	-1,536.7	4,343.7	0.76

JUL 20 2015



WV GEOLOGICAL SURVEY  
MORGANTOWN, WV

EOW Completion Report



**Company:** Antero Resources  
**Project:** Doddridge County WV  
**Site:** Fritz Pad: Hayden/Washington/Sheep/Hileman  
**Well:** Washington Unit 2H  
**Wellbore:** Original Wellpath  
**Design:** As Drilled

**Local Co-ordinate Reference:** Well Washington Unit 2H  
**TVD Reference:** Patterson 325: GL 1053' + 24' KB @ 1077.0usft  
**MD Reference:** Patterson 325: GL 1053' + 24' KB @ 1077.0usft  
**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)
10,968.0	88.42	332.47	6,639.7	4,160.3	-1,578.2	4,434.7	1.09
11,060.0	88.09	333.69	6,642.5	4,242.2	-1,619.9	4,526.6	1.37
11,154.0	87.98	334.96	6,645.7	4,326.9	-1,660.6	4,620.6	1.36
11,248.0	89.50	336.45	6,647.7	4,412.6	-1,699.2	4,714.5	2.26
11,342.0	90.27	336.27	6,647.9	4,498.7	-1,736.9	4,808.5	0.84
11,436.0	88.19	336.49	6,649.2	4,584.8	-1,774.6	4,902.4	2.23
11,530.0	88.59	336.81	6,651.8	4,671.0	-1,811.8	4,996.3	0.54
11,624.0	88.62	336.71	6,654.1	4,757.4	-1,848.9	5,090.2	0.11
11,718.0	88.32	335.12	6,656.6	4,843.2	-1,887.2	5,184.1	1.72
11,813.0	90.37	334.47	6,657.7	4,929.1	-1,927.7	5,279.1	2.26
11,907.0	91.14	334.31	6,656.5	5,013.9	-1,968.3	5,373.1	0.84
12,001.0	89.83	334.53	6,655.7	5,098.7	-2,008.9	5,467.1	1.41
12,095.0	89.97	334.44	6,655.9	5,183.5	-2,049.4	5,561.1	0.18
12,189.0	90.07	333.74	6,655.8	5,268.0	-2,090.5	5,655.1	0.75
12,283.0	90.67	334.94	6,655.2	5,352.8	-2,131.2	5,749.1	1.43
12,377.0	90.03	335.34	6,654.6	5,438.1	-2,170.7	5,843.1	0.80
12,471.0	90.07	334.85	6,654.6	5,523.3	-2,210.3	5,937.1	0.52
12,565.0	90.13	334.42	6,654.4	5,608.3	-2,250.5	6,031.1	0.46
12,659.0	89.83	334.42	6,654.4	5,693.0	-2,291.1	6,125.1	0.32
12,754.0	89.66	334.18	6,654.9	5,778.6	-2,332.3	6,220.1	0.31
12,848.0	90.33	334.45	6,654.9	5,863.4	-2,373.1	6,314.1	0.77
12,942.0	90.40	333.94	6,654.3	5,948.0	-2,414.0	6,408.1	0.55
13,036.0	90.77	333.32	6,653.3	6,032.2	-2,455.7	6,502.1	0.77
13,130.0	90.13	334.25	6,652.6	6,116.5	-2,497.3	6,596.0	1.20
13,224.0	89.40	334.82	6,652.9	6,201.4	-2,537.7	6,690.0	0.99
13,318.0	88.86	334.55	6,654.4	6,286.3	-2,577.9	6,784.0	0.64
13,412.0	88.93	333.77	6,656.2	6,370.9	-2,618.8	6,878.0	0.83
13,506.0	91.58	335.49	6,655.8	6,455.9	-2,659.1	6,972.0	3.36
13,600.0	90.10	335.40	6,654.4	6,541.3	-2,698.2	7,066.0	1.58
13,694.0	90.40	335.21	6,654.0	6,626.7	-2,737.4	7,160.0	0.38
13,788.0	90.50	334.94	6,653.2	6,712.0	-2,777.0	7,254.0	0.31
13,882.0	89.63	334.68	6,653.1	6,797.0	-2,817.0	7,348.0	0.97
13,976.0	89.73	333.77	6,653.7	6,881.7	-2,857.9	7,441.9	0.97
14,071.0	90.40	333.83	6,653.6	6,966.9	-2,899.9	7,536.9	0.71
14,165.0	89.90	333.92	6,653.3	7,051.3	-2,941.3	7,630.9	0.54
14,259.0	90.30	334.01	6,653.1	7,135.8	-2,982.5	7,724.9	0.44
14,353.0	90.77	334.29	6,652.3	7,220.4	-3,023.5	7,818.9	0.58
14,447.0	90.50	332.85	6,651.2	7,304.5	-3,065.3	7,912.9	1.56
14,541.0	90.20	332.86	6,650.7	7,388.2	-3,108.2	8,006.9	0.32
14,635.0	90.47	335.58	6,650.1	7,472.8	-3,149.1	8,100.8	2.91
14,729.0	90.87	335.54	6,649.0	7,558.4	-3,188.0	8,194.8	0.43
14,823.0	89.56	335.38	6,648.6	7,643.9	-3,227.0	8,288.8	1.40
14,917.0	90.03	335.13	6,649.0	7,729.3	-3,266.4	8,382.8	0.57
15,012.0	91.04	335.72	6,648.1	7,815.7	-3,305.9	8,477.8	1.23
15,106.0	91.68	335.48	6,645.9	7,901.2	-3,344.7	8,571.7	0.73



<b>Company:</b>	Antero Resources	<b>Local Co-ordinate Reference:</b>	Well Washington Unit 2H
<b>Project:</b>	Doddridge County WV	<b>TVD Reference:</b>	Patterson 325: GL 1053' + 24' KB @ 1077.0usft
<b>Site:</b>	Fritz Pad: Hayden/Washington/Sheep/Hileman	<b>MD Reference:</b>	Patterson 325: GL 1053' + 24' KB @ 1077.0usft
<b>Well:</b>	Washington 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)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)
15,201.0	90.37	334.03	6,644.2	7,987.2	-3,385.2	8,666.7	2.06
15,243.0	90.20	333.53	6,644.0	8,024.8	-3,403.8	8,708.7	1.26
15,297.0	90.00	334.54	6,643.9	8,073.4	-3,427.4	8,762.7	1.91

**Design Annotations**

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
6,445.0	6,387.3	105.7	206.8	Middlesex
6,660.0	6,511.0	277.4	233.9	Burkett
6,740.0	6,543.1	350.3	227.5	Tully
6,845.0	6,575.2	447.1	203.2	Marcellus

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

**RECEIVED**  
 JUL 20 2015  
 WV GEOLOGICAL SURVEY  
 MORGANTOWN, WV