

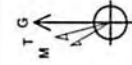


**Kelley Unit 2H**  
**Doddridge County WV**  
**Northing: 14254564.53**  
**Eastings: 1744514.87**  
**As Drilled**



**Scientific Drilling**

Genie Lightfoot  
 14.42, December 12 2014  
 Scientific Drilling  
 11220 N.W. 10th Street  
 Yukon, OK 73099



To convert Magnetic North to Grid, Subtract 8.80°  
 To convert True North to Grid, Subtract 0.23°

Azimuths to Grid North  
 True North -0.23°  
 Magnetic North -8.80°

Magnetic Field  
 Strength: 52203 UsT  
 Dip Angle: 66.81°  
 Date: 8/7/2014  
 Model: BGGM2014

**WELL DETAILS**

	Kelley Unit 2H
Ground Level:	1248.0
+N/-S	0.0
+E/-W	0.0
Northing	14254564.53
Eastings	1744514.87
Latitude	37° 56' 17.1" W
Longitude	15° 13' 7.57" W

**SITE DETAILS:** Trent/Kelley/Chumley/Robison/Guss/Dier

Site Center: Chumley Unit 2H  
 Site Centre Northing: 14254566.34  
 Easting: 1744533.89

Positional Uncertainty: 2.0  
 Convergence: 0.23  
 Local North: Grid

**PROJECT DETAILS:** Doddridge County WV

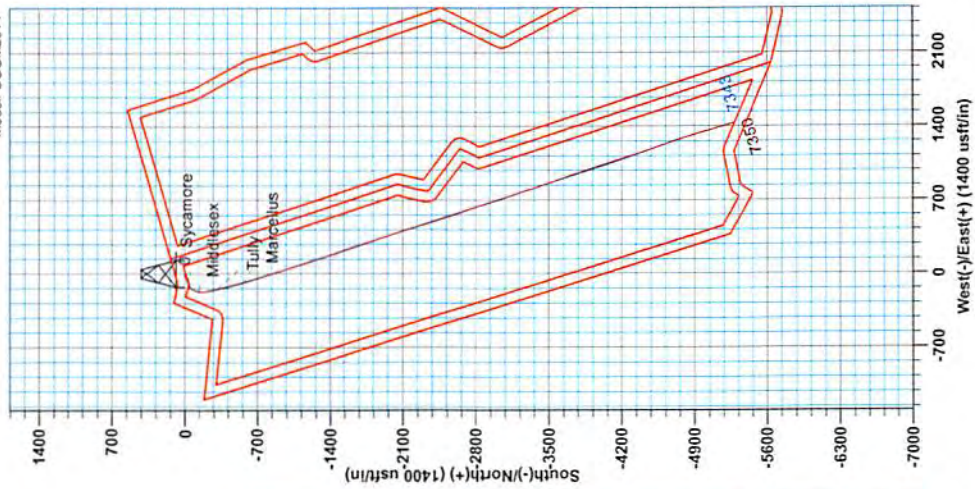
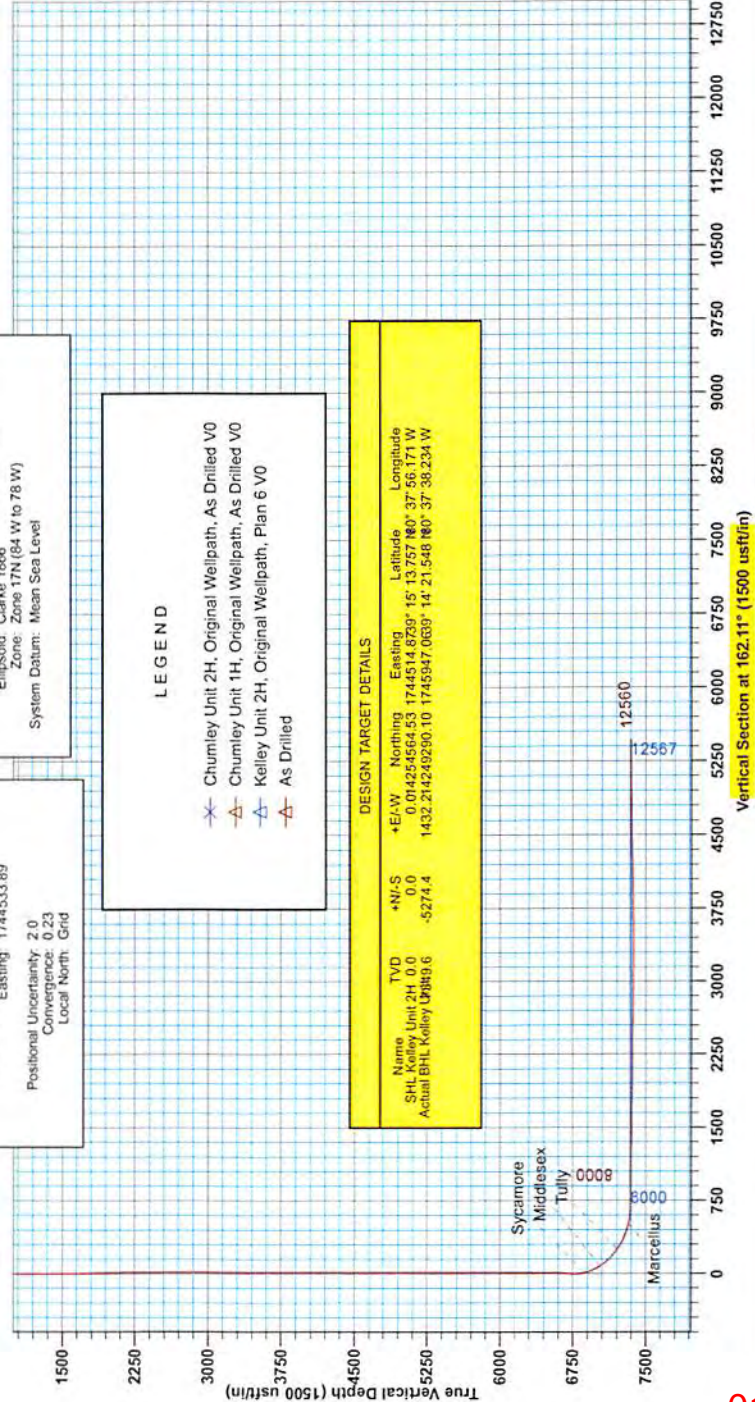
Geodetic System: Universal Transverse Mercator (US Survey Feet)  
 Datum: NAD 1927 (NADCON CONUS)  
 Ellipsoid: Clarke 1866  
 Zone: Zone 17N (84 W to 78 W)  
 System Datum: Mean Sea Level

**LEGEND**

- ✖ Chumley Unit 2H, Original Wellpath, As Drilled V0
- △ Chumley Unit 1H, Original Wellpath, As Drilled V0
- △ Kelley Unit 2H, Original Wellpath, Plan 6 V0
- △ As Drilled

**DESIGN TARGET DETAILS**

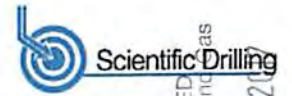
Name	TVD	+N/-S	+E/-W	Northing	Eastings	Latitude	Longitude
SHL Kelley Unit 2H	0.0	0.0	0.0	14254564.53	1744514.87	37° 56' 17.1" W	15° 13' 7.57" W
Actual BHL Kelley Unit 2H	0.0	-5274.4	1432.2	14249290.10	1745947.0639	37° 58' 23.4" W	14° 21' 54.6" W







EOW Completion Report



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<b>Company:</b>	Antero	<b>Local Co-ordinate Reference:</b>	Well Kelley Unit 2H
<b>Project:</b>	Doddridge County WV	<b>TVD Reference:</b>	Frontier 22: GL 1248' + KB 25' @ 1273.0usft
<b>Site:</b>	Trent/Kelley/Chumley/Roleson/Guss/Denver	<b>MD Reference:</b>	Frontier 22: GL 1248' + KB 25' @ 1273.0usft
<b>Well:</b>	Kelley 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>	Trent/Kelley/Chumley/Roleson/Guss/Denver		
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<b>Site Position:</b>		<b>Northing:</b>	14,254,558.34 usft	<b>Latitude:</b>	39° 15' 13.695 N
<b>From:</b>	Map	<b>Easting:</b>	1,744,533.89 usft	<b>Longitude:</b>	80° 37' 55.929 W
<b>Position Uncertainty:</b>	2.0 usft	<b>Slot Radius:</b>	13-3/16"	<b>Grid Convergence:</b>	0.23 °

<b>Well</b>	Kelley Unit 2H					
<b>Well Position</b>	<b>+N/-S</b>	0.0 usft	<b>Northing:</b>	14,254,564.53 usft	<b>Latitude:</b>	39° 15' 13.757 N
	<b>+E/-W</b>	0.0 usft	<b>Easting:</b>	1,744,514.87 usft	<b>Longitude:</b>	80° 37' 56.171 W
<b>Position Uncertainty</b>		2.0 usft	<b>Wellhead Elevation:</b>	1,273.0 usft	<b>Ground Level:</b>	1,248.0 usft

<b>Wellbore</b>	Original Wellpath				
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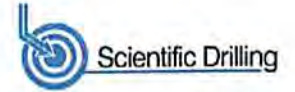
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	BGGM2014	8/7/2014	-8.57	66.81	52,203

<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	162.11	

Survey Program	From (usft)	To (usft)	Date	Survey (Wellbore)	Tool Name	Description
	37.0	6,453.0	12/12/2014	Survey #6 Def Gyro to KOP (Original Well)	SDI Standard Keeper	Scientific Drilling Intl. Standard Wireline Keeper
	6,453.0	12,560.0		Survey #7 MWD Survey (Original Wellpath)	MWD SDI	MWD - Standard ver 1.0.1

Survey	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
	37.0	0.21	351.66	37.0	0.1	0.0	-0.1	0.57
	62.0	0.43	351.66	62.0	0.2	0.0	-0.2	0.88
	87.0	0.64	351.66	87.0	0.4	-0.1	-0.4	0.84
	112.0	0.85	351.66	112.0	0.8	-0.1	-0.8	0.84
	137.0	0.74	347.65	137.0	1.1	-0.2	-1.1	0.49
	162.0	0.58	342.56	162.0	1.4	-0.2	-1.4	0.68
	187.0	0.41	340.15	187.0	1.6	-0.3	-1.6	0.68
	212.0	0.31	328.52	212.0	1.7	-0.4	-1.8	0.49
	237.0	0.18	316.98	237.0	1.8	-0.4	-1.9	0.55
	262.0	0.16	311.22	262.0	1.9	-0.5	-1.9	0.11



<b>Company:</b>	Antero	<b>Local Co-ordinate Reference:</b>	Well Kelley Unit 2H
<b>Project:</b>	Doddridge County WV	<b>TVD Reference:</b>	Frontier 22: GL 1248' + KB 25' @ 1273.0usft
<b>Site:</b>	Trent/Kelley/Chumley/Roleson/Guss/Denver	<b>MD Reference:</b>	Frontier 22: GL 1248' + KB 25' @ 1273.0usft
<b>Well:</b>	Kelley 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

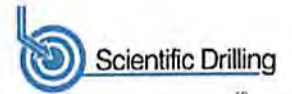
Survey

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)
287.0	0.18	315.22	287.0	1.9	-0.5	-2.0	0.09
312.0	0.13	281.74	312.0	1.9	-0.6	-2.0	0.41
337.0	0.19	273.64	337.0	2.0	-0.7	-2.1	0.26
362.0	0.10	263.32	362.0	2.0	-0.7	-2.1	0.37
387.0	0.07	303.12	387.0	2.0	-0.8	-2.1	0.26
412.0	0.07	278.70	412.0	2.0	-0.8	-2.1	0.12
437.0	0.10	255.78	437.0	2.0	-0.8	-2.1	0.18
462.0	0.09	233.97	462.0	2.0	-0.9	-2.1	0.15
487.0	0.19	233.68	487.0	1.9	-0.9	-2.1	0.40
512.0	0.28	240.21	512.0	1.9	-1.0	-2.1	0.38
537.0	0.34	248.22	537.0	1.8	-1.1	-2.1	0.30
562.0	0.37	248.95	562.0	1.7	-1.3	-2.1	0.12
587.0	0.33	251.91	587.0	1.7	-1.4	-2.0	0.18
612.0	0.33	253.89	612.0	1.7	-1.6	-2.1	0.05
637.0	0.15	269.38	637.0	1.6	-1.7	-2.1	0.76
662.0	0.16	257.18	662.0	1.6	-1.7	-2.1	0.14
687.0	0.25	265.34	687.0	1.6	-1.8	-2.1	0.38
712.0	0.19	260.08	712.0	1.6	-1.9	-2.1	0.25
737.0	0.24	260.08	737.0	1.6	-2.0	-2.1	0.20
762.0	0.33	253.51	762.0	1.6	-2.1	-2.1	0.38
787.0	0.21	244.41	787.0	1.5	-2.2	-2.1	0.51
812.0	0.22	238.67	812.0	1.5	-2.3	-2.1	0.09
837.0	0.20	226.03	837.0	1.4	-2.4	-2.1	0.20
862.0	0.26	234.09	862.0	1.4	-2.5	-2.0	0.27
887.0	0.34	252.35	887.0	1.3	-2.6	-2.0	0.49
912.0	0.35	259.85	912.0	1.3	-2.7	-2.0	0.18
937.0	0.25	261.99	937.0	1.2	-2.9	-2.1	0.40
962.0	0.20	258.81	962.0	1.2	-3.0	-2.1	0.21
987.0	0.13	221.42	987.0	1.2	-3.0	-2.1	0.50
1,012.0	0.22	235.76	1,012.0	1.1	-3.1	-2.0	0.40
1,037.0	0.29	237.97	1,037.0	1.1	-3.2	-2.0	0.28
1,062.0	0.27	259.69	1,062.0	1.0	-3.3	-2.0	0.43
1,087.0	0.20	263.57	1,087.0	1.0	-3.4	-2.0	0.29
1,112.0	0.20	250.29	1,112.0	1.0	-3.5	-2.0	0.19
1,137.0	0.16	234.70	1,137.0	1.0	-3.5	-2.0	0.25
1,162.0	0.25	230.50	1,162.0	0.9	-3.6	-2.0	0.36
1,187.0	0.32	239.70	1,187.0	0.8	-3.7	-1.9	0.33
1,212.0	0.32	241.92	1,212.0	0.8	-3.8	-1.9	0.05
1,237.0	0.25	256.66	1,237.0	0.7	-3.9	-1.9	0.40
1,262.0	0.42	255.07	1,262.0	0.7	-4.1	-1.9	0.68
1,287.0	0.27	261.53	1,287.0	0.7	-4.2	-1.9	0.62
1,312.0	0.29	263.66	1,312.0	0.6	-4.3	-2.0	0.09
1,337.0	0.26	260.70	1,337.0	0.6	-4.5	-2.0	0.13
1,362.0	0.33	253.00	1,362.0	0.6	-4.6	-2.0	0.32





EOW Completion Report



Company: Antero  
 Project: Doddridge County WV  
 Site: Trent/Kelley/Chumley/Roleson/Guss/Denver  
 Well: Kelley Unit 2H  
 Wellbore: Original Wellpath  
 Design: As Drilled

Local Co-ordinate Reference: Well Kelley Unit 2H  
 TVD Reference: Frontier 22: GL 1248' + KB 25' @ 1273.0usft  
 MD Reference: Frontier 22: GL 1248' + KB 25' @ 1273.0usft  
 North Reference: Grid  
 Survey Calculation Method: Minimum Curvature  
 Database: Oklahoma District

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Survey

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)
1,387.0	0.26	253.84	1,387.0	0.6	-4.7	-2.0	0.28
1,412.0	0.52	251.44	1,412.0	0.5	-4.9	-2.0	1.04
1,437.0	0.83	248.35	1,437.0	0.4	-5.2	-2.0	1.25
1,462.0	1.70	245.26	1,462.0	0.2	-5.7	-1.9	3.49
1,487.0	2.65	242.60	1,487.0	-0.2	-6.5	-1.8	3.82
1,512.0	3.31	241.64	1,511.9	-0.8	-7.7	-1.6	2.65
1,537.0	3.51	243.27	1,536.9	-1.5	-9.0	-1.3	0.89
1,562.0	3.60	242.29	1,561.8	-2.2	-10.4	-1.1	0.43
1,587.0	4.23	241.14	1,586.8	-3.0	-11.9	-0.7	2.54
1,612.0	5.19	239.04	1,611.7	-4.1	-13.6	-0.3	3.90
1,637.0	6.01	238.50	1,636.6	-5.3	-15.7	0.3	3.29
1,662.0	6.48	237.46	1,661.4	-6.8	-18.0	0.9	1.93
1,687.0	6.60	237.12	1,686.3	-8.3	-20.4	1.6	0.50
1,712.0	6.75	236.70	1,711.1	-9.9	-22.9	2.4	0.63
1,737.0	6.72	236.74	1,735.9	-11.5	-25.3	3.2	0.12
1,762.0	6.86	236.62	1,760.7	-13.1	-27.8	4.0	0.56
1,787.0	5.88	234.65	1,785.6	-14.7	-30.1	4.8	4.02
1,812.0	5.48	232.43	1,810.5	-16.2	-32.1	5.5	1.83
1,837.0	5.19	231.32	1,835.3	-17.6	-33.9	6.3	1.23
1,862.0	5.04	231.37	1,860.3	-19.0	-35.6	7.1	0.60
1,887.0	4.59	229.51	1,885.2	-20.3	-37.2	7.9	1.91
1,912.0	4.21	229.67	1,910.1	-21.6	-38.7	8.6	1.52
1,937.0	3.74	230.13	1,935.0	-22.7	-40.0	9.3	1.88
1,962.0	3.42	229.25	1,960.0	-23.7	-41.2	9.9	1.30
1,987.0	3.16	229.37	1,984.9	-24.6	-42.3	10.5	1.04
2,012.0	2.78	227.34	2,009.9	-25.5	-43.3	11.0	1.58
2,037.0	2.64	229.50	2,034.9	-26.3	-44.2	11.4	0.69
2,062.0	2.45	230.87	2,059.9	-27.0	-45.0	11.9	0.80
2,087.0	2.25	233.80	2,084.8	-27.6	-45.8	12.2	0.93
2,112.0	1.85	233.49	2,109.8	-28.2	-46.5	12.5	1.60
2,137.0	1.81	237.53	2,134.8	-28.6	-47.2	12.7	0.54
2,162.0	1.71	240.58	2,159.8	-29.0	-47.9	12.9	0.55
2,187.0	1.61	244.14	2,184.8	-29.3	-48.5	13.0	0.57
2,212.0	1.30	240.89	2,209.8	-29.6	-49.1	13.1	1.28
2,237.0	0.98	237.83	2,234.8	-29.9	-49.5	13.2	1.30
2,262.0	0.82	248.82	2,259.8	-30.1	-49.8	13.3	0.94
2,287.0	0.82	233.46	2,284.8	-30.2	-50.2	13.4	0.88
2,312.0	0.76	239.43	2,309.8	-30.4	-50.4	13.5	0.41
2,337.0	0.69	240.13	2,334.8	-30.6	-50.7	13.5	0.28
2,362.0	0.58	237.61	2,359.8	-30.7	-51.0	13.6	0.45
2,387.0	0.53	243.04	2,384.8	-30.8	-51.2	13.6	0.29
2,412.0	0.46	231.22	2,409.8	-31.0	-51.3	13.7	0.49
2,437.0	0.55	236.21	2,434.8	-31.1	-51.5	13.8	0.40
2,462.0	0.37	229.90	2,459.8	-31.2	-51.7	13.8	0.75
2,487.0	0.40	220.11	2,484.8	-31.3	-51.8	13.9	0.29



EOW Completion Report



**Company:** Antero  
**Project:** Doddridge County WV  
**Site:** Trent/Kelley/Chumley/Roleson/Guss/Denver  
**Well:** Kelley Unit 2H  
**Wellbore:** Original Wellpath  
**Design:** As Drilled

**Local Co-ordinate Reference:** Well Kelley Unit 2H  
**TVD Reference:** Frontier 22: GL 1248' + KB 25' @ 1273.0usft  
**MD Reference:** Frontier 22: GL 1248' + KB 25' @ 1273.0usft  
**North Reference:** Grid  
**Survey Calculation Method:** Minimum Curvature  
**Database:** Oklahoma District

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WV Department of  
 Environmental Protection

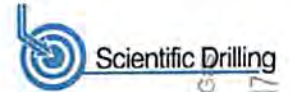
Survey

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)
2,512.0	0.41	228.97	2,509.8	-31.4	-51.9	14.0	0.25
2,537.0	0.33	238.34	2,534.7	-31.5	-52.1	14.0	0.40
2,562.0	0.24	247.21	2,559.7	-31.6	-52.2	14.1	0.40
2,587.0	0.19	245.91	2,584.7	-31.6	-52.2	14.1	0.20
2,612.0	0.20	241.77	2,609.7	-31.7	-52.3	14.1	0.07
2,637.0	0.14	225.20	2,634.7	-31.7	-52.4	14.1	0.31
2,662.0	0.13	207.78	2,659.7	-31.8	-52.4	14.1	0.17
2,687.0	0.26	224.33	2,684.7	-31.8	-52.5	14.2	0.56
2,712.0	0.29	218.78	2,709.7	-31.9	-52.6	14.2	0.16
2,737.0	0.27	227.12	2,734.7	-32.0	-52.6	14.3	0.18
2,762.0	0.26	219.71	2,759.7	-32.1	-52.7	14.4	0.14
2,787.0	0.30	230.87	2,784.7	-32.2	-52.8	14.4	0.27
2,812.0	0.33	238.27	2,809.7	-32.3	-52.9	14.4	0.20
2,837.0	0.31	253.59	2,834.7	-32.3	-53.0	14.5	0.35
2,862.0	0.22	264.42	2,859.7	-32.3	-53.2	14.4	0.41
2,887.0	0.19	243.98	2,884.7	-32.4	-53.2	14.4	0.31
2,912.0	0.25	225.95	2,909.7	-32.4	-53.3	14.5	0.36
2,937.0	0.31	230.61	2,934.7	-32.5	-53.4	14.5	0.26
2,962.0	0.32	240.03	2,959.7	-32.6	-53.5	14.6	0.21
2,987.0	0.33	258.79	2,984.7	-32.6	-53.6	14.6	0.43
3,012.0	0.38	272.14	3,009.7	-32.6	-53.8	14.5	0.39
3,037.0	0.36	259.98	3,034.7	-32.6	-54.0	14.5	0.32
3,062.0	0.33	265.05	3,059.7	-32.7	-54.1	14.5	0.17
3,087.0	0.36	274.37	3,084.7	-32.7	-54.3	14.4	0.25
3,112.0	0.27	276.50	3,109.7	-32.7	-54.4	14.4	0.36
3,137.0	0.30	282.66	3,134.7	-32.6	-54.5	14.3	0.17
3,162.0	0.30	272.86	3,159.7	-32.6	-54.6	14.3	0.20
3,187.0	0.26	269.69	3,184.7	-32.6	-54.8	14.2	0.17
3,212.0	0.26	282.17	3,209.7	-32.6	-54.9	14.2	0.23
3,237.0	0.22	268.06	3,234.7	-32.6	-55.0	14.1	0.28
3,262.0	0.29	265.67	3,259.7	-32.6	-55.1	14.1	0.28
3,287.0	0.27	254.11	3,284.7	-32.6	-55.2	14.1	0.24
3,312.0	0.25	260.89	3,309.7	-32.6	-55.3	14.1	0.15
3,337.0	0.25	262.98	3,334.7	-32.7	-55.4	14.1	0.04
3,362.0	0.28	265.70	3,359.7	-32.7	-55.6	14.0	0.13
3,387.0	0.30	249.37	3,384.7	-32.7	-55.7	14.0	0.34
3,412.0	0.24	258.71	3,409.7	-32.7	-55.8	14.0	0.30
3,437.0	0.30	253.87	3,434.7	-32.8	-55.9	14.0	0.26
3,462.0	0.27	249.55	3,459.7	-32.8	-56.0	14.0	0.15
3,487.0	0.27	251.74	3,484.7	-32.8	-56.1	14.0	0.04
3,512.0	0.36	250.78	3,509.7	-32.9	-56.3	14.0	0.36
3,537.0	0.40	251.65	3,534.7	-32.9	-56.4	14.0	0.16
3,562.0	0.38	251.63	3,559.7	-33.0	-56.6	14.0	0.08
3,587.0	0.33	252.98	3,584.7	-33.0	-56.7	14.0	0.20





EOW Completion Report



**Company:** Antero  
**Project:** Doddridge County WV  
**Site:** Trent/Kelley/Chumley/Roleson/Guss/Denver  
**Well:** Kelley Unit 2H  
**Wellbore:** Original Wellpath  
**Design:** As Drilled

**Local Co-ordinate Reference:** Well Kelley Unit 2H  
**TVD Reference:** Frontier 22: GL 1248' + KB 25' @ 1273.0usft  
**MD Reference:** Frontier 22: GL 1248' + KB 25' @ 1273.0usft  
**North Reference:** Grid  
**Survey Calculation Method:** Minimum Curvature  
**Database:** Oklahoma District

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MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)
3,612.0	0.31	260.98	3,609.7	-33.1	-56.9	14.0	0.20
3,637.0	0.33	257.70	3,634.7	-33.1	-57.0	14.0	0.11
3,662.0	0.35	262.59	3,659.7	-33.1	-57.1	14.0	0.14
3,687.0	0.31	263.35	3,684.7	-33.1	-57.3	13.9	0.16
3,712.0	0.24	273.00	3,709.7	-33.1	-57.4	13.9	0.33
3,737.0	0.23	275.22	3,734.7	-33.1	-57.5	13.9	0.05
3,762.0	0.21	253.45	3,759.7	-33.1	-57.6	13.8	0.34
3,787.0	0.21	248.53	3,784.7	-33.2	-57.7	13.8	0.07
3,812.0	0.21	249.10	3,809.7	-33.2	-57.8	13.9	0.01
3,837.0	0.22	239.01	3,834.7	-33.2	-57.9	13.9	0.16
3,862.0	0.28	244.44	3,859.7	-33.3	-58.0	13.9	0.26
3,887.0	0.25	239.46	3,884.7	-33.4	-58.1	13.9	0.15
3,912.0	0.28	236.93	3,909.7	-33.4	-58.2	13.9	0.13
3,937.0	0.34	252.48	3,934.7	-33.5	-58.3	13.9	0.41
3,962.0	0.36	248.15	3,959.7	-33.5	-58.4	14.0	0.13
3,987.0	0.34	255.72	3,984.7	-33.6	-58.6	14.0	0.20
4,012.0	0.36	258.45	4,009.7	-33.6	-58.7	13.9	0.10
4,037.0	0.36	262.51	4,034.7	-33.6	-58.9	13.9	0.10
4,062.0	0.39	264.21	4,059.7	-33.6	-59.0	13.9	0.13
4,087.0	0.42	269.16	4,084.7	-33.7	-59.2	13.8	0.18
4,112.0	0.34	271.30	4,109.7	-33.7	-59.4	13.8	0.32
4,137.0	0.30	267.32	4,134.7	-33.7	-59.5	13.7	0.18
4,162.0	0.36	271.30	4,159.7	-33.7	-59.7	13.7	0.26
4,187.0	0.33	268.65	4,184.7	-33.7	-59.8	13.7	0.14
4,212.0	0.33	270.21	4,209.7	-33.7	-60.0	13.6	0.04
4,237.0	0.32	265.18	4,234.7	-33.7	-60.1	13.6	0.12
4,262.0	0.23	260.52	4,259.7	-33.7	-60.2	13.6	0.37
4,287.0	0.24	260.98	4,284.7	-33.7	-60.3	13.5	0.04
4,312.0	0.23	260.82	4,309.7	-33.7	-60.4	13.5	0.04
4,337.0	0.22	256.60	4,334.7	-33.7	-60.5	13.5	0.08
4,362.0	0.26	243.08	4,359.7	-33.8	-60.6	13.5	0.28
4,387.0	0.23	238.05	4,384.7	-33.8	-60.7	13.5	0.15
4,412.0	0.17	234.00	4,409.7	-33.9	-60.8	13.6	0.25
4,437.0	0.24	240.93	4,434.7	-33.9	-60.8	13.6	0.30
4,462.0	0.18	240.60	4,459.7	-34.0	-60.9	13.6	0.24
4,487.0	0.23	263.71	4,484.7	-34.0	-61.0	13.6	0.38
4,512.0	0.21	241.74	4,509.7	-34.0	-61.1	13.6	0.34
4,537.0	0.18	245.87	4,534.7	-34.1	-61.2	13.6	0.13
4,562.0	0.18	243.54	4,559.7	-34.1	-61.3	13.6	0.03
4,587.0	0.12	248.38	4,584.7	-34.1	-61.3	13.6	0.25
4,612.0	0.06	355.09	4,609.7	-34.1	-61.3	13.6	0.60
4,637.0	0.11	303.30	4,634.7	-34.1	-61.4	13.6	0.35
4,662.0	0.09	277.52	4,659.7	-34.1	-61.4	13.6	0.19
4,687.0	0.15	281.83	4,684.7	-34.1	-61.4	13.5	0.24



EOW Completion Report



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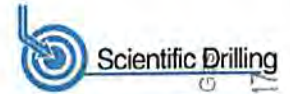
<b>Company:</b> Antero	<b>Local Co-ordinate Reference:</b> Well Kelley Unit 2H
<b>Project:</b> Doddridge County WV	<b>TVD Reference:</b> Frontier 22: GL 1248' + KB 25' @ 1273.0usft
<b>Site:</b> Trent/Kelley/Chumley/Roleson/Guss/Denver	<b>MD Reference:</b> Frontier 22: GL 1248' + KB 25' @ 1273.0usft
<b>Well:</b> Kelley 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)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)
4,712.0	0.13	324.68	4,709.7	-34.0	-61.5	13.5	0.42
4,737.0	0.13	334.75	4,734.7	-34.0	-61.5	13.4	0.09
4,762.0	0.13	340.76	4,759.7	-33.9	-61.5	13.4	0.05
4,787.0	0.14	6.99	4,784.7	-33.9	-61.6	13.3	0.25
4,812.0	0.12	347.16	4,809.7	-33.8	-61.6	13.3	0.20
4,837.0	0.15	9.16	4,834.7	-33.8	-61.6	13.2	0.24
4,862.0	0.10	1.74	4,859.7	-33.7	-61.5	13.2	0.21
4,887.0	0.10	40.03	4,884.7	-33.7	-61.5	13.1	0.26
4,912.0	0.18	39.89	4,909.7	-33.6	-61.5	13.1	0.32
4,937.0	0.17	61.05	4,934.7	-33.6	-61.4	13.1	0.26
4,962.0	0.16	53.58	4,959.7	-33.5	-61.4	13.1	0.09
4,987.0	0.19	62.68	4,984.7	-33.5	-61.3	13.0	0.16
5,012.0	0.17	70.50	5,009.7	-33.5	-61.2	13.0	0.13
5,037.0	0.16	74.16	5,034.7	-33.4	-61.2	13.0	0.06
5,062.0	0.12	73.65	5,059.7	-33.4	-61.1	13.0	0.16
5,087.0	0.13	73.08	5,084.7	-33.4	-61.1	13.0	0.04
5,112.0	0.09	73.16	5,109.7	-33.4	-61.0	13.0	0.16
5,137.0	0.12	96.67	5,134.7	-33.4	-61.0	13.0	0.21
5,162.0	0.13	121.53	5,159.7	-33.4	-60.9	13.1	0.22
5,187.0	0.12	129.67	5,184.7	-33.4	-60.9	13.1	0.08
5,212.0	0.13	115.52	5,209.7	-33.5	-60.8	13.2	0.13
5,237.0	0.11	108.42	5,234.7	-33.5	-60.8	13.2	0.10
5,262.0	0.15	122.75	5,259.7	-33.5	-60.7	13.2	0.21
5,287.0	0.13	127.30	5,284.7	-33.5	-60.7	13.3	0.09
5,312.0	0.16	104.71	5,309.7	-33.6	-60.6	13.3	0.26
5,337.0	0.14	101.65	5,334.7	-33.6	-60.6	13.4	0.09
5,362.0	0.17	97.38	5,359.7	-33.6	-60.5	13.4	0.13
5,387.0	0.22	98.55	5,384.7	-33.6	-60.4	13.4	0.20
5,412.0	0.15	88.58	5,409.7	-33.6	-60.3	13.5	0.31
5,437.0	0.15	105.15	5,434.7	-33.6	-60.3	13.5	0.17
5,462.0	0.24	94.16	5,459.7	-33.6	-60.2	13.5	0.39
5,487.0	0.25	100.08	5,484.7	-33.6	-60.1	13.6	0.11
5,512.0	0.26	92.12	5,509.7	-33.7	-60.0	13.6	0.15
5,537.0	0.26	94.70	5,534.7	-33.7	-59.9	13.7	0.05
5,562.0	0.19	101.42	5,559.7	-33.7	-59.8	13.7	0.30
5,587.0	0.24	96.81	5,584.7	-33.7	-59.7	13.7	0.21
5,612.0	0.14	94.72	5,609.7	-33.7	-59.6	13.8	0.40
5,637.0	0.21	78.22	5,634.7	-33.7	-59.5	13.8	0.34
5,662.0	0.05	89.99	5,659.7	-33.7	-59.4	13.8	0.65
5,687.0	0.07	84.67	5,684.7	-33.7	-59.4	13.8	0.08
5,712.0	0.05	85.40	5,709.7	-33.7	-59.4	13.8	0.08
5,737.0	0.05	75.68	5,734.7	-33.7	-59.4	13.8	0.03
5,762.0	0.06	39.17	5,759.7	-33.7	-59.4	13.8	0.14
5,787.0	0.03	146.18	5,784.7	-33.7	-59.3	13.8	0.30





EOW Completion Report



Company: Antero  
 Project: Doddridge County WV  
 Site: Trent/Kelley/Chumley/Roleson/Guss/Denver  
 Well: Kelley Unit 2H  
 Wellbore: Original Wellpath  
 Design: As Drilled

Local Co-ordinate Reference: Well Kelley Unit 2H  
 TVD Reference: Frontier 22: GL 1248' + KB 25' @ 1273.0usft  
 MD Reference: Frontier 22: GL 1248' + KB 25' @ 1273.0usft  
 North Reference: Grid  
 Survey Calculation Method: Minimum Curvature  
 Database: Oklahoma District

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Survey								
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)	
5,812.0	0.06	300.79	5,809.7	-33.7	-59.4	13.8	0.35	
5,837.0	0.14	311.42	5,834.7	-33.6	-59.4	13.8	0.33	
5,862.0	0.14	275.09	5,859.7	-33.6	-59.4	13.7	0.35	
5,887.0	0.20	279.19	5,884.7	-33.6	-59.5	13.7	0.24	
5,912.0	0.21	282.62	5,909.7	-33.6	-59.6	13.7	0.06	
5,937.0	0.17	350.55	5,934.7	-33.5	-59.7	13.6	0.86	
5,962.0	0.25	293.00	5,959.7	-33.5	-59.7	13.5	0.86	
5,987.0	0.22	337.09	5,984.7	-33.4	-59.8	13.4	0.71	
6,012.0	0.11	269.71	6,009.7	-33.4	-59.8	13.4	0.82	
6,037.0	0.17	5.22	6,034.7	-33.3	-59.8	13.3	0.84	
6,062.0	0.33	336.51	6,059.7	-33.2	-59.9	13.2	0.79	
6,087.0	0.14	311.01	6,084.7	-33.1	-59.9	13.1	0.85	
6,112.0	0.27	318.26	6,109.7	-33.1	-60.0	13.1	0.53	
6,137.0	0.32	303.49	6,134.7	-33.0	-60.1	12.9	0.36	
6,162.0	0.39	320.80	6,159.7	-32.9	-60.2	12.8	0.51	
6,187.0	0.37	323.02	6,184.7	-32.8	-60.3	12.7	0.10	
6,212.0	0.14	324.73	6,209.7	-32.7	-60.4	12.6	0.92	
6,237.0	0.35	328.53	6,234.7	-32.6	-60.4	12.4	0.84	
6,262.0	0.27	326.25	6,259.7	-32.5	-60.5	12.3	0.32	
6,287.0	0.21	326.87	6,284.7	-32.4	-60.5	12.2	0.24	
6,312.0	0.19	307.94	6,309.7	-32.3	-60.6	12.1	0.27	
6,337.0	0.21	307.40	6,334.7	-32.3	-60.7	12.1	0.08	
6,362.0	0.26	291.48	6,359.7	-32.2	-60.8	12.0	0.33	
6,387.0	0.27	314.57	6,384.7	-32.2	-60.9	11.9	0.43	
6,412.0	0.22	333.78	6,409.7	-32.1	-60.9	11.8	0.38	
6,437.0	0.31	272.03	6,434.7	-32.0	-61.0	11.7	1.13	
6,453.0	0.34	250.04	6,450.7	-32.0	-61.1	11.7	0.80	
6,549.0	0.52	283.58	6,546.7	-32.0	-61.8	11.5	0.31	
6,581.0	3.76	268.64	6,578.7	-32.0	-63.0	11.1	10.19	
6,613.0	7.63	269.32	6,610.5	-32.1	-66.2	10.2	12.10	
6,645.0	11.18	272.65	6,642.1	-32.0	-71.4	8.5	11.22	
6,677.0	15.15	273.52	6,673.2	-31.6	-78.7	5.9	12.42	
6,709.0	17.79	273.65	6,703.9	-31.0	-87.7	2.5	8.25	
6,741.0	17.84	269.29	6,734.4	-30.7	-97.5	-0.7	4.17	
6,773.0	17.85	256.01	6,764.9	-32.0	-107.2	-2.5	12.69	
6,805.0	18.80	243.28	6,795.3	-35.5	-116.5	-2.0	12.83	
6,837.0	20.30	233.21	6,825.4	-41.1	-125.6	0.6	11.51	
6,869.0	22.02	223.14	6,855.3	-48.8	-134.1	5.3	12.55	
6,886.0	23.04	218.87	6,871.0	-53.8	-138.4	8.6	11.34	
<b>Sycamore</b>								
6,901.0	24.03	215.40	6,884.7	-58.5	-142.0	12.1	11.34	
6,934.0	26.22	208.55	6,914.6	-70.4	-149.4	21.1	11.02	
6,966.0	28.48	202.99	6,943.0	-83.7	-155.7	31.8	10.65	
6,998.0	30.33	197.82	6,970.9	-98.4	-161.2	44.1	9.81	





EOW Completion Report



<b>Company:</b> Antero	<b>Local Co-ordinate Reference:</b> Well Kelley Unit 2H
<b>Project:</b> Doddridge County WV	<b>TVD Reference:</b> Frontier 22: GL 1248' + KB 25' @ 1273.0usft
<b>Site:</b> Trent/Kelley/Chumley/Roleson/Guss/Denver	<b>MD Reference:</b> Frontier 22: GL 1248' + KB 25' @ 1273.0usft
<b>Well:</b> Kelley 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

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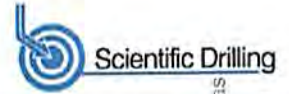
WV Department of Environmental Protection

Survey

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)
7,030.0	32.45	193.24	6,998.2	-114.4	-165.6	58.0	9.97
7,062.0	34.62	188.27	7,024.9	-131.8	-168.9	73.5	10.93
7,070.0	35.15	186.97	7,031.5	-136.3	-169.5	77.7	11.40
<b>Middlesex</b>							
7,094.0	36.81	183.27	7,050.9	-150.4	-170.8	90.6	11.40
7,126.0	38.83	177.87	7,076.2	-170.0	-170.9	109.2	12.12
7,158.0	41.36	175.57	7,100.7	-190.5	-169.8	129.2	9.16
7,190.0	44.38	173.25	7,124.1	-212.2	-167.6	150.4	10.65
7,223.0	47.85	170.40	7,147.0	-235.7	-164.2	173.9	12.22
7,255.0	51.13	168.79	7,167.8	-259.6	-159.8	198.0	10.94
7,287.0	53.69	168.32	7,187.3	-284.5	-154.8	223.2	8.08
7,319.0	55.48	167.66	7,205.8	-310.0	-149.4	249.1	5.84
<b>Tully</b>							
7,351.0	57.61	167.02	7,223.5	-336.0	-143.5	275.7	6.86
7,383.0	60.22	166.51	7,240.0	-362.7	-137.2	303.0	8.27
7,415.0	62.75	166.08	7,255.3	-390.0	-130.6	331.1	7.99
7,447.0	65.39	165.74	7,269.3	-417.9	-123.6	359.8	8.31
7,479.0	68.30	165.15	7,281.8	-446.4	-116.2	389.2	9.25
7,511.0	70.24	165.30	7,293.2	-475.4	-108.5	419.0	6.08
7,543.0	70.67	165.33	7,303.9	-504.5	-100.9	449.1	1.35
7,575.0	71.87	164.96	7,314.1	-533.8	-93.1	479.4	3.91
7,607.0	74.26	165.05	7,323.5	-563.4	-85.2	510.0	7.47
7,608.0	74.32	165.05	7,323.7	-564.3	-85.0	510.9	5.97
<b>Marcellus</b>							
7,640.0	76.23	165.07	7,331.9	-594.2	-77.0	541.8	5.97
7,672.0	80.24	164.70	7,338.4	-624.5	-68.8	573.1	12.58
7,704.0	85.16	163.54	7,342.5	-655.0	-60.1	604.8	15.79
7,762.0	90.47	162.00	7,344.7	-710.3	-43.0	662.8	9.53
7,800.0	90.47	161.57	7,344.4	-746.4	-31.1	700.8	1.13
7,896.0	89.87	162.65	7,344.1	-837.8	-1.6	796.8	1.29
7,992.0	89.80	163.30	7,344.3	-929.6	26.5	892.8	0.68
8,089.0	89.26	162.39	7,345.1	-1,022.2	55.1	989.7	1.09
8,185.0	89.76	163.08	7,346.0	-1,113.9	83.6	1,085.7	0.89
8,281.0	88.72	162.81	7,347.2	-1,205.7	111.8	1,181.7	1.12
8,378.0	88.08	162.58	7,349.9	-1,298.2	140.6	1,278.7	0.70
8,474.0	88.83	161.33	7,352.5	-1,389.5	170.3	1,374.6	1.52
8,570.0	88.49	160.69	7,354.8	-1,480.2	201.6	1,470.6	0.75
8,666.0	89.93	161.92	7,356.1	-1,571.2	232.3	1,566.6	1.97
8,763.0	89.97	162.25	7,356.2	-1,663.5	262.2	1,663.6	0.34
8,859.0	88.26	161.33	7,357.7	-1,754.6	292.2	1,759.5	2.02
8,955.0	88.56	161.44	7,360.3	-1,845.6	322.8	1,855.5	0.33
9,052.0	90.50	163.01	7,361.1	-1,937.9	352.4	1,952.5	2.57
9,148.0	89.29	161.57	7,361.3	-2,029.4	381.6	2,048.5	1.96
9,245.0	89.93	162.89	7,362.0	-2,121.8	411.2	2,145.5	1.51
9,341.0	90.37	163.58	7,361.7	-2,213.7	438.9	2,241.5	0.85



EOW Completion Report



**Company:** Antero  
**Project:** Doddridge County WV  
**Site:** Trent/Kelley/Chumley/Roleson/Guss/Denver  
**Well:** Kelley Unit 2H  
**Wellbore:** Original Wellpath  
**Design:** As Drilled

**Local Co-ordinate Reference:** Well Kelley Unit 2H  
**TVD Reference:** Frontier 22: GL 1248' + KB 25' @ 1273.0usft  
**MD Reference:** Frontier 22: GL 1248' + KB 25' @ 1273.0usft  
**North Reference:** Grid  
**Survey Calculation Method:** Minimum Curvature  
**Database:** Oklahoma District

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Survey

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)
9,437.0	89.13	162.01	7,362.1	-2,305.4	467.3	2,337.4	2.08
9,533.0	90.10	163.32	7,362.8	-2,397.0	495.9	2,433.4	1.70
9,629.0	88.09	161.79	7,364.3	-2,488.6	524.7	2,529.4	2.63
9,726.0	87.85	160.98	7,367.7	-2,580.4	555.6	2,626.3	0.87
9,822.0	88.89	161.48	7,370.5	-2,671.3	586.5	2,722.3	1.20
9,918.0	89.83	161.83	7,371.5	-2,762.4	616.7	2,818.3	1.04
10,015.0	90.61	162.92	7,371.2	-2,854.9	646.1	2,915.3	1.38
10,111.0	89.93	162.43	7,370.7	-2,946.5	674.7	3,011.3	0.87
10,208.0	89.30	161.76	7,371.4	-3,038.8	704.5	3,108.3	0.95
10,304.0	88.66	161.05	7,373.1	-3,129.8	735.1	3,204.2	1.00
10,400.0	88.46	160.65	7,375.5	-3,220.4	766.6	3,300.2	0.47
10,496.0	91.11	163.18	7,375.8	-3,311.7	796.4	3,396.2	3.82
10,592.0	90.13	161.74	7,374.8	-3,403.2	825.3	3,492.2	1.81
10,689.0	90.50	160.37	7,374.3	-3,494.9	856.8	3,589.1	1.46
10,785.0	92.62	161.95	7,371.7	-3,585.7	887.8	3,685.1	2.75
10,881.0	90.27	161.54	7,369.2	-3,676.9	917.8	3,781.0	2.48
10,978.0	90.37	160.88	7,368.7	-3,768.7	949.1	3,878.0	0.69
11,074.0	90.84	162.24	7,367.7	-3,859.8	979.4	3,974.0	1.50
11,170.0	90.77	161.49	7,366.3	-3,951.0	1,009.3	4,070.0	0.78
11,267.0	91.41	161.88	7,364.5	-4,043.1	1,039.8	4,167.0	0.77
11,363.0	91.19	162.58	7,362.3	-4,134.5	1,069.1	4,263.0	0.76
11,460.0	91.85	163.74	7,359.7	-4,227.3	1,097.2	4,359.9	1.38
11,556.0	90.27	161.46	7,358.0	-4,318.8	1,125.9	4,455.9	2.89
11,652.0	90.81	159.78	7,357.1	-4,409.4	1,157.7	4,551.8	1.84
11,748.0	91.48	162.36	7,355.1	-4,500.2	1,188.9	4,647.8	2.78
11,844.0	90.27	159.79	7,353.7	-4,591.0	1,220.0	4,743.8	2.96
11,941.0	90.30	160.25	7,353.2	-4,682.1	1,253.1	4,840.7	0.48
12,037.0	91.11	161.81	7,352.0	-4,772.9	1,284.3	4,936.7	1.83
12,134.0	90.84	163.85	7,350.4	-4,865.6	1,313.0	5,033.6	2.12
12,230.0	91.34	164.97	7,348.5	-4,958.0	1,338.8	5,129.5	1.28
12,327.0	90.94	164.14	7,346.6	-5,051.5	1,364.6	5,226.4	0.95
12,423.0	89.03	163.18	7,346.6	-5,143.6	1,391.6	5,322.4	2.23
12,502.0	88.66	162.59	7,348.2	-5,219.1	1,414.8	5,401.4	0.88
12,560.0	88.66	162.59	7,349.6	-5,274.4	1,432.2	5,459.4	0.00





EOW Completion Report



<b>Company:</b> Antero	<b>Local Co-ordinate Reference:</b> Well Kelley Unit 2H
<b>Project:</b> Doddridge County WV	<b>TVD Reference:</b> Frontier 22: GL 1248' + KB 25' @ 1273.0usft
<b>Site:</b> Trent/Kelley/Chumley/Roleson/Guss/Denver	<b>MD Reference:</b> Frontier 22: GL 1248' + KB 25' @ 1273.0usft
<b>Well:</b> Kelley 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

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Design Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
6,886.0	6,871.0	-53.8	-138.4	Sycamore
7,070.0	7,031.5	-136.3	-169.5	Middlesex
7,319.0	7,205.8	-310.0	-149.4	Tully
7,608.0	7,323.7	-564.3	-85.0	Marcellus

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