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WV GEOLOGICAL SURVEY
MORGANTOWN, WV



Hudkins Unit 1H
Doddridge County WV
Northing: 14261474.32
Easting: 1673591.25
As Drilled



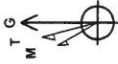
P523: 1055 GL + 19 KB @ 1074.0urft
Gr: 1055.0

WELL DETAILS
Ground Level: 1055.0
+N/S +E/W Northing Easting Latitude Longitude
0.0 0.0 14261474.32 1673591.25 39° 16' 23.957 80° 52' 57.997 W

Genie Lightfoot
13.37, November 25 2014
Scientific Drilling
421 South Eagle Lane
Oklahoma City, OK 73128

Azimuths to Grid North
True North: -0.07°
Magnetic North: -8.46°
Magnetic Field
Strength: 52239.5nT
Dip Angle: 66.86°
Date: 8/22/2014
Model: BCGM2014

To convert Magnetic North to Grid, Subtract 8.46°
To convert True North to Grid, Subtract 0.07°



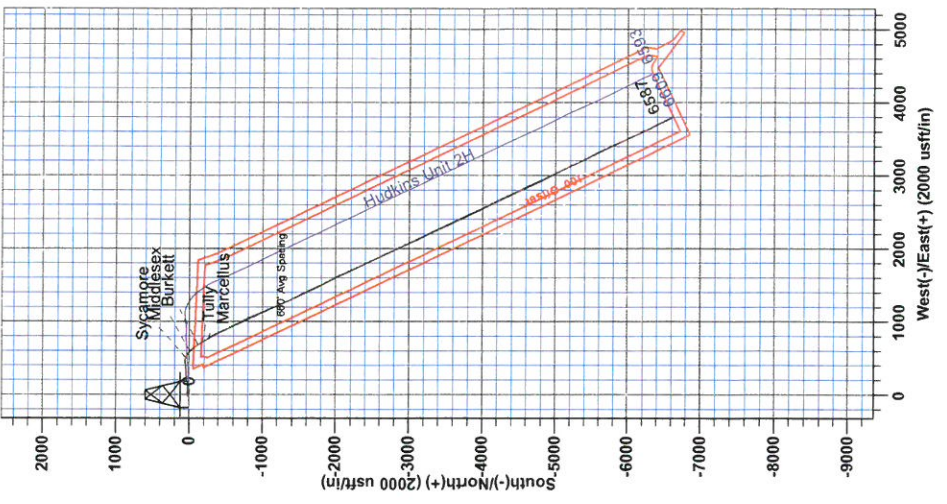
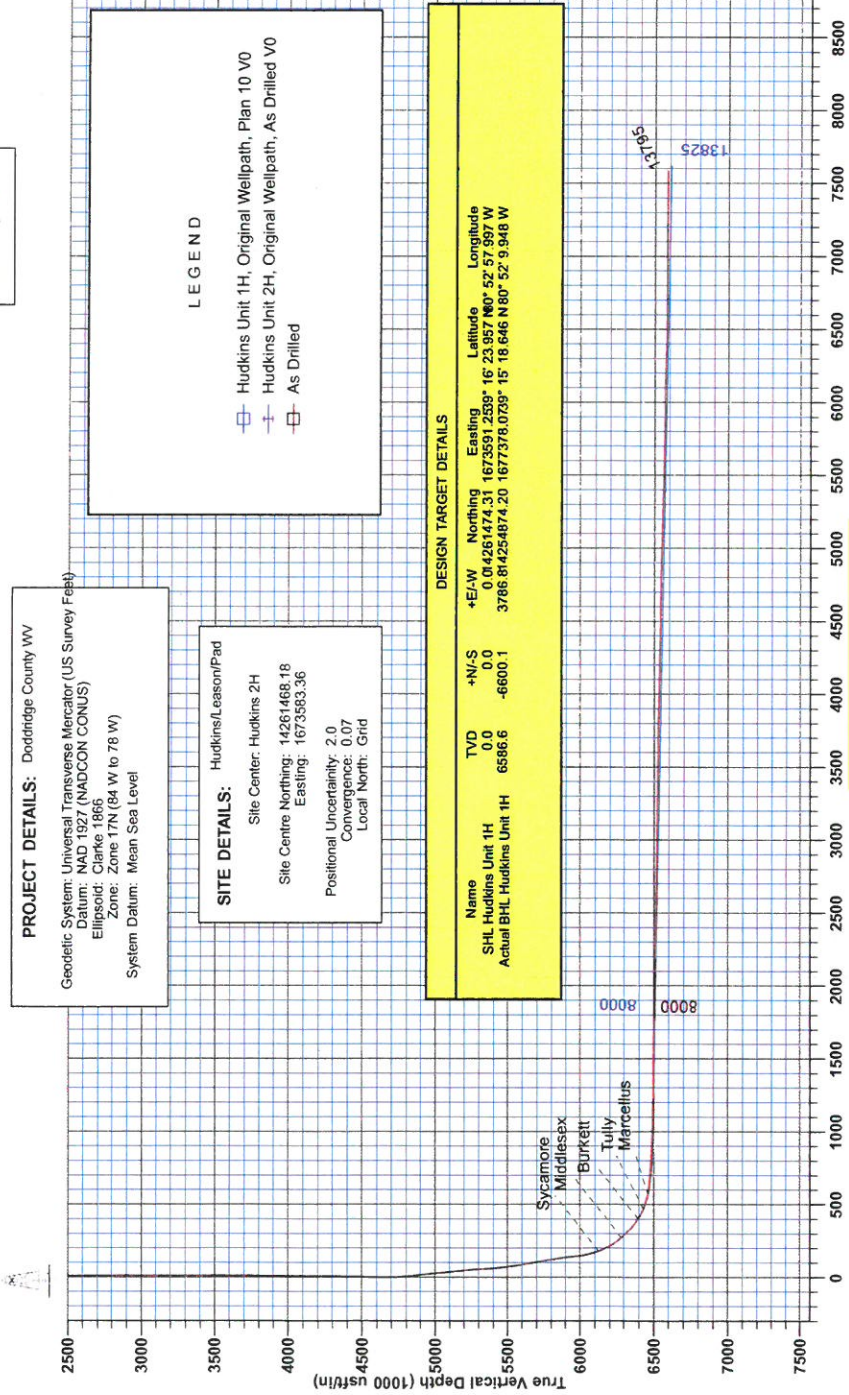
PROJECT DETAILS: Doddridge County WV
Geodetic System: Universal Transverse Mercator (US Survey Feet)
Datum: NAD 1927 (NADCON CONUS)
Ellipsoid: Clarke 1866
Zone: Zone 17N (84 W to 78 W)
System Datum: Mean Sea Level

SITE DETAILS: Hudkins/Leason/Pad
Site Center: Hudkins 2H
Site Centre Northing: 14261468.18
Easting: 1673593.36
Positional Uncertainty: 2.0
Convergence: 0.07
Local North: Grid

LEGEND
- - - Hudkins Unit 1H, Original Wellpath, Plan 10 V0
- - - Hudkins Unit 2H, Original Wellpath, As Drilled V0
- - - As Drilled

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
SHL Hudkins Unit 1H	0.0	0.0	0.0	14261474.31	1673591.2539	16° 23' 957.160"	52° 57' 997.7 W
Actual BHL Hudkins Unit 1H	6586.6	-6600.1	3786.8	814254874.20	1677378.0739	15° 18' 646.800"	52° 9' 348.8 W





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Antero Resources

**Doddridge County WV
Hudkins/Leason/Pad
Hudkins Unit 1H
Original Wellpath**

Design: As Drilled

EOW Completion Report

25 November, 2014



AUG 03 2015

Company:	Antero Resources	Local Co-ordinate Reference:	Well Hudkins Unit 1H
Project:	Doddridge County WV	TVD Reference:	P523: 1055 GL + 19 KB @ 1074.0usft
Site:	Hudkins/Leason/Pad	MD Reference:	P523: 1055 GL + 19 KB @ 1074.0usft
Well:	Hudkins Unit 1H	North Reference:	Grid
Wellbore:	Original Wellpath	Survey Calculation Method:	Minimum Curvature
Design:	As Drilled	Database:	Oklahoma District

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

Site	Hudkins/Leason/Pad				
Site Position:		Northing:	14,261,468.18 usft	Latitude:	39° 16' 23.897 N
From:	Map	Easting:	1,673,583.36 usft	Longitude:	80° 52' 58.098 W
Position Uncertainty:	2.0 usft	Slot Radius:	13-3/16"	Grid Convergence:	0.07 °

Well	Hudkins Unit 1H, Marcellus					
Well Position	+N/-S	0.0 usft	Northing:	14,261,474.32 usft	Latitude:	39° 16' 23.957 N
	+E/-W	0.0 usft	Easting:	1,673,591.25 usft	Longitude:	80° 52' 57.997 W
Position Uncertainty	2.0 usft		Wellhead Elevation:	1,074.0 usft	Ground Level:	1,055.0 usft

Wellbore	Original Wellpath				
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Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	BGGM2014	8/22/2014	-8.41	66.86	52,239

Design	As Drilled				
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Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	0.0

Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.0	0.0	0.0	154.54

Survey Program	Date 11/11/2014				
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
25.0	5,900.1	Survey #8 Def Gyro to KOP Rerun (Origin:	SDI Standard Keeper	Scientific Drilling Intl. Standard Wireline Keeper	
5,900.1	13,795.0	Survey #9 SDI MWD (Original Wellpath)	SDI MWD	Scientific Drilling Intl. 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
25.0	0.13	36.59	25.0	0.0	0.0	0.0	0.52
50.0	0.27	36.59	50.0	0.1	0.1	-0.1	0.56
75.0	0.40	36.59	75.0	0.2	0.2	-0.1	0.52
100.0	0.54	36.59	100.0	0.4	0.3	-0.2	0.56
125.0	0.58	35.86	125.0	0.6	0.4	-0.3	0.16
150.0	0.58	33.21	150.0	0.8	0.6	-0.5	0.11
175.0	0.55	29.30	175.0	1.0	0.7	-0.6	0.20
200.0	0.50	27.14	200.0	1.2	0.8	-0.7	0.22
225.0	0.32	11.79	225.0	1.4	0.9	-0.9	0.84
250.0	0.33	9.52	250.0	1.5	0.9	-1.0	0.07

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EOW Completion Report



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Site:	Hudkins/Leason/Pad	MD Reference:	P523: 1055 GL + 19 KB @ 1074.0usft
Well:	Hudkins Unit 1H	North Reference:	Grid
Wellbore:	Original Wellpath	Survey Calculation Method:	Minimum Curvature
Design:	As Drilled	Database:	Oklahoma District

Survey

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)
275.0	0.36	22.12	275.0	1.6	0.9	-1.1	0.33
300.0	0.41	31.12	300.0	1.8	1.0	-1.2	0.31
325.0	0.23	46.60	325.0	1.9	1.1	-1.2	0.79
350.0	0.28	44.06	350.0	2.0	1.2	-1.3	0.20
375.0	0.26	50.08	375.0	2.1	1.3	-1.3	0.14
400.0	0.18	33.19	400.0	2.1	1.3	-1.4	0.41
425.0	0.13	23.98	425.0	2.2	1.4	-1.4	0.22
450.0	0.18	27.86	450.0	2.2	1.4	-1.4	0.20
475.0	0.20	30.44	475.0	2.3	1.4	-1.5	0.09
500.0	0.08	359.61	500.0	2.4	1.4	-1.5	0.55
525.0	0.17	21.33	525.0	2.4	1.5	-1.6	0.40
550.0	0.18	40.21	550.0	2.5	1.5	-1.6	0.23
575.0	0.17	35.47	575.0	2.6	1.5	-1.6	0.07
600.0	0.12	37.73	600.0	2.6	1.6	-1.7	0.20
625.0	0.09	2.59	625.0	2.6	1.6	-1.7	0.28
650.0	0.09	354.53	650.0	2.7	1.6	-1.7	0.05
675.0	0.09	340.49	675.0	2.7	1.6	-1.8	0.09
700.0	0.14	356.45	700.0	2.8	1.6	-1.8	0.24
725.0	0.09	290.91	725.0	2.8	1.6	-1.9	0.53
750.0	0.10	330.07	750.0	2.8	1.5	-1.9	0.26
775.0	0.08	342.11	775.0	2.9	1.5	-1.9	0.11
800.0	0.12	301.76	800.0	2.9	1.5	-2.0	0.31
825.0	0.16	307.90	825.0	2.9	1.4	-2.0	0.17
850.0	0.15	325.97	850.0	3.0	1.4	-2.1	0.20
875.0	0.21	344.28	875.0	3.1	1.4	-2.2	0.33
900.0	0.25	336.98	900.0	3.1	1.3	-2.3	0.20
925.0	0.30	333.64	925.0	3.3	1.3	-2.4	0.21
950.0	0.30	338.89	950.0	3.4	1.2	-2.5	0.11
975.0	0.33	336.59	975.0	3.5	1.2	-2.7	0.13
1,000.0	0.35	344.81	1,000.0	3.6	1.1	-2.8	0.21
1,025.0	0.38	328.45	1,025.0	3.8	1.1	-3.0	0.43
1,050.0	0.41	338.00	1,050.0	3.9	1.0	-3.1	0.29
1,075.0	0.44	329.95	1,075.0	4.1	0.9	-3.3	0.27
1,100.0	0.44	333.94	1,100.0	4.3	0.8	-3.5	0.12
1,125.0	0.46	327.74	1,125.0	4.4	0.7	-3.7	0.21
1,150.0	0.44	330.32	1,150.0	4.6	0.6	-3.9	0.11
1,175.0	0.52	326.47	1,175.0	4.8	0.5	-4.1	0.34
1,200.0	0.52	322.99	1,200.0	5.0	0.4	-4.3	0.13
1,225.0	0.55	322.73	1,225.0	5.2	0.2	-4.6	0.12
1,250.0	0.62	326.11	1,250.0	5.4	0.1	-4.8	0.31
1,275.0	0.57	310.23	1,275.0	5.6	-0.1	-5.1	0.69
1,300.0	0.59	320.23	1,300.0	5.7	-0.3	-5.3	0.41
1,325.0	0.53	311.94	1,325.0	5.9	-0.4	-5.5	0.40
1,350.0	0.59	319.05	1,350.0	6.1	-0.6	-5.8	0.37

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EOW Completion Report



Company:	Antero Resources	Local Co-ordinate Reference:	Well Hudkins Unit 1H
Project:	Doddridge County WV	TVD Reference:	P523: 1055 GL + 19 KB @ 1074.0usft
Site:	Hudkins/Leason/Pad	MD Reference:	P523: 1055 GL + 19 KB @ 1074.0usft
Well:	Hudkins Unit 1H	North Reference:	Grid
Wellbore:	Original Wellpath	Survey Calculation Method:	Minimum Curvature
Design:	As Drilled	Database:	Oklahoma District

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)
1,375.0	0.64	311.92	1,375.0	6.3	-0.8	-6.0	0.37
1,400.0	0.62	312.83	1,400.0	6.5	-1.0	-6.3	0.09
1,425.0	0.60	309.83	1,425.0	6.6	-1.2	-6.5	0.15
1,450.0	0.61	318.68	1,450.0	6.8	-1.4	-6.8	0.38
1,475.0	0.50	321.86	1,475.0	7.0	-1.5	-7.0	0.46
1,500.0	0.61	321.26	1,500.0	7.2	-1.7	-7.2	0.44
1,525.0	0.60	326.40	1,525.0	7.4	-1.8	-7.5	0.22
1,550.0	0.65	330.49	1,550.0	7.7	-2.0	-7.8	0.27
1,575.0	0.64	323.04	1,575.0	7.9	-2.1	-8.0	0.34
1,600.0	0.67	325.74	1,600.0	8.1	-2.3	-8.3	0.17
1,625.0	0.66	328.09	1,625.0	8.4	-2.5	-8.6	0.12
1,650.0	0.78	316.31	1,650.0	8.6	-2.7	-8.9	0.76
1,675.0	0.76	314.17	1,675.0	8.8	-2.9	-9.2	0.14
1,700.0	0.76	318.71	1,700.0	9.1	-3.1	-9.5	0.24
1,725.0	0.51	322.93	1,725.0	9.3	-3.3	-9.8	1.02
1,750.0	0.80	69.35	1,749.9	9.5	-3.2	-9.9	4.25
1,775.0	1.41	82.36	1,774.9	9.6	-2.7	-9.8	2.62
1,800.0	2.59	92.18	1,799.9	9.6	-1.9	-9.4	4.90
1,825.0	3.20	91.92	1,824.9	9.5	-0.6	-8.9	2.44
1,850.0	4.25	91.84	1,849.8	9.5	1.0	-8.1	4.20
1,875.0	4.38	92.05	1,874.8	9.4	2.9	-7.2	0.52
1,900.0	4.51	93.04	1,899.7	9.3	4.8	-6.3	0.60
1,925.0	4.42	101.02	1,924.6	9.1	6.8	-5.3	2.51
1,950.0	4.35	110.87	1,949.5	8.6	8.6	-4.0	3.02
1,975.0	4.27	122.55	1,974.5	7.7	10.3	-2.6	3.52
2,000.0	4.26	126.28	1,999.4	6.7	11.8	-1.0	1.11
2,025.0	4.29	126.51	2,024.3	5.6	13.3	0.7	0.14
2,050.0	4.41	124.68	2,049.3	4.5	14.8	2.3	0.73
2,075.0	4.35	123.84	2,074.2	3.4	16.4	4.0	0.35
2,100.0	4.04	122.86	2,099.1	2.4	17.9	5.6	1.27
2,125.0	3.36	116.15	2,124.1	1.6	19.3	6.9	3.22
2,150.0	2.09	91.41	2,149.0	1.3	20.5	7.7	6.81
2,175.0	1.70	59.77	2,174.0	1.4	21.2	7.8	4.40
2,200.0	1.82	33.86	2,199.0	1.9	21.8	7.6	3.19
2,225.0	1.98	29.22	2,224.0	2.7	22.2	7.2	0.89
2,250.0	2.07	30.50	2,249.0	3.4	22.6	6.7	0.40
2,275.0	2.07	33.53	2,274.0	4.2	23.1	6.2	0.44
2,300.0	1.96	43.81	2,299.0	4.9	23.7	5.8	1.51
2,325.0	1.89	55.91	2,323.9	5.4	24.3	5.6	1.65
2,350.0	1.82	64.05	2,348.9	5.8	25.0	5.5	1.09
2,375.0	1.57	72.90	2,373.9	6.1	25.7	5.5	1.45
2,400.0	1.44	83.25	2,398.9	6.2	26.3	5.7	1.20
2,425.0	1.13	133.94	2,423.9	6.1	26.8	6.0	4.54
2,450.0	1.32	145.72	2,448.9	5.7	27.2	6.5	1.26
2,475.0	1.28	145.90	2,473.9	5.2	27.5	7.1	0.16

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WV GEOLOGICAL SURVEY EOW Completion Report
MORGANTOWN, WV



Company:	Antero Resources	Local Co-ordinate Reference:	Well Hudkins Unit 1H
Project:	Doddridge County WV	TVD Reference:	P523: 1055 GL + 19 KB @ 1074.0usft
Site:	Hudkins/Leason/Pad	MD Reference:	P523: 1055 GL + 19 KB @ 1074.0usft
Well:	Hudkins Unit 1H	North Reference:	Grid
Wellbore:	Original Wellpath	Survey Calculation Method:	Minimum Curvature
Design:	As Drilled	Database:	Oklahoma District

Survey

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)
2,500.0	1.26	145.91	2,498.9	4.8	27.8	7.7	0.08
2,525.0	1.25	148.54	2,523.9	4.3	28.1	8.2	0.23
2,550.0	1.12	147.95	2,548.9	3.9	28.4	8.7	0.52
2,575.0	0.86	150.63	2,573.9	3.5	28.6	9.1	1.06
2,600.0	0.79	153.00	2,598.9	3.2	28.8	9.5	0.31
2,625.0	0.79	164.73	2,623.9	2.8	28.9	9.8	0.65
2,650.0	0.86	158.89	2,648.9	2.5	29.0	10.2	0.44
2,675.0	0.81	161.31	2,673.9	2.2	29.1	10.6	0.24
2,700.0	0.75	156.75	2,698.9	1.8	29.2	10.9	0.35
2,725.0	0.65	158.74	2,723.9	1.6	29.3	11.2	0.41
2,750.0	0.51	172.31	2,748.9	1.3	29.4	11.5	0.78
2,775.0	0.42	171.75	2,773.9	1.1	29.4	11.6	0.36
2,800.0	0.41	182.62	2,798.9	0.9	29.5	11.8	0.32
2,825.0	0.29	198.58	2,823.9	0.8	29.4	11.9	0.61
2,850.0	0.31	210.26	2,848.9	0.7	29.4	12.0	0.26
2,875.0	0.36	215.93	2,873.9	0.5	29.3	12.1	0.24
2,900.0	0.35	212.49	2,898.9	0.4	29.2	12.2	0.09
2,925.0	0.38	216.20	2,923.9	0.3	29.1	12.3	0.15
2,950.0	0.36	211.55	2,948.9	0.2	29.0	12.3	0.14
2,975.0	0.31	214.68	2,973.9	0.0	28.9	12.4	0.21
3,000.0	0.38	224.17	2,998.9	-0.1	28.9	12.5	0.36
3,025.0	0.37	227.06	3,023.9	-0.2	28.7	12.5	0.09
3,050.0	0.18	250.91	3,048.9	-0.3	28.6	12.5	0.87
3,075.0	0.45	246.29	3,073.9	-0.3	28.5	12.5	1.08
3,100.0	0.47	244.04	3,098.9	-0.4	28.3	12.5	0.11
3,125.0	0.48	253.83	3,123.9	-0.5	28.1	12.5	0.33
3,150.0	0.43	263.86	3,148.9	-0.5	27.9	12.5	0.38
3,175.0	0.44	267.61	3,173.9	-0.5	27.8	12.4	0.12
3,200.0	0.37	272.62	3,198.9	-0.5	27.6	12.3	0.31
3,225.0	0.39	265.03	3,223.9	-0.5	27.4	12.3	0.22
3,250.0	0.34	282.80	3,248.9	-0.5	27.3	12.2	0.49
3,275.0	0.27	286.44	3,273.9	-0.5	27.1	12.1	0.29
3,300.0	0.39	289.71	3,298.8	-0.4	27.0	12.0	0.49
3,325.0	0.30	286.14	3,323.8	-0.4	26.8	11.9	0.37
3,350.0	0.30	293.63	3,348.8	-0.4	26.7	11.8	0.16
3,375.0	0.31	293.53	3,373.8	-0.3	26.6	11.7	0.04
3,400.0	0.41	291.34	3,398.8	-0.2	26.5	11.6	0.40
3,425.0	0.40	297.86	3,423.8	-0.2	26.3	11.5	0.19
3,450.0	0.45	293.56	3,448.8	-0.1	26.1	11.3	0.24
3,475.0	0.48	289.96	3,473.8	0.0	25.9	11.2	0.17
3,500.0	0.42	298.42	3,498.8	0.1	25.8	11.0	0.36
3,525.0	0.44	294.14	3,523.8	0.1	25.6	10.9	0.15
3,550.0	0.40	283.67	3,548.8	0.2	25.4	10.7	0.35
3,575.0	0.42	277.10	3,573.8	0.2	25.2	10.6	0.20

AUG 03 2015



EOW Completion Report



Company:	Antero Resources	Local Co-ordinate Reference:	Well Hudkins Unit 1H
Project:	Doddridge County WV	TVD Reference:	P523: 1055 GL + 19 KB @ 1074.0usft
Site:	Hudkins/Leason/Pad	MD Reference:	P523: 1055 GL + 19 KB @ 1074.0usft
Well:	Hudkins Unit 1H	North Reference:	Grid
Wellbore:	Original Wellpath	Survey Calculation Method:	Minimum Curvature
Design:	As Drilled	Database:	Oklahoma District

Survey

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)
3,600.0	0.33	278.26	3,598.8	0.3	25.1	10.5	0.36
3,625.0	0.24	286.56	3,623.8	0.3	25.0	10.5	0.40
3,650.0	0.26	304.30	3,648.8	0.3	24.9	10.4	0.32
3,675.0	0.32	290.09	3,673.8	0.4	24.8	10.3	0.37
3,700.0	0.29	295.39	3,698.8	0.4	24.6	10.2	0.16
3,725.0	0.37	288.16	3,723.8	0.5	24.5	10.1	0.36
3,750.0	0.42	298.30	3,748.8	0.6	24.3	10.0	0.34
3,775.0	0.42	283.71	3,773.8	0.6	24.2	9.8	0.43
3,800.0	0.43	279.01	3,798.8	0.7	24.0	9.7	0.15
3,825.0	0.46	275.89	3,823.8	0.7	23.8	9.6	0.15
3,850.0	0.31	275.70	3,848.8	0.7	23.6	9.5	0.60
3,875.0	0.27	285.02	3,873.8	0.7	23.5	9.4	0.25
3,900.0	0.35	297.89	3,898.8	0.8	23.4	9.3	0.42
3,925.0	0.34	322.87	3,923.8	0.9	23.3	9.2	0.60
3,950.0	0.31	318.03	3,948.8	1.0	23.2	9.1	0.16
3,975.0	0.50	316.53	3,973.8	1.1	23.1	8.9	0.76
4,000.0	0.53	316.95	3,998.8	1.3	22.9	8.7	0.12
4,025.0	0.52	319.38	4,023.8	1.4	22.7	8.5	0.10
4,050.0	0.42	316.75	4,048.8	1.6	22.6	8.3	0.41
4,075.0	0.59	318.00	4,073.8	1.8	22.5	8.1	0.68
4,100.0	0.35	326.14	4,098.8	1.9	22.3	7.9	0.99
4,125.0	0.43	313.28	4,123.8	2.0	22.2	7.7	0.47
4,150.0	0.43	317.29	4,148.8	2.2	22.1	7.5	0.12
4,175.0	0.47	330.88	4,173.8	2.3	22.0	7.3	0.45
4,200.0	0.56	324.82	4,198.8	2.5	21.9	7.1	0.42
4,225.0	0.52	323.36	4,223.8	2.7	21.7	6.9	0.17
4,250.0	0.70	326.74	4,248.8	2.9	21.6	6.6	0.73
4,275.0	0.74	317.64	4,273.8	3.2	21.4	6.3	0.48
4,300.0	0.83	319.15	4,298.8	3.4	21.1	6.0	0.37
4,325.0	0.87	313.33	4,323.8	3.7	20.9	5.6	0.38
4,350.0	0.88	313.29	4,348.8	4.0	20.6	5.3	0.04
4,375.0	0.93	311.02	4,373.8	4.2	20.3	4.9	0.25
4,400.0	0.84	304.34	4,398.8	4.5	20.0	4.6	0.55
4,425.0	0.91	309.75	4,423.8	4.7	19.7	4.2	0.43
4,450.0	0.86	312.93	4,448.8	5.0	19.4	3.9	0.28
4,475.0	0.96	315.73	4,473.8	5.2	19.1	3.5	0.44
4,500.0	1.05	313.88	4,498.8	5.5	18.8	3.1	0.38
4,525.0	1.09	310.18	4,523.8	5.9	18.5	2.7	0.32
4,550.0	1.17	310.73	4,548.8	6.2	18.1	2.2	0.32
4,575.0	1.04	308.37	4,573.8	6.5	17.7	1.8	0.55
4,600.0	1.26	311.43	4,598.8	6.8	17.4	1.3	0.91
4,625.0	1.23	301.54	4,623.8	7.1	16.9	0.8	0.87
4,650.0	1.21	303.26	4,648.8	7.4	16.5	0.4	0.17
4,675.0	1.09	300.05	4,673.8	7.7	16.0	0.0	0.54

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WV GEOLOGICAL SURVEY EOW Completion Report
ORGANTOWN, WV



Company:	Antero Resources	Local Co-ordinate Reference:	Well Hudkins Unit 1H
Project:	Doddridge County WV	TVD Reference:	P523: 1055 GL + 19 KB @ 1074.0usft
Site:	Hudkins/Leason/Pad	MD Reference:	P523: 1055 GL + 19 KB @ 1074.0usft
Well:	Hudkins Unit 1H	North Reference:	Grid
Wellbore:	Original Wellpath	Survey Calculation Method:	Minimum Curvature
Design:	As Drilled	Database:	Oklahoma District

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)
4,700.0	0.63	245.52	4,698.8	7.7	15.7	-0.2	3.55
4,725.0	1.25	175.24	4,723.8	7.4	15.6	0.0	4.78
4,750.0	2.29	150.71	4,748.7	6.7	15.9	0.8	5.06
4,775.0	3.56	136.91	4,773.7	5.7	16.6	2.0	5.77
4,800.0	4.69	129.81	4,798.6	4.5	18.0	3.7	4.95
4,825.0	5.96	123.14	4,823.5	3.1	19.8	5.7	5.64
4,850.0	7.29	117.85	4,848.4	1.7	22.3	8.1	5.85
4,875.0	8.35	113.11	4,873.1	0.2	25.4	10.7	4.96
4,900.0	10.01	107.22	4,897.8	-1.1	29.1	13.6	7.62
4,925.0	11.43	103.52	4,922.4	-2.4	33.6	16.6	6.31
4,950.0	12.67	98.50	4,946.8	-3.3	38.7	19.7	6.49
4,975.0	13.76	93.17	4,971.2	-3.9	44.4	22.6	6.54
5,000.0	14.76	88.45	4,995.4	-4.0	50.6	25.4	6.13
5,025.0	15.42	83.71	5,019.5	-3.5	57.1	27.7	5.60
5,050.0	16.22	80.97	5,043.6	-2.6	63.8	29.8	4.38
5,075.0	16.80	82.17	5,067.6	-1.6	70.8	31.9	2.69
5,100.0	17.49	82.55	5,091.4	-0.6	78.2	34.2	2.80
5,125.0	18.61	82.43	5,115.2	0.4	85.8	36.5	4.48
5,150.0	20.03	81.62	5,138.8	1.5	94.0	39.0	5.78
5,175.0	21.04	80.86	5,162.2	2.9	102.7	41.5	4.18
5,200.0	21.93	80.02	5,185.5	4.4	111.7	44.0	3.77
5,225.0	22.75	78.65	5,208.6	6.2	121.1	46.5	3.89
5,250.0	22.98	77.14	5,231.6	8.2	130.6	48.7	2.52
5,275.0	23.22	76.01	5,254.6	10.5	140.1	50.8	2.02
5,300.0	22.83	74.64	5,277.6	13.0	149.5	52.6	2.65
5,325.0	22.66	73.19	5,300.7	15.6	158.8	54.2	2.34
5,350.0	22.15	71.83	5,323.8	18.5	167.9	55.5	2.91
5,375.0	22.15	72.48	5,347.0	21.4	176.9	56.7	0.98
5,400.0	22.03	74.35	5,370.1	24.1	185.9	58.2	2.85
5,425.0	21.99	76.64	5,393.3	26.4	195.0	60.0	3.44
5,450.0	22.25	78.33	5,416.5	28.5	204.2	62.1	2.75
5,475.0	22.42	79.51	5,439.6	30.3	213.5	64.4	1.92
5,500.0	22.68	79.75	5,462.7	32.0	222.9	66.9	1.10
5,525.0	22.31	80.07	5,485.8	33.7	232.3	69.5	1.56
5,550.0	22.39	80.91	5,508.9	35.3	241.7	72.1	1.32
5,575.0	22.31	82.33	5,532.0	36.6	251.1	74.9	2.18
5,600.0	22.64	83.85	5,555.1	37.8	260.6	77.9	2.67
5,625.0	22.79	85.50	5,578.2	38.7	270.2	81.2	2.62
5,650.0	22.98	87.06	5,601.2	39.3	279.9	84.8	2.54
5,675.0	23.27	88.44	5,624.2	39.7	289.7	88.7	2.46
5,700.0	23.48	89.44	5,647.2	39.9	299.6	92.8	1.80
5,725.0	23.82	89.65	5,670.1	40.0	309.7	97.0	1.40
5,750.0	23.56	89.08	5,693.0	40.1	319.7	101.3	1.39
5,775.0	24.19	88.42	5,715.8	40.3	329.8	105.4	2.74

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WV GEOLOGICAL SURVEY
MORGANTOWN, WV

EOW Completion Report



Company:	Antero Resources	Local Co-ordinate Reference:	Well Hudkins Unit 1H
Project:	Doddridge County WV	TVD Reference:	P523: 1055 GL + 19 KB @ 1074.0usft
Site:	Hudkins/Leason/Pad	MD Reference:	P523: 1055 GL + 19 KB @ 1074.0usft
Well:	Hudkins Unit 1H	North Reference:	Grid
Wellbore:	Original Wellpath	Survey Calculation Method:	Minimum Curvature
Design:	As Drilled	Database:	Oklahoma District

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)
5,800.0	23.82	87.67	5,738.7	40.6	340.0	109.5	1.92
5,825.0	23.62	86.84	5,761.5	41.1	350.0	113.3	1.56
5,850.0	23.23	86.09	5,784.5	41.7	360.0	117.1	1.96
5,875.0	23.40	85.82	5,807.4	42.4	369.8	120.7	0.80
5,900.1	23.57	85.57	5,830.4	43.2	379.8	124.3	0.79
5,973.0	23.14	83.00	5,897.4	46.1	408.6	134.0	1.52
6,016.0	22.84	80.64	5,937.0	48.4	425.2	139.0	2.25
6,046.0	22.60	80.39	5,964.6	50.3	436.6	142.2	0.86
6,076.0	23.11	82.03	5,992.3	52.1	448.1	145.6	2.72
6,106.0	23.51	88.54	6,019.9	53.1	459.9	149.8	8.69
6,136.0	24.06	93.58	6,047.3	52.9	472.0	155.2	7.02
6,166.0	25.74	102.35	6,074.5	51.1	484.5	162.1	13.51
6,196.0	27.27	108.29	6,101.4	47.5	497.4	170.9	10.20
6,223.0	27.54	113.06	6,125.3	43.2	509.0	179.8	8.18
Sycamore							
6,226.0	27.58	113.58	6,128.0	42.6	510.3	180.9	8.18
6,256.0	27.28	115.10	6,154.6	36.9	522.9	191.4	2.54
6,285.0	29.84	117.73	6,180.1	30.7	535.3	202.4	9.83
6,315.0	32.32	123.53	6,205.8	22.8	548.6	215.2	12.95
6,345.0	35.90	126.79	6,230.6	13.1	562.3	229.9	13.40
6,375.0	38.76	129.85	6,254.5	1.8	576.6	246.2	11.36
6,405.0	42.15	132.62	6,277.3	-11.0	591.2	264.1	12.79
6,414.0	43.00	133.37	6,283.9	-15.2	595.6	269.7	11.01
Middlesex							
6,435.0	45.00	135.04	6,299.1	-25.3	606.1	283.4	11.01
6,464.0	47.15	137.65	6,319.2	-40.4	620.5	303.3	9.85
6,495.0	49.55	141.19	6,339.8	-58.0	635.6	325.6	11.52
6,525.0	51.88	143.66	6,358.8	-76.4	649.7	348.3	10.05
6,555.0	54.17	144.63	6,376.8	-95.9	663.7	371.9	8.06
6,585.0	56.92	146.13	6,393.8	-116.2	677.8	396.3	10.05
6,592.0	57.72	146.37	6,397.6	-121.1	681.1	402.1	11.78
Burkett							
6,615.0	60.35	147.12	6,409.4	-137.6	691.9	421.7	11.78
6,644.0	63.58	148.05	6,423.0	-159.2	705.6	447.1	11.49
6,666.0	66.37	148.45	6,432.3	-176.2	716.1	466.9	12.77
Tully							
6,674.0	67.38	148.59	6,435.5	-182.4	719.9	474.2	12.77
6,704.0	71.24	149.09	6,446.1	-206.5	734.4	502.1	12.96
6,734.0	75.16	149.49	6,454.7	-231.1	749.1	530.7	13.13
6,764.0	78.37	150.79	6,461.6	-256.5	763.6	559.8	11.50
6,771.0	78.91	150.90	6,463.0	-262.5	767.0	566.7	7.85
Marcellus							
6,790.0	80.37	151.21	6,466.4	-278.8	776.0	585.3	7.85
6,824.0	82.66	151.74	6,471.4	-308.4	792.1	618.9	6.91
6,854.0	84.43	152.61	6,474.8	-334.7	806.0	648.7	6.57

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EOW Completion Report



Company:	Antero Resources	Local Co-ordinate Reference:	Well Hudkins Unit 1H
Project:	Doddridge County WV	TVD Reference:	P523: 1055 GL + 19 KB @ 1074.0usft
Site:	Hudkins/Leason/Pad	MD Reference:	P523: 1055 GL + 19 KB @ 1074.0usft
Well:	Hudkins Unit 1H	North Reference:	Grid
Wellbore:	Original Wellpath	Survey Calculation Method:	Minimum Curvature
Design:	As Drilled	Database:	Oklahoma District

Survey

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)
6,884.0	86.05	152.76	6,477.3	-361.3	819.7	678.6	5.42
6,914.0	86.93	153.05	6,479.1	-387.9	833.3	708.5	3.09
6,944.0	86.93	153.22	6,480.7	-414.7	846.9	738.5	0.57
6,974.0	87.01	152.75	6,482.3	-441.4	860.5	768.4	1.59
7,004.0	87.03	152.18	6,483.9	-467.9	874.3	798.3	1.90
7,034.0	87.05	151.56	6,485.4	-494.3	888.5	828.3	2.06
7,062.0	87.07	151.74	6,486.9	-519.0	901.7	856.2	0.65
7,093.0	87.31	152.66	6,488.4	-546.3	916.2	887.1	3.06
7,152.0	88.49	154.65	6,490.5	-599.2	942.3	946.1	3.92
7,242.0	88.05	153.50	6,493.3	-680.1	981.7	1,036.0	1.37
7,331.0	88.89	154.59	6,495.6	-760.1	1,020.6	1,125.0	1.55
7,421.0	88.70	153.65	6,497.5	-841.0	1,059.9	1,215.0	1.07
7,511.0	89.60	157.03	6,498.9	-922.8	1,097.4	1,304.9	3.89
7,600.0	89.73	156.75	6,499.4	-1,004.7	1,132.4	1,393.9	0.35
7,690.0	89.70	156.49	6,499.8	-1,087.3	1,168.1	1,483.8	0.29
7,785.0	89.80	156.96	6,500.2	-1,174.5	1,205.6	1,578.7	0.51
7,880.0	88.66	154.54	6,501.5	-1,261.1	1,244.6	1,673.7	2.82
7,975.0	89.57	155.46	6,503.0	-1,347.2	1,284.8	1,768.7	1.36
8,069.0	89.36	155.80	6,503.9	-1,432.8	1,323.6	1,862.7	0.43
8,164.0	89.20	154.97	6,505.1	-1,519.2	1,363.1	1,957.6	0.89
8,259.0	89.03	154.85	6,506.5	-1,605.2	1,403.4	2,052.6	0.22
8,354.0	89.06	154.94	6,508.1	-1,691.2	1,443.7	2,147.6	0.10
8,449.0	88.20	152.36	6,510.4	-1,776.3	1,485.8	2,242.6	2.86
8,543.0	89.46	153.55	6,512.3	-1,860.0	1,528.6	2,336.5	1.84
8,639.0	88.72	151.74	6,513.8	-1,945.3	1,572.7	2,432.4	2.04
8,734.0	89.53	154.13	6,515.3	-2,029.9	1,615.9	2,527.4	2.66
8,823.0	89.03	155.12	6,516.4	-2,110.3	1,654.0	2,616.4	1.25
8,913.0	89.00	154.58	6,517.9	-2,191.7	1,692.3	2,706.4	0.60
9,002.0	89.60	154.92	6,519.0	-2,272.2	1,730.2	2,795.4	0.77
9,092.0	89.13	154.37	6,520.0	-2,353.5	1,768.8	2,885.3	0.80
9,181.0	88.72	154.73	6,521.7	-2,433.9	1,807.0	2,974.3	0.61
9,271.0	89.03	155.51	6,523.5	-2,515.5	1,844.9	3,064.3	0.93
9,360.0	89.63	155.86	6,524.5	-2,596.6	1,881.5	3,153.3	0.78
9,450.0	89.19	155.26	6,525.4	-2,678.6	1,918.8	3,243.3	0.83
9,540.0	89.36	154.95	6,526.6	-2,760.2	1,956.6	3,333.2	0.39
9,629.0	89.43	154.56	6,527.5	-2,840.7	1,994.6	3,422.2	0.45
9,719.0	89.23	154.22	6,528.6	-2,921.8	2,033.5	3,512.2	0.44
9,807.0	89.03	154.30	6,529.9	-3,001.1	2,071.7	3,600.2	0.24
9,897.0	90.30	156.16	6,530.4	-3,082.8	2,109.4	3,690.2	2.50
9,987.0	90.57	156.12	6,529.7	-3,165.1	2,145.8	3,780.2	0.30
10,076.0	87.22	154.81	6,531.5	-3,246.0	2,182.8	3,869.1	4.04
10,166.0	89.16	154.54	6,534.3	-3,327.4	2,221.2	3,959.1	2.18
10,255.0	89.80	154.84	6,535.1	-3,407.8	2,259.3	4,048.1	0.79
10,345.0	88.69	154.11	6,536.3	-3,489.0	2,298.1	4,138.1	1.48

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EOW Completion Report



WV GEOLOGICAL SURVEY MORGANTOWN, WV

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

Local Co-ordinate Reference: Well Hudkins Unit 1H
TVD Reference: P523: 1055 GL + 19 KB @ 1074.0usft
MD Reference: P523: 1055 GL + 19 KB @ 1074.0usft
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)
10,434.0	88.52	154.70	6,538.5	-3,569.3	2,336.5	4,227.0	0.69
10,524.0	88.79	154.78	6,540.6	-3,650.6	2,374.9	4,317.0	0.31
10,613.0	88.52	154.08	6,542.7	-3,730.9	2,413.3	4,406.0	0.84
10,703.0	88.45	154.56	6,545.0	-3,812.0	2,452.3	4,496.0	0.54
10,793.0	90.10	154.40	6,546.2	-3,893.2	2,491.0	4,585.9	1.84
10,882.0	90.47	154.07	6,545.7	-3,973.3	2,529.7	4,674.9	0.56
10,972.0	89.36	152.67	6,545.9	-4,053.8	2,570.1	4,764.9	1.99
11,061.0	88.83	156.01	6,547.3	-4,134.0	2,608.6	4,853.9	3.80
11,151.0	88.42	155.29	6,549.4	-4,215.9	2,645.7	4,943.9	0.92
11,240.0	88.05	155.57	6,552.2	-4,296.9	2,682.7	5,032.8	0.52
11,330.0	88.86	155.32	6,554.6	-4,378.7	2,720.1	5,122.8	0.94
11,419.0	88.79	154.66	6,556.4	-4,459.3	2,757.7	5,211.7	0.75
11,509.0	88.99	154.46	6,558.2	-4,540.6	2,796.3	5,301.7	0.31
11,599.0	87.45	154.56	6,561.0	-4,621.8	2,835.1	5,391.7	1.71
11,688.0	88.52	153.43	6,564.1	-4,701.7	2,874.1	5,480.6	1.75
11,778.0	88.26	152.58	6,566.6	-4,781.9	2,914.9	5,570.5	0.99
11,868.0	88.80	154.10	6,568.9	-4,862.3	2,955.3	5,660.5	1.79
11,957.0	89.80	153.77	6,570.0	-4,942.2	2,994.4	5,749.5	1.18
12,047.0	89.33	153.71	6,570.7	-5,022.9	3,034.2	5,839.5	0.53
12,137.0	89.33	153.12	6,571.8	-5,103.4	3,074.5	5,929.4	0.66
12,227.0	88.96	153.67	6,573.1	-5,183.9	3,114.8	6,019.4	0.74
12,317.0	89.53	155.36	6,574.3	-5,265.1	3,153.5	6,109.4	1.98
12,406.0	89.06	154.55	6,575.4	-5,345.7	3,191.1	6,198.4	1.05
12,496.0	87.11	151.52	6,578.4	-5,425.9	3,231.9	6,288.3	4.00
12,586.0	87.88	154.28	6,582.3	-5,505.9	3,272.9	6,378.2	3.18
12,675.0	89.70	155.03	6,584.2	-5,586.3	3,311.0	6,467.1	2.21
12,765.0	90.10	154.04	6,584.4	-5,667.6	3,349.7	6,557.1	1.19
12,854.0	89.97	155.74	6,584.3	-5,748.2	3,387.4	6,646.1	1.92
12,944.0	89.93	155.55	6,584.4	-5,830.2	3,424.5	6,736.1	0.22
13,033.0	90.10	155.04	6,584.4	-5,911.0	3,461.7	6,825.1	0.60
13,122.0	90.50	155.57	6,583.9	-5,991.9	3,498.9	6,914.1	0.75
13,211.0	90.47	155.67	6,583.1	-6,072.9	3,535.7	7,003.1	0.12
13,301.0	89.60	154.53	6,583.1	-6,154.6	3,573.6	7,093.1	1.59
13,390.0	89.20	154.04	6,584.0	-6,234.7	3,612.2	7,182.1	0.71
13,481.0	89.03	153.70	6,585.4	-6,316.4	3,652.2	7,273.0	0.42
13,571.0	89.70	155.33	6,586.4	-6,397.7	3,691.0	7,363.0	1.96
13,660.0	89.96	155.08	6,586.7	-6,478.5	3,728.3	7,452.0	0.41
13,737.0	90.07	154.00	6,586.7	-6,548.0	3,761.4	7,529.0	1.41
13,795.0	90.07	154.00	6,586.6	-6,600.1	3,786.8	7,587.0	0.00



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

Local Co-ordinate Reference: Well Hudkins Unit 1H
TVD Reference: P523: 1055 GL + 19 KB @ 1074.0usft
MD Reference: P523: 1055 GL + 19 KB @ 1074.0usft
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: Oklahoma District

Design Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
6,223.0	6,125.3	43.2	509.0	Sycamore
6,414.0	6,283.9	-15.2	595.6	Middlesex
6,592.0	6,397.6	-121.1	681.1	Burkett
6,666.0	6,432.3	-176.2	716.1	Tully
6,771.0	6,463.0	-262.5	767.0	Marcellus

Checked By: _____ Approved By: _____ Date: _____

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 MORGANTOWN, WV