

JUL 13 2015

WV GEOLOGICAL SURVEY
MORGANTOWN, WV



Hoskinson Unit 2H
Doddridge County WV
Northing: 14294304.19
Easting: 1719183.71
As Drilled

Frontier 22: 1115' GL + 25' RKB @ 1140' Quant
Gr: 1115.0

WELL DETAILS

Ground Level: 1115.0
Northing: 14294304.19
Easting: 1719183.71
Longitude: 43° 18' 49" W
Latitude: 21° 47' 57" N

PROJECT DETAILS: Doddridge County WV

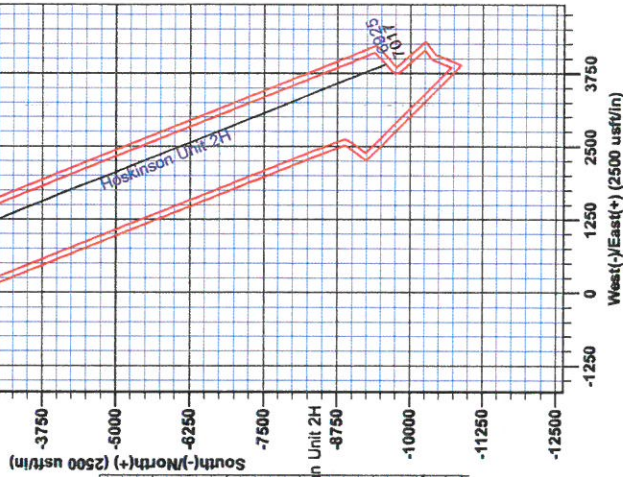
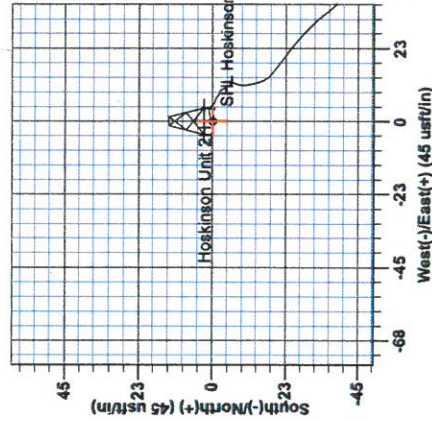
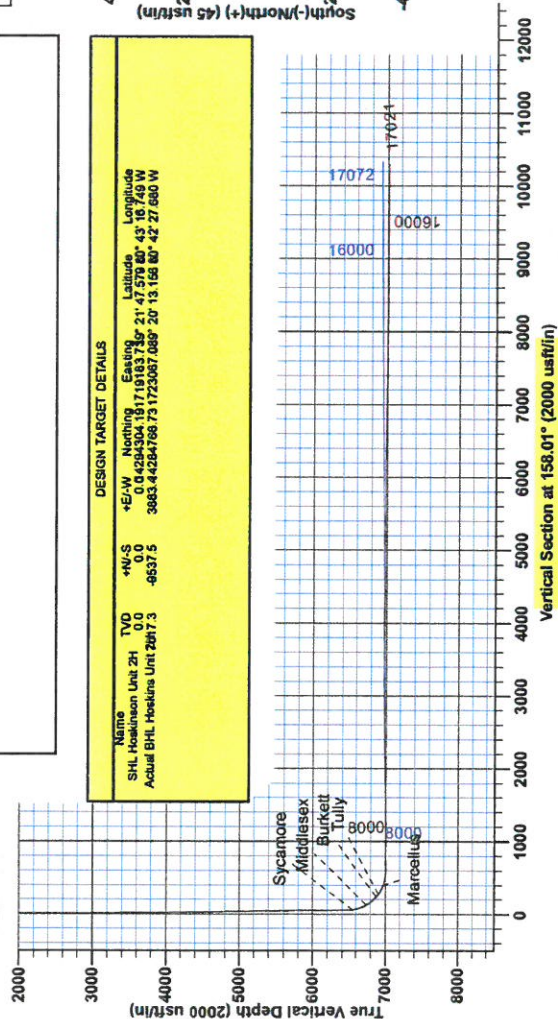
Geodetic System: Universal Transverse Mercator (US Survey Feet)
Datum: NAD 1983 (NADCON CONUS)
Ellipsoid: Clarke 1866
Zone: Zone 17N (84 W to 78 W)
System Datum: Mean Sea Level

LEGEND

- Hoskinson Unit 2H, Original Wellpath, Plan 3 VO
- ◇ As Drilled

DESIGN TARGET DETAILS

Name	TVD	±N-S	±E-W	Northing	Easting	Latitude	Longitude
SHL Hoskinson Unit 2H	0.0	0.0	0.0	14294304.19	1719183.71	21° 47' 57" N	43° 18' 49" W
Actual BHL Hoskins Unit 2H 7.3	7.3	-0.5375	0.0	3883.44284766	73.1723087689	20° 13' 16.8" N	42° 27' 6.0" W



SITE DETAILS: Mishka/McMillan/Hoskinson Pad

Site Center: Mishka Unit 2H
Mishka / McMillan / Hoskinson
Site Centre Northing: 14294265.71
Easting: 1718154.88
Positional Uncertainty: 2.0
Convergence: 0.18
Local North: Grid

Genie Lightfoot
11/23, July 07 2014
Scientific Drilling
421 South E
Oklahoma City, OK 73128



Scientific Drilling

Azimuths to Grid North
True North: -0.18°
Magnetic North: -8.70°
Magnetic Field
Strength: 52370.5nT
Dip Angle: 66.90°
Date: 1/31/2014
Model: IGRF2010

To convert Magnetic North to Grid, Subtract 8.7°
To convert True North to Grid, Subtract 0.18°



RECEIVED
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WV GEOLOGICAL SURVEY
MORGANTOWN, WV

Antero Resources

**Doddridge County WV
Mishka/McMillan/Hoskinson Pad
Hoskinson Unit 2H
Original Wellpath**

Design: As Drilled

EOW Completion Report

07 July, 2014



Company:	Antero Resources	Local Co-ordinate Reference:	Well Hoskinson Unit 2H
Project:	Doddridge County WV	TVD Reference:	Frontier 22: 1115' GL + 25' RKB @ 1140.0usft
Site:	Mishka/McMillan/Hoskinson Pad	MD Reference:	Frontier 22: 1115' GL + 25' RKB @ 1140.0usft
Well:	Hoskinson Unit 2H	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	Mishka/McMillan/Hoskinson Pad, Site Center: Mishka Unit 2H				
Site Position:	Northing:	14,294,295.71 usft	Latitude:	39° 21' 47.496 N	
From:	Easting:	1,719,154.86 usft	Longitude:	80° 43' 17.117 W	
Position Uncertainty:	2.0 usft	Slot Radius:	13-3/16"	Grid Convergence:	0.18 °

Well	Hoskinson Unit 2H, Marcellus					
Well Position	+N/-S	0.0 usft	Northing:	14,294,304.19 usft	Latitude:	39° 21' 47.579 N
	+E/-W	0.0 usft	Easting:	1,719,183.71 usft	Longitude:	80° 43' 16.749 W
Position Uncertainty	2.0 usft	Wellhead Elevation:	1,140.0 usft	Ground Level:	1,115.0 usft	

Wellbore	Original Wellpath				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	1/31/2014	-8.52	66.90	52,370

Design	As Drilled				
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	158.01	

Survey Program	Date 7/7/2014			
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
112.0	6,485.0	Survey #4 Gyro to KOP (Original Wellpath)	SDI Standard Keeper	Scientific Drilling Intl. Standard Wireline Keeper
6,530.0	17,021.0	Survey #5 MWD (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
	112.0	0.58	51.31	112.0	0.4	0.4	-0.2	0.52
	212.0	0.47	74.63	212.0	0.8	1.2	-0.3	0.24
	312.0	0.47	79.43	312.0	1.0	2.0	-0.1	0.04
	412.0	0.46	85.88	412.0	1.1	2.8	0.1	0.05
	512.0	0.45	103.78	512.0	1.0	3.6	0.4	0.14
	612.0	0.30	121.39	612.0	0.8	4.2	0.9	0.19
	712.0	0.25	133.12	712.0	0.5	4.6	1.3	0.08
	812.0	0.36	141.02	812.0	0.1	5.0	1.8	0.12
	912.0	0.38	123.84	912.0	-0.3	5.4	2.3	0.11
	1,012.0	0.40	111.21	1,012.0	-0.6	6.0	2.9	0.09

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WV GEOLOGICAL SURVEY EOW Completion Report
MORGANTOWN, WV



Company: Antero Resources
Project: Doddridge County WV
Site: Mishka/McMillan/Hoskinson Pad
Well: Hoskinson Unit 2H
Wellbore: Original Wellpath
Design: As Drilled

Local Co-ordinate Reference: Well Hoskinson Unit 2H
TVD Reference: Frontier 22: 1115' GL + 25' RKB @ 1140.0usft
MD Reference: Frontier 22: 1115' GL + 25' RKB @ 1140.0usft
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)
1,112.0	0.43	107.98	1,112.0	-0.9	6.7	3.3	0.04
1,212.0	0.29	119.38	1,212.0	-1.1	7.3	3.8	0.16
1,312.0	0.29	135.56	1,312.0	-1.4	7.7	4.2	0.08
1,412.0	0.33	129.45	1,412.0	-1.8	8.1	4.7	0.05
1,512.0	0.53	97.93	1,512.0	-2.0	8.8	5.2	0.30
1,612.0	0.30	126.17	1,612.0	-2.3	9.4	5.6	0.30
1,712.0	0.27	159.73	1,712.0	-2.6	9.7	6.1	0.17
1,812.0	0.45	159.73	1,812.0	-3.2	10.0	6.7	0.18
1,912.0	0.39	133.22	1,912.0	-3.8	10.3	7.4	0.20
2,012.0	0.24	185.22	2,012.0	-4.3	10.6	7.9	0.31
2,112.0	0.24	130.83	2,112.0	-4.6	10.7	8.3	0.22
2,212.0	0.29	166.10	2,212.0	-5.0	10.9	8.7	0.17
2,312.0	0.29	102.77	2,312.0	-5.3	11.2	9.1	0.30
2,412.0	0.26	104.83	2,412.0	-5.4	11.7	9.4	0.03
2,512.0	0.23	193.25	2,512.0	-5.7	11.9	9.7	0.34
2,612.0	0.28	191.87	2,611.9	-6.1	11.8	10.1	0.05
2,712.0	0.21	201.48	2,711.9	-6.5	11.7	10.4	0.08
2,812.0	0.33	191.16	2,811.9	-7.0	11.5	10.8	0.13
2,912.0	0.20	187.65	2,911.9	-7.4	11.5	11.2	0.13
3,012.0	0.17	213.82	3,011.9	-7.7	11.4	11.4	0.09
3,112.0	0.40	196.40	3,111.9	-8.2	11.2	11.8	0.24
3,212.0	0.56	181.54	3,211.9	-9.0	11.1	12.5	0.20
3,312.0	0.47	171.31	3,311.9	-9.9	11.1	13.3	0.13
3,412.0	0.54	168.57	3,411.9	-10.8	11.3	14.2	0.07
3,512.0	0.52	169.88	3,511.9	-11.7	11.4	15.1	0.02
3,612.0	0.51	166.18	3,611.9	-12.5	11.6	16.0	0.03
3,712.0	0.55	164.53	3,711.9	-13.4	11.9	16.9	0.04
3,812.0	0.61	163.71	3,811.9	-14.4	12.1	17.9	0.06
3,912.0	0.58	153.21	3,911.9	-15.4	12.5	18.9	0.11
4,012.0	0.58	149.44	4,011.9	-16.3	13.0	19.9	0.04
4,112.0	0.70	140.77	4,111.9	-17.2	13.6	21.0	0.15
4,212.0	0.75	131.44	4,211.9	-18.1	14.5	22.2	0.13
4,312.0	0.84	128.72	4,311.9	-19.0	15.6	23.4	0.10
4,412.0	0.98	128.46	4,411.9	-20.0	16.8	24.8	0.14
4,512.0	1.09	126.35	4,511.9	-21.1	18.3	26.4	0.12
4,612.0	1.08	126.24	4,611.8	-22.2	19.8	28.0	0.01
4,712.0	0.91	122.92	4,711.8	-23.2	21.2	29.4	0.18
4,812.0	1.04	128.90	4,811.8	-24.2	22.6	30.9	0.16
4,912.0	1.06	131.22	4,911.8	-25.3	24.0	32.5	0.05
5,012.0	1.28	132.66	5,011.8	-26.7	25.5	34.3	0.22
5,112.0	1.18	134.67	5,111.7	-28.2	27.1	36.3	0.11
5,212.0	1.34	135.05	5,211.7	-29.7	28.6	38.3	0.16
5,312.0	1.03	133.53	5,311.7	-31.2	30.1	40.2	0.31
5,412.0	1.12	140.26	5,411.7	-32.6	31.4	41.9	0.15



Company: Antero Resources
Project: Doddridge County WV
Site: Mishka/McMillan/Hoskinson Pad
Well: Hoskinson Unit 2H
Wellbore: Original Wellpath
Design: As Drilled

Local Co-ordinate Reference: Well Hoskinson Unit 2H
TVD Reference: Frontier 22: 1115' GL + 25' RKB @ 1140.0usft
MD Reference: Frontier 22: 1115' GL + 25' RKB @ 1140.0usft
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)
5,512.0	0.99	141.97	5,511.7	-34.0	32.5	43.7	0.13
5,612.0	0.95	141.96	5,611.6	-35.3	33.6	45.3	0.04
5,712.0	1.01	138.95	5,711.6	-36.6	34.7	47.0	0.08
5,812.0	1.00	138.94	5,811.6	-38.0	35.8	48.6	0.01
5,912.0	0.88	141.09	5,911.6	-39.2	36.9	50.2	0.13
6,012.0	0.82	144.13	6,011.6	-40.4	37.8	51.6	0.08
6,112.0	0.86	153.89	6,111.6	-41.7	38.5	53.0	0.15
6,212.0	0.69	148.28	6,211.6	-42.8	39.2	54.4	0.19
6,312.0	0.65	156.75	6,311.6	-43.9	39.7	55.5	0.11
6,412.0	0.68	169.28	6,411.6	-45.0	40.0	56.7	0.15
6,485.0	0.58	158.34	6,484.6	-45.7	40.3	57.5	0.21
6,530.0	3.20	161.91	6,529.5	-47.2	40.7	59.0	5.83
6,556.0	6.90	160.91	6,555.4	-49.3	41.5	61.3	14.22
Sycamore							
6,562.0	7.75	160.81	6,561.4	-50.0	41.7	62.0	14.22
6,580.0	12.22	159.00	6,579.1	-53.0	42.8	65.1	24.89
6,613.0	15.78	158.91	6,611.1	-60.4	45.7	73.1	10.79
6,645.0	19.12	158.81	6,641.6	-69.4	49.1	82.7	10.44
6,677.0	23.01	158.27	6,671.5	-80.1	53.3	94.2	12.17
6,709.0	26.45	157.78	6,700.6	-92.5	58.3	107.6	10.77
6,741.0	29.27	156.94	6,728.8	-106.3	64.1	122.5	8.90
6,755.0	30.66	157.01	6,741.0	-112.7	66.8	129.5	9.91
Middlesex							
6,773.0	32.44	157.09	6,756.3	-121.4	70.5	139.0	9.91
6,806.0	36.50	157.09	6,783.5	-138.6	77.8	157.6	12.30
6,838.0	39.50	156.91	6,808.7	-156.7	85.5	177.3	9.38
6,870.0	43.31	155.27	6,832.7	-176.1	94.1	198.5	12.38
6,902.0	46.83	153.88	6,855.3	-196.5	103.8	221.1	11.42
6,930.0	49.52	154.38	6,874.0	-215.3	112.9	241.9	9.69
Burkett							
6,934.0	49.90	154.45	6,876.6	-218.0	114.2	244.9	9.69
6,966.0	53.02	155.04	6,896.5	-240.7	124.9	269.9	9.86
6,975.0	54.07	155.00	6,901.9	-247.2	128.0	277.2	11.66
Tully							
6,998.0	56.75	154.89	6,914.9	-264.4	136.0	296.1	11.66
7,030.0	60.23	154.34	6,931.6	-289.0	147.7	323.3	10.97
7,063.0	63.86	153.81	6,947.1	-315.2	160.4	352.4	11.09
7,095.0	67.27	154.25	6,960.3	-341.4	173.2	381.4	10.73
7,109.0	68.58	154.99	6,965.6	-353.1	178.7	394.4	10.53
Marcellus							
7,127.0	70.26	155.92	6,971.9	-368.5	185.7	411.2	10.53
7,159.0	73.16	157.33	6,982.0	-396.4	197.8	441.6	9.98
7,191.0	76.21	158.59	6,990.4	-425.0	209.4	472.4	10.26
7,223.0	79.92	158.68	6,997.0	-454.1	220.8	503.7	11.60
7,255.0	83.01	158.47	7,001.8	-483.6	232.3	535.4	9.68



EOW Completion Report



Company: Antero Resources
Project: Doddridge County WV
Site: Mishka/McMillan/Hoskinson Pad
Well: Hoskinson Unit 2H
Wellbore: Original Wellpath
Design: As Drilled

Local Co-ordinate Reference: Well Hoskinson Unit 2H
TVD Reference: Frontier 22: 1115' GL + 25' RKB @ 1140.0usft
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Survey

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)
7,292.0	85.74	157.50	7,005.4	-517.7	246.1	572.2	7.83
7,382.0	92.75	157.82	7,006.6	-600.9	280.3	662.1	7.80
7,479.0	90.70	158.74	7,003.7	-691.0	316.2	759.1	2.32
7,575.0	89.10	156.69	7,003.8	-779.8	352.6	855.1	2.71
7,671.0	88.35	156.55	7,006.0	-867.9	390.7	951.0	0.79
7,768.0	89.09	158.37	7,008.1	-957.4	427.8	1,048.0	2.03
7,864.0	92.32	160.41	7,007.0	-1,047.3	461.6	1,143.9	3.98
7,961.0	91.88	158.40	7,003.4	-1,138.0	495.7	1,240.8	2.12
8,057.0	91.64	156.36	7,000.5	-1,226.6	532.6	1,336.8	2.14
8,153.0	90.47	157.48	6,998.7	-1,314.9	570.2	1,432.7	1.69
8,250.0	89.70	156.12	6,998.6	-1,404.0	608.5	1,529.7	1.61
8,346.0	89.80	157.34	6,999.0	-1,492.2	646.4	1,625.7	1.28
8,442.0	91.24	158.35	6,998.1	-1,581.1	682.6	1,721.7	1.83
8,539.0	92.15	159.14	6,995.2	-1,671.5	717.7	1,818.6	1.24
8,635.0	88.89	156.91	6,994.4	-1,760.5	753.6	1,914.6	4.11
8,731.0	92.08	159.39	6,993.5	-1,849.6	789.4	2,010.6	4.21
8,828.0	92.58	158.29	6,989.6	-1,939.9	824.4	2,107.5	1.24
8,924.0	92.12	158.65	6,985.7	-2,029.2	859.6	2,203.4	0.61
9,021.0	91.71	157.48	6,982.4	-2,119.1	895.8	2,300.3	1.28
9,117.0	92.01	159.89	6,979.3	-2,208.5	930.6	2,396.3	2.53
9,213.0	89.60	160.60	6,978.0	-2,298.8	963.1	2,492.2	2.62
9,310.0	90.17	160.17	6,978.2	-2,390.2	995.6	2,589.1	0.74
9,406.0	90.74	157.02	6,977.4	-2,479.5	1,030.7	2,685.1	3.33
9,503.0	90.57	157.03	6,976.3	-2,568.8	1,068.5	2,782.1	0.18
9,599.0	90.30	156.98	6,975.6	-2,657.2	1,106.0	2,878.0	0.29
9,696.0	91.51	158.96	6,974.0	-2,747.1	1,142.4	2,975.0	2.39
9,792.0	89.83	155.60	6,972.9	-2,835.6	1,179.5	3,071.0	3.91
9,888.0	90.74	156.25	6,972.4	-2,923.3	1,218.6	3,166.9	1.16
9,984.0	91.11	155.33	6,970.9	-3,010.8	1,258.0	3,262.8	1.03
10,081.0	89.60	157.01	6,970.3	-3,099.6	1,297.2	3,359.8	2.33
10,177.0	89.46	155.16	6,971.1	-3,187.3	1,336.1	3,455.7	1.93
10,273.0	89.90	157.57	6,971.6	-3,275.2	1,374.6	3,551.7	2.55
10,370.0	90.17	157.68	6,971.5	-3,364.9	1,411.5	3,648.7	0.30
10,460.0	90.40	159.60	6,971.1	-3,448.8	1,444.3	3,738.7	2.15
10,551.0	90.60	158.78	6,970.3	-3,533.8	1,476.6	3,829.6	0.93
10,641.0	90.10	158.40	6,969.7	-3,617.6	1,509.5	3,919.6	0.70
10,732.0	89.40	156.96	6,970.1	-3,701.8	1,544.0	4,010.6	1.76
10,823.0	90.44	158.22	6,970.3	-3,785.9	1,578.7	4,101.6	1.80
10,913.0	87.98	157.04	6,971.5	-3,869.1	1,613.0	4,191.6	3.03
11,004.0	88.46	156.53	6,974.3	-3,952.7	1,648.8	4,282.5	0.77
11,095.0	88.49	158.87	6,976.8	-4,036.9	1,683.3	4,373.5	2.57
11,185.0	88.83	158.84	6,978.9	-4,120.8	1,715.8	4,463.5	0.38
11,276.0	89.73	157.54	6,980.0	-4,205.3	1,749.6	4,554.5	1.74
11,366.0	90.40	158.86	6,979.9	-4,288.8	1,783.0	4,644.5	1.64
11,457.0	90.67	158.39	6,979.1	-4,373.6	1,816.2	4,735.4	0.60



Company: Antero Resources
Project: Doddridge County WV
Site: Mishka/McMillan/Hoskinson Pad
Well: Hoskinson Unit 2H
Wellbore: Original Wellpath
Design: As Drilled

Local Co-ordinate Reference: Well Hoskinson Unit 2H
TVD Reference: Frontier 22: 1115' GL + 25' RKB @ 1140.0usft
MD Reference: Frontier 22: 1115' GL + 25' RKB @ 1140.0usft
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)
11,553.0	89.40	158.05	6,979.0	-4,462.7	1,851.8	4,831.4	1.37
11,650.0	90.64	161.47	6,979.0	-4,553.7	1,885.4	4,928.4	3.75
11,746.0	91.58	162.89	6,977.1	-4,645.1	1,914.7	5,024.1	1.77
11,843.0	89.50	159.11	6,976.2	-4,736.8	1,946.3	5,120.9	4.45
11,939.0	89.23	157.81	6,977.3	-4,826.1	1,981.5	5,216.9	1.38
12,035.0	89.97	157.31	6,977.9	-4,914.8	2,018.2	5,312.9	0.93
12,132.0	89.33	154.30	6,978.5	-5,003.2	2,057.9	5,409.8	3.17
12,227.0	89.83	157.02	6,979.2	-5,089.8	2,097.1	5,504.7	2.91
12,323.0	89.97	158.10	6,979.4	-5,178.5	2,133.7	5,600.7	1.13
12,420.0	88.96	157.32	6,980.3	-5,268.3	2,170.5	5,697.7	1.32
12,516.0	90.37	158.44	6,980.8	-5,357.2	2,206.7	5,793.7	1.88
12,611.0	87.42	157.62	6,982.7	-5,445.3	2,242.2	5,888.7	3.22
12,708.0	89.00	159.61	6,985.7	-5,535.5	2,277.5	5,985.6	2.62
12,804.0	89.16	158.95	6,987.2	-5,625.3	2,311.5	6,081.6	0.71
12,900.0	89.40	157.51	6,988.5	-5,714.5	2,347.1	6,177.6	1.52
12,996.0	89.60	158.00	6,989.3	-5,803.3	2,383.5	6,273.6	0.55
13,092.0	89.40	159.17	6,990.1	-5,892.7	2,418.5	6,369.6	1.24
13,189.0	89.63	158.55	6,991.0	-5,983.2	2,453.5	6,466.6	0.68
13,285.0	88.99	159.10	6,992.1	-6,072.7	2,488.2	6,562.5	0.88
13,382.0	89.77	158.82	6,993.2	-6,163.2	2,523.0	6,659.5	0.85
13,478.0	89.80	157.74	6,993.5	-6,252.4	2,558.5	6,755.5	1.13
13,575.0	88.79	157.49	6,994.7	-6,342.1	2,595.4	6,852.5	1.07
13,671.0	89.53	158.19	6,996.1	-6,431.0	2,631.6	6,948.5	1.06
13,767.0	89.23	157.21	6,997.2	-6,519.8	2,668.1	7,044.5	1.07
13,864.0	89.19	157.70	6,998.5	-6,609.3	2,705.3	7,141.5	0.51
13,959.0	89.83	158.34	6,999.3	-6,697.4	2,740.8	7,236.5	0.95
14,056.0	89.80	159.42	6,999.6	-6,787.9	2,775.8	7,333.5	1.11
14,152.0	89.50	159.35	7,000.2	-6,877.8	2,809.6	7,429.4	0.32
14,248.0	89.60	158.64	7,001.0	-6,967.4	2,844.0	7,525.4	0.75
14,345.0	88.79	158.08	7,002.3	-7,057.5	2,879.7	7,622.4	1.02
14,441.0	88.56	157.50	7,004.5	-7,146.4	2,916.0	7,718.4	0.65
14,538.0	88.39	156.79	7,007.1	-7,235.7	2,953.7	7,815.3	0.75
14,634.0	88.79	157.71	7,009.5	-7,324.2	2,990.8	7,911.3	1.04
14,730.0	90.07	157.96	7,010.4	-7,413.1	3,027.0	8,007.3	1.36
14,826.0	89.97	158.38	7,010.4	-7,502.3	3,062.7	8,103.3	0.45
14,922.0	88.93	157.82	7,011.3	-7,591.3	3,098.5	8,199.3	1.23
15,018.0	89.90	158.54	7,012.3	-7,680.4	3,134.2	8,295.3	1.26
15,115.0	89.53	157.12	7,012.8	-7,770.3	3,170.8	8,392.3	1.51
15,211.0	90.23	157.31	7,013.0	-7,858.8	3,208.0	8,488.3	0.76
15,308.0	89.40	156.53	7,013.3	-7,948.0	3,246.0	8,585.2	1.17
15,403.0	89.90	156.67	7,013.9	-8,035.2	3,283.7	8,680.2	0.55
15,500.0	89.26	157.31	7,014.6	-8,124.5	3,321.6	8,777.2	0.93
15,596.0	90.03	157.30	7,015.2	-8,213.0	3,358.7	8,873.2	0.80
15,692.0	89.50	155.09	7,015.6	-8,300.9	3,397.4	8,969.1	2.37



Company: Antero Resources
Project: Doddridge County WV
Site: Mishka/McMillan/Hoskinson Pad
Well: Hoskinson Unit 2H
Wellbore: Original Wellpath
Design: As Drilled

Local Co-ordinate Reference: Well Hoskinson Unit 2H
TVD Reference: Frontier 22: 1115' GL + 25' RKB @ 1140.0usft
MD Reference: Frontier 22: 1115' GL + 25' RKB @ 1140.0usft
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)
15,789.0	89.50	157.50	7,016.4	-8,389.7	3,436.4	9,066.1	2.48
15,885.0	90.00	157.48	7,016.9	-8,478.4	3,473.2	9,162.1	0.52
15,981.0	89.03	157.19	7,017.7	-8,566.9	3,510.2	9,258.0	1.05
16,078.0	90.60	159.09	7,018.0	-8,657.0	3,546.3	9,355.0	2.54
16,174.0	90.67	158.31	7,016.9	-8,746.4	3,581.1	9,451.0	0.82
16,270.0	90.57	157.71	7,015.9	-8,835.4	3,617.1	9,547.0	0.63
16,366.0	91.14	160.18	7,014.4	-8,925.0	3,651.6	9,643.0	2.64
16,463.0	90.67	160.18	7,012.9	-9,016.2	3,684.5	9,739.9	0.48
16,559.0	88.89	159.33	7,013.3	-9,106.3	3,717.7	9,835.9	2.05
16,656.0	89.43	160.27	7,014.7	-9,197.3	3,751.2	9,932.8	1.12
16,752.0	90.13	159.75	7,015.1	-9,287.5	3,784.0	10,028.7	0.91
16,848.0	89.23	157.88	7,015.6	-9,377.0	3,818.7	10,124.7	2.16
16,944.0	89.43	158.08	7,016.7	-9,466.0	3,854.7	10,220.7	0.29
16,962.0	89.56	158.11	7,016.9	-9,482.7	3,861.4	10,238.7	0.74
17,021.0	89.56	158.11	7,017.3	-9,537.5	3,883.4	10,297.7	0.00

Design Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N-S (usft)	+E-W (usft)	
6,556.0	6,555.4	-49.3	41.5	Sycamore
6,755.0	6,741.0	-112.7	66.8	Middlesex
6,930.0	6,874.0	-215.3	112.9	Burkett
6,975.0	6,901.9	-247.2	128.0	Tully
7,109.0	6,965.6	-353.1	178.7	Marcellus

Checked By: _____ Approved By: _____ Date: _____

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