

RECEIVED

AUG 17 2015

WV GEOLOGICAL SURVEY
MORGANTOWN, WV



Antero Resources
Milo Unit 1H
Doddridge County WV
Northing: 14280070.50
Easting: 1728018.34
As Drilled



Genie Lightfoot
14:50, September 24 2014
Scientific Drilling
421 South Eagle Lane
Oklahoma City, OK

WELL DETAILS: Milo Unit 1H

+N/S	+E/W	Northing	Longitude	Slot
0.0	0.0	14280070.50	80° 41' 24.848 W	
Ground Level:	1377.0	Latitude		
	1728018.34	39° 19' 26.559 N		

PROJECT DETAILS: Doddridge County WV

Geodetic System: Universal Transverse Mercator (US Survey Feet)
 National Grid: NAD 83
 Ellipsoid: Clarke 1866
 Zone: Zone 17N (84 W to 78 W)
 System Datum: Mean Sea Level

REFERENCE INFORMATION

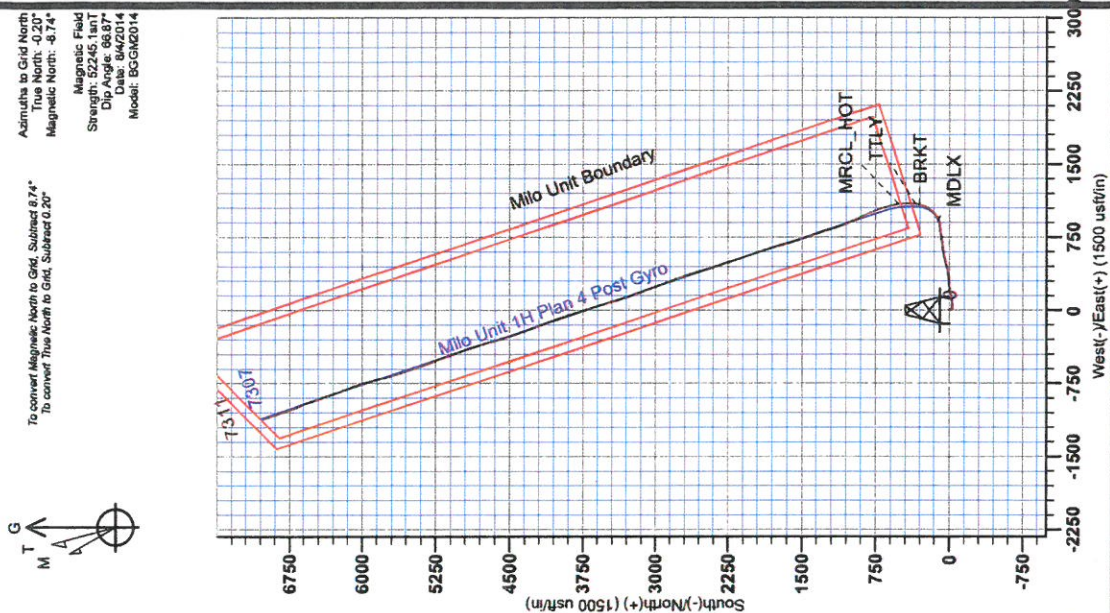
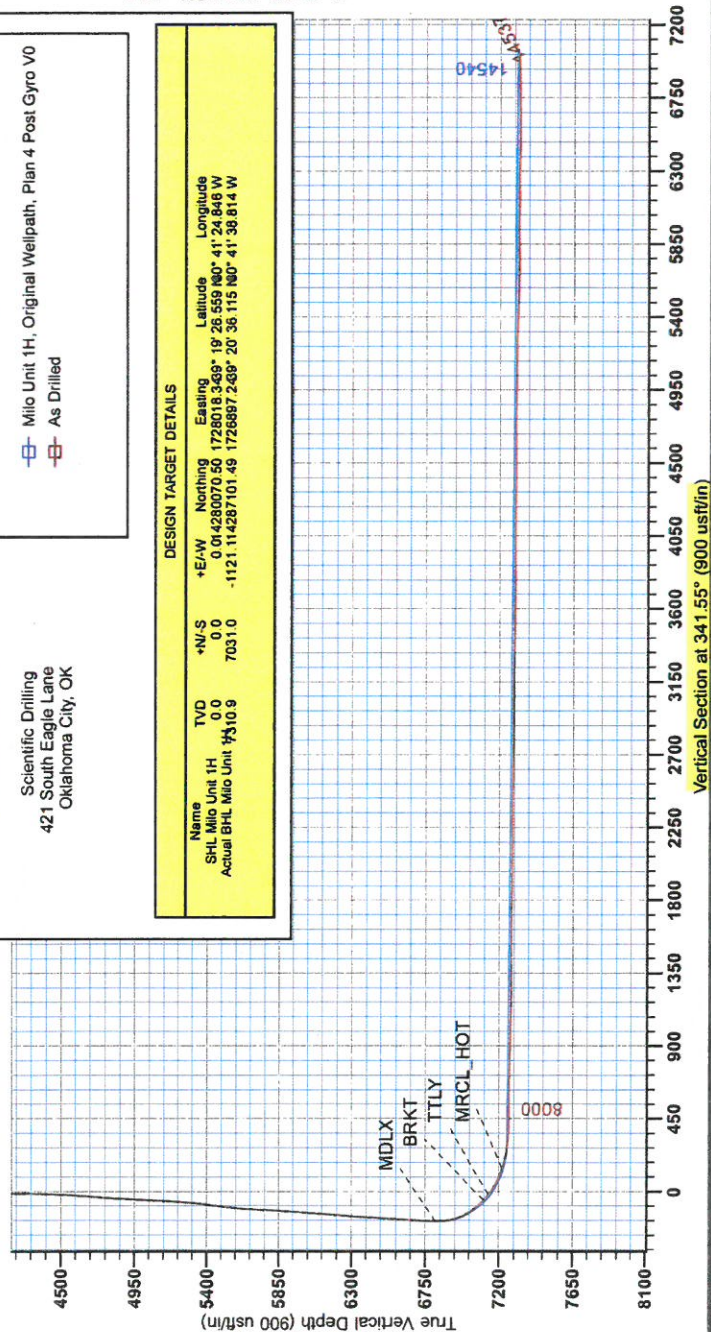
Geological Record: 1377.0
 Vertical (VD) Reference: Mean Sea Level @ 1302.848 ft
 National Grid Reference: 14280070.50
 National Grid Reference: 1728018.34
 Geodetic System: Universal Transverse Mercator (US Survey Feet)
 National Grid: NAD 83
 Ellipsoid: Clarke 1866
 Zone: Zone 17N (84 W to 78 W)
 System Datum: Mean Sea Level

LEGEND

— Milo Unit 1H, Original Wellpath, Plan 4 Post Gyro
 - - - As Drilled

DESIGN TARGET DETAILS

Name	TVD	+N/S	+E/W	Northing	Easting	Latitude	Longitude
SHL Milo Unit 1H	0.0	0.0	0.0	14280070.50	1728018.34	39° 19' 26.559 N	80° 41' 24.848 W
Actual BHL Milo Unit 1H	7031.0	7031.0	-1121.11428710149	1728687.249	20° 36' 11.5 N	80° 41' 38.814 W	



To convert Magnetic North to Grid, Subtract 8.74°
 To convert True North to Grid, Subtract 0.20°

Azimuth to Grid North
 True North: -0.20°
 Magnetic North: -8.74°

Magnetic Field
 Strength: 522.49 usf/m
 Dip: 66.93°
 Date: 8/4/2014
 Model: BCGM2014



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Antero Resources

**Doddridge County WV
Koch/Gains/McCue/Mt Salem Revival/Milo
Milo Unit 1H
Original Wellpath**

Design: As Drilled

EOW Completion Report

24 September, 2014



AUG 17 2015



EOW Completion Report



Company: Antero Resources
Project: Doddridge County WV
Site: Koch/Gains/McCue/Mt Salem Revival/Milo
Well: Milo Unit 1H
Wellbore: Original Wellpath
Design: As Drilled

Local Co-ordinate Reference: Well Milo Unit 1H
TVD Reference: Patterson 317: 1377' + KB 22.5' @ 1399.5usft
MD Reference: Patterson 317: 1377' + KB 22.5' @ 1399.5usft
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: Oklahoma District

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

Site	Koch/Gains/McCue/Mt Salem Revival/Milo				
Site Position:		Northing:	14,280,147.06 usft	Latitude:	39° 19' 27.317 N
From:	Map	Easting:	1,727,993.07 usft	Longitude:	80° 41' 25.164 W
Position Uncertainty:	2.0 usft	Slot Radius:	13-3/16"	Grid Convergence:	0.20 °

Well	Milo Unit 1H, Marcellus					
Well Position	+N/-S	0.0 usft	Northing:	14,280,070.50 usft	Latitude:	39° 19' 26.559 N
	+E/-W	0.0 usft	Easting:	1,728,018.34 usft	Longitude:	80° 41' 24.846 W
Position Uncertainty	2.0 usft		Wellhead Elevation:	1,399.5 usft	Ground Level:	1,377.0 usft

Wellbore	Original Wellpath				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	BGGM2014	8/4/2014	-8.55	66.87	52,245

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	341.55

Survey Program	Date 9/24/2014				
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
109.5	6,485.0	Survey #7 Final Gyro (Original Wellpath)	SDI Standard Keeper	Scientific Drilling Intl. Standard Wireline Keeper	
6,540.0	14,537.0	Survey #8 MWD (Original Wellpath)	MWD SDI	MWD - Standard ver 1.0.1	

Survey									
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	EW (usft)	V. Sec (usft)	DLeg (°/100usft)		
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00		0.00
109.5	0.29	69.35	109.5	0.1	0.3	0.0	0.26		0.26
134.5	0.28	70.60	134.5	0.1	0.4	0.0	0.05		0.05
159.5	0.21	61.57	159.5	0.2	0.5	0.0	0.32		0.32
184.5	0.22	75.81	184.5	0.2	0.6	0.0	0.22		0.22
209.5	0.25	71.54	209.5	0.2	0.7	0.0	0.14		0.14
234.5	0.24	57.95	234.5	0.3	0.8	0.0	0.24		0.24
259.5	0.17	72.78	259.5	0.3	0.8	0.0	0.35		0.35
284.5	0.20	62.49	284.5	0.4	0.9	0.1	0.18		0.18
309.5	0.23	69.35	309.5	0.4	1.0	0.1	0.16		0.16
334.5	0.30	73.49	334.5	0.4	1.1	0.1	0.29		0.29

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EOW Completion Report



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Well: Milo Unit 1H
Wellbore: Original Wellpath
Design: As Drilled

Local Co-ordinate Reference: Well Milo Unit 1H
TVD Reference: Patterson 317: 1377' + KB 22.5' @ 1399.5usft
MD Reference: Patterson 317: 1377' + KB 22.5' @ 1399.5usft
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)
359.5	0.31	72.85	359.5	0.5	1.2	0.1	0.04
384.5	0.32	84.75	384.5	0.5	1.4	0.0	0.26
409.5	0.31	85.65	409.5	0.5	1.5	0.0	0.04
434.5	0.26	78.71	434.5	0.5	1.6	0.0	0.24
459.5	0.26	72.34	459.5	0.6	1.7	0.0	0.12
484.5	0.28	67.20	484.5	0.6	1.8	0.0	0.13
509.5	0.22	80.63	509.5	0.6	1.9	0.0	0.33
534.5	0.33	65.41	534.5	0.7	2.1	0.0	0.52
559.5	0.22	71.88	559.5	0.7	2.2	0.0	0.46
584.5	0.25	78.79	584.5	0.7	2.3	0.0	0.16
609.5	0.30	66.01	609.5	0.8	2.4	0.0	0.32
634.5	0.29	84.98	634.5	0.8	2.5	0.0	0.39
659.5	0.28	78.88	659.5	0.8	2.6	-0.1	0.13
684.5	0.24	86.42	684.5	0.8	2.7	-0.1	0.21
709.5	0.20	97.35	709.5	0.8	2.8	-0.1	0.23
734.5	0.22	99.30	734.5	0.8	2.9	-0.1	0.08
759.5	0.22	88.59	759.5	0.8	3.0	-0.2	0.16
784.5	0.23	90.94	784.5	0.8	3.1	-0.2	0.05
809.5	0.22	99.31	809.5	0.8	3.2	-0.3	0.14
834.5	0.24	103.06	834.5	0.8	3.3	-0.3	0.10
859.5	0.30	97.64	859.5	0.8	3.4	-0.4	0.26
884.5	0.28	103.34	884.5	0.7	3.6	-0.4	0.14
909.5	0.29	98.96	909.5	0.7	3.7	-0.5	0.10
934.5	0.24	107.59	934.5	0.7	3.8	-0.5	0.26
959.5	0.26	110.72	959.5	0.7	3.9	-0.6	0.10
984.5	0.27	115.51	984.5	0.6	4.0	-0.7	0.10
1,009.5	0.23	112.54	1,009.5	0.6	4.1	-0.8	0.17
1,034.5	0.24	119.55	1,034.5	0.5	4.2	-0.8	0.12
1,059.5	0.25	126.11	1,059.5	0.5	4.3	-0.9	0.12
1,084.5	0.28	128.99	1,084.5	0.4	4.4	-1.0	0.13
1,109.5	0.23	123.92	1,109.5	0.3	4.5	-1.1	0.22
1,134.5	0.26	136.46	1,134.5	0.3	4.5	-1.2	0.25
1,159.5	0.27	149.79	1,159.5	0.2	4.6	-1.3	0.25
1,184.5	0.28	132.26	1,184.5	0.1	4.7	-1.4	0.34
1,209.5	0.27	138.07	1,209.5	0.0	4.8	-1.5	0.12
1,234.5	0.24	142.99	1,234.5	-0.1	4.8	-1.6	0.15
1,259.5	0.24	123.42	1,259.5	-0.2	4.9	-1.7	0.33
1,284.5	0.21	149.33	1,284.5	-0.2	5.0	-1.8	0.42
1,309.5	0.20	138.72	1,309.5	-0.3	5.0	-1.9	0.16
1,334.5	0.26	147.92	1,334.5	-0.4	5.1	-2.0	0.28
1,359.5	0.27	150.01	1,359.5	-0.5	5.2	-2.1	0.06
1,384.5	0.24	150.35	1,384.5	-0.6	5.2	-2.2	0.12
1,409.5	0.29	143.76	1,409.5	-0.7	5.3	-2.3	0.23
1,434.5	0.31	152.01	1,434.5	-0.8	5.3	-2.4	0.19

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Well: Milo Unit 1H
Wellbore: Original Wellpath
Design: As Drilled

Local Co-ordinate Reference: Well Milo Unit 1H
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Survey

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)
1,459.5	0.31	148.35	1,459.5	-0.9	5.4	-2.6	0.08
1,484.5	0.39	165.00	1,484.5	-1.0	5.5	-2.7	0.51
1,509.5	0.26	161.55	1,509.5	-1.2	5.5	-2.9	0.53
1,534.5	0.23	171.74	1,534.5	-1.3	5.5	-3.0	0.21
1,559.5	0.29	169.72	1,559.5	-1.4	5.6	-3.1	0.24
1,584.5	0.28	173.72	1,584.5	-1.5	5.6	-3.2	0.09
1,609.5	0.25	176.08	1,609.5	-1.6	5.6	-3.3	0.13
1,634.5	0.30	177.95	1,634.5	-1.8	5.6	-3.4	0.20
1,659.5	0.22	170.42	1,659.5	-1.9	5.6	-3.5	0.35
1,684.5	0.25	177.73	1,684.5	-2.0	5.6	-3.6	0.17
1,709.5	0.25	172.64	1,709.5	-2.1	5.6	-3.8	0.09
1,734.5	0.32	178.81	1,734.5	-2.2	5.6	-3.9	0.31
1,759.5	0.22	173.02	1,759.5	-2.3	5.6	-4.0	0.41
1,784.5	0.20	181.36	1,784.5	-2.4	5.6	-4.1	0.15
1,809.5	0.34	173.53	1,809.5	-2.5	5.6	-4.2	0.58
1,834.5	0.25	176.85	1,834.5	-2.7	5.7	-4.3	0.37
1,859.5	0.30	179.34	1,859.5	-2.8	5.7	-4.4	0.21
1,884.5	0.34	183.63	1,884.5	-2.9	5.7	-4.6	0.19
1,909.5	0.34	181.64	1,909.5	-3.1	5.7	-4.7	0.05
1,934.5	0.30	176.21	1,934.5	-3.2	5.7	-4.8	0.20
1,959.5	0.32	170.07	1,959.5	-3.3	5.7	-5.0	0.15
1,984.5	0.26	170.56	1,984.5	-3.5	5.7	-5.1	0.24
2,009.5	0.29	167.67	2,009.5	-3.6	5.7	-5.2	0.13
2,034.5	0.18	156.62	2,034.5	-3.7	5.7	-5.3	0.47
2,059.5	0.33	150.73	2,059.5	-3.8	5.8	-5.4	0.61
2,084.5	0.35	151.10	2,084.5	-3.9	5.9	-5.6	0.08
2,109.5	0.38	146.30	2,109.5	-4.0	5.9	-5.7	0.17
2,134.5	0.30	152.42	2,134.5	-4.2	6.0	-5.9	0.35
2,159.5	0.30	141.22	2,159.5	-4.3	6.1	-6.0	0.23
2,184.5	0.25	130.51	2,184.5	-4.4	6.2	-6.1	0.29
2,209.5	0.28	128.08	2,209.5	-4.4	6.3	-6.2	0.13
2,234.5	0.26	137.73	2,234.5	-4.5	6.4	-6.3	0.20
2,259.5	0.26	131.92	2,259.5	-4.6	6.4	-6.4	0.11
2,284.5	0.36	127.26	2,284.5	-4.7	6.5	-6.5	0.41
2,309.5	0.35	137.61	2,309.5	-4.8	6.7	-6.6	0.26
2,334.5	0.29	137.37	2,334.5	-4.9	6.7	-6.8	0.24
2,359.5	0.22	130.98	2,359.5	-5.0	6.8	-6.9	0.30
2,384.5	0.31	140.01	2,384.5	-5.1	6.9	-7.0	0.40
2,409.5	0.40	135.89	2,409.5	-5.2	7.0	-7.1	0.37
2,434.5	0.38	145.78	2,434.5	-5.3	7.1	-7.3	0.28
2,459.5	0.55	140.18	2,459.5	-5.5	7.2	-7.5	0.70
2,484.5	0.57	146.96	2,484.5	-5.7	7.4	-7.7	0.28
2,509.5	0.58	152.40	2,509.5	-5.9	7.5	-7.9	0.22
2,534.5	0.57	152.65	2,534.5	-6.1	7.6	-8.2	0.04
2,559.5	0.58	159.86	2,559.5	-6.3	7.7	-8.4	0.29

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Site: Koch/Gains/McCue/Mt Salem Revival/Milo
Well: Milo Unit 1H
Wellbore: Original Wellpath
Design: As Drilled

Local Co-ordinate Reference: Well Milo Unit 1H
TVD Reference: Patterson 317: 1377' + KB 22.5' @ 1399.5usft
MD Reference: Patterson 317: 1377' + KB 22.5' @ 1399.5usft
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)
2,584.5	0.65	154.46	2,584.5	-6.6	7.8	-8.7	0.36
2,609.5	0.57	160.82	2,609.5	-6.8	7.9	-9.0	0.42
2,634.5	0.65	167.20	2,634.5	-7.1	8.0	-9.2	0.42
2,659.5	0.59	171.32	2,659.5	-7.3	8.1	-9.5	0.30
2,684.5	0.52	180.30	2,684.5	-7.6	8.1	-9.7	0.45
2,709.5	0.49	191.67	2,709.5	-7.8	8.1	-9.9	0.42
2,734.5	0.49	196.45	2,734.5	-8.0	8.0	-10.1	0.16
2,759.5	0.41	204.44	2,759.5	-8.2	7.9	-10.3	0.41
2,784.5	0.46	203.93	2,784.5	-8.4	7.9	-10.4	0.20
2,809.5	0.42	202.97	2,809.5	-8.5	7.8	-10.6	0.16
2,834.5	0.48	212.96	2,834.5	-8.7	7.7	-10.7	0.39
2,859.5	0.40	210.78	2,859.5	-8.9	7.6	-10.8	0.33
2,884.5	0.44	218.02	2,884.5	-9.0	7.5	-10.9	0.27
2,909.5	0.31	219.57	2,909.5	-9.1	7.4	-11.0	0.52
2,934.5	0.40	223.22	2,934.5	-9.3	7.3	-11.1	0.37
2,959.5	0.37	217.77	2,959.5	-9.4	7.2	-11.2	0.19
2,984.5	0.43	221.80	2,984.5	-9.5	7.1	-11.3	0.26
3,009.5	0.41	220.06	3,009.5	-9.7	6.9	-11.4	0.09
3,034.5	0.44	225.63	3,034.5	-9.8	6.8	-11.5	0.20
3,059.5	0.42	228.68	3,059.4	-9.9	6.7	-11.5	0.12
3,084.5	0.37	235.24	3,084.4	-10.0	6.5	-11.6	0.27
3,109.5	0.39	217.39	3,109.4	-10.1	6.4	-11.7	0.48
3,134.5	0.39	225.74	3,134.4	-10.3	6.3	-11.7	0.23
3,159.5	0.42	232.95	3,159.4	-10.4	6.2	-11.8	0.24
3,184.5	0.43	223.79	3,184.4	-10.5	6.0	-11.9	0.27
3,209.5	0.40	229.19	3,209.4	-10.6	5.9	-12.0	0.20
3,234.5	0.47	227.00	3,234.4	-10.8	5.8	-12.0	0.29
3,259.5	0.50	229.14	3,259.4	-10.9	5.6	-12.1	0.14
3,284.5	0.43	227.65	3,284.4	-11.0	5.5	-12.2	0.28
3,309.5	0.50	233.22	3,309.4	-11.2	5.3	-12.3	0.33
3,334.5	0.43	231.66	3,334.4	-11.3	5.1	-12.3	0.28
3,359.5	0.44	224.43	3,359.4	-11.4	5.0	-12.4	0.22
3,384.5	0.42	226.14	3,384.4	-11.6	4.9	-12.5	0.10
3,409.5	0.41	231.11	3,409.4	-11.7	4.7	-12.6	0.15
3,434.5	0.42	228.94	3,434.4	-11.8	4.6	-12.6	0.07
3,459.5	0.42	211.73	3,459.4	-11.9	4.5	-12.7	0.50
3,484.5	0.46	219.62	3,484.4	-12.1	4.4	-12.8	0.29
3,509.5	0.43	231.20	3,509.4	-12.2	4.2	-12.9	0.38
3,534.5	0.38	223.93	3,534.4	-12.3	4.1	-13.0	0.29
3,559.5	0.43	225.65	3,559.4	-12.5	4.0	-13.1	0.21
3,584.5	0.43	215.69	3,584.4	-12.6	3.8	-13.2	0.30
3,609.5	0.48	231.23	3,609.4	-12.7	3.7	-13.3	0.53
3,634.5	0.43	230.92	3,634.4	-12.9	3.6	-13.3	0.20
3,659.5	0.29	243.82	3,659.4	-13.0	3.4	-13.4	0.64



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MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)
3,684.5	0.49	231.06	3,684.4	-13.1	3.3	-13.4	0.87
3,709.5	0.40	232.40	3,709.4	-13.2	3.1	-13.5	0.36
3,734.5	0.32	239.31	3,734.4	-13.3	3.0	-13.5	0.36
3,759.5	0.50	238.18	3,759.4	-13.4	2.8	-13.6	0.72
3,784.5	0.46	241.42	3,784.4	-13.5	2.7	-13.6	0.19
3,809.5	0.44	244.34	3,809.4	-13.5	2.5	-13.6	0.12
3,834.5	0.48	249.66	3,834.4	-13.6	2.3	-13.7	0.23
3,859.5	0.37	238.65	3,859.4	-13.7	2.1	-13.7	0.55
3,884.5	0.44	241.58	3,884.4	-13.8	2.0	-13.7	0.29
3,909.5	0.42	255.84	3,909.4	-13.9	1.8	-13.7	0.43
3,934.5	0.49	245.29	3,934.4	-13.9	1.6	-13.7	0.44
3,959.5	0.48	230.61	3,959.4	-14.0	1.5	-13.8	0.50
3,984.5	0.52	230.51	3,984.4	-14.2	1.3	-13.9	0.16
4,009.5	0.40	231.01	4,009.4	-14.3	1.1	-13.9	0.48
4,034.5	0.35	211.58	4,034.4	-14.4	1.0	-14.0	0.54
4,059.5	0.58	232.22	4,059.4	-14.6	0.9	-14.1	1.12
4,084.5	0.48	220.68	4,084.4	-14.7	0.7	-14.2	0.58
4,109.5	0.49	230.55	4,109.4	-14.9	0.6	-14.3	0.34
4,134.5	0.53	229.33	4,134.4	-15.0	0.4	-14.4	0.17
4,159.5	0.63	234.49	4,159.4	-15.2	0.2	-14.5	0.45
4,184.5	0.64	232.90	4,184.4	-15.3	0.0	-14.5	0.08
4,209.5	0.67	241.44	4,209.4	-15.5	-0.3	-14.6	0.41
4,234.5	0.73	234.32	4,234.4	-15.7	-0.5	-14.7	0.42
4,259.5	0.70	234.94	4,259.4	-15.8	-0.8	-14.8	0.12
4,284.5	0.65	238.22	4,284.4	-16.0	-1.0	-14.8	0.25
4,309.5	0.67	238.05	4,309.4	-16.1	-1.3	-14.9	0.08
4,334.5	0.61	229.73	4,334.4	-16.3	-1.5	-15.0	0.44
4,359.5	0.88	163.45	4,359.4	-16.6	-1.5	-15.2	3.38
4,384.5	1.67	140.87	4,384.4	-17.0	-1.3	-15.8	3.69
4,409.5	2.50	131.63	4,409.4	-17.7	-0.6	-16.6	3.57
4,434.5	3.25	126.18	4,434.3	-18.5	0.4	-17.6	3.19
4,459.5	4.19	121.74	4,459.3	-19.4	1.7	-18.9	3.93
4,484.5	4.70	119.86	4,484.2	-20.4	3.4	-20.4	2.12
4,509.5	5.06	118.24	4,509.1	-21.4	5.2	-21.9	1.54
4,534.5	5.58	115.27	4,534.0	-22.4	7.3	-23.6	2.35
4,559.5	6.22	111.42	4,558.9	-23.4	9.7	-25.3	3.01
4,584.5	7.18	106.68	4,583.7	-24.4	12.4	-27.1	4.43
4,609.5	8.03	104.55	4,608.5	-25.3	15.6	-28.9	3.58
4,634.5	9.00	100.83	4,633.2	-26.1	19.2	-30.8	4.46
4,659.5	9.99	96.22	4,657.9	-26.7	23.3	-32.7	4.99
4,684.5	11.37	91.42	4,682.4	-27.0	27.9	-34.4	6.56
4,709.5	12.27	88.50	4,706.9	-27.0	33.0	-36.0	4.32
4,734.5	13.07	86.68	4,731.3	-26.7	38.5	-37.6	3.58
4,759.5	13.65	87.01	4,755.6	-26.4	44.3	-39.1	2.34

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MORGANTOWN, WV EOW Completion Report



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North Reference: Grid
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4,784.5	13.87	87.24	4,779.9	-26.1	50.2	-40.7	0.91
4,809.5	14.25	86.48	4,804.2	-25.8	56.3	-42.3	1.69
4,834.5	14.95	84.11	4,828.4	-25.3	62.6	-43.8	3.68
4,859.5	15.75	82.37	4,852.5	-24.5	69.1	-45.1	3.69
4,884.5	16.39	82.57	4,876.5	-23.6	76.0	-46.4	2.57
4,909.5	17.05	83.53	4,900.4	-22.7	83.1	-47.9	2.86
4,934.5	17.52	83.82	4,924.3	-21.9	90.5	-49.4	1.91
4,959.5	17.79	83.49	4,948.1	-21.1	98.0	-51.0	1.15
4,984.5	18.34	81.03	4,971.9	-20.0	105.7	-52.4	3.76
5,009.5	18.83	80.38	4,995.6	-18.7	113.6	-53.7	2.13
5,034.5	18.87	79.86	5,019.2	-17.3	121.5	-54.9	0.69
5,059.5	19.45	79.51	5,042.9	-15.9	129.6	-56.1	2.37
5,084.5	20.00	79.34	5,066.4	-14.3	137.9	-57.2	2.21
5,109.5	20.25	79.01	5,089.9	-12.7	146.4	-58.4	1.10
5,134.5	20.65	79.10	5,113.3	-11.0	154.9	-59.5	1.60
5,159.5	21.32	79.05	5,136.6	-9.3	163.7	-60.7	2.68
5,184.5	22.13	79.34	5,159.9	-7.6	172.8	-61.9	3.27
5,209.5	22.79	79.51	5,183.0	-5.9	182.2	-63.2	2.65
5,234.5	23.34	79.83	5,206.0	-4.1	191.8	-64.6	2.26
5,259.5	24.00	80.25	5,228.9	-2.4	201.7	-66.1	2.72
5,284.5	24.75	80.33	5,251.6	-0.6	211.9	-67.7	3.00
5,309.5	25.24	80.61	5,274.3	1.1	222.3	-69.3	2.02
5,334.5	25.98	81.13	5,296.8	2.8	233.0	-71.0	3.09
5,359.5	26.40	81.86	5,319.3	4.5	243.9	-73.0	2.12
5,384.5	25.92	84.68	5,341.7	5.8	254.8	-75.2	5.33
5,409.5	26.14	86.54	5,364.2	6.6	265.8	-77.9	3.38
5,434.5	26.32	87.94	5,386.6	7.1	276.8	-80.8	2.58
5,459.5	26.63	87.95	5,409.0	7.5	288.0	-84.0	1.24
5,484.5	26.48	87.77	5,431.3	7.9	299.1	-87.1	0.68
5,509.5	26.78	87.46	5,453.7	8.4	310.3	-90.2	1.32
5,534.5	27.22	86.73	5,476.0	9.0	321.7	-93.3	2.20
5,559.5	27.66	85.36	5,498.2	9.8	333.1	-96.2	3.08
5,584.5	27.78	84.54	5,520.3	10.8	344.7	-98.8	1.60
5,609.5	28.08	83.96	5,542.4	12.0	356.4	-101.4	1.62
5,634.5	28.06	82.22	5,564.4	13.4	368.1	-103.8	3.28
5,659.5	28.00	80.73	5,586.5	15.1	379.7	-105.8	2.81
5,684.5	28.04	79.77	5,608.6	17.1	391.2	-107.6	1.81
5,709.5	28.29	79.15	5,630.6	19.3	402.8	-109.2	1.54
5,734.5	28.59	78.41	5,652.6	21.6	414.5	-110.7	1.85
5,759.5	28.89	77.64	5,674.5	24.1	426.3	-112.1	1.91
5,784.5	29.20	77.68	5,696.4	26.7	438.1	-113.3	1.24
5,809.5	29.27	77.67	5,718.2	29.3	450.1	-114.6	0.28
5,834.5	29.34	77.61	5,740.0	31.9	462.0	-115.9	0.30
5,859.5	29.69	77.57	5,761.7	34.6	474.1	-117.2	1.40

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MORGANTOWN, WV

EOW Completion Report



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Wellbore: Original Wellpath
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5,884.5	29.91	77.21	5,783.4	37.3	486.2	-118.5	1.13
5,909.5	29.93	77.16	5,805.1	40.0	498.3	-119.7	0.13
5,934.5	29.66	76.84	5,826.8	42.8	510.4	-120.9	1.25
5,959.5	29.89	76.84	5,848.5	45.7	522.5	-122.1	0.92
5,984.5	28.20	77.19	5,870.4	48.4	534.4	-123.2	6.79
6,009.5	26.29	77.59	5,892.6	50.9	545.5	-124.4	7.67
6,034.5	25.78	77.62	5,915.0	53.2	556.2	-125.5	2.04
6,059.5	25.38	77.71	5,937.6	55.6	566.8	-126.7	1.61
6,084.5	24.75	79.65	5,960.2	57.6	577.2	-128.0	4.14
6,109.5	24.45	80.76	5,983.0	59.4	587.4	-129.6	2.20
6,134.5	24.31	81.44	6,005.7	61.0	597.6	-131.3	1.25
6,159.5	24.16	81.55	6,028.5	62.5	607.8	-133.0	0.63
6,184.5	24.03	81.85	6,051.4	64.0	617.9	-134.8	0.71
6,209.5	24.38	82.85	6,074.2	65.4	628.0	-136.8	2.16
6,234.5	24.17	83.82	6,096.9	66.5	638.2	-138.9	1.80
6,259.5	23.92	84.05	6,119.8	67.6	648.4	-141.0	1.07
6,284.5	23.40	83.75	6,142.7	68.7	658.3	-143.2	2.14
6,309.5	23.03	83.46	6,165.7	69.8	668.1	-145.2	1.55
6,334.5	22.69	83.24	6,188.7	70.9	677.8	-147.2	1.40
6,359.5	23.07	82.38	6,211.7	72.1	687.4	-149.1	2.02
6,384.5	23.34	82.08	6,234.7	73.5	697.2	-151.0	1.18
6,409.5	23.46	81.44	6,257.6	74.9	707.0	-152.7	1.12
6,434.5	22.86	81.65	6,280.6	76.3	716.7	-154.4	2.42
6,459.5	21.33	81.80	6,303.8	77.7	726.0	-156.1	6.12
6,484.5	19.70	81.58	6,327.2	78.9	734.7	-157.6	6.53
6,485.0	19.67	81.58	6,327.7	79.0	734.9	-157.7	6.12
6,540.0	18.99	82.57	6,379.6	81.5	752.9	-161.0	1.37
6,634.0	19.26	78.96	6,468.4	86.4	783.3	-165.9	1.29
6,728.0	19.26	83.01	6,557.1	91.3	813.9	-171.0	1.42
6,822.0	19.08	84.15	6,645.9	94.7	844.6	-177.4	0.44
6,849.0	18.73	84.41	6,671.5	95.6	853.3	-179.3	1.33
6,881.0	19.23	83.57	6,701.7	96.7	863.6	-181.6	1.78
6,912.0	21.52	80.34	6,730.8	98.2	874.3	-183.5	8.23
6,943.0	24.36	77.56	6,759.3	100.6	886.1	-185.1	9.80
6,975.0	27.89	75.15	6,788.1	103.9	899.8	-186.2	11.52
7,004.0	31.39	73.00	6,813.3	107.9	913.6	-186.8	12.60
MDLX							
7,006.0	31.63	72.87	6,815.0	108.2	914.6	-186.9	12.60
7,038.0	34.73	69.03	6,841.7	113.9	931.2	-186.6	11.70
7,070.0	36.49	63.41	6,867.8	121.4	948.2	-184.9	11.61
7,101.0	37.90	57.78	6,892.5	130.6	964.5	-181.3	11.88
7,133.0	39.04	52.33	6,917.5	142.0	980.8	-175.7	11.17
7,165.0	41.42	46.97	6,942.0	155.4	996.5	-167.9	13.12
7,196.0	43.70	42.93	6,964.8	170.3	1,011.3	-158.5	11.48

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7,228.0	44.67	38.36	6,987.8	187.2	1,025.8	-147.1	10.40
7,259.0	45.81	33.17	7,009.6	205.0	1,038.7	-134.2	12.44
7,291.0	46.34	27.90	7,031.8	224.9	1,050.4	-119.1	11.97
7,323.0	47.57	23.86	7,053.6	245.9	1,060.6	-102.4	9.99
7,354.0	48.98	19.64	7,074.3	267.4	1,069.1	-84.7	11.13
7,386.0	50.47	15.86	7,095.0	290.6	1,076.5	-65.0	10.14
7,404.0	51.39	13.71	7,106.3	304.1	1,080.1	-53.3	10.59
BRKT							
7,418.0	52.14	12.08	7,115.0	314.9	1,082.6	-43.9	10.59
7,449.0	55.13	8.13	7,133.4	339.4	1,086.9	-22.0	14.08
7,451.0	55.30	7.95	7,134.5	341.1	1,087.2	-20.5	11.43
TTLY							
7,481.0	57.94	5.32	7,151.0	365.9	1,090.0	2.2	11.43
7,513.0	61.38	4.17	7,167.2	393.5	1,092.3	27.5	11.19
7,545.0	64.69	2.21	7,181.7	421.9	1,093.9	54.0	11.70
7,576.0	67.80	359.30	7,194.2	450.3	1,094.3	80.8	13.21
7,608.0	69.38	355.91	7,205.9	480.1	1,093.0	109.5	11.03
7,640.0	71.04	351.63	7,216.7	510.0	1,089.7	138.9	13.61
7,646.0	71.67	351.10	7,218.6	515.6	1,088.9	144.5	13.48
MRCL_HOT							
7,671.0	74.33	348.93	7,225.9	539.1	1,084.7	168.1	13.48
7,703.0	76.77	347.82	7,233.9	569.5	1,078.5	198.9	8.33
7,734.0	78.35	346.33	7,240.6	599.0	1,071.7	229.0	6.93
7,766.0	80.37	345.10	7,246.5	629.5	1,064.0	260.4	7.36
7,798.0	83.01	342.55	7,251.1	659.9	1,055.1	292.0	11.41
7,892.0	88.99	338.42	7,257.7	748.2	1,023.8	385.7	7.72
7,987.0	89.87	335.34	7,258.6	835.5	986.5	480.4	3.37
8,082.0	89.87	333.02	7,258.8	921.1	945.2	574.6	2.44
8,177.0	88.02	335.43	7,260.6	1,006.6	903.9	668.8	3.20
8,268.0	88.56	340.98	7,263.3	1,091.0	870.1	759.6	6.12
8,358.0	89.16	341.14	7,265.1	1,176.1	840.9	849.5	0.69
8,449.0	89.08	341.41	7,266.5	1,262.3	811.7	940.5	0.31
8,540.0	89.08	340.70	7,268.0	1,348.3	782.1	1,031.5	0.78
8,633.0	88.02	341.32	7,270.3	1,436.2	751.9	1,124.5	1.32
8,724.0	89.78	340.70	7,272.1	1,522.3	722.3	1,215.4	2.05
8,816.0	90.04	343.69	7,272.2	1,609.9	694.2	1,307.4	3.26
8,907.0	90.22	344.57	7,272.0	1,697.4	669.3	1,398.3	0.99
8,998.0	90.84	343.78	7,271.1	1,784.9	644.5	1,489.2	1.10
9,090.0	90.04	344.31	7,270.4	1,873.4	619.2	1,581.1	1.04
9,182.0	88.55	340.70	7,271.6	1,961.1	591.5	1,673.1	4.24
9,273.0	89.08	341.32	7,273.5	2,047.1	561.9	1,764.1	0.90
9,368.0	90.22	341.05	7,274.0	2,137.1	531.3	1,859.1	1.23
9,462.0	89.25	341.45	7,274.5	2,226.1	501.1	1,953.1	1.12
9,557.0	89.08	342.02	7,275.9	2,316.3	471.3	2,048.1	0.63
9,652.0	90.04	341.76	7,276.6	2,406.6	441.8	2,143.1	1.05

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9,747.0	89.52	342.64	7,276.9	2,497.0	412.7	2,238.0	1.08
9,842.0	90.81	344.30	7,276.7	2,588.1	385.7	2,333.0	2.21
9,937.0	89.34	341.23	7,276.6	2,678.8	357.6	2,428.0	3.58
10,032.0	89.34	339.82	7,277.6	2,768.4	325.9	2,522.9	1.48
10,126.0	88.64	340.09	7,279.3	2,856.6	293.7	2,616.9	0.80
10,221.0	88.90	340.53	7,281.3	2,946.1	261.7	2,711.8	0.54
10,316.0	89.43	339.74	7,282.7	3,035.4	229.4	2,806.8	1.00
10,411.0	90.22	339.74	7,283.0	3,124.5	196.5	2,901.7	0.83
10,505.0	89.08	338.42	7,283.6	3,212.3	162.9	2,995.7	1.86
10,600.0	88.81	341.14	7,285.3	3,301.5	130.1	3,090.6	2.88
10,695.0	90.40	344.39	7,286.0	3,392.2	102.0	3,185.5	3.81
10,790.0	88.46	344.22	7,286.9	3,483.6	76.3	3,280.4	2.05
10,885.0	89.43	343.25	7,288.7	3,574.8	49.7	3,375.3	1.44
10,979.0	90.31	342.90	7,288.9	3,664.7	22.3	3,469.3	1.01
11,074.0	88.11	342.02	7,290.2	3,755.3	-6.3	3,564.3	2.49
11,170.0	88.81	343.16	7,292.8	3,846.9	-35.0	3,660.2	1.39
11,264.0	90.92	341.58	7,293.0	3,936.4	-63.5	3,754.2	2.80
11,359.0	90.57	340.26	7,291.8	4,026.2	-94.6	3,849.2	1.44
11,453.0	89.90	338.82	7,291.4	4,114.3	-127.4	3,943.1	1.69
11,548.0	90.31	337.98	7,291.2	4,202.6	-162.4	4,038.0	0.98
11,642.0	88.90	339.03	7,291.9	4,290.1	-196.8	4,131.8	1.87
11,737.0	90.24	340.44	7,292.6	4,379.2	-229.7	4,226.8	2.05
11,832.0	88.99	341.32	7,293.2	4,468.9	-260.8	4,321.8	1.61
11,926.0	90.13	343.16	7,293.9	4,558.4	-289.5	4,415.8	2.30
12,021.0	89.69	343.96	7,294.1	4,649.6	-316.4	4,510.7	0.96
12,116.0	90.75	345.89	7,293.7	4,741.3	-341.1	4,605.5	2.32
12,211.0	90.48	342.64	7,292.7	4,832.7	-366.9	4,700.4	3.43
12,306.0	88.64	341.41	7,293.4	4,923.1	-396.2	4,795.4	2.33
12,401.0	89.08	339.12	7,295.3	5,012.5	-428.2	4,890.3	2.45
12,496.0	89.78	338.51	7,296.3	5,101.0	-462.6	4,985.2	0.98
12,591.0	89.87	338.86	7,296.6	5,189.5	-497.1	5,080.1	0.38
12,686.0	88.90	339.65	7,297.6	5,278.4	-530.8	5,175.0	1.32
12,780.0	88.90	340.44	7,299.4	5,366.7	-562.8	5,269.0	0.84
12,875.0	86.91	340.29	7,302.9	5,456.1	-594.7	5,363.9	2.10
12,970.0	87.67	342.99	7,307.3	5,546.2	-624.6	5,458.8	2.95
13,065.0	89.25	341.49	7,309.9	5,636.6	-653.6	5,553.7	2.29
13,160.0	88.72	343.96	7,311.6	5,727.3	-681.8	5,648.7	2.66
13,254.0	90.22	347.29	7,312.5	5,818.3	-705.1	5,742.4	3.89
13,349.0	90.92	345.27	7,311.5	5,910.6	-727.6	5,837.1	2.25
13,444.0	90.92	341.85	7,310.0	6,001.7	-754.5	5,932.0	3.60
13,539.0	88.29	340.26	7,310.6	6,091.5	-785.4	6,027.0	3.23
13,634.0	89.52	340.00	7,312.5	6,180.9	-817.6	6,121.9	1.32
13,729.0	91.28	340.35	7,311.8	6,270.2	-849.9	6,216.9	1.89
13,824.0	87.41	340.44	7,312.9	6,359.7	-881.7	6,311.9	4.07



Company: Antero Resources
Project: Doddridge County WV
Site: Koch/Gains/McCue/Mt Salem Revival/Milo
Well: Milo Unit 1H
Wellbore: Original Wellpath
Design: As Drilled

Local Co-ordinate Reference: Well Milo Unit 1H
TVD Reference: Patterson 317: 1377' + KB 22.5' @ 1399.5usft
MD Reference: Patterson 317: 1377' + KB 22.5' @ 1399.5usft
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)
13,919.0	88.55	340.97	7,316.2	6,449.3	-913.1	6,406.8	1.32
14,013.0	89.34	339.82	7,318.0	6,537.8	-944.6	6,500.8	1.48
14,108.0	90.48	337.28	7,318.1	6,626.3	-979.4	6,595.6	2.93
14,203.0	90.48	340.35	7,317.3	6,714.8	-1,013.7	6,690.5	3.23
14,298.0	90.31	342.20	7,316.7	6,804.8	-1,044.2	6,785.5	1.96
14,393.0	91.45	340.97	7,315.2	6,894.9	-1,074.2	6,880.5	1.77
14,474.0	91.81	340.99	7,312.9	6,971.5	-1,100.6	6,961.4	0.45
14,537.0	91.81	340.99	7,310.9	7,031.0	-1,121.1	7,024.4	0.00

Design Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N-S (usft)	+E-W (usft)	
7,004.0	6,813.3	107.9	913.6	MDLX
7,404.0	7,106.3	304.1	1,080.1	BRKT
7,451.0	7,134.5	341.1	1,087.2	TTLY
7,646.0	7,218.6	515.6	1,088.9	MRCL_HOT

Checked By: _____ Approved By: _____ Date: _____

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