



Antero Resources
Cairo-Anna Unit 1H
Ritchie County WV
Northing: 14283541.61
Easting: 1662993.14
ST 1 As Drilled

Frontier 25: GL 968' + KB 28 @ 998.0usft
Gr: 968.0

WELL DETAILS: Cairo-Anna Unit 1H

+N/-S	+E/-W	Northing	Ground Level	968.0	Eastings	1662993.14	39° 20' 2.265 N	55° 12' 564 W	Slot
0.0	0.0	14283541.61							

REFERENCE INFORMATION

Co-ordinate (N/T) Reference: Well Cairo-Anna Unit 1H, Grid North
Vertical (TV) Reference: Frontier 25: GL 968' + KB 28 @ 998.0usft
Section (VS) Reference: 184' @ 124.0.25
Measured Depth Reference: Frontier 25: GL 968' + KB 28 @ 998.0usft
Calculation Method: Minimum Curvature



PROJECT DETAILS: Ritchie 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

Genie Lightfoot
11:16, September 12 2014

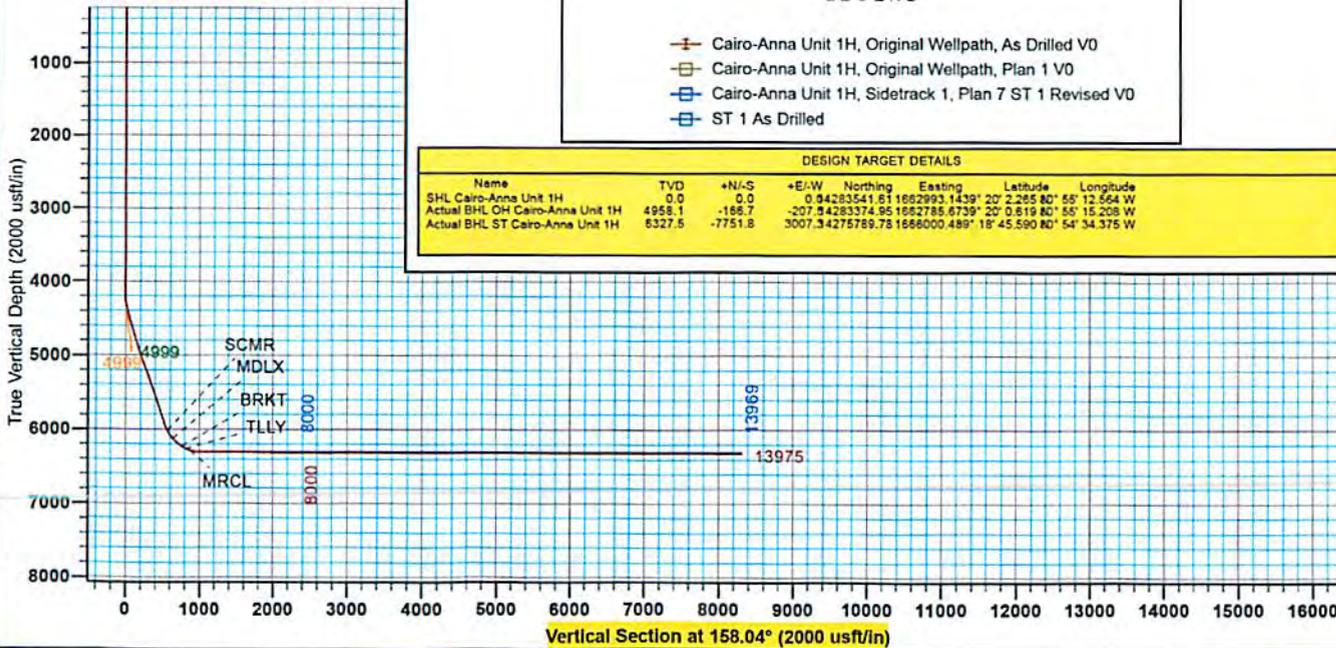
Scientific Drilling
421 South Eagle Lane
Oklahoma City, OK 73128

LEGEND

- Cairo-Anna Unit 1H, Original Wellpath, As Drilled V0
- Cairo-Anna Unit 1H, Original Wellpath, Plan 1 V0
- Cairo-Anna Unit 1H, Sidetrack 1, Plan 7 ST 1 Revised V0
- ST 1 As Drilled

DESIGN TARGET DETAILS

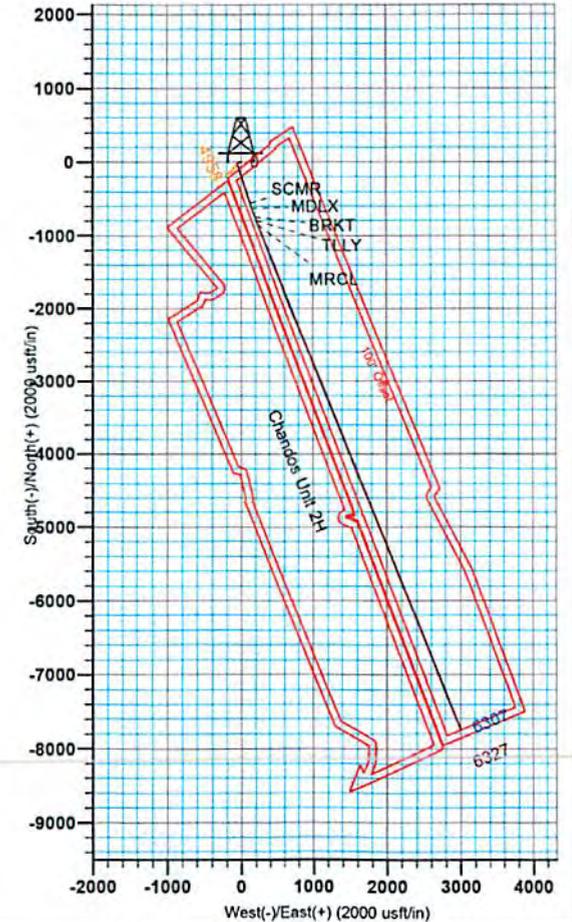
Name	TVD	+N/-S	+E/-W	Northing	Eastings	Latitude	Longitude
SHL Cairo-Anna Unit 1H	0.0	0.0	0.94283541.61	1662993.1439° 20' 2.265 N	55° 12' 564 W		
Actual BHL Old Cairo-Anna Unit 1H	4958.1	-166.7	-207.94283374.95	1662785.6739° 20' 0.819 N	55° 15' 208 W		
Actual BHL ST Cairo-Anna Unit 1H	5327.5	-7751.8	3007.34275789.75	1666000.489° 18' 45.590 N	54° 34.375 W		



To convert Magnetic North to Grid, Subtract 8.44°
To convert True North to Grid, Subtract 0.05°

Azimuths to Grid North
True North: -0.05°
Magnetic North: -8.44°

Magnetic Field
Strength: 52279.7 nT
Dip Angle: 66.91°
Date: 8/8/2014
Model: BGGM2014



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Antero Resources

**Ritchie County WV
Anna Pad
Cairo-Anna Unit 1H
Sidetrack 1**

Design: ST 1 As Drilled

EOW Completion Report

12 September, 2014

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10/16/2015

Company:	Antero Resources	Local Co-ordinate Reference:	Well Cairo-Anna Unit 1H
Project:	Ritchie County WV	TVD Reference:	Frontier 25: GL 968' + KB 28 @ 996.0usft
Site:	Anna Pad	MD Reference:	Frontier 25: GL 968' + KB 28 @ 996.0usft
Well:	Cairo-Anna Unit 1H	North Reference:	Grid
Wellbore:	Sidetrack 1	Survey Calculation Method:	Minimum Curvature
Design:	ST 1 As Drilled	Database:	Oklahoma District

Project	Ritchie County WV, Ritchie County WV, WV North		
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	Anna Pad				
Site Position:		Northing:	14,283,550.70 usft	Latitude:	39° 20' 2.355 N
From:	Map	Easting:	1,662,998.99 usft	Longitude:	80° 55' 12.490 W
Position Uncertainty:	2.0 usft	Slot Radius:	13-3/16"	Grid Convergence:	0.05 °

Well	Cairo-Anna Unit 1H, Marcellus					
Well Position	+N/-S	0.0 usft	Northing:	14,283,541.61 usft	Latitude:	39° 20' 2.265 N
	+E/-W	0.0 usft	Easting:	1,662,993.14 usft	Longitude:	80° 55' 12.564 W
Position Uncertainty		2.0 usft	Wellhead Elevation:	996.0 usft	Ground Level:	968.0 usft

Wellbore	Sidetrack 1				
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Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	BGGM2014	8/8/2014	-8.39	66.91	52,280

Design	ST 1 As Drilled				
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Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	4,197.0
Vertical Section:		Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
		0.0	0.0	0.0	158.04

Survey Program	Date 9/12/2014				
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
115.0	3,705.0	Survey #2 Def Gyro to Int (Original Wellpa	SDI Standard Keeper	Scientific Drilling Intl. Standard Wireline Keeper	
3,718.0	4,197.0	Survey #3 Stab/Steer (Original Wellpath)	SDI Standard Keeper	Scientific Drilling Intl. Standard Wireline Keeper	
4,197.0	13,975.0	Survey #1 ST1 (Sidetrack 1)	MWD SDI	MWD - Standard ver 1.0.1	

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00
115.0	0.13	234.91	115.0	-0.1	-0.1	0.0	0.11
140.0	0.17	248.71	140.0	-0.1	-0.2	0.0	0.21
165.0	0.21	255.95	165.0	-0.1	-0.2	0.0	0.19
190.0	0.18	238.84	190.0	-0.2	-0.3	0.0	0.26
215.0	0.12	254.61	215.0	-0.2	-0.4	0.0	0.29
240.0	0.14	241.12	240.0	-0.2	-0.4	0.0	0.15
265.0	0.15	254.55	265.0	-0.2	-0.5	0.0	0.14
290.0	0.17	245.17	290.0	-0.3	-0.6	0.0	0.13
315.0	0.27	232.76	315.0	-0.3	-0.6	0.0	0.44

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EOW Completion Report



Company:	Antero Resources	Local Co-ordinate Reference:	Well Cairo-Anna Unit 1H
Project:	Ritchie County WV	TVD Reference:	Frontier 25: GL 968' + KB 28 @ 996.0usft
Site:	Anna Pad	MD Reference:	Frontier 25: GL 968' + KB 28 @ 996.0usft
Well:	Cairo-Anna Unit 1H	North Reference:	Grid
Wellbore:	Sidetrack 1	Survey Calculation Method:	Minimum Curvature
Design:	ST 1 As Drilled	Database:	Oklahoma District

Survey									
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)		
340.0	0.12	255.22	340.0	-0.4	-0.7	0.1	0.66		
365.0	0.23	238.00	365.0	-0.4	-0.8	0.1	0.48		
390.0	0.21	239.88	390.0	-0.4	-0.9	0.1	0.09		
415.0	0.20	226.74	415.0	-0.5	-0.9	0.1	0.19		
440.0	0.17	241.14	440.0	-0.5	-1.0	0.1	0.22		
465.0	0.17	244.74	465.0	-0.6	-1.1	0.1	0.04		
490.0	0.06	215.08	490.0	-0.6	-1.1	0.1	0.49		
515.0	0.01	144.24	515.0	-0.6	-1.1	0.1	0.23		
540.0	0.04	213.00	540.0	-0.6	-1.1	0.2	0.15		
565.0	0.06	287.35	565.0	-0.6	-1.1	0.2	0.25		
590.0	0.09	228.30	590.0	-0.6	-1.2	0.2	0.31		
615.0	0.04	214.82	615.0	-0.6	-1.2	0.2	0.21		
640.0	0.03	244.35	640.0	-0.7	-1.2	0.2	0.08		
665.0	0.10	292.60	665.0	-0.7	-1.2	0.2	0.33		
690.0	0.05	343.17	690.0	-0.6	-1.2	0.1	0.31		
715.0	0.10	293.49	715.0	-0.6	-1.3	0.1	0.31		
740.0	0.11	311.03	740.0	-0.6	-1.3	0.1	0.13		
765.0	0.15	288.27	765.0	-0.6	-1.3	0.0	0.26		
790.0	0.12	317.90	790.0	-0.5	-1.4	0.0	0.30		
815.0	0.16	312.24	815.0	-0.5	-1.4	-0.1	0.17		
840.0	0.10	339.84	840.0	-0.4	-1.5	-0.1	0.34		
865.0	0.06	310.42	865.0	-0.4	-1.5	-0.2	0.22		
890.0	0.07	356.66	890.0	-0.4	-1.5	-0.2	0.21		
915.0	0.09	324.74	915.0	-0.4	-1.5	-0.2	0.19		
940.0	0.06	327.56	940.0	-0.3	-1.5	-0.3	0.12		
965.0	0.12	280.64	965.0	-0.3	-1.6	-0.3	0.36		
990.0	0.13	292.13	990.0	-0.3	-1.6	-0.3	0.11		
1,015.0	0.09	316.70	1,015.0	-0.3	-1.7	-0.4	0.24		
1,040.0	0.12	292.04	1,040.0	-0.3	-1.7	-0.4	0.21		
1,065.0	0.13	270.96	1,065.0	-0.2	-1.7	-0.4	0.19		
1,090.0	0.11	316.78	1,090.0	-0.2	-1.8	-0.5	0.38		
1,115.0	0.10	305.51	1,115.0	-0.2	-1.8	-0.5	0.09		
1,140.0	0.16	300.82	1,140.0	-0.2	-1.9	-0.5	0.24		
1,165.0	0.04	293.86	1,165.0	-0.1	-1.9	-0.6	0.48		
1,190.0	0.10	296.56	1,190.0	-0.1	-1.9	-0.6	0.24		
1,215.0	0.06	300.61	1,215.0	-0.1	-2.0	-0.6	0.16		
1,240.0	0.12	261.54	1,240.0	-0.1	-2.0	-0.6	0.33		
1,265.0	0.12	298.48	1,265.0	-0.1	-2.1	-0.7	0.50		
1,290.0	0.16	280.43	1,290.0	-0.1	-2.1	-0.7	0.24		
1,315.0	0.11	305.71	1,315.0	-0.1	-2.2	-0.7	0.31		
1,340.0	0.15	286.36	1,340.0	0.0	-2.2	-0.8	0.24		
1,365.0	0.08	274.51	1,365.0	0.0	-2.3	-0.8	0.29		
1,390.0	0.21	284.77	1,390.0	0.0	-2.3	-0.9	0.53		
1,415.0	0.11	332.49	1,415.0	0.0	-2.4	-0.9	0.63		
1,440.0	0.11	326.77	1,440.0	0.1	-2.4	-1.0	0.04		

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85-09 962

EOW Completion Report



Company:	Antero Resources	Local Co-ordinate Reference:	Well Cairo-Anna Unit 1H
Project:	Ritchie County WV	TVD Reference:	Frontier 25: GL 968' + KB 28 @ 996.0usft
Site:	Anna Pad	MD Reference:	Frontier 25: GL 968' + KB 28 @ 996.0usft
Well:	Cairo-Anna Unit 1H	North Reference:	Grid
Wellbore:	Sidetrack 1	Survey Calculation Method:	Minimum Curvature
Design:	ST 1 As Drilled	Database:	Oklahoma District

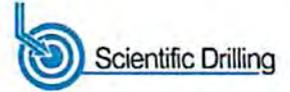
Survey								
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	EW (usft)	V. Sec (usft)	DLeg (°/100usft)	
1,465.0	0.10	263.58	1,465.0	0.1	-2.4	-1.0	0.44	
1,490.0	0.15	312.37	1,490.0	0.1	-2.5	-1.0	0.45	
1,515.0	0.09	251.73	1,515.0	0.1	-2.5	-1.0	0.53	
1,540.0	0.02	3.05	1,540.0	0.1	-2.5	-1.1	0.40	
1,565.0	0.06	284.01	1,565.0	0.1	-2.6	-1.1	0.24	
1,590.0	0.06	277.84	1,590.0	0.1	-2.6	-1.1	0.03	
1,615.0	0.06	354.42	1,615.0	0.1	-2.6	-1.1	0.30	
1,640.0	0.10	57.97	1,640.0	0.2	-2.6	-1.1	0.36	
1,665.0	0.05	79.26	1,665.0	0.2	-2.6	-1.1	0.23	
1,690.0	0.02	90.32	1,690.0	0.2	-2.5	-1.1	0.12	
1,715.0	0.01	98.16	1,715.0	0.2	-2.5	-1.1	0.04	
1,740.0	0.02	205.36	1,740.0	0.2	-2.5	-1.1	0.10	
1,765.0	0.06	96.82	1,765.0	0.2	-2.5	-1.1	0.28	
1,790.0	0.02	255.71	1,790.0	0.2	-2.5	-1.1	0.32	
1,815.0	0.05	216.32	1,815.0	0.2	-2.5	-1.1	0.15	
1,840.0	0.03	317.73	1,840.0	0.1	-2.5	-1.1	0.25	
1,865.0	0.08	10.31	1,865.0	0.2	-2.5	-1.1	0.26	
1,890.0	0.05	36.79	1,890.0	0.2	-2.5	-1.1	0.17	
1,915.0	0.03	348.28	1,915.0	0.2	-2.5	-1.1	0.15	
1,940.0	0.04	312.66	1,940.0	0.2	-2.5	-1.2	0.09	
1,965.0	0.06	282.02	1,965.0	0.2	-2.5	-1.2	0.13	
1,990.0	0.02	10.47	1,990.0	0.2	-2.6	-1.2	0.25	
2,015.0	0.09	82.39	2,015.0	0.2	-2.5	-1.2	0.34	
2,040.0	0.08	320.19	2,040.0	0.3	-2.5	-1.2	0.60	
2,065.0	0.07	161.16	2,065.0	0.3	-2.5	-1.2	0.59	
2,090.0	0.09	267.01	2,090.0	0.2	-2.6	-1.2	0.51	
2,115.0	0.02	346.92	2,115.0	0.2	-2.6	-1.2	0.35	
2,140.0	0.06	37.17	2,140.0	0.3	-2.6	-1.2	0.20	
2,165.0	0.07	63.36	2,165.0	0.3	-2.5	-1.2	0.12	
2,190.0	0.05	50.95	2,190.0	0.3	-2.5	-1.2	0.09	
2,215.0	0.03	19.75	2,215.0	0.3	-2.5	-1.2	0.12	
2,240.0	0.07	268.98	2,240.0	0.3	-2.5	-1.2	0.34	
2,265.0	0.01	162.49	2,265.0	0.3	-2.5	-1.2	0.29	
2,290.0	0.07	171.66	2,290.0	0.3	-2.5	-1.2	0.24	
2,315.0	0.06	211.66	2,315.0	0.3	-2.5	-1.2	0.18	
2,340.0	0.08	297.96	2,340.0	0.3	-2.6	-1.2	0.39	
2,365.0	0.17	281.63	2,365.0	0.3	-2.6	-1.2	0.38	
2,390.0	0.04	210.10	2,390.0	0.3	-2.7	-1.3	0.65	
2,415.0	0.13	264.03	2,415.0	0.3	-2.7	-1.3	0.45	
2,440.0	0.07	281.52	2,440.0	0.3	-2.7	-1.3	0.27	
2,465.0	0.09	310.16	2,465.0	0.3	-2.8	-1.3	0.18	
2,490.0	0.05	349.79	2,490.0	0.3	-2.8	-1.3	0.24	
2,515.0	0.05	260.66	2,515.0	0.3	-2.8	-1.3	0.28	
2,540.0	0.08	303.06	2,540.0	0.3	-2.8	-1.4	0.22	

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EOW Completion Report



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Well:	Cairo-Anna Unit 1H	North Reference:	Grid
Wellbore:	Sidetrack 1	Survey Calculation Method:	Minimum Curvature
Design:	ST 1 As Drilled	Database:	Oklahoma District

Survey								
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)	
2,565.0	0.14	299.77	2,565.0	0.3	-2.9	-1.4	0.24	
2,590.0	0.06	237.68	2,590.0	0.4	-2.9	-1.4	0.50	
2,615.0	0.28	236.29	2,615.0	0.3	-3.0	-1.4	0.88	
2,630.6	0.08	241.27	2,630.5	0.3	-3.0	-1.4	1.29	
2,784.0	0.21	244.15	2,784.0	0.1	-3.3	-1.4	0.08	
2,987.0	0.18	250.10	2,987.0	-0.2	-4.0	-1.3	0.02	
3,189.0	0.11	213.06	3,189.0	-0.4	-4.4	-1.2	0.06	
3,395.0	0.09	160.77	3,395.0	-0.7	-4.4	-1.0	0.04	
3,585.0	0.19	108.93	3,585.0	-1.0	-4.1	-0.6	0.08	
3,705.0	0.24	116.54	3,705.0	-1.2	-3.7	-0.3	0.05	
3,718.0	0.24	100.64	3,718.0	-1.2	-3.6	-0.3	0.51	
3,835.0	2.79	287.48	3,834.9	-0.4	-6.1	-1.9	2.59	
3,951.0	4.85	268.41	3,950.7	0.3	-13.7	-5.4	2.06	
4,072.0	6.47	249.57	4,071.1	-2.2	-25.2	-7.4	2.02	
4,197.0	9.57	230.16	4,194.9	-11.3	-39.8	-4.4	3.26	
4,240.0	8.18	217.63	4,237.4	-16.0	-44.4	-1.8	5.52	
4,272.0	9.67	190.03	4,269.0	-20.5	-46.3	1.7	14.01	
4,304.0	10.90	178.69	4,300.5	-26.1	-46.7	6.8	7.39	
4,336.0	12.49	168.94	4,331.8	-32.6	-45.9	13.0	7.91	
4,368.0	13.81	159.97	4,363.0	-39.5	-44.0	20.2	7.58	
4,399.0	14.42	156.19	4,393.1	-46.6	-41.1	27.8	3.56	
4,431.0	14.95	157.86	4,424.0	-54.0	-38.0	35.9	2.12	
4,463.0	15.21	160.15	4,454.9	-61.8	-35.0	44.2	2.03	
4,558.0	14.68	165.24	4,546.7	-85.2	-27.7	68.6	1.49	
4,654.0	16.00	165.60	4,639.3	-109.7	-21.3	93.8	1.38	
4,750.0	17.32	166.30	4,731.2	-136.4	-14.6	121.1	1.39	
4,845.0	17.32	156.54	4,822.0	-163.1	-5.6	149.2	3.06	
4,941.0	17.67	156.10	4,913.5	-189.6	6.0	178.1	0.39	
5,036.0	17.59	158.30	5,004.1	-216.1	17.1	206.8	0.71	
5,131.0	19.26	163.84	5,094.2	-244.5	26.8	236.8	2.55	
5,225.0	20.31	165.51	5,182.6	-275.2	35.2	268.4	1.27	
5,320.0	21.72	162.87	5,271.3	-307.9	44.5	302.2	1.79	
5,416.0	19.96	161.64	5,361.0	-340.5	54.9	336.3	1.89	
5,511.0	18.20	159.36	5,450.8	-369.7	65.2	367.3	2.01	
5,606.0	18.29	164.45	5,541.0	-398.0	74.4	396.9	1.68	
5,701.0	19.52	161.90	5,630.9	-427.4	83.4	427.6	1.56	
5,796.0	18.29	161.20	5,720.8	-456.6	93.1	458.3	1.32	
5,890.0	19.79	161.38	5,809.7	-485.7	102.9	488.9	1.60	
5,986.0	18.11	159.44	5,900.4	-515.1	113.4	520.1	1.87	
6,017.0	17.67	159.27	5,929.9	-524.0	116.7	529.6	1.43	
6,049.0	19.61	160.23	5,960.3	-533.6	120.3	539.8	6.14	
6,081.0	23.13	161.55	5,990.1	-544.6	124.1	551.5	11.10	
6,112.0	27.02	162.73	6,018.1	-557.1	128.1	564.6	12.65	

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EOW Completion Report



Company:	Antero Resources	Local Co-ordinate Reference:	Well Cairo-Anna Unit 1H
Project:	Ritchie County WV	TVD Reference:	Frontier 25: GL 968' + KB 28 @ 996.0usft
Site:	Anna Pad	MD Reference:	Frontier 25: GL 968' + KB 28 @ 996.0usft
Well:	Cairo-Anna Unit 1H	North Reference:	Grid
Wellbore:	Sidetrack 1	Survey Calculation Method:	Minimum Curvature
Design:	ST 1 As Drilled	Database:	Oklahoma District

Survey							
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)
6,113.0	27.15	162.76	6,019.0	-557.5	128.2	565.0	13.34
SCMR							
6,143.0	31.13	163.66	6,045.2	-571.5	132.4	579.6	13.34
6,174.0	34.91	162.43	6,071.2	-587.7	137.4	596.4	12.38
6,206.0	38.53	160.68	6,096.9	-605.8	143.4	615.5	11.77
6,238.0	41.68	160.81	6,121.3	-625.3	150.2	636.1	9.85
6,242.0	42.04	160.77	6,124.3	-627.8	151.1	638.7	9.09
MDLX							
6,270.0	44.58	160.50	6,144.7	-645.9	157.5	657.9	9.09
6,303.0	47.29	160.87	6,167.6	-668.3	165.3	681.6	8.25
6,335.0	50.12	158.30	6,188.7	-690.8	173.7	705.6	10.70
6,367.0	53.20	156.19	6,208.6	-713.9	183.4	730.7	10.93
6,398.0	56.45	155.58	6,226.5	-737.1	193.8	756.0	10.61
6,407.0	57.14	155.93	6,231.4	-743.9	196.9	763.6	8.37
BRKT							
6,430.0	58.92	156.81	6,243.6	-761.8	204.7	783.1	8.37
6,461.0	60.76	157.86	6,259.1	-786.5	215.0	809.9	6.62
6,465.0	61.25	158.00	6,261.1	-789.8	216.3	813.4	12.72
TLLY							
6,493.0	64.72	158.92	6,273.8	-813.0	225.5	838.3	12.72
6,525.0	69.53	159.95	6,286.2	-840.6	235.8	867.8	15.32
6,531.0	70.54	159.95	6,288.3	-845.9	237.8	873.4	16.84
MRCL							
6,557.0	74.92	159.97	6,296.0	-869.2	246.3	898.2	16.84
6,607.0	85.03	159.36	6,304.7	-915.3	263.4	947.4	20.26
6,626.0	88.05	158.22	6,305.8	-933.0	270.2	966.3	16.99
6,734.0	90.57	157.16	6,307.1	-1,032.9	311.2	1,074.3	2.53
6,829.0	90.22	156.37	6,306.5	-1,120.2	348.7	1,169.3	0.91
6,924.0	88.55	156.45	6,307.5	-1,207.2	386.7	1,264.2	1.76
7,019.0	88.90	155.84	6,309.6	-1,294.1	425.1	1,359.2	0.74
7,113.0	89.60	160.15	6,310.8	-1,381.2	460.3	1,453.1	4.64
7,208.0	89.96	159.54	6,311.2	-1,470.4	493.1	1,548.1	0.75
7,303.0	89.43	160.50	6,311.7	-1,559.7	525.5	1,643.0	1.15
7,398.0	89.87	159.60	6,312.3	-1,649.0	557.9	1,738.0	1.05
7,493.0	88.81	159.18	6,313.4	-1,737.9	591.4	1,832.9	1.20
7,588.0	88.90	159.27	6,315.3	-1,826.7	625.1	1,927.9	0.13
7,683.0	90.40	159.44	6,315.9	-1,915.6	658.5	2,022.9	1.59
7,777.0	90.84	158.56	6,314.8	-2,003.3	692.2	2,116.8	1.05
7,872.0	89.34	156.89	6,314.7	-2,091.2	728.2	2,211.8	2.36
7,968.0	89.43	156.02	6,315.7	-2,179.2	766.6	2,307.8	0.91
8,064.0	89.60	156.81	6,316.5	-2,267.2	805.0	2,403.7	0.84
8,159.0	90.57	157.69	6,316.4	-2,354.8	841.7	2,498.7	1.38
8,248.0	89.96	157.51	6,316.0	-2,437.1	875.6	2,587.7	0.71
8,338.0	89.69	156.45	6,316.3	-2,519.9	910.8	2,677.7	1.22
8,429.0	90.23	157.08	6,316.3	-2,603.5	946.7	2,768.7	0.91

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EOW Completion Report



Company:	Antero Resources	Local Co-ordinate Reference:	Well Cairo-Anna Unit 1H
Project:	Ritchie County WV	TVD Reference:	Frontier 25: GL 968' + KB 28 @ 996.0usft
Site:	Anna Pad	MD Reference:	Frontier 25: GL 968' + KB 28 @ 996.0usft
Well:	Cairo-Anna Unit 1H	North Reference:	Grid
Wellbore:	Sidetrack 1	Survey Calculation Method:	Minimum Curvature
Design:	ST 1 As Drilled	Database:	Oklahoma District

MD (usft)	Inc (")	Azi (azimuth) (")	TVD (usft)	N/S (usft)	EW (usft)	V. Sec (usft)	DLeg ("/100usft)
8,520.0	90.57	158.56	6,315.7	-2,687.8	981.1	2,859.7	1.67
8,611.0	90.40	158.21	6,314.9	-2,772.4	1,014.6	2,950.7	0.43
8,791.0	90.13	158.04	6,314.1	-2,939.4	1,081.7	3,130.7	0.18
8,883.0	89.52	158.04	6,314.4	-3,024.8	1,116.1	3,222.7	0.66
8,973.0	89.43	157.69	6,315.2	-3,108.1	1,150.0	3,312.7	0.40
9,063.0	89.87	157.95	6,315.7	-3,191.5	1,184.0	3,402.7	0.57
9,153.0	90.57	157.60	6,315.4	-3,274.8	1,218.0	3,492.7	0.87
9,243.0	88.90	158.65	6,315.8	-3,358.3	1,251.5	3,582.7	2.19
9,338.0	88.81	158.21	6,317.7	-3,446.6	1,286.5	3,677.6	0.47
9,432.0	88.99	158.65	6,319.5	-3,534.0	1,321.0	3,771.6	0.51
9,527.0	89.16	158.21	6,321.1	-3,622.4	1,355.9	3,866.6	0.50
9,621.0	89.69	158.56	6,322.0	-3,709.7	1,390.6	3,960.6	0.68
9,715.0	90.22	160.15	6,322.1	-3,797.7	1,423.7	4,054.6	1.78
9,809.0	90.92	160.15	6,321.1	-3,886.1	1,455.6	4,148.5	0.74
9,903.0	91.01	159.44	6,319.5	-3,974.3	1,488.1	4,242.4	0.76
9,998.0	90.04	158.92	6,318.7	-4,063.1	1,521.8	4,337.4	1.16
10,092.0	90.13	158.30	6,318.5	-4,150.6	1,556.1	4,431.4	0.67
10,187.0	90.04	158.04	6,318.4	-4,238.8	1,591.4	4,526.4	0.29
10,281.0	89.96	158.12	6,318.4	-4,326.0	1,626.5	4,620.4	0.12
10,375.0	89.69	158.04	6,318.7	-4,413.2	1,661.6	4,714.4	0.30
10,469.0	89.96	157.86	6,319.0	-4,500.4	1,696.9	4,808.4	0.35
10,563.0	90.22	157.77	6,318.8	-4,587.4	1,732.4	4,902.4	0.29
10,657.0	90.40	157.51	6,318.3	-4,674.3	1,768.2	4,996.4	0.34
10,751.0	90.66	156.98	6,317.4	-4,761.0	1,804.5	5,090.4	0.63
10,847.0	88.55	156.98	6,318.1	-4,849.4	1,842.1	5,186.4	2.20
10,941.0	89.52	157.16	6,319.7	-4,935.9	1,878.7	5,280.3	1.05
11,035.0	89.78	158.39	6,320.3	-5,022.9	1,914.2	5,374.3	1.34
11,129.0	89.69	158.83	6,320.7	-5,110.5	1,948.5	5,468.3	0.48
11,223.0	89.87	159.00	6,321.1	-5,198.2	1,982.3	5,562.3	0.26
11,318.0	89.98	158.65	6,321.2	-5,286.7	2,016.6	5,657.3	0.39
11,412.0	89.69	158.92	6,321.5	-5,374.4	2,050.7	5,751.3	0.42
11,506.0	89.96	158.21	6,321.7	-5,461.9	2,085.0	5,845.3	0.81
11,601.0	89.43	158.48	6,322.2	-5,550.2	2,120.1	5,940.3	0.63
11,696.0	89.60	158.04	6,323.1	-5,638.4	2,155.3	6,035.3	0.50
11,884.0	89.52	157.86	6,324.5	-5,812.6	2,225.8	6,223.3	0.10
11,979.0	89.78	157.60	6,325.1	-5,900.6	2,261.8	6,318.3	0.39
12,073.0	90.48	157.33	6,324.9	-5,987.4	2,297.9	6,412.3	0.80
12,166.0	90.84	156.81	6,323.8	-6,073.0	2,334.1	6,505.3	0.68
12,261.0	91.45	156.98	6,321.9	-6,160.4	2,371.4	6,600.2	0.67
12,355.0	90.04	158.39	6,320.7	-6,247.3	2,407.1	6,694.2	2.12
12,449.0	89.52	158.65	6,321.0	-6,334.8	2,441.5	6,788.2	0.62
12,543.0	89.78	158.74	6,321.6	-6,422.4	2,475.6	6,882.2	0.29
12,637.0	89.87	158.74	6,321.9	-6,510.0	2,509.7	6,976.2	0.10
12,732.0	89.60	159.00	6,322.3	-6,598.6	2,544.0	7,071.2	0.39

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EOW Completion Report



Company:	Antero Resources	Local Co-ordinate Reference:	Well Cairo-Anna Unit 1H
Project:	Ritchie County WV	TVD Reference:	Frontier 25: GL 968' + KB 28 @ 996.0usft
Site:	Anna Pad	MD Reference:	Frontier 25: GL 968' + KB 28 @ 996.0usft
Well:	Cairo-Anna Unit 1H	North Reference:	Grid
Wellbore:	Sidetrack 1	Survey Calculation Method:	Minimum Curvature
Design:	ST 1 As Drilled	Database:	Oklahoma District

MD (usft)	Inc (")	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)
12,826.0	90.13	158.21	6,322.6	-6,686.1	2,578.2	7,165.2	1.01
12,921.0	90.40	158.48	6,322.1	-6,774.4	2,613.3	7,260.2	0.40
13,016.0	90.57	158.39	6,321.3	-6,862.8	2,648.2	7,355.2	0.20
13,111.0	90.31	159.09	6,320.6	-6,951.3	2,682.7	7,450.1	0.79
13,205.0	90.75	159.00	6,319.7	-7,039.1	2,716.3	7,544.1	0.48
13,299.0	89.43	158.83	6,319.6	-7,126.8	2,750.1	7,638.1	1.42
13,393.0	89.43	158.12	6,320.5	-7,214.2	2,784.6	7,732.1	0.76
13,582.0	88.99	157.60	6,323.1	-7,389.3	2,855.8	7,921.1	0.36
13,676.0	89.16	156.76	6,324.6	-7,475.9	2,892.3	8,015.1	0.91
13,770.0	89.25	157.07	6,325.9	-7,562.4	2,929.1	8,109.0	0.34
13,864.0	89.52	157.25	6,326.9	-7,649.0	2,965.6	8,203.0	0.35
13,918.0	89.78	158.12	6,327.3	-7,698.9	2,986.1	8,257.0	1.68
13,975.0	89.78	158.12	6,327.5	-7,751.8	3,007.3	8,314.0	0.00

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
6,113.0	6,019.0	-557.5	128.2	SCMR
6,242.0	6,124.3	-627.8	151.1	MDLX
6,407.0	6,231.4	-743.9	196.9	BRKT
6,465.0	6,261.1	-789.8	216.3	TLLY
6,531.0	6,288.3	-845.9	237.8	MRCL

Checked By: _____ Approved By: _____ Date: _____

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