



Antero Resources
 Livingston Unit 1H
 Doddridge County WV
 Northing: 14254786.12
 Easting: 1690508.16
 As Drilled

WELL DETAILS: Livingston Unit 1H
 Ground Level: 1003.0
 Slot

+N-S +E-W Northing Easting Longitude
 0.0 0.0 14254786.12 1690508.16 39° 15' 17.554 N 80° 49' 22.970 W

REFERENCE INFORMATION
 Coordinates (NAD 83) Reference: Well Livingston Unit 1H, 1003.0 ft, 15° Road @ 1022.504 ft
 Section (OS) Reference: Slot # (0.04 0.25) 1002.00 - 15° Road @ 1022.504 ft
 Method: Minimum Curvature



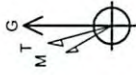
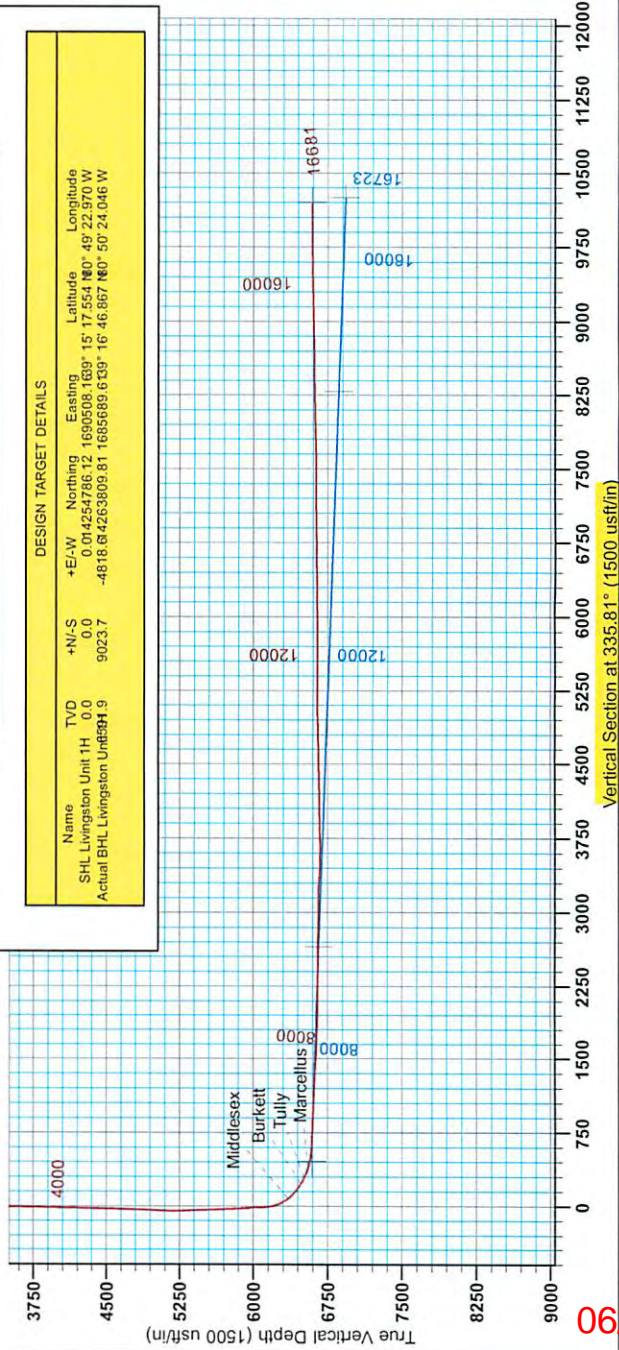
Genie Lightfoot
 Scientific Drilling
 421 South Eagle Lane
 Oklahoma City, Oklahoma
 405-787-3663

LEGEND

- Livingston Unit 1H, Original Wellpath, Plan 7 V0
- As Drilled

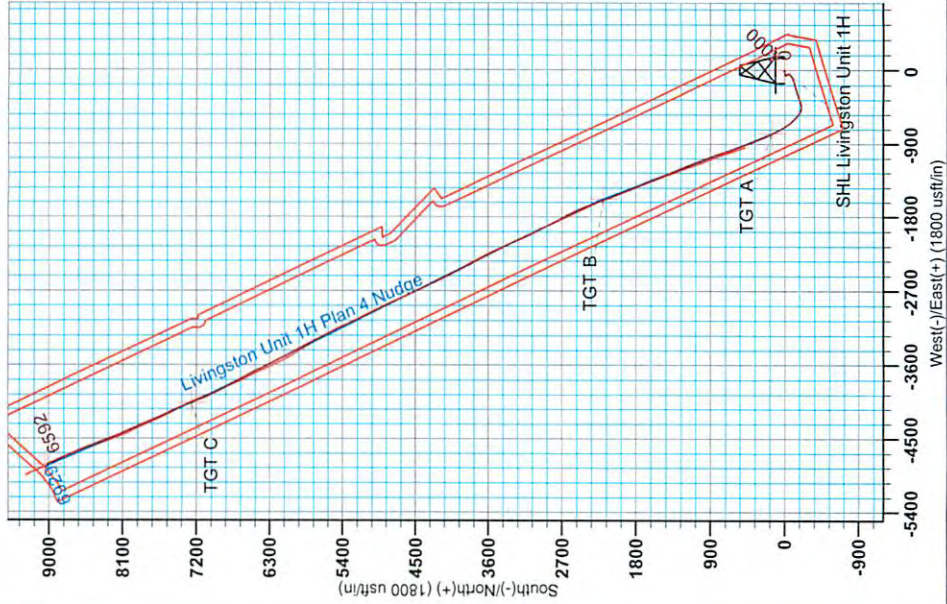
DESIGN TARGET DETAILS

Name	TVD	+N-S	+E-W	Northing	Easting	Latitude	Longitude
SHL Livingston Unit 1H	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Actual BHL Livingston Unit 1H	9023.7	-4816.6	4263809.81	1690508.1639	15° 17' 55.4 N	80° 49' 22.970 W	



To convert Magnetic North to Grid, Subtract 8.53°
 To convert True North to Grid, Subtract 0.11°

Asimuths to Grid North
 True North: -0.11°
 Magnetic North: -8.53°
 Magnetic Field
 Strength: 52352.6enT
 Inclination: 66.2enD
 Date: 1/16/2013
 Model: IGRF2010



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Doddridge County WV
Squirrel/Livingston/Vonda Pad
Livingston Unit 1H
Original Wellpath

Design: As Drilled

EOW Completion Report

27 December, 2013

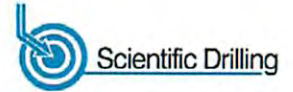
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Company:	Antero Resources	Local Co-ordinate Reference:	Well Livingston Unit 1H
Project:	Doddridge County WV	TVD Reference:	Livingston Unit 1H 1003' GL + 19' RKB @ 1022.0'
Site:	Squirrel/Livingston/Vonda Pad	MD Reference:	Livingston Unit 1H 1003' GL + 19' RKB @ 1022.0'
Well:	Livingston 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 Feet)	System Datum:	Mean Sea Level
Geo Datum:	NAD 1927 (NADCON CONUS)		
Map Zone:	Zone 17N (84 W to 78 W)		

Site	Squirrel/Livingston/Vonda Pad				
Site Position:		Northing:	14,254,779.42 usft	Latitude:	39° 15' 17.488 N
From:	Map	Easting:	1,690,526.27 usft	Longitude:	80° 49' 22.740 W
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16"	Grid Convergence:	0.11 °

Well	Livingston Unit 1H					
Well Position	+N/-S	0.0 usft	Northing:	14,254,786.12 usft	Latitude:	39° 15' 17.554 N
	+E/-W	0.0 usft	Easting:	1,690,508.16 usft	Longitude:	80° 49' 22.970 W
Position Uncertainty	2.0 usft		Wellhead Elevation:	1,022.0 usft	Ground Level:	1,003.0 usft

Wellbore	Original Wellpath				
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Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	11/18/2013	-8.41	66.84	52,353

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	335.81

Survey Program	Date	From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
	12/27/2013	25.3	248.5	Survey #2 Gyro to 248.5 (Original Wellpath)	SDI Standard Keeper	Scientific Drilling Intl. Standard Wireline Keeper
		300.0	6,086.3	Survey #4 Final Gyro (Original Wellpath)	SDI Standard Keeper	Scientific Drilling Intl. Standard Wireline Keeper
		6,117.0	16,681.0	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
	25.3	0.49	87.92	25.3	0.0	0.1	0.0	1.94
	50.5	0.63	88.79	50.5	0.0	0.4	-0.1	0.56
	75.3	0.74	87.22	75.3	0.0	0.7	-0.2	0.45
	100.0	0.77	94.65	100.0	0.0	1.0	-0.4	0.41
	125.2	0.88	87.98	125.2	0.0	1.3	-0.5	0.58
	150.6	0.91	96.35	150.6	0.0	1.7	-0.7	0.53
	175.1	1.12	100.47	175.1	-0.1	2.2	-1.0	0.91
	200.5	1.08	98.65	200.5	-0.2	2.6	-1.0	0.21
	226.0	1.20	97.58	226.0	-0.2		-1.5	0.48

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Project:	Doddridge County WV	TVD Reference:	Livingston Unit 1H 1003' GL + 19' RKB @ 1022.0'
Site:	Squirrel/Livingston/Vonda Pad	MD Reference:	Livingston Unit 1H 1003' GL + 19' RKB @ 1022.0'
Well:	Livingston 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)
248.5	1.16	97.81	248.4	-0.3	3.6	-1.7	0.18
300.0	0.64	104.62	300.0	-0.4	4.4	-2.2	1.03
400.0	1.49	273.17	400.0	-0.5	3.6	-1.9	2.12
500.0	3.43	274.57	499.9	-0.2	-0.6	0.1	1.94
600.0	4.90	271.80	599.6	0.2	-7.9	3.4	1.48
700.0	5.73	267.02	699.2	0.1	-17.1	7.1	0.94
800.0	5.88	258.56	798.7	-1.2	-27.2	10.0	0.87
900.0	5.81	251.28	898.1	-3.9	-37.0	11.6	0.74
1,000.0	5.01	244.83	997.7	-7.3	-45.7	12.0	1.00
1,100.0	3.42	241.59	1,097.4	-10.6	-52.3	11.7	1.61
1,200.0	2.63	236.89	1,197.3	-13.3	-56.8	11.2	0.83
1,300.0	1.66	233.91	1,297.2	-15.4	-59.9	10.5	0.98
1,400.0	1.26	223.75	1,397.2	-17.0	-61.9	9.8	0.47
1,500.0	1.04	221.04	1,497.1	-18.5	-63.2	9.0	0.23
1,600.0	0.82	204.27	1,597.1	-19.9	-64.1	8.2	0.35
1,700.0	0.53	171.32	1,697.1	-21.0	-64.3	7.2	0.47
1,800.0	0.42	141.80	1,797.1	-21.7	-64.0	6.4	0.26
1,900.0	0.38	131.65	1,897.1	-22.2	-63.6	5.8	0.08
2,000.0	0.37	127.48	1,997.1	-22.6	-63.1	5.2	0.03
2,100.0	0.37	141.48	2,097.1	-23.1	-62.6	4.6	0.09
2,200.0	0.42	128.34	2,197.1	-23.6	-62.1	4.0	0.10
2,300.0	0.37	135.06	2,297.1	-24.0	-61.6	3.3	0.07
2,400.0	0.36	139.29	2,397.1	-24.5	-61.2	2.7	0.03
2,500.0	0.38	129.21	2,497.1	-24.9	-60.7	2.1	0.07
2,600.0	0.47	135.61	2,597.1	-25.4	-60.2	1.4	0.10
2,700.0	0.47	138.76	2,697.1	-26.0	-59.6	0.7	0.03
2,800.0	0.92	161.93	2,797.1	-27.1	-59.1	-0.5	0.52
2,900.0	1.03	159.68	2,897.1	-28.7	-58.5	-2.2	0.12
3,000.0	0.91	153.17	2,997.1	-30.3	-57.8	-3.9	0.16
3,100.0	1.02	142.95	3,097.1	-31.7	-56.9	-5.6	0.20
3,200.0	0.95	143.49	3,197.0	-33.1	-55.9	-7.2	0.07
3,300.0	0.79	150.03	3,297.0	-34.3	-55.1	-8.7	0.19
3,400.0	0.88	140.17	3,397.0	-35.5	-54.2	-10.2	0.17
3,500.0	0.81	140.96	3,497.0	-36.7	-53.3	-11.6	0.07
3,600.0	0.75	138.88	3,597.0	-37.7	-52.4	-12.9	0.07
3,700.0	0.73	137.98	3,697.0	-38.7	-51.6	-14.1	0.02
3,800.0	0.73	140.35	3,797.0	-39.6	-50.7	-15.4	0.03
3,900.0	0.75	134.64	3,897.0	-40.6	-49.9	-16.6	0.08
4,000.0	0.88	134.02	3,997.0	-41.6	-48.9	-17.9	0.13
4,100.0	0.99	143.52	4,096.9	-42.8	-47.8	-19.5	0.19
4,200.0	1.03	149.63	4,196.9	-44.3	-46.8	-21.2	0.11
4,300.0	1.16	153.24	4,296.9	-45.9	-45.8	-23.1	0.15
4,400.0	1.17	155.33	4,396.9	-47.8	-44.2	-25.1	0.04
4,500.0	1.22	156.49	4,496.9	-49.7	-43.3	-27.2	0.06
4,600.0	1.25	154.39	4,596.8	-51.6	-42.4	-29.4	0.05

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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)
4,682.9	1.44	155.06	4,679.8	-53.4	-42.4	-31.3	0.23
4,700.0	1.32	153.13	4,696.8	-53.8	-42.3	-31.7	0.75
4,800.0	3.04	211.05	4,796.8	-57.1	-43.1	-34.4	2.59
4,900.0	6.65	225.09	4,896.4	-63.4	-48.6	-38.0	3.77
5,000.0	9.08	227.28	4,995.4	-72.9	-58.5	-42.5	2.45
5,100.0	12.10	236.68	5,093.7	-84.0	-73.0	-46.7	3.47
5,200.0	14.11	244.12	5,191.1	-95.1	-92.8	-48.7	2.62
5,300.0	15.70	250.08	5,287.8	-105.0	-116.5	-48.1	2.21
5,400.0	17.16	254.19	5,383.7	-113.6	-143.4	-44.9	1.87
5,500.0	18.28	253.44	5,478.9	-122.1	-172.6	-40.7	1.14
5,600.0	19.07	252.72	5,573.7	-131.4	-203.2	-36.6	0.82
5,700.0	20.84	251.68	5,667.7	-141.9	-235.7	-32.8	1.81
5,800.0	22.86	251.52	5,760.5	-153.6	-271.0	-29.1	2.02
5,900.0	24.04	252.09	5,852.2	-166.1	-308.8	-24.9	1.20
6,000.0	23.79	251.93	5,943.6	-178.6	-347.4	-20.5	0.26
6,086.3	23.94	253.23	6,022.6	-189.0	-380.7	-16.4	0.63
6,117.0	24.09	253.12	6,050.6	-192.6	-392.7	-14.8	0.51
6,162.0	23.39	253.48	6,091.8	-197.9	-410.0	-12.5	1.59
6,207.0	23.39	257.78	6,133.1	-202.3	-427.3	-9.4	3.79
6,251.0	25.15	269.74	6,173.2	-204.2	-445.2	-3.8	11.84
6,296.0	27.44	280.19	6,213.6	-202.4	-465.0	5.9	11.46
6,341.0	30.24	290.41	6,253.0	-196.6	-485.8	19.7	12.58
6,386.0	33.77	298.56	6,291.2	-186.7	-507.5	37.7	12.38
6,431.0	37.99	305.16	6,327.7	-172.7	-529.8	59.6	12.71
6,465.0	41.36	308.48	6,353.8	-159.7	-547.1	78.6	11.71
Middlesex							
6,476.0	42.47	309.46	6,362.0	-155.0	-552.9	85.1	11.71
6,521.0	46.78	312.89	6,394.0	-134.2	-576.6	113.8	10.97
6,565.0	51.00	316.49	6,423.0	-110.9	-600.1	144.8	11.40
6,610.0	55.22	318.87	6,450.0	-84.3	-624.4	179.0	10.29
6,655.0	59.09	321.59	6,474.4	-55.2	-648.5	215.4	9.99
6,672.0	60.28	322.78	6,483.0	-43.6	-657.5	229.6	9.23
Burkett							
6,700.0	62.26	324.67	6,496.4	-23.8	-672.0	253.6	9.23
6,740.0	65.31	327.26	6,514.1	5.9	-692.1	289.0	9.57
Tully							
6,745.0	65.69	327.57	6,516.2	9.7	-694.6	293.5	9.57
6,790.0	69.56	330.20	6,533.3	45.4	-716.0	334.8	10.16
6,835.0	71.75	331.52	6,548.2	82.4	-736.7	377.1	5.60
6,850.0	72.34	331.88	6,552.8	95.0	-743.5	391.3	4.51
Marcellus							
6,880.0	73.51	332.58	6,561.6	120.4	-756.8	419.9	4.51
6,925.0	76.59	333.46	6,573.2	159.1	-776.6	463.4	7.10
6,969.0	80.11	334.86	6,582.1	197.9	-795.3	506.4	8.59
7,014.0	85.56	335.48	6,587.7	238.4	-814.1	551.1	12.19

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Wellbore:	Original Wellpath	Survey Calculation Method:	Minimum Curvature
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Survey

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)
7,076.0	88.99	337.41	6,590.7	295.2	-838.8	613.0	6.35
7,166.0	87.49	338.29	6,593.5	378.5	-872.7	702.9	1.93
7,255.0	87.23	338.38	6,597.6	461.1	-905.6	791.7	0.31
7,345.0	88.55	340.66	6,600.9	545.4	-937.0	881.4	2.93
7,435.0	87.05	340.40	6,604.3	630.1	-967.0	971.1	1.69
7,525.0	86.79	340.49	6,609.2	714.8	-997.1	1,060.6	0.31
7,614.0	88.55	341.63	6,612.8	798.9	-1,025.9	1,149.2	2.36
7,704.0	87.14	339.08	6,616.2	883.6	-1,056.2	1,238.8	3.24
7,794.0	87.49	338.99	6,620.4	967.6	-1,088.3	1,328.6	0.40
7,884.0	86.17	338.47	6,625.4	1,051.3	-1,120.9	1,418.3	1.58
7,973.0	85.38	338.47	6,631.9	1,133.9	-1,153.5	1,507.0	0.89
8,063.0	86.88	337.59	6,638.0	1,217.2	-1,187.1	1,596.7	1.93
8,153.0	88.20	337.67	6,641.8	1,300.3	-1,221.3	1,686.6	1.47
8,243.0	88.37	336.09	6,644.5	1,383.0	-1,256.6	1,776.5	1.76
8,333.0	88.29	335.48	6,647.2	1,465.1	-1,293.5	1,866.5	0.68
8,423.0	89.69	336.97	6,648.8	1,547.4	-1,329.8	1,956.5	2.27
8,512.0	90.13	337.41	6,648.9	1,629.5	-1,364.3	2,045.4	0.70
8,602.0	91.01	338.03	6,648.0	1,712.7	-1,398.4	2,135.4	1.20
8,692.0	88.99	337.67	6,648.0	1,796.1	-1,432.4	2,225.3	2.28
8,782.0	89.16	336.80	6,649.4	1,879.1	-1,467.2	2,315.3	0.98
8,872.0	89.69	338.47	6,650.4	1,962.3	-1,501.4	2,405.2	1.95
8,961.0	90.04	337.67	6,650.6	2,044.9	-1,534.7	2,494.2	0.98
9,051.0	88.55	337.94	6,651.7	2,128.2	-1,568.7	2,584.1	1.68
9,141.0	89.60	340.49	6,653.1	2,212.3	-1,600.6	2,673.9	3.06
9,230.0	88.55	338.47	6,654.6	2,295.6	-1,631.8	2,762.7	2.56
9,320.0	90.22	340.49	6,655.5	2,379.9	-1,663.3	2,852.5	2.91
9,410.0	89.08	334.95	6,656.1	2,463.2	-1,697.4	2,942.4	6.28
9,499.0	90.04	334.95	6,656.8	2,543.8	-1,735.1	3,031.4	1.08
9,589.0	89.78	331.52	6,656.9	2,624.1	-1,775.6	3,121.3	3.82
9,679.0	88.99	331.61	6,657.9	2,703.3	-1,818.5	3,211.1	0.88
9,769.0	86.61	332.75	6,661.3	2,782.8	-1,860.5	3,300.8	2.93
9,858.0	86.44	332.49	6,666.7	2,861.7	-1,901.3	3,389.5	0.35
9,948.0	87.41	333.02	6,671.5	2,941.6	-1,942.5	3,479.2	1.23
10,038.0	89.25	334.60	6,674.2	3,022.3	-1,982.2	3,569.1	2.69
10,128.0	91.10	334.95	6,673.9	3,103.7	-2,020.5	3,659.1	2.09
10,217.0	92.59	335.39	6,671.0	3,184.4	-2,057.9	3,748.1	1.75
10,307.0	91.45	334.86	6,667.9	3,266.0	-2,095.7	3,838.0	1.40
10,397.0	90.22	334.42	6,666.5	3,347.4	-2,134.2	3,928.0	1.45
10,486.0	90.84	335.65	6,665.7	3,428.0	-2,171.8	4,017.0	1.55
10,576.0	90.22	333.98	6,664.9	3,509.5	-2,210.1	4,106.9	1.98
10,666.0	90.57	332.58	6,664.3	3,589.9	-2,250.6	4,196.8	1.60
10,761.0	91.45	331.79	6,662.6	3,673.9	-2,294.9	4,291.6	1.24
10,854.0	90.66	330.38	6,660.9	3,755.3	-2,340.0	4,384.3	1.74
10,948.0	90.13	332.05	6,660.2	3,837.6	-2,385.0	4,478.0	1.86

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Company:	Antero Resources	Local Co-ordinate Reference:	Well Livingston Unit 1H
Project:	Doddridge County WV	TVD Reference:	Livingston Unit 1H 1003' GL + 19' RKB @ 1022.0'
Site:	Squirrel/Livingston/Vonda Pad	MD Reference:	Livingston Unit 1H 1003' GL + 19' RKB @ 1022.0'
Well:	Livingston 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)
11,041.0	90.22	333.90	6,659.9	3,920.5	-2,427.4	4,570.9	1.99
11,136.0	92.24	334.07	6,657.9	4,005.8	-2,469.0	4,665.8	2.13
11,230.0	92.33	334.60	6,654.2	4,090.5	-2,509.7	4,759.7	0.57
11,324.0	91.10	333.46	6,651.3	4,175.0	-2,550.8	4,853.6	1.78
11,419.0	91.10	334.77	6,649.5	4,260.4	-2,592.3	4,948.5	1.38
11,513.0	90.48	333.72	6,648.2	4,345.1	-2,633.1	5,042.5	1.30
11,608.0	90.31	333.81	6,647.6	4,430.3	-2,675.1	5,137.4	0.20
11,702.0	89.87	335.48	6,647.4	4,515.2	-2,715.4	5,231.4	1.84
11,797.0	89.87	334.95	6,647.6	4,601.5	-2,755.2	5,326.4	0.56
11,886.0	89.96	335.57	6,647.8	4,682.3	-2,792.5	5,415.4	0.70
11,976.0	89.87	335.13	6,647.9	4,764.1	-2,830.0	5,505.4	0.50
12,066.0	90.04	334.51	6,648.0	4,845.5	-2,868.3	5,595.4	0.71
12,156.0	90.92	334.33	6,647.2	4,926.7	-2,907.2	5,685.4	1.00
12,246.0	89.90	334.45	6,646.6	5,007.9	-2,946.1	5,775.3	1.14
12,335.0	90.66	334.69	6,646.1	5,088.2	-2,984.3	5,864.3	0.90
12,425.0	91.10	334.16	6,644.8	5,169.4	-3,023.1	5,954.3	0.77
12,515.0	89.60	334.77	6,644.2	5,250.6	-3,061.9	6,044.2	1.80
12,605.0	89.25	335.48	6,645.1	5,332.3	-3,099.8	6,134.2	0.88
12,694.0	91.01	335.21	6,644.9	5,413.1	-3,136.9	6,223.2	2.00
12,784.0	91.71	335.39	6,642.8	5,494.9	-3,174.5	6,313.2	0.80
12,874.0	90.13	333.28	6,641.3	5,576.0	-3,213.5	6,403.1	2.93
12,964.0	89.78	331.87	6,641.4	5,655.9	-3,254.9	6,493.0	1.61
13,053.0	91.28	333.10	6,640.6	5,734.8	-3,296.0	6,581.8	2.18
13,143.0	91.28	333.46	6,638.6	5,815.2	-3,336.5	6,671.7	0.40
13,233.0	90.40	330.44	6,637.2	5,894.6	-3,378.8	6,761.5	3.49
13,322.0	90.22	332.75	6,636.8	5,972.9	-3,421.1	6,850.2	2.60
13,412.0	90.66	331.79	6,636.1	6,052.5	-3,463.0	6,940.1	1.17
13,502.0	90.84	333.81	6,634.9	6,132.6	-3,504.1	7,029.9	2.25
13,591.0	91.54	334.51	6,633.0	6,212.6	-3,542.9	7,118.9	1.11
13,681.0	90.40	334.60	6,631.5	6,293.9	-3,581.6	7,208.8	1.27
13,771.0	89.52	333.98	6,631.6	6,375.0	-3,620.6	7,298.8	1.20
13,860.0	89.52	332.58	6,632.3	6,454.5	-3,660.6	7,387.7	1.57
13,950.0	91.19	333.63	6,631.8	6,534.7	-3,701.3	7,477.6	2.19
14,040.0	91.01	329.94	6,630.0	6,614.0	-3,743.9	7,567.4	4.10
14,129.0	89.96	330.91	6,629.3	6,691.4	-3,787.8	7,656.0	1.61
14,219.0	91.45	333.63	6,628.2	6,771.1	-3,829.7	7,745.8	3.45
14,309.0	91.36	331.52	6,626.0	6,850.9	-3,871.1	7,835.6	2.35
14,399.0	90.31	331.35	6,624.7	6,930.0	-3,914.1	7,925.3	1.18
14,488.0	90.75	333.72	6,623.8	7,008.9	-3,955.2	8,014.2	2.71
14,578.0	90.48	337.94	6,622.9	7,091.0	-3,992.0	8,104.1	4.70
14,668.0	90.92	339.52	6,621.8	7,174.9	-4,024.7	8,194.0	1.82
14,758.0	91.54	338.11	6,619.8	7,258.8	-4,057.2	8,283.9	1.71
14,847.0	90.84	336.27	6,618.0	7,340.8	-4,091.7	8,372.8	2.21
14,937.0	90.92	335.74	6,616.6	7,423.0	-4,128.3	8,462.8	0.60
15,027.0	91.01	336.00	6,615.1	7,505.1	RECEIVED	8,552.8	0.31

Company:	Antero Resources	Local Co-ordinate Reference:	Well Livingston Unit 1H
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Site:	Squirrel/Livingston/Vonda Pad	MD Reference:	Livingston Unit 1H 1003' GL + 19' RKB @ 1022.0'
Well:	Livingston 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)
15,117.0	89.69	333.72	6,614.6	7,586.6	-4,203.3	8,642.8	2.93
15,206.0	91.01	335.74	6,614.0	7,667.1	-4,241.3	8,731.7	2.71
15,296.0	91.28	336.97	6,612.2	7,749.5	-4,277.4	8,821.7	1.40
15,386.0	91.19	337.06	6,610.3	7,832.3	-4,312.5	8,911.7	0.14
15,475.0	91.10	336.62	6,608.5	7,914.1	-4,347.5	9,000.6	0.50
15,565.0	91.10	336.27	6,606.8	7,996.6	-4,383.5	9,090.6	0.39
15,655.0	91.80	334.86	6,604.5	8,078.5	-4,420.7	9,180.6	1.75
15,745.0	91.89	338.11	6,601.6	8,161.0	-4,456.6	9,270.5	3.61
15,834.0	92.24	338.11	6,598.4	8,243.5	-4,489.7	9,359.4	0.39
15,924.0	91.28	340.49	6,595.6	8,327.7	-4,521.5	9,449.2	2.85
16,014.0	91.19	339.52	6,593.7	8,412.2	-4,552.3	9,538.9	1.08
16,104.0	90.13	336.36	6,592.6	8,495.6	-4,586.1	9,628.8	3.70
16,193.0	90.75	336.44	6,592.0	8,577.2	-4,621.7	9,717.8	0.70
16,283.0	89.69	336.36	6,591.6	8,659.6	-4,657.7	9,807.8	1.18
16,372.0	89.87	336.53	6,592.0	8,741.2	-4,693.3	9,896.8	0.28
16,462.0	89.96	336.27	6,592.1	8,823.7	-4,729.3	9,986.8	0.31
16,552.0	89.87	336.53	6,592.2	8,906.2	-4,765.4	10,076.8	0.31
16,626.0	90.22	335.30	6,592.2	8,973.7	-4,795.6	10,150.8	1.73
16,681.0	90.22	335.30	6,591.9	9,023.7	-4,818.6	10,205.8	0.00

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
6,465.0	6,353.8	-159.7	-547.1	Middlesex
6,672.0	6,483.0	-43.6	-657.5	Burkett
6,740.0	6,514.1	5.9	-692.1	Tully
6,850.0	6,552.8	95.0	-743.5	Marcellus

Checked By: _____ Approved By: _____ Date: _____

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