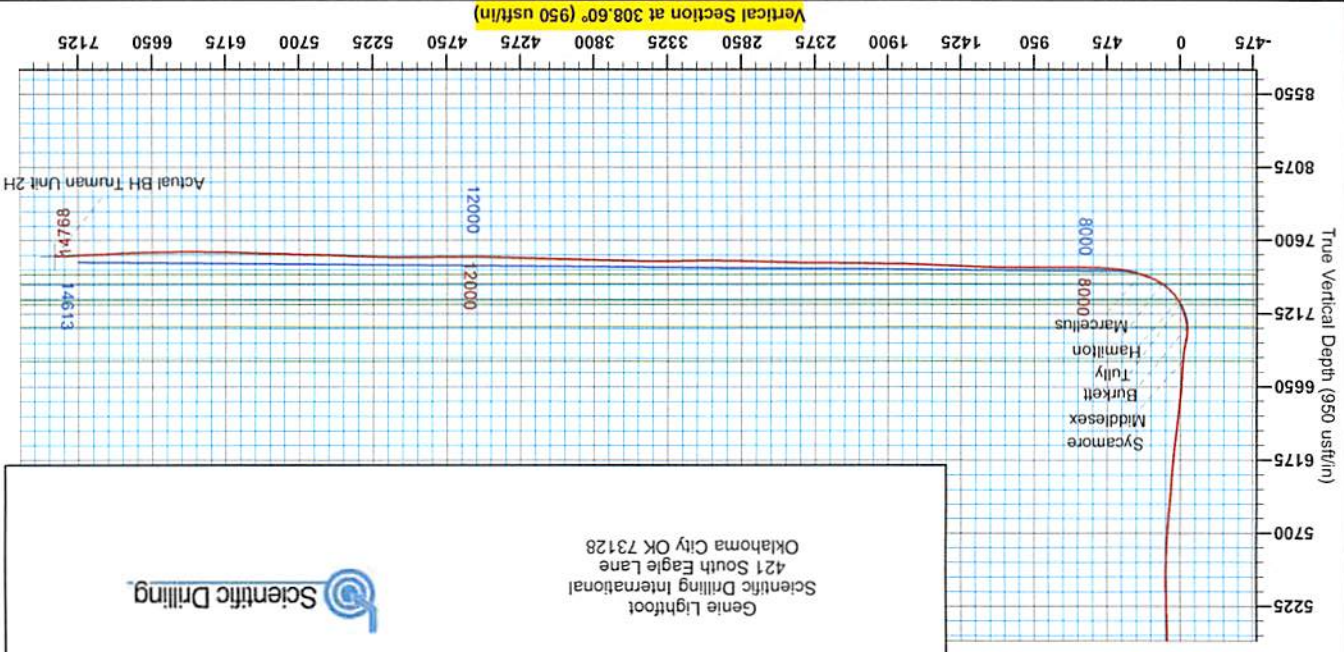




Antero Resources
 Truman Unit 2H
 Harrison County West Virginia
 Northing: 14243219.48
 Easting: 1766783.11
 As Drilled

Paterson - Truman 2H 1405 GL + 25 KB @ 1430 Quat
 GR: 1405.0



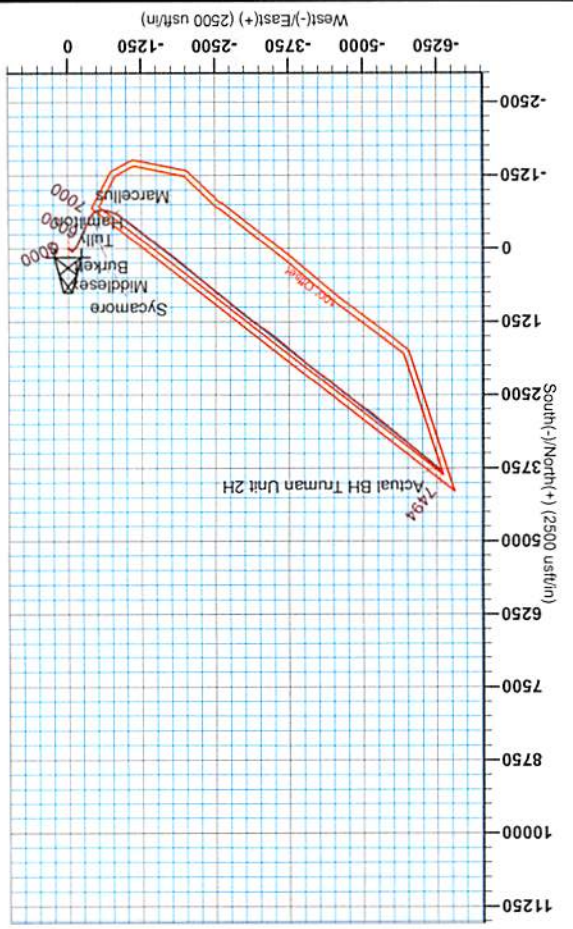
Scientific Drilling
 Genie Lightfoot
 421 South Eagle Lane
 Oklahoma City OK 73128

WELL DETAILS: Truman Unit 2H	
+N-S	14243219.48
+E-W	1766783.11
Ground Level:	1405.0
Latitude	33° 13' 20.504 N
Longitude	80° 33' 13.701 W
Slot	

DESIGN TARGET DETAILS	
Name	Actual BH Truman Unit 2H
TVD	7403.9
+N-S	0.0
+E-W	0.0
Latitude	33° 13' 20.504 N
Longitude	80° 33' 13.701 W
Point	Point

PROJECT DETAILS: Harrison County West Virginia	
Geoside 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

REFERENCE INFORMATION	
Coordinate (N/E):	Reference: Paterson Truman Unit 2H Gnd Minn
Shooting (V/S):	Reference: Paterson Truman Unit 2H Gnd Minn
Shooting (V/S):	Reference: SMI - 10.04.081
Measured Depth:	Reference: Paterson Truman Unit 2H 1405 GL + 25 KB @ 1430 Quat
Calculation Method:	Trueman Curvature



Azimuths to Grid North
 True North: -0.28°
 Magnetic North: -8.89°
 Magnetic Field
 Strength: 52267.4nT
 Dip Angle: 66.76°
 Date: 2/27/2014
 Model: IGRF2010

To convert True North to Grid, Subtract 0.28°
 To convert Magnetic North to Grid, Subtract 8.89°



Company:	Antero Resources	Local Co-ordinate Reference:	Well Truman Unit 2H
Project:	Harrison County West Virginia	TVD Reference:	Patterson: Truman 2H 1405 GL + 25 KB @ 1430.0usft
Site:	Cleta / Opie / Maude Pad	MD Reference:	Patterson: Truman 2H 1405 GL + 25 KB @ 1430.0usft
Well:	Truman Unit 2H	North Reference:	Grid
Wellbore:	Original Wellpath	Survey Calculation Method:	Minimum Curvature
Design:	As Drilled	Database:	Oklahoma District

Project	Harrison County West Virginia, Harrison County, USA		
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	Cleta / Opie / Maude Pad, SHL Cleta Unit 1H				
Site Position:		Northing:	14,243,194.63 usft	Latitude:	39° 13' 20.344 N
From:	Map	Easting:	1,766,859.11 usft	Longitude:	80° 33' 12.736 W
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "	Grid Convergence:	0.28 °

Well	Truman Unit 2H, Marcellus					
Well Position	+N/-S	0.0 usft	Northing:	14,243,219.48 usft	Latitude:	39° 13' 20.594 N
	+E/-W	0.0 usft	Easting:	1,766,783.11 usft	Longitude:	80° 33' 13.701 W
Position Uncertainty		2.0 usft	Wellhead Elevation:	1,430.0 usft	Ground Level:	1,405.0 usft

Wellbore	Original Wellpath				
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Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	2/27/2014	-8.61	66.76	52,267

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	308.60

Survey Program	Date	From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
	7/30/2014	112.0	6,716.0	Survey #6 Final Gyro (Original Wellpath)	SDI Standard Keeper	Scientific Drilling Intl. Standard Wireline Keeper
		6,808.0	14,768.0	Survey #7 MWD (Original Wellpath)	SDI MWD	Scientific Drilling Intl. MWD - Standard ver 1.0.1

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
0.0	0.00	0.00	0.0	0.0	0.0	14,243,219.48	1,766,783.11	39° 13' 20.594 N	80° 33' 13.701 W
112.0	0.20	174.14	112.0	-0.2	0.0	14,243,219.29	1,766,783.13	39° 13' 20.592 N	80° 33' 13.701 W
212.0	0.27	206.27	212.0	-0.6	-0.1	14,243,218.90	1,766,783.04	39° 13' 20.588 N	80° 33' 13.702 W
312.0	0.16	160.66	312.0	-0.9	-0.1	14,243,218.56	1,766,782.98	39° 13' 20.584 N	80° 33' 13.703 W
412.0	0.37	158.43	412.0	-1.4	0.0	14,243,218.13	1,766,783.15	39° 13' 20.580 N	80° 33' 13.701 W
512.0	0.26	164.57	512.0	-1.9	0.2	14,243,217.61	1,766,783.33	39° 13' 20.575 N	80° 33' 13.698 W
612.0	0.20	103.43	612.0	-2.1	0.4	14,243,217.35	1,766,783.56	39° 13' 20.572 N	80° 33' 13.695 W
712.0	0.39	126.09	712.0	-2.4	0.9	14,243,217.11	1,766,784.00	39° 13' 20.570 N	80° 33' 13.690 W
812.0	0.26	125.76	812.0	-2.7	1.4	14,243,216.78	1,766,784.46	39° 13' 20.567 N	80° 33' 13.684 W



Company:	Antero Resources	Local Co-ordinate Reference:	Well Truman Unit 2H
Project:	Harrison County West Virginia	TVD Reference:	Patterson: Truman 2H 1405 GL + 25 KB @ 1430.0usft
Site:	Cleta / Opie / Maude Pad	MD Reference:	Patterson: Truman 2H 1405 GL + 25 KB @ 1430.0usft
Well:	Truman Unit 2H	North Reference:	Grid
Wellbore:	Original Wellpath	Survey Calculation Method:	Minimum Curvature
Design:	As Drilled	Database:	Oklahoma District

Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude	
912.0	0.45	118.85	912.0	-3.0	1.9	14,243,216.45	1,766,784.99	39° 13' 20.563 N	80° 33' 13.677 W	
1,012.0	0.34	135.20	1,012.0	-3.4	2.4	14,243,216.05	1,766,785.54	39° 13' 20.559 N	80° 33' 13.670 W	
1,112.0	0.33	123.34	1,112.0	-3.8	2.9	14,243,215.68	1,766,785.99	39° 13' 20.556 N	80° 33' 13.665 W	
1,212.0	0.42	125.97	1,212.0	-4.2	3.4	14,243,215.31	1,766,786.53	39° 13' 20.552 N	80° 33' 13.658 W	
1,312.0	3.50	284.24	1,311.9	-3.6	0.8	14,243,215.85	1,766,783.86	39° 13' 20.558 N	80° 33' 13.692 W	
1,412.0	6.43	290.26	1,411.5	-0.9	-7.5	14,243,218.54	1,766,775.65	39° 13' 20.585 N	80° 33' 13.796 W	
1,512.0	6.93	290.83	1,510.9	3.1	-18.3	14,243,222.62	1,766,764.76	39° 13' 20.625 N	80° 33' 13.934 W	
1,612.0	6.04	298.71	1,610.2	7.8	-28.6	14,243,247.29	1,766,754.51	39° 13' 20.672 N	80° 33' 14.064 W	
1,712.0	4.20	316.42	1,709.8	13.0	-35.7	14,243,232.48	1,766,747.37	39° 13' 20.724 N	80° 33' 14.155 W	
1,812.0	3.92	317.12	1,809.6	18.2	-40.6	14,243,237.63	1,766,742.52	39° 13' 20.775 N	80° 33' 14.216 W	
1,912.0	3.46	320.58	1,909.4	23.0	-44.8	14,243,242.47	1,766,738.27	39° 13' 20.823 N	80° 33' 14.269 W	
2,012.0	3.25	322.99	2,009.2	27.6	-48.5	14,243,247.06	1,766,734.65	39° 13' 20.869 N	80° 33' 14.315 W	
2,112.0	2.92	322.27	2,109.1	31.9	-51.7	14,243,251.34	1,766,731.39	39° 13' 20.911 N	80° 33' 14.356 W	
2,212.0	2.80	324.03	2,208.9	35.9	-54.7	14,243,255.33	1,766,728.39	39° 13' 20.951 N	80° 33' 14.394 W	
2,312.0	2.61	325.04	2,308.8	39.7	-57.5	14,243,259.18	1,766,725.65	39° 13' 20.989 N	80° 33' 14.429 W	
2,412.0	2.33	329.79	2,408.7	43.3	-59.8	14,243,262.80	1,766,723.33	39° 13' 21.025 N	80° 33' 14.458 W	
2,512.0	2.21	331.81	2,508.6	46.8	-61.7	14,243,266.25	1,766,721.39	39° 13' 21.059 N	80° 33' 14.483 W	
2,612.0	1.63	336.06	2,608.6	49.8	-63.2	14,243,269.25	1,766,719.91	39° 13' 21.089 N	80° 33' 14.501 W	
2,712.0	1.33	330.00	2,708.6	52.1	-64.4	14,243,271.56	1,766,718.75	39° 13' 21.112 N	80° 33' 14.516 W	
2,812.0	0.81	345.00	2,808.5	53.8	-65.1	14,243,273.25	1,766,717.98	39° 13' 21.128 N	80° 33' 14.525 W	
2,912.0	0.48	353.84	2,908.5	54.9	-65.3	14,243,274.35	1,766,717.76	39° 13' 21.139 N	80° 33' 14.528 W	
3,012.0	0.59	334.06	3,008.5	55.7	-65.6	14,243,275.23	1,766,717.49	39° 13' 21.148 N	80° 33' 14.532 W	
3,112.0	0.31	357.81	3,108.5	56.5	-65.9	14,243,275.96	1,766,717.25	39° 13' 21.155 N	80° 33' 14.535 W	
3,212.0	0.41	344.59	3,208.5	57.1	-66.0	14,243,276.57	1,766,717.15	39° 13' 21.161 N	80° 33' 14.536 W	
3,312.0	0.25	54.50	3,308.5	57.6	-65.9	14,243,277.05	1,766,717.23	39° 13' 21.166 N	80° 33' 14.535 W	
3,412.0	0.23	37.25	3,408.5	57.8	-65.6	14,243,277.33	1,766,717.53	39° 13' 21.169 N	80° 33' 14.531 W	
3,512.0	0.11	19.05	3,508.5	58.1	-65.4	14,243,277.58	1,766,717.68	39° 13' 21.171 N	80° 33' 14.529 W	
3,612.0	0.17	345.15	3,608.5	58.3	-65.4	14,243,277.82	1,766,717.67	39° 13' 21.173 N	80° 33' 14.529 W	
3,712.0	0.09	45.17	3,708.5	58.5	-65.4	14,243,278.02	1,766,717.69	39° 13' 21.175 N	80° 33' 14.529 W	
3,812.0	0.17	76.27	3,808.5	58.6	-65.2	14,243,278.11	1,766,717.89	39° 13' 21.176 N	80° 33' 14.526 W	
3,912.0	0.13	25.91	3,908.5	58.8	-65.0	14,243,278.24	1,766,718.08	39° 13' 21.178 N	80° 33' 14.524 W	
4,012.0	0.20	66.27	4,008.5	58.9	-64.8	14,243,278.42	1,766,718.29	39° 13' 21.179 N	80° 33' 14.521 W	
4,112.0	0.22	110.61	4,108.5	58.9	-64.5	14,243,278.42	1,766,718.63	39° 13' 21.179 N	80° 33' 14.517 W	
4,212.0	0.15	96.45	4,208.5	58.9	-64.2	14,243,278.34	1,766,718.94	39° 13' 21.179 N	80° 33' 14.513 W	
4,312.0	0.13	107.90	4,308.5	58.8	-63.9	14,243,278.29	1,766,719.18	39° 13' 21.178 N	80° 33' 14.510 W	
4,412.0	0.15	102.63	4,408.5	58.7	-63.7	14,243,278.22	1,766,719.42	39° 13' 21.177 N	80° 33' 14.507 W	
4,512.0	0.20	81.93	4,508.5	58.7	-63.4	14,243,278.22	1,766,719.72	39° 13' 21.177 N	80° 33' 14.503 W	
4,612.0	0.48	114.90	4,608.5	58.6	-62.8	14,243,278.07	1,766,720.27	39° 13' 21.176 N	80° 33' 14.496 W	
4,712.0	0.30	73.23	4,708.5	58.5	-62.2	14,243,277.97	1,766,720.90	39° 13' 21.175 N	80° 33' 14.488 W	
4,812.0	0.36	67.51	4,808.5	58.7	-61.7	14,243,278.16	1,766,721.44	39° 13' 21.177 N	80° 33' 14.481 W	
4,912.0	2.35	228.46	4,908.5	57.4	-62.9	14,243,276.92	1,766,720.20	39° 13' 21.165 N	80° 33' 14.497 W	
5,012.0	6.62	228.38	5,008.2	52.2	-68.8	14,243,271.73	1,766,714.35	39° 13' 21.113 N	80° 33' 14.572 W	
5,112.0	10.30	223.40	5,107.1	41.9	-79.2	14,243,261.40	1,766,703.90	39° 13' 21.012 N	80° 33' 14.705 W	
5,212.0	12.16	223.44	5,205.1	27.8	-92.6	14,243,247.26	1,766,690.51	39° 13' 20.873 N	80° 33' 14.876 W	
5,312.0	14.65	223.20	5,302.4	10.9	-108.5	14,243,230.39	1,766,674.61	39° 13' 20.707 N	80° 33' 15.079 W	
5,412.0	15.91	221.14	5,398.9	-8.6	-126.2	14,243,210.85	1,766,656.93	39° 13' 20.514 N	80° 33' 15.305 W	
5,512.0	15.35	210.59	5,495.2	-30.4	-141.9	14,243,189.13	1,766,641.18	39° 13' 20.300 N	80° 33' 15.507 W	
5,612.0	14.47	211.19	5,591.8	-52.4	-155.1	14,243,167.05	1,766,627.97	39° 13' 20.083 N	80° 33' 15.676 W	
5,712.0	17.76	208.39	5,687.9	-76.5	-168.9	14,243,142.93	1,766,614.25	39° 13' 19.845 N	80° 33' 15.852 W	
5,812.0	19.45	203.20	5,782.7	-105.3	-182.7	14,243,114.21	1,766,600.43	39° 13' 19.562 N	80° 33' 16.030 W	
5,912.0	20.26	206.92	5,876.7	-136.0	-197.1	14,243,083.47	1,766,586.03	39° 13' 19.258 N	80° 33' 16.215 W	
6,012.0	20.29	207.72	5,970.5	-166.8	-213.0	14,243,052.68	1,766,570.13	39° 13' 18.955 N	80° 33' 16.419 W	
6,112.0	20.98	207.34	6,064.1	-198.1	-229.3	14,243,021.43	1,766,553.84	39° 13' 18.646 N	80° 33' 16.628 W	



Scientific Drilling International
Survey Report - Geographic



Company:	Antero Resources	Local Co-ordinate Reference:	Well Truman Unit 2H
Project:	Harrison County West Virginia	TVD Reference:	Patterson: Truman 2H 1405 GL + 25 KB @ 1430.0usft
Site:	Cleta / Opie / Maude Pad	MD Reference:	Patterson: Truman 2H 1405 GL + 25 KB @ 1430.0usft
Well:	Truman Unit 2H	North Reference:	Grid
Wellbore:	Original Wellpath	Survey Calculation Method:	Minimum Curvature
Design:	As Drilled	Database:	Oklahoma District

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
6,212.0	22.48	207.18	6,157.0	-231.0	-246.2	14,242,988.52	1,766,536.89	39° 13' 18.322 N	80° 33' 16.845 W
6,312.0	25.23	203.15	6,248.4	-267.6	-263.3	14,242,951.91	1,766,519.77	39° 13' 17.961 N	80° 33' 17.065 W
6,412.0	23.11	201.31	6,339.7	-305.5	-278.8	14,242,914.02	1,766,504.26	39° 13' 17.587 N	80° 33' 17.265 W
6,512.0	20.96	201.34	6,432.4	-340.4	-292.5	14,242,879.07	1,766,490.62	39° 13' 17.242 N	80° 33' 17.440 W
6,612.0	20.55	202.80	6,525.9	-373.2	-305.8	14,242,846.23	1,766,477.31	39° 13' 16.918 N	80° 33' 17.611 W
6,712.0	20.18	202.79	6,619.6	-405.3	-319.3	14,242,814.15	1,766,463.82	39° 13' 16.601 N	80° 33' 17.785 W
6,716.0	20.11	203.07	6,623.4	-406.6	-319.8	14,242,812.88	1,766,463.29	39° 13' 16.589 N	80° 33' 17.792 W
6,832.0	18.08	211.43	6,733.0	-440.3	-337.0	14,242,779.17	1,766,446.08	39° 13' 16.256 N	80° 33' 18.012 W
6,891.0	19.94	210.21	6,788.8	-456.8	-346.9	14,242,762.66	1,766,436.24	39° 13' 16.094 N	80° 33' 18.139 W
6,921.0	23.31	209.18	6,816.7	-466.4	-352.3	14,242,753.06	1,766,430.78	39° 13' 15.999 N	80° 33' 18.209 W
Sycamore									
6,922.0	23.42	209.15	6,817.6	-466.8	-352.5	14,242,752.71	1,766,430.58	39° 13' 15.995 N	80° 33' 18.211 W
6,953.0	27.55	208.03	6,845.6	-478.5	-358.9	14,242,741.00	1,766,424.21	39° 13' 15.880 N	80° 33' 18.293 W
6,985.0	31.44	205.99	6,873.4	-492.5	-366.0	14,242,726.96	1,766,417.07	39° 13' 15.741 N	80° 33' 18.384 W
7,016.0	34.95	202.89	6,899.4	-508.0	-373.0	14,242,711.50	1,766,410.07	39° 13' 15.589 N	80° 33' 18.474 W
7,048.0	37.06	201.26	6,925.2	-525.4	-380.1	14,242,694.07	1,766,403.01	39° 13' 15.417 N	80° 33' 18.565 W
7,079.0	38.10	200.47	6,949.8	-543.1	-386.8	14,242,676.40	1,766,396.28	39° 13' 15.243 N	80° 33' 18.652 W
7,110.0	37.25	205.21	6,974.4	-560.5	-394.2	14,242,658.95	1,766,388.93	39° 13' 15.070 N	80° 33' 18.746 W
7,142.0	35.70	213.45	7,000.1	-577.1	-403.4	14,242,642.39	1,766,379.66	39° 13' 14.907 N	80° 33' 18.865 W
7,173.0	34.78	222.47	7,025.4	-591.2	-414.4	14,242,628.31	1,766,368.69	39° 13' 14.768 N	80° 33' 19.006 W
7,189.0	34.87	227.24	7,038.6	-597.6	-420.9	14,242,621.84	1,766,362.25	39° 13' 14.705 N	80° 33' 19.088 W
Middlesex									
7,204.0	35.13	231.68	7,050.9	-603.2	-427.4	14,242,616.25	1,766,355.72	39° 13' 14.650 N	80° 33' 19.171 W
7,236.0	35.74	235.59	7,076.9	-614.2	-442.3	14,242,605.26	1,766,340.78	39° 13' 14.542 N	80° 33' 19.362 W
7,267.0	36.60	239.82	7,102.0	-624.0	-457.8	14,242,595.49	1,766,325.32	39° 13' 14.446 N	80° 33' 19.559 W
7,299.0	37.55	244.09	7,127.5	-633.0	-474.8	14,242,586.43	1,766,308.30	39° 13' 14.357 N	80° 33' 19.776 W
7,330.0	39.04	248.85	7,151.8	-640.7	-492.4	14,242,578.78	1,766,290.69	39° 13' 14.282 N	80° 33' 20.000 W
7,362.0	40.30	253.01	7,176.5	-647.4	-511.7	14,242,572.12	1,766,271.39	39° 13' 14.218 N	80° 33' 20.246 W
7,372.0	40.76	254.61	7,184.1	-649.2	-518.0	14,242,570.31	1,766,265.15	39° 13' 14.200 N	80° 33' 20.325 W
Burkett									
7,393.0	41.79	257.88	7,199.9	-652.5	-531.4	14,242,567.02	1,766,251.70	39° 13' 14.168 N	80° 33' 20.496 W
7,408.0	42.75	259.93	7,211.0	-654.4	-541.3	14,242,565.08	1,766,241.80	39° 13' 14.149 N	80° 33' 20.622 W
Tully									
7,424.0	43.82	262.04	7,222.6	-656.1	-552.1	14,242,563.36	1,766,230.97	39° 13' 14.133 N	80° 33' 20.760 W
7,455.0	46.66	266.82	7,244.4	-658.2	-574.0	14,242,561.25	1,766,209.07	39° 13' 14.113 N	80° 33' 21.039 W
7,487.0	49.88	272.53	7,265.7	-658.3	-597.9	14,242,561.14	1,766,185.21	39° 13' 14.113 N	80° 33' 21.342 W
7,518.0	53.25	277.14	7,285.0	-656.3	-622.1	14,242,563.21	1,766,161.03	39° 13' 14.135 N	80° 33' 21.649 W
7,550.0	56.13	280.74	7,303.5	-652.2	-647.9	14,242,567.28	1,766,135.25	39° 13' 14.176 N	80° 33' 21.977 W
7,575.0	58.32	283.57	7,317.1	-647.8	-668.4	14,242,571.71	1,766,114.71	39° 13' 14.221 N	80° 33' 22.237 W
Hamilton									
7,581.0	58.85	284.23	7,320.2	-646.5	-673.4	14,242,572.95	1,766,109.74	39° 13' 14.234 N	80° 33' 22.301 W
7,612.0	63.30	287.54	7,335.2	-639.1	-699.5	14,242,580.38	1,766,083.66	39° 13' 14.308 N	80° 33' 22.632 W
7,644.0	67.84	290.44	7,348.4	-629.6	-727.0	14,242,589.87	1,766,056.12	39° 13' 14.404 N	80° 33' 22.981 W
7,675.0	69.52	290.71	7,359.7	-619.5	-754.0	14,242,600.02	1,766,029.09	39° 13' 14.505 N	80° 33' 23.324 W
7,707.0	71.06	291.78	7,370.5	-608.5	-782.1	14,242,610.94	1,766,001.01	39° 13' 14.615 N	80° 33' 23.680 W
7,728.0	71.74	293.18	7,377.2	-600.9	-800.5	14,242,618.55	1,765,982.62	39° 13' 14.691 N	80° 33' 23.913 W
Marcellus									
7,738.0	72.06	293.84	7,380.3	-597.1	-809.2	14,242,622.34	1,765,973.90	39° 13' 14.729 N	80° 33' 24.024 W
7,770.0	73.93	298.11	7,389.6	-583.7	-836.7	14,242,635.74	1,765,946.41	39° 13' 14.862 N	80° 33' 24.373 W
7,801.0	76.15	302.16	7,397.6	-568.7	-862.6	14,242,650.78	1,765,920.51	39° 13' 15.012 N	80° 33' 24.701 W
7,832.0	78.51	304.62	7,404.4	-552.1	-887.8	14,242,667.43	1,765,895.27	39° 13' 15.178 N	80° 33' 25.021 W
7,864.0	83.23	306.81	7,409.5	-533.6	-913.5	14,242,685.87	1,765,869.63	39° 13' 15.362 N	80° 33' 25.346 W



Scientific Drilling International
Survey Report - Geographic



Company:	Antero Resources	Local Co-ordinate Reference:	Well Truman Unit 2H
Project:	Harrison County West Virginia	TVD Reference:	Patterson: Truman 2H 1405 GL + 25 KB @ 1430.0usft
Site:	Cleta / Opie / Maude Pad	MD Reference:	Patterson: Truman 2H 1405 GL + 25 KB @ 1430.0usft
Well:	Truman Unit 2H	North Reference:	Grid
Wellbore:	Original Wellpath	Survey Calculation Method:	Minimum Curvature
Design:	As Drilled	Database:	Oklahoma District

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
7,883.0	84.47	306.86	7,411.6	-522.3	-928.6	14,242,697.19	1,765,854.51	39° 13' 15.474 N	80° 33' 25.537 W
7,977.0	86.55	306.71	7,418.9	-466.2	-1,003.6	14,242,753.30	1,765,779.46	39° 13' 16.033 N	80° 33' 26.487 W
8,071.0	88.59	306.45	7,422.9	-410.2	-1,079.1	14,242,809.27	1,765,704.05	39° 13' 16.590 N	80° 33' 27.443 W
8,166.0	89.73	308.92	7,424.3	-352.2	-1,154.2	14,242,867.33	1,765,628.88	39° 13' 17.168 N	80° 33' 28.394 W
8,260.0	89.36	308.69	7,425.0	-293.2	-1,227.5	14,242,926.24	1,765,555.63	39° 13' 17.754 N	80° 33' 29.322 W
8,354.0	90.37	308.38	7,425.3	-234.7	-1,301.0	14,242,984.80	1,765,482.10	39° 13' 18.336 N	80° 33' 30.253 W
8,448.0	90.80	310.13	7,424.3	-175.2	-1,373.8	14,243,044.27	1,765,409.32	39° 13' 18.928 N	80° 33' 31.174 W
8,543.0	89.53	309.50	7,424.0	-114.4	-1,446.8	14,243,105.10	1,765,336.35	39° 13' 19.533 N	80° 33' 32.098 W
8,637.0	89.13	308.77	7,425.1	-55.1	-1,519.7	14,243,164.42	1,765,263.44	39° 13' 20.123 N	80° 33' 33.021 W
8,731.0	88.59	307.57	7,427.0	3.0	-1,593.5	14,243,222.50	1,765,189.56	39° 13' 20.700 N	80° 33' 33.957 W
8,825.0	88.89	306.77	7,429.1	59.8	-1,668.4	14,243,279.28	1,765,114.68	39° 13' 21.265 N	80° 33' 34.905 W
8,919.0	87.55	307.79	7,432.0	116.7	-1,743.2	14,243,336.19	1,765,039.92	39° 13' 21.832 N	80° 33' 35.852 W
9,013.0	86.91	308.26	7,436.5	174.5	-1,817.1	14,243,394.02	1,764,965.96	39° 13' 22.407 N	80° 33' 36.788 W
9,108.0	87.45	309.40	7,441.2	234.0	-1,891.1	14,243,453.52	1,764,892.04	39° 13' 22.999 N	80° 33' 37.724 W
9,202.0	88.63	309.84	7,444.4	293.9	-1,963.4	14,243,513.42	1,764,819.68	39° 13' 23.595 N	80° 33' 38.640 W
9,292.0	89.03	307.85	7,446.3	350.4	-2,033.5	14,243,569.86	1,764,749.60	39° 13' 24.156 N	80° 33' 39.527 W
9,383.0	88.93	310.53	7,447.9	407.9	-2,104.0	14,243,627.35	1,764,679.09	39° 13' 24.728 N	80° 33' 40.420 W
9,474.0	88.99	311.69	7,449.5	467.7	-2,172.6	14,243,687.17	1,764,610.54	39° 13' 25.323 N	80° 33' 41.288 W
9,567.0	89.97	310.94	7,450.4	529.1	-2,242.4	14,243,748.56	1,764,540.69	39° 13' 25.933 N	80° 33' 42.172 W
9,659.0	89.40	310.08	7,450.9	588.8	-2,312.4	14,243,808.32	1,764,470.75	39° 13' 26.527 N	80° 33' 43.057 W
9,752.0	88.99	307.39	7,452.2	647.0	-2,384.9	14,243,866.50	1,764,398.22	39° 13' 27.106 N	80° 33' 43.976 W
9,844.0	89.63	308.38	7,453.3	703.5	-2,457.5	14,243,923.00	1,764,325.61	39° 13' 27.668 N	80° 33' 44.895 W
9,937.0	89.83	309.31	7,453.7	761.8	-2,529.9	14,243,981.32	1,764,253.18	39° 13' 28.248 N	80° 33' 45.812 W
10,029.0	88.29	308.93	7,455.2	819.9	-2,601.3	14,244,039.36	1,764,181.82	39° 13' 28.825 N	80° 33' 46.716 W
10,121.0	88.06	309.54	7,458.2	878.0	-2,672.5	14,244,097.52	1,764,110.59	39° 13' 29.404 N	80° 33' 47.618 W
10,213.0	88.49	310.58	7,460.9	937.2	-2,742.9	14,244,156.71	1,764,040.21	39° 13' 29.992 N	80° 33' 48.509 W
10,305.0	88.52	309.47	7,463.3	996.4	-2,813.3	14,244,215.85	1,763,969.79	39° 13' 30.581 N	80° 33' 49.400 W
10,399.0	88.80	308.07	7,465.5	1,055.2	-2,886.6	14,244,274.70	1,763,896.52	39° 13' 31.166 N	80° 33' 50.328 W
10,493.0	89.03	307.11	7,467.3	1,112.5	-2,961.1	14,244,332.03	1,763,822.05	39° 13' 31.736 N	80° 33' 51.271 W
10,587.0	90.80	307.39	7,467.5	1,169.4	-3,035.9	14,244,388.92	1,763,747.23	39° 13' 32.302 N	80° 33' 52.219 W
10,681.0	90.90	306.86	7,466.1	1,226.2	-3,110.8	14,244,445.65	1,763,672.29	39° 13' 32.867 N	80° 33' 53.168 W
10,776.0	90.87	306.62	7,464.6	1,283.0	-3,186.9	14,244,502.47	1,763,596.17	39° 13' 33.432 N	80° 33' 54.132 W
10,870.0	89.90	307.79	7,464.0	1,339.8	-3,261.8	14,244,559.31	1,763,521.31	39° 13' 33.998 N	80° 33' 55.080 W
10,964.0	89.63	303.84	7,464.3	1,394.8	-3,338.0	14,244,614.30	1,763,445.10	39° 13' 34.545 N	80° 33' 56.046 W
11,058.0	88.82	305.69	7,465.6	1,448.4	-3,415.2	14,244,667.89	1,763,367.89	39° 13' 35.079 N	80° 33' 57.024 W
11,152.0	88.29	307.25	7,468.0	1,504.3	-3,490.8	14,244,723.75	1,763,292.32	39° 13' 35.635 N	80° 33' 57.981 W
11,246.0	89.13	309.99	7,470.1	1,562.9	-3,564.2	14,244,782.40	1,763,218.90	39° 13' 36.218 N	80° 33' 58.911 W
11,340.0	88.56	310.43	7,472.0	1,623.6	-3,636.0	14,244,843.07	1,763,147.13	39° 13' 36.821 N	80° 33' 59.819 W
11,434.0	88.52	310.50	7,474.4	1,684.6	-3,707.5	14,244,904.05	1,763,075.64	39° 13' 37.428 N	80° 34' 0.725 W
11,528.0	88.83	310.01	7,476.6	1,745.3	-3,779.2	14,244,964.78	1,763,003.92	39° 13' 38.031 N	80° 34' 1.633 W
11,623.0	88.39	310.19	7,478.9	1,806.5	-3,851.8	14,245,025.95	1,762,931.28	39° 13' 38.640 N	80° 34' 2.552 W
11,717.0	87.89	309.37	7,481.9	1,866.6	-3,924.0	14,245,086.06	1,762,859.08	39° 13' 39.237 N	80° 34' 3.467 W
11,811.0	88.32	310.59	7,485.0	1,926.9	-3,996.0	14,245,146.43	1,762,787.09	39° 13' 39.838 N	80° 34' 4.378 W
11,905.0	88.59	308.27	7,487.6	1,986.6	-4,068.6	14,245,206.10	1,762,714.51	39° 13' 40.431 N	80° 34' 5.297 W
11,999.0	89.46	308.21	7,489.2	2,044.8	-4,142.4	14,245,264.28	1,762,640.69	39° 13' 41.010 N	80° 34' 6.232 W
12,093.0	89.83	308.01	7,489.8	2,102.8	-4,216.4	14,245,322.29	1,762,566.73	39° 13' 41.587 N	80° 34' 7.168 W
12,187.0	89.80	307.78	7,490.1	2,160.5	-4,290.6	14,245,380.03	1,762,492.56	39° 13' 42.161 N	80° 34' 8.108 W
12,282.0	90.54	308.88	7,489.8	2,219.5	-4,365.1	14,245,438.94	1,762,418.03	39° 13' 42.747 N	80° 34' 9.052 W
12,376.0	91.01	308.98	7,488.5	2,278.5	-4,438.2	14,245,498.00	1,762,344.92	39° 13' 43.335 N	80° 34' 9.978 W
12,470.0	89.87	308.02	7,487.8	2,337.0	-4,511.7	14,245,556.52	1,762,271.36	39° 13' 43.917 N	80° 34' 10.909 W
12,564.0	88.62	309.11	7,489.0	2,395.6	-4,585.2	14,245,615.11	1,762,197.87	39° 13' 44.500 N	80° 34' 11.840 W
12,658.0	88.59	309.36	7,491.3	2,455.1	-4,658.0	14,245,674.55	1,762,125.08	39° 13' 45.091 N	80° 34' 12.762 W
12,752.0	88.69	308.13	7,493.5	2,513.9	-4,731.3	14,245,733.36	1,762,051.79	39° 13' 45.676 N	80° 34' 13.690 W



Company:	Antero Resources	Local Co-ordinate Reference:	Well Truman Unit 2H
Project:	Harrison County West Virginia	TVD Reference:	Patterson: Truman 2H 1405 GL + 25 KB @ 1430.0usft
Site:	Cleta / Opie / Maude Pad	MD Reference:	Patterson: Truman 2H 1405 GL + 25 KB @ 1430.0usft
Well:	Truman Unit 2H	North Reference:	Grid
Wellbore:	Original Wellpath	Survey Calculation Method:	Minimum Curvature
Design:	As Drilled	Database:	Oklahoma District

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
12,846.0	87.82	306.78	7,496.4	2,571.0	-4,805.9	14,245,790.50	1,761,977.20	39° 13' 46.244 N	80° 34' 14.634 W
12,940.0	87.48	306.98	7,500.3	2,627.4	-4,881.0	14,245,846.86	1,761,902.08	39° 13' 46.805 N	80° 34' 15.586 W
13,034.0	88.46	308.25	7,503.6	2,684.7	-4,955.4	14,245,904.20	1,761,827.67	39° 13' 47.375 N	80° 34' 16.529 W
13,128.0	88.79	305.42	7,505.8	2,741.0	-5,030.6	14,245,960.53	1,761,752.46	39° 13' 47.936 N	80° 34' 17.481 W
13,222.0	88.79	305.55	7,507.8	2,795.6	-5,107.2	14,246,015.08	1,761,675.94	39° 13' 48.479 N	80° 34' 18.451 W
13,316.0	88.46	308.41	7,510.1	2,852.1	-5,182.2	14,246,071.61	1,761,600.88	39° 13' 49.041 N	80° 34' 19.402 W
13,410.0	87.89	309.13	7,513.1	2,911.0	-5,255.5	14,246,130.44	1,761,527.63	39° 13' 49.626 N	80° 34' 20.329 W
13,504.0	88.25	310.00	7,516.2	2,970.8	-5,327.9	14,246,190.28	1,761,455.20	39° 13' 50.221 N	80° 34' 21.246 W
13,598.0	88.15	309.90	7,519.2	3,031.1	-5,399.9	14,246,250.61	1,761,383.18	39° 13' 50.821 N	80° 34' 22.158 W
13,692.0	88.89	309.68	7,521.6	3,091.3	-5,472.1	14,246,310.74	1,761,310.97	39° 13' 51.419 N	80° 34' 23.073 W
13,787.0	89.40	310.32	7,523.0	3,152.3	-5,544.9	14,246,371.80	1,761,238.21	39° 13' 52.026 N	80° 34' 23.994 W
13,881.0	90.17	309.65	7,523.4	3,212.7	-5,616.9	14,246,432.20	1,761,166.18	39° 13' 52.627 N	80° 34' 24.906 W
13,975.0	90.97	308.87	7,522.5	3,272.2	-5,689.7	14,246,491.69	1,761,093.41	39° 13' 53.218 N	80° 34' 25.828 W
14,069.0	89.87	309.94	7,521.8	3,331.9	-5,762.3	14,246,551.35	1,761,020.78	39° 13' 53.812 N	80° 34' 26.747 W
14,164.0	91.81	310.23	7,520.4	3,393.0	-5,835.0	14,246,612.52	1,760,948.11	39° 13' 54.420 N	80° 34' 27.668 W
14,258.0	92.59	310.75	7,516.8	3,454.0	-5,906.4	14,246,673.51	1,760,876.67	39° 13' 55.026 N	80° 34' 28.572 W
14,351.0	92.72	310.95	7,512.5	3,514.8	-5,976.7	14,246,734.27	1,760,806.40	39° 13' 55.630 N	80° 34' 29.462 W
14,446.0	93.02	310.53	7,507.7	3,576.7	-6,048.6	14,246,796.19	1,760,734.51	39° 13' 56.246 N	80° 34' 30.372 W
14,540.0	92.18	309.19	7,503.4	3,636.9	-6,120.7	14,246,856.37	1,760,662.43	39° 13' 56.844 N	80° 34' 31.285 W
14,634.0	92.48	308.47	7,499.6	3,695.8	-6,193.8	14,246,915.26	1,760,589.27	39° 13' 57.430 N	80° 34' 32.212 W
14,693.0	92.48	308.47	7,497.1	3,732.5	-6,240.0	14,246,951.93	1,760,543.12	39° 13' 57.795 N	80° 34' 32.796 W
14,709.0	92.42	307.34	7,496.4	3,742.3	-6,252.6	14,246,961.75	1,760,530.50	39° 13' 57.892 N	80° 34' 32.956 W
14,768.0	92.42	307.34	7,493.9	3,778.0	-6,299.5	14,246,997.51	1,760,483.64	39° 13' 58.248 N	80° 34' 33.549 W

Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
6,921.0	6,816.7	Sycamore		0.00	
7,189.0	7,038.6	Middlesex		0.00	
7,372.0	7,184.1	Burkett		0.00	
7,408.0	7,211.0	Tully		0.00	
7,575.0	7,317.1	Hamilton		0.00	
7,728.0	7,377.2	Marcellus		0.00	

Checked By: _____	Approved By: _____	Date: _____
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