Antero Resources

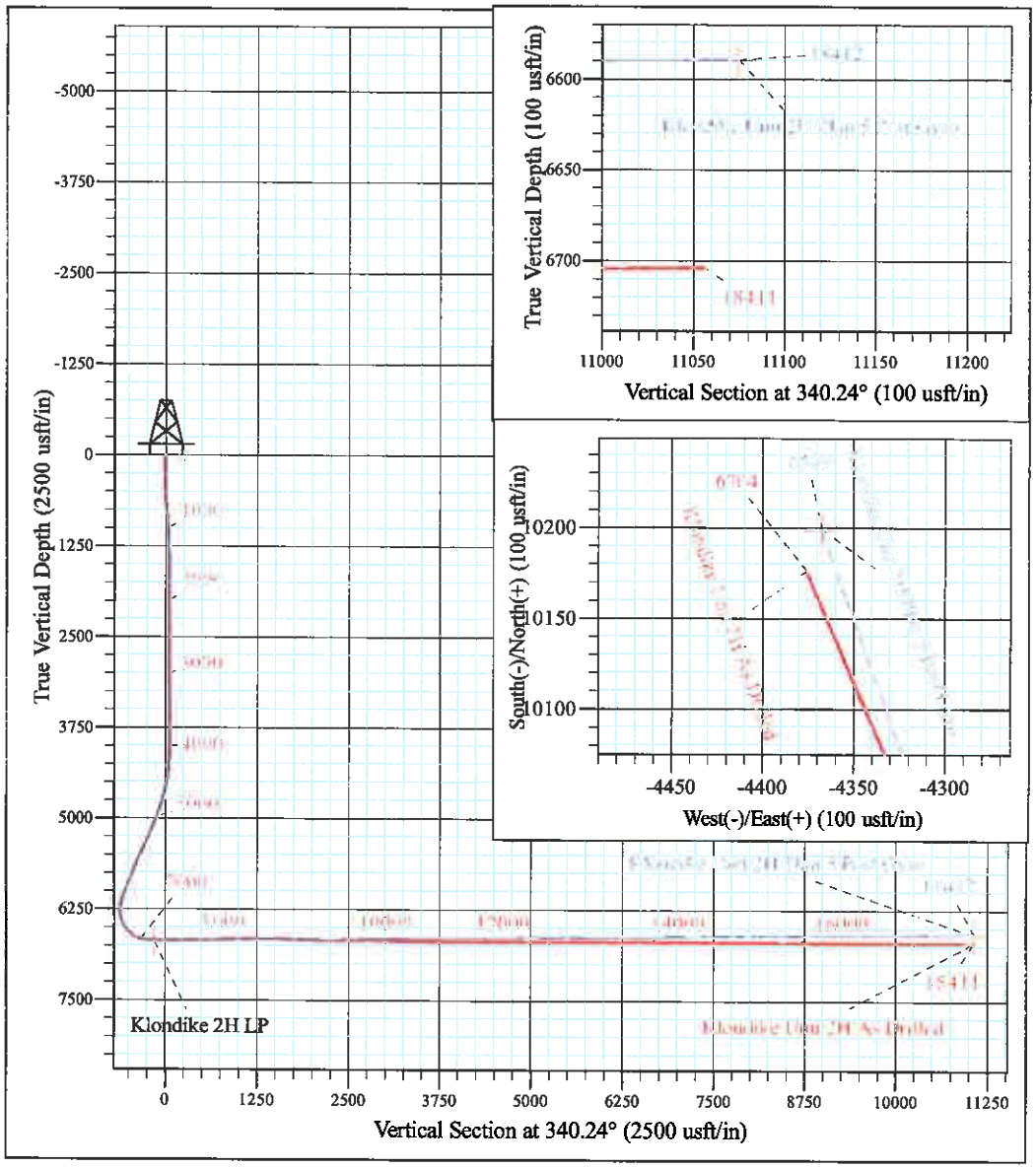
Pierpoint Pad:Ingot/Klondike/Wall/Weigle
Klondike Unit 2H
Plan 5 Post Gyro
Patterson 340: 1201' GL + 24' KB @ 1225.0usft
Tyler County WV

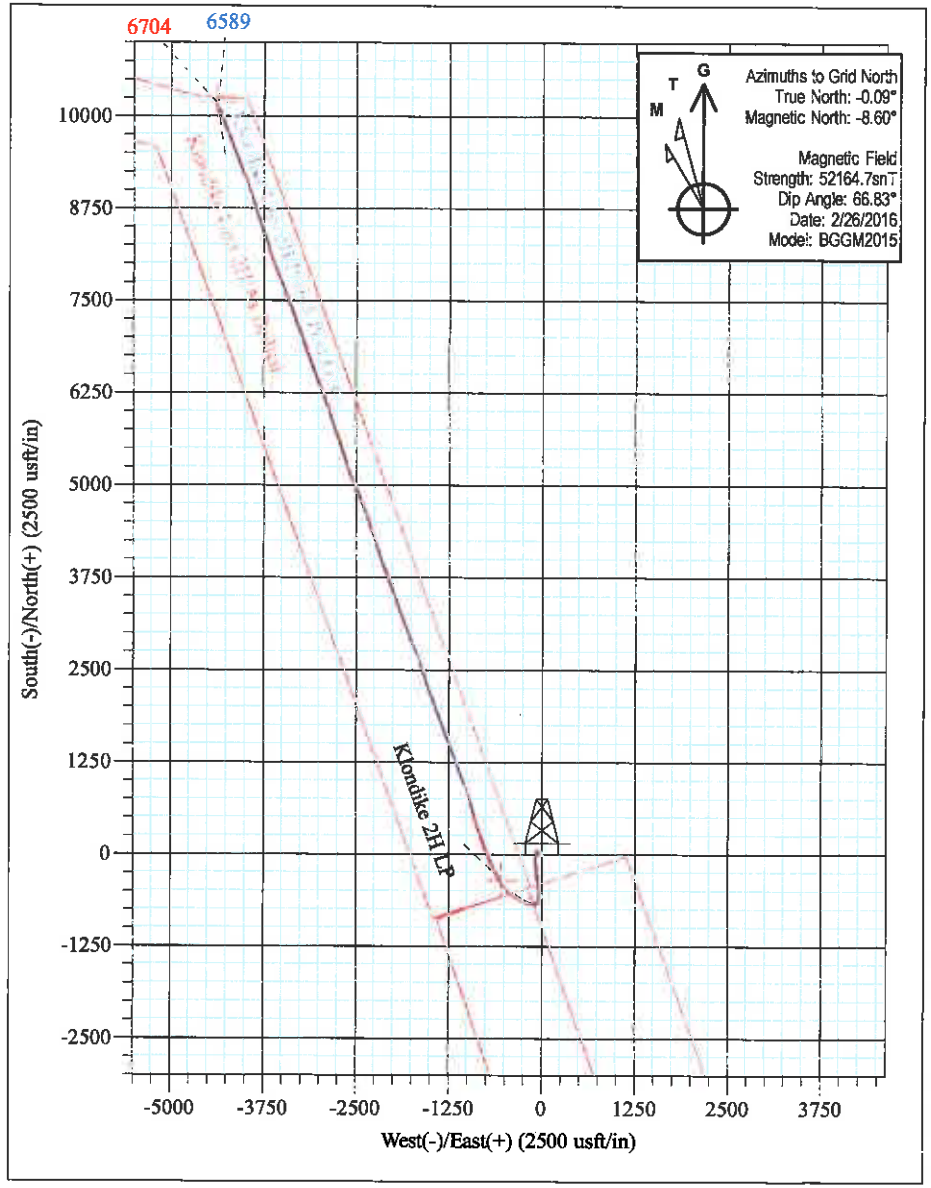
PROJECT DETAILS:
Geodetic System: Universal Transverse Mercator (US Survey Feet)
Datum: NAD 1927 (NADCON CONUS)
Ellipsoid: Clarke 1866
Zone: Zone 17N (84 W to 78 W)
System Datum: Mean Sea Level

Scientific Drilling

WELL DETAILS: Klondike Unit 2H SHL

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.0	0.0	14326556.80	1680210.14	39° 27' 7.370 N	80° 51' 32.509 W





Klondike Unit 2H
Approx. BHL
39° 28' 48.050 N 80° 52' 28.130 W

Shane Rhodes
13:13, March 15 2016

Scientific Drilling International
124 Vista Drive
Charleroi, PA 15022

Antero Resources

Tyler County WV
Pierpoint Pad:Ingot/Klondike/Wall/Weigle
Klondike Unit 2H

Original Wellpath

Design: As Drilled

Standard Survey Report

15 March, 2016

Scientific Drilling

Company:	Antero Resources	**Local Co-ordinate Reference:**	Well Klondike Unit 2H
Project:	Tyler County WV	**TVD Reference:**	Patterson 340: 1201' GL + 24' KB @ 1225.0usft
Site:	Pierpoint Pad:Ingot/Klondike/Wall/Weigle	**MD Reference:**	Patterson 340: 1201' GL + 24' KB @ 1225.0usft
Well:	Klondike Unit 2H	**North Reference:**	Grid
Wellbore:	Original Wellpath	**Survey Calculation Method:**	Minimum Curvature
Design:	As Drilled	**Database:**	Antero NE

Project	Tyler County WV, Tyler Co West Virginia		
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	Pierpoint Pad Ingot/Klondike/Wall/Weigle				
Site Position:		**Northing:**	14,326,547.37 usft	**Latitude:**	39° 27' 7.276 N
From:	Map	**Easting:**	1,680,227.52 usft	**Longitude:**	80° 51' 32.288 W
Position Uncertainty:	0.0 usft	**Slot Radius:**	13-3/16 "	**Grid Convergence:**	0.09 °

Well	Klondike Unit 2H, Marcellus					
Well Position	**+N/-S**	0.0 usft	**Northing:**	14,326,556.80 usft	**Latitude:**	39° 27' 7.370 N
	+E/-W	0.0 usft	**Easting:**	1,680,210.14 usft	**Longitude:**	80° 51' 32.509 W
Position Uncertainty		2.0 usft	**Wellhead Elevation:**	1,225.0 usft	**Ground Level:**	1,201.0 usft

Wellbore	Original Wellpath			
Magnetics	**Model Name**	**Sample Date**	**Declination (°)**	**Dip Angle (°)**	**Field Strength (nT)**
	BGGM2015	1/18/2016	-8.51	66.84	52,177
	BGGM2015	2/26/2016	-8.51	66.83	52,165

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	340.24

Survey Program	**Date** 3/15/2016		
From (usft)	**To (usft)**	**Survey (Wellbore)**	**Tool Name**	**Description**
100.0	6,042.4	Survey #8 - Final Def Gyro (Original Wellp	Standard Keeper 104	Standard Wireline Keeper ver 1.0.4
6,084.0	18,411.0	Survey #9 MWD Lateral (Original Wellpath	SDI MWD	Scientific Drilling Intl. MWD - Standard ver 1.0.1

Survey

Measured Depth (usft)	**Inclination (°)**	**Azimuth (°)**	**Vertical Depth (usft)**	**+N/-S (usft)**	**+E/-W (usft)**	**Vertical Section (usft)**	**Dogleg Rate (°/100usft)**	**Build Rate (°/100usft)**	**Turn Rate (°/100usft)**
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00
100.0	0.03	322.17	100.0	0.0	0.0	0.0	0.03	0.03	0.00
125.0	0.08	282.30	125.0	0.0	0.0	0.0	0.24	0.20	-159.48
150.0	0.04	301.68	150.0	0.0	-0.1	0.1	0.18	-0.16	77.52
175.0	0.04	335.47	175.0	0.1	-0.1	0.1	0.09	0.00	135.16
200.0	0.07	298.95	200.0	0.1	-0.1	0.1	0.18	0.12	-146.08
225.0	0.06	319.51	225.0	0.1	-0.1	0.1	0.10	-0.04	82.24
250.0	0.13	345.95	250.0	0.1	-0.1	0.2	0.32	0.28	105.76
275.0	0.05	288.70	275.0	0.2	-0.1	0.2	0.44	-0.32	-229.00

Company:	Antero Resources	**Local Co-ordinate Reference:**	Well Klondike Unit 2H
Project:	Tyler County WV	**TVD Reference:**	Patterson 340: 1201' GL + 24' KB @ 1225.0usft
Site:	Pierpoint Pad:Ingot/Klondike/Wall/Weigle	**MD Reference:**	Patterson 340: 1201' GL + 24' KB @ 1225.0usft
Well:	Klondike Unit 2H	**North Reference:**	Grid
Wellbore:	Original Wellpath	**Survey Calculation Method:**	Minimum Curvature
Design:	As Drilled	**Database:**	Antero NE

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
300.0	0.07	283.30	300.0	0.2	-0.2	0.2	0.08	0.08	-21.60
325.0	0.04	189.35	325.0	0.2	-0.2	0.2	0.33	-0.12	-375.80
350.0	0.17	178.06	350.0	0.1	-0.2	0.2	0.52	0.52	-45.16
375.0	0.20	195.48	375.0	0.0	-0.2	0.1	0.25	0.12	69.68
400.0	0.19	220.26	400.0	0.0	-0.2	0.0	0.34	-0.04	99.12
425.0	0.34	337.57	425.0	0.0	-0.3	0.1	1.84	0.60	469.24
450.0	1.08	341.74	450.0	0.3	-0.4	0.4	2.97	2.96	16.68
475.0	1.50	337.94	475.0	0.8	-0.6	1.0	1.71	1.68	-15.20
500.0	2.08	333.35	500.0	1.5	-0.9	1.7	2.39	2.32	-18.36
525.0	2.74	328.44	525.0	2.4	-1.4	2.8	2.76	2.64	-19.64
550.0	3.48	324.34	549.9	3.6	-2.2	4.1	3.09	2.96	-16.40
575.0	4.25	324.53	574.9	4.9	-3.2	5.7	3.08	3.08	0.76
600.0	5.02	323.96	599.8	6.6	-4.3	7.7	3.09	3.08	-2.28
625.0	5.22	323.56	624.7	8.4	-5.7	9.8	0.81	0.80	-1.60
650.0	5.30	322.47	649.6	10.2	-7.0	12.0	0.51	0.32	-4.36
675.0	5.50	322.00	674.5	12.1	-8.5	14.2	0.82	0.80	-1.88
700.0	5.62	322.44	699.3	14.0	-10.0	16.5	0.51	0.48	1.76
725.0	5.65	320.48	724.2	15.9	-11.5	18.8	0.78	0.12	-7.84
750.0	5.84	319.95	749.1	17.8	-13.1	21.2	0.79	0.76	-2.12
775.0	5.84	318.93	774.0	19.7	-14.8	23.6	0.42	0.00	-4.08
800.0	6.12	319.01	798.8	21.7	-16.5	26.0	1.12	1.12	0.32
825.0	5.96	319.24	823.7	23.7	-18.2	28.5	0.65	-0.64	0.92
850.0	5.62	315.96	848.6	25.6	-19.9	30.8	1.90	-1.36	-13.12
875.0	5.34	314.39	873.5	27.3	-21.6	32.9	1.27	-1.12	-6.28
900.0	5.07	315.42	898.4	28.9	-23.2	35.0	1.14	-1.08	4.12
925.0	4.57	315.45	923.3	30.4	-24.6	36.9	2.00	-2.00	0.12
950.0	4.28	314.10	948.2	31.7	-26.0	38.6	1.23	-1.16	-5.40
975.0	3.82	316.19	973.1	33.0	-27.3	40.2	1.93	-1.84	8.36
1,000.0	3.57	316.08	998.1	34.1	-28.4	41.7	1.00	-1.00	-0.44
1,025.0	3.42	316.33	1,023.0	35.2	-29.4	43.1	0.60	-0.60	1.00
1,050.0	3.07	316.19	1,048.0	36.3	-30.4	44.4	1.40	-1.40	-0.56
1,075.0	2.94	317.23	1,073.0	37.2	-31.3	45.6	0.56	-0.52	4.16
1,100.0	2.72	316.88	1,097.9	38.1	-32.2	46.7	0.88	-0.88	-1.40
1,125.0	2.59	317.99	1,122.9	39.0	-32.9	47.8	0.56	-0.52	4.44
1,150.0	2.49	320.33	1,147.9	39.8	-33.7	48.8	0.58	-0.40	9.36
1,175.0	2.20	316.72	1,172.8	40.6	-34.3	49.8	1.30	-1.16	-14.44
1,200.0	1.94	319.55	1,197.8	41.2	-34.9	50.6	1.12	-1.04	11.32
1,225.0	1.69	316.80	1,222.8	41.8	-35.5	51.4	1.06	-1.00	-11.00
1,250.0	1.70	317.10	1,247.8	42.4	-36.0	52.0	0.05	0.04	1.20
1,275.0	1.83	321.03	1,272.8	43.0	-36.5	52.8	0.71	0.52	15.72
1,300.0	1.38	318.05	1,297.8	43.5	-36.9	53.4	1.83	-1.80	-11.92
1,325.0	1.35	324.66	1,322.8	43.9	-37.3	54.0	0.64	-0.12	26.44
1,350.0	1.26	324.55	1,347.8	44.4	-37.6	54.5	0.36	-0.36	-0.44

Company:	Antero Resources	**Local Co-ordinate Reference:**	Well Klondike Unit 2H
Project:	Tyler County WV	**TVD Reference:**	Patterson 340: 1201' GL + 24' KB @ 1225.0usft
Site:	Pierpoint Pad:Ingot/Klondike/Wall/Weigle	**MD Reference:**	Patterson 340. 1201' GL + 24' KB @ 1225.0usft
Well:	Klondike Unit 2H	**North Reference:**	Grid
Wellbore:	Original Wellpath	**Survey Calculation Method:**	Minimum Curvature
Design:	As Drilled	**Database:**	Antero NE

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
1,375.0	1.04	319.00	1,372.8	44.8	-37.9	55.0	0.99	-0.88	-22.20
1,400.0	0.99	321.87	1,397.8	45.1	-38.2	55.4	0.29	-0.20	11.48
1,425.0	0.99	327.28	1,422.8	45.5	-38.5	55.8	0.37	0.00	21.64
1,450.0	0.85	317.17	1,447.8	45.8	-38.7	56.2	0.86	-0.56	-40.44
1,475.0	0.64	322.96	1,472.8	46.1	-38.9	56.5	0.89	-0.84	23.16
1,500.0	0.72	326.38	1,497.8	46.3	-39.1	56.8	0.36	0.32	13.68
1,525.0	0.61	324.02	1,522.8	46.5	-39.3	57.1	0.45	-0.44	-9.44
1,550.0	0.56	325.15	1,547.8	46.8	-39.4	57.3	0.21	-0.20	4.52
1,575.0	0.57	313.35	1,572.8	46.9	-39.6	57.6	0.47	0.04	-47.20
1,600.0	0.46	330.31	1,597.7	47.1	-39.7	57.8	0.75	-0.44	67.84
1,625.0	0.54	312.07	1,622.7	47.3	-39.8	58.0	0.71	0.32	-72.96
1,650.0	0.41	315.32	1,647.7	47.4	-40.0	58.1	0.53	-0.52	13.00
1,675.0	0.54	330.61	1,672.7	47.6	-40.1	58.3	0.72	0.52	61.16
1,700.0	0.39	327.82	1,697.7	47.8	-40.2	58.5	0.61	-0.60	-11.16
1,725.0	0.36	316.86	1,722.7	47.9	-40.3	58.7	0.31	-0.12	-43.84
1,750.0	0.35	311.21	1,747.7	48.0	-40.4	58.8	0.15	-0.04	-22.60
1,775.0	0.30	303.51	1,772.7	48.1	-40.5	59.0	0.27	-0.20	-30.80
1,800.0	0.24	318.79	1,797.7	48.2	-40.6	59.1	0.37	-0.24	61.12
1,825.0	0.16	315.73	1,822.7	48.2	-40.7	59.1	0.32	-0.32	-12.24
1,850.0	0.12	317.71	1,847.7	48.3	-40.7	59.2	0.16	-0.16	7.92
1,875.0	0.20	351.14	1,872.7	48.3	-40.8	59.3	0.48	0.32	133.72
1,900.0	0.16	351.84	1,897.7	48.4	-40.8	59.3	0.16	-0.16	2.80
1,925.0	0.15	340.07	1,922.7	48.5	-40.8	59.4	0.13	-0.04	-47.08
1,950.0	0.19	354.98	1,947.7	48.5	-40.8	59.5	0.24	0.16	59.64
1,975.0	0.20	335.06	1,972.7	48.6	-40.8	59.6	0.27	0.04	-79.68
2,000.0	0.18	353.91	1,997.7	48.7	-40.8	59.6	0.26	-0.08	75.40
2,025.0	0.17	340.91	2,022.7	48.8	-40.9	59.7	0.16	-0.04	-52.00
2,050.0	0.20	299.90	2,047.7	48.8	-40.9	59.8	0.53	0.12	-164.04
2,075.0	0.11	308.79	2,072.7	48.9	-41.0	59.8	0.37	-0.36	35.56
2,100.0	0.08	332.02	2,097.7	48.9	-41.0	59.9	0.19	-0.12	92.92
2,125.0	0.05	343.36	2,122.7	48.9	-41.0	59.9	0.13	-0.12	45.36
2,150.0	0.13	314.90	2,147.7	49.0	-41.0	59.9	0.36	0.32	-113.84
2,175.0	0.09	337.91	2,172.7	49.0	-41.1	60.0	0.24	-0.16	92.04
2,200.0	0.06	349.44	2,197.7	49.0	-41.1	60.0	0.13	-0.12	46.12
2,225.0	0.10	274.42	2,222.7	49.0	-41.1	60.0	0.41	0.16	-300.08
2,250.0	0.05	315.52	2,247.7	49.1	-41.1	60.1	0.28	-0.20	164.40
2,275.0	0.15	313.17	2,272.7	49.1	-41.1	60.1	0.40	0.40	-9.40
2,300.0	0.14	323.58	2,297.7	49.1	-41.2	60.2	0.11	-0.04	41.64
2,325.0	0.10	316.67	2,322.7	49.2	-41.2	60.2	0.17	-0.16	-27.64
2,350.0	0.06	341.12	2,347.7	49.2	-41.2	60.2	0.21	-0.16	97.80
2,375.0	0.21	298.81	2,372.7	49.2	-41.3	60.3	0.68	0.60	-169.24
2,400.0	0.11	276.28	2,397.7	49.3	-41.4	60.3	0.47	-0.40	-90.12
2,425.0	0.11	275.71	2,422.7	49.3	-41.4	60.4	0.00	0.00	-2.28

Company:	Antero Resources	**Local Co-ordinate Reference:**	Well Klondike Unit 2H
Project:	Tyler County WV	**TVD Reference:**	Patterson 340: 1201' GL + 24' KB @ 1225.0usft
Site:	Pierpoint Pad:Ingot/Klondike/Wall/Weigle	**MD Reference:**	Patterson 340: 1201' GL + 24' KB @ 1225.0usft
Well:	Klondike Unit 2H	**North Reference:**	Grid
Wellbore:	Original Wellpath	**Survey Calculation Method:**	Minimum Curvature
Design:	As Drilled	**Database:**	Antero NE

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
2,450.0	0.20	295.85	2,447.7	49.3	-41.5	60.4	0.42	0.36	80.56
2,475.0	0.32	292.07	2,472.7	49.3	-41.6	60.5	0.48	0.48	-15.12
2,500.0	0.16	261.17	2,497.7	49.4	-41.7	60.5	0.80	-0.64	-123.60
2,525.0	0.12	296.94	2,522.7	49.4	-41.7	60.6	0.38	-0.16	143.08
2,550.0	0.17	276.25	2,547.7	49.4	-41.8	60.6	0.29	0.20	-82.76
2,575.0	0.33	278.21	2,572.7	49.4	-41.9	60.6	0.64	0.64	7.84
2,600.0	0.27	283.33	2,597.7	49.4	-42.0	60.7	0.26	-0.24	20.48
2,625.0	0.26	290.29	2,622.7	49.4	-42.1	60.8	0.13	-0.04	27.84
2,650.0	0.33	275.03	2,647.7	49.5	-42.3	60.8	0.42	0.28	-61.04
2,675.0	0.29	276.51	2,672.7	49.5	-42.4	60.9	0.16	-0.16	5.92
2,700.0	0.33	288.51	2,697.7	49.5	-42.5	61.0	0.30	0.16	48.00
2,725.0	0.35	278.20	2,722.7	49.5	-42.7	61.1	0.26	0.08	-41.24
2,750.0	0.40	267.48	2,747.7	49.6	-42.8	61.1	0.34	0.20	-42.88
2,775.0	0.32	287.82	2,772.7	49.6	-43.0	61.2	0.60	-0.32	81.36
2,800.0	0.38	274.91	2,797.7	49.6	-43.1	61.3	0.39	0.24	-51.64
2,825.0	0.38	273.18	2,822.7	49.6	-43.3	61.3	0.05	0.00	-6.92
2,850.0	0.35	270.59	2,847.7	49.6	-43.5	61.4	0.14	-0.12	-10.36
2,875.0	0.40	274.08	2,872.7	49.6	-43.6	61.5	0.22	0.20	13.96
2,900.0	0.48	270.46	2,897.7	49.6	-43.8	61.5	0.34	0.32	-14.48
2,925.0	0.31	271.16	2,922.7	49.6	-44.0	61.6	0.68	-0.68	2.80
2,950.0	0.34	278.21	2,947.7	49.6	-44.1	61.6	0.20	0.12	28.20
2,975.0	0.37	284.40	2,972.7	49.7	-44.3	61.7	0.19	0.12	24.76
3,000.0	0.44	283.69	2,997.7	49.7	-44.4	61.8	0.28	0.28	-2.84
3,025.0	0.45	293.11	3,022.7	49.8	-44.6	61.9	0.30	0.04	37.68
3,050.0	0.37	291.89	3,047.7	49.9	-44.8	62.1	0.32	-0.32	-4.88
3,075.0	0.56	285.34	3,072.7	49.9	-45.0	62.2	0.79	0.76	-26.20
3,100.0	0.41	288.31	3,097.7	50.0	-45.2	62.3	0.61	-0.60	11.88
3,125.0	0.57	284.51	3,122.7	50.0	-45.4	62.4	0.65	0.64	-15.20
3,150.0	0.52	276.13	3,147.7	50.1	-45.6	62.6	0.38	-0.20	-33.52
3,175.0	0.54	280.36	3,172.7	50.1	-45.9	62.7	0.18	0.08	16.92
3,200.0	0.56	279.23	3,197.7	50.2	-46.1	62.8	0.09	0.08	-4.52
3,225.0	0.53	276.42	3,222.7	50.2	-46.3	62.9	0.16	-0.12	-11.24
3,250.0	0.45	272.29	3,247.7	50.2	-46.5	63.0	0.35	-0.32	-16.52
3,275.0	0.58	268.27	3,272.7	50.2	-46.8	63.1	0.54	0.52	-16.08
3,300.0	0.53	277.29	3,297.7	50.2	-47.0	63.1	0.40	-0.20	36.08
3,325.0	0.47	269.38	3,322.7	50.2	-47.2	63.2	0.37	-0.24	-31.64
3,350.0	0.46	268.43	3,347.7	50.2	-47.4	63.3	0.05	-0.04	-3.80
3,375.0	0.47	266.70	3,372.7	50.2	-47.6	63.4	0.07	0.04	-6.92
3,400.0	0.43	271.55	3,397.7	50.2	-47.8	63.4	0.22	-0.16	19.40
3,425.0	0.53	270.45	3,422.7	50.2	-48.0	63.5	0.40	0.40	-4.40
3,450.0	0.39	273.98	3,447.7	50.2	-48.2	63.6	0.57	-0.56	14.12
3,475.0	0.45	277.61	3,472.7	50.2	-48.4	63.6	0.26	0.24	14.52
3,500.0	0.49	264.72	3,497.7	50.2	-48.6	63.7	0.45	0.16	-51.56
3,525.0	0.34	266.88	3,522.7	50.2	-48.8	63.8	0.60	-0.60	8.64

Company:	Antero Resources	**Local Co-ordinate Reference:**	Well Klondike Unit 2H
Project:	Tyler County WV	**TVD Reference:**	Patterson 340: 1201' GL + 24' KB @ 1225.0usft
Site:	Pierpoint Pad:Ingot/Klondike/Wall/Weigle	**MD Reference:**	Patterson 340: 1201' GL + 24' KB @ 1225.0usft
Well:	Klondike Unit 2H	**North Reference:**	Grid
Wellbore:	Original Wellpath	**Survey Calculation Method:**	Minimum Curvature
Design:	As Drilled	**Database:**	Antero NE

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
3,550.0	0.40	282.45	3,547.7	50.2	-49.0	63.8	0.47	0.24	62.28
3,575.0	0.42	273.98	3,572.7	50.3	-49.1	63.9	0.26	0.08	-33.88
3,600.0	0.43	273.06	3,597.7	50.3	-49.3	64.0	0.05	0.04	-3.68
3,625.0	0.35	266.04	3,622.7	50.3	-49.5	64.1	0.37	-0.32	-28.08
3,650.0	0.36	275.84	3,647.7	50.3	-49.6	64.1	0.25	0.04	39.20
3,675.0	0.47	266.73	3,672.7	50.3	-49.8	64.2	0.51	0.44	-36.44
3,700.0	0.36	267.49	3,697.7	50.3	-50.0	64.2	0.44	-0.44	3.04
3,725.0	0.50	268.18	3,722.7	50.3	-50.2	64.3	0.56	0.56	2.76
3,750.0	0.39	260.77	3,747.7	50.2	-50.4	64.3	0.50	-0.44	-29.64
3,775.0	0.41	268.17	3,772.7	50.2	-50.6	64.4	0.22	0.08	29.60
3,800.0	0.51	267.42	3,797.7	50.2	-50.8	64.4	0.40	0.40	-3.00
3,825.0	0.57	269.03	3,822.7	50.2	-51.0	64.5	0.25	0.24	6.44
3,850.0	0.48	262.42	3,847.7	50.2	-51.2	64.6	0.43	-0.36	-26.44
3,875.0	0.53	266.35	3,872.7	50.2	-51.4	64.6	0.24	0.20	15.72
3,900.0	0.52	262.67	3,897.7	50.2	-51.7	64.7	0.14	-0.04	-14.72
3,925.0	0.50	263.98	3,922.7	50.1	-51.9	64.7	0.09	-0.08	5.24
3,950.0	0.49	270.19	3,947.7	50.1	-52.1	64.8	0.22	-0.04	24.84
3,975.0	0.50	266.55	3,972.7	50.1	-52.3	64.9	0.13	0.04	-14.56
4,000.0	0.47	261.51	3,997.7	50.1	-52.5	64.9	0.21	-0.12	-20.16
4,025.0	0.41	268.66	4,022.7	50.1	-52.7	65.0	0.32	-0.24	28.60
4,050.0	0.49	273.55	4,047.7	50.1	-52.9	65.0	0.35	0.32	19.56
4,075.0	0.71	243.20	4,072.7	50.0	-53.2	65.0	1.52	0.88	-121.40
4,100.0	1.12	225.05	4,097.7	49.8	-53.5	64.9	1.99	1.64	-72.60
4,125.0	1.49	223.77	4,122.7	49.4	-53.9	64.7	1.48	1.48	-5.12
4,150.0	2.18	210.82	4,147.7	48.7	-54.3	64.2	3.20	2.76	-51.80
4,175.0	2.79	206.69	4,172.7	47.8	-54.9	63.5	2.54	2.44	-16.52
4,200.0	3.43	203.15	4,197.6	46.5	-55.4	62.5	2.67	2.56	-14.16
4,225.0	4.05	199.74	4,222.6	45.0	-56.0	61.3	2.63	2.48	-13.64
4,250.0	4.48	198.29	4,247.5	43.3	-56.6	59.9	1.77	1.72	-5.80
4,275.0	5.28	195.13	4,272.4	41.2	-57.2	58.1	3.37	3.20	-12.64
4,300.0	5.91	193.80	4,297.3	38.9	-57.8	56.1	2.57	2.52	-5.32
4,325.0	6.66	192.50	4,322.1	36.2	-58.5	53.8	3.05	3.00	-5.20
4,350.0	7.33	191.92	4,346.9	33.2	-59.1	51.3	2.69	2.68	-2.32
4,375.0	8.04	190.72	4,371.7	29.9	-59.8	48.4	2.91	2.84	-4.80
4,400.0	8.72	189.04	4,396.5	26.4	-60.4	45.2	2.89	2.72	-6.72
4,425.0	8.95	187.91	4,421.2	22.6	-60.9	41.8	1.15	0.92	-4.52
4,450.0	9.40	187.28	4,445.8	18.6	-61.5	38.3	1.84	1.80	-2.52
4,475.0	10.51	188.89	4,470.5	14.3	-62.1	34.5	4.58	4.44	6.44
4,500.0	10.72	189.08	4,495.0	9.8	-62.8	30.4	0.85	0.84	0.76
4,525.0	10.74	188.83	4,519.6	5.2	-63.5	26.4	0.20	0.08	-1.00
4,550.0	11.61	187.92	4,544.1	0.4	-64.2	22.1	3.55	3.48	-3.64
4,575.0	13.08	186.51	4,568.5	-4.9	-64.9	17.3	6.00	5.88	-5.64
4,600.0	13.61	186.24	4,592.9	-10.6	-65.5	12.1	2.13	2.12	-1.08

Company:	Antero Resources	**Local Co-ordinate Reference:**	Well Klondike Unit 2H
Project:	Tyler County WV	**TVD Reference:**	Patterson 340: 1201' GL + 24' KB @ 1225.0usft
Site:	Pierpoint Pad:Ingot/Klondike/Wall/Weigle	**MD Reference:**	Patterson 340: 1201' GL + 24' KB @ 1225.0usft
Well:	Klondike Unit 2H	**North Reference:**	Grid
Wellbore:	Original Wellpath	**Survey Calculation Method:**	Minimum Curvature
Design:	As Drilled	**Database:**	Antero NE

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
4,625.0	13.98	185.65	4,617.1	-16.6	-66.2	6.8	1.58	1.48	-2.36
4,650.0	15.07	184.86	4,641.3	-22.8	-66.7	1.1	4.43	4.36	-3.16
4,675.0	16.70	184.18	4,665.4	-29.6	-67.3	-5.2	6.56	6.52	-2.72
4,700.0	17.30	183.30	4,689.3	-36.9	-67.7	-11.9	2.61	2.40	-3.52
4,725.0	17.71	182.79	4,713.1	-44.4	-68.1	-18.8	1.75	1.64	-2.04
4,750.0	17.93	182.27	4,736.9	-52.1	-68.5	-25.9	1.09	0.88	-2.08
4,775.0	18.16	181.86	4,760.7	-59.8	-68.8	-33.1	1.05	0.92	-1.64
4,800.0	18.26	181.41	4,784.5	-67.6	-69.0	-40.3	0.69	0.40	-1.80
4,825.0	17.75	180.80	4,808.2	-75.4	-69.1	-47.5	2.17	-2.04	-2.44
4,850.0	19.81	181.47	4,831.9	-83.4	-69.3	-55.1	8.28	8.24	2.68
4,875.0	20.03	181.98	4,855.4	-91.9	-69.6	-63.0	1.12	0.88	2.04
4,900.0	20.23	181.53	4,878.9	-100.5	-69.8	-71.0	1.01	0.80	-1.80
4,925.0	20.65	181.19	4,902.3	-109.2	-70.0	-79.1	1.75	1.68	-1.36
4,950.0	21.36	179.90	4,925.6	-118.2	-70.1	-87.5	3.39	2.84	-5.16
4,975.0	21.85	177.21	4,948.9	-127.4	-69.9	-96.3	4.42	1.96	-10.76
5,000.0	21.55	175.78	4,972.1	-136.6	-69.3	-105.2	2.43	-1.20	-5.72
5,025.0	21.91	174.89	4,995.3	-145.9	-68.6	-114.1	1.95	1.44	-3.56
5,050.0	22.40	174.07	5,018.5	-155.2	-67.6	-123.2	2.32	1.96	-3.28
5,075.0	22.22	174.40	5,041.6	-164.7	-66.7	-132.4	0.88	-0.72	1.32
5,100.0	21.78	174.35	5,064.8	-174.0	-65.8	-141.5	1.76	-1.76	-0.20
5,125.0	22.01	174.43	5,088.0	-183.3	-64.9	-150.6	0.93	0.92	0.32
5,150.0	22.30	174.45	5,111.2	-192.7	-63.9	-159.7	1.16	1.16	0.08
5,175.0	22.35	174.45	5,134.3	-202.1	-63.0	-168.9	0.20	0.20	0.00
5,200.0	22.80	174.53	5,157.4	-211.7	-62.1	-178.2	1.80	1.80	0.32
5,225.0	23.68	175.00	5,180.3	-221.5	-61.2	-187.8	3.60	3.52	1.88
5,250.0	24.40	175.28	5,203.2	-231.6	-60.3	-197.6	2.92	2.88	1.12
5,275.0	24.52	175.06	5,225.9	-242.0	-59.5	-207.6	0.60	0.48	-0.88
5,300.0	24.49	175.01	5,248.7	-252.3	-58.6	-217.6	0.15	-0.12	-0.20
5,325.0	24.80	174.92	5,271.4	-262.7	-57.7	-227.7	1.25	1.24	-0.36
5,350.0	24.66	174.71	5,294.1	-273.1	-56.7	-237.8	0.66	-0.56	-0.84
5,375.0	24.32	174.36	5,316.9	-283.4	-55.7	-247.9	1.48	-1.36	-1.40
5,400.0	24.25	174.05	5,339.6	-293.6	-54.7	-257.9	0.58	-0.28	-1.24
5,425.0	24.77	174.14	5,362.4	-303.9	-53.6	-267.9	2.09	2.08	0.36
5,450.0	24.45	173.97	5,385.1	-314.3	-52.5	-278.0	1.31	-1.28	-0.68
5,475.0	24.63	173.69	5,407.9	-324.6	-51.4	-288.1	0.86	0.72	-1.12
5,500.0	24.56	173.47	5,430.6	-335.0	-50.3	-298.2	0.46	-0.28	-0.88
5,525.0	24.87	173.49	5,453.3	-345.4	-49.1	-308.4	1.24	1.24	0.08
5,550.0	24.39	172.85	5,476.0	-355.7	-47.8	-318.6	2.20	-1.92	-2.56
5,575.0	24.08	171.96	5,498.8	-365.9	-46.5	-328.6	1.92	-1.24	-3.56
5,600.0	23.98	171.95	5,521.7	-375.9	-45.1	-338.6	0.40	-0.40	-0.04
5,625.0	23.43	171.87	5,544.5	-385.9	-43.6	-348.4	2.20	-2.20	-0.32
5,650.0	22.68	171.79	5,567.5	-395.6	-42.3	-358.0	3.00	-3.00	-0.32
5,675.0	22.31	171.78	5,590.6	-405.1	-40.9	-367.4	1.48	-1.48	-0.04

Company:	Antero Resources	**Local Co-ordinate Reference:**	Well Klondike Unit 2H
Project:	Tyler County WV	**TVD Reference:**	Patterson 340: 1201' GL + 24' KB @ 1225.0usft
Site:	Pierpoint Pad:Ingot/Klondike/Wall/Weigle	**MD Reference:**	Patterson 340: 1201' GL + 24' KB @ 1225.0usft
Well:	Klondike Unit 2H	**North Reference:**	Grid
Wellbore:	Original Wellpath	**Survey Calculation Method:**	Minimum Curvature
Design:	As Drilled	**Database:**	Antero NE

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
5,700.0	22.64	171.73	5,613.7	-414.5	-39.5	-376.7	1.32	1.32	-0.20
5,725.0	22.16	171.64	5,636.9	-423.9	-38.1	-386.1	1.92	-1.92	-0.36
5,750.0	21.98	171.12	5,660.0	-433.2	-36.7	-395.3	1.06	-0.72	-2.08
5,775.0	22.06	170.83	5,683.2	-442.5	-35.3	-404.5	0.54	0.32	-1.16
5,800.0	22.54	170.84	5,706.3	-451.9	-33.8	-413.8	1.92	1.92	0.04
5,825.0	22.43	170.96	5,729.4	-461.3	-32.2	-423.2	0.48	-0.44	0.48
5,850.0	22.12	170.41	5,752.6	-470.6	-30.7	-432.5	1.49	-1.24	-2.20
5,875.0	22.54	170.90	5,775.7	-480.0	-29.2	-441.9	1.84	1.68	1.96
5,900.0	22.99	171.77	5,798.7	-489.6	-27.7	-451.4	2.25	1.80	3.48
5,925.0	23.02	172.09	5,821.8	-499.3	-26.3	-461.0	0.51	0.12	1.28
5,950.0	22.67	172.61	5,844.8	-508.9	-25.0	-470.4	1.62	-1.40	2.08
5,975.0	22.60	173.73	5,867.9	-518.4	-23.9	-479.8	1.75	-0.28	4.48
6,000.0	22.66	175.96	5,890.9	-528.0	-23.0	-489.1	3.44	0.24	8.92
6,025.0	22.38	176.28	5,914.0	-537.6	-22.4	-498.3	1.22	-1.12	1.28
6,042.4	22.39	176.15	5,930.1	-544.2	-22.0	-504.7	0.29	0.06	-0.75
6,084.0	22.85	180.63	5,968.5	-560.2	-21.5	-519.9	4.29	1.11	10.77
First SDI MWD @ 6084									
6,125.0	22.98	183.22	6,006.3	-576.1	-22.0	-534.7	2.48	0.33	6.32
RNST @ 6125									
6,178.0	23.22	186.52	6,055.0	-596.8	-23.8	-553.6	2.48	0.44	6.22
6,209.0	22.97	185.48	6,083.6	-608.9	-25.1	-564.6	1.54	-0.81	-3.35
6,241.0	22.11	186.95	6,113.1	-621.1	-26.4	-575.6	3.21	-2.69	4.59
6,272.0	21.22	197.98	6,141.9	-632.2	-28.8	-585.3	13.43	-2.87	35.58
6,304.0	21.21	212.94	6,171.8	-642.6	-33.8	-593.3	16.88	-0.03	46.75
6,335.0	22.21	227.19	6,200.6	-651.3	-41.1	-599.0	17.27	3.23	45.97
6,366.0	23.36	238.70	6,229.2	-658.5	-50.7	-602.6	14.83	3.71	37.13
6,398.0	24.53	247.64	6,258.5	-664.3	-62.3	-604.1	11.90	3.66	27.94
6,429.0	26.06	252.98	6,286.5	-668.7	-74.7	-604.1	8.86	4.94	17.23
6,460.0	27.78	259.14	6,314.1	-672.1	-88.3	-602.7	10.56	5.55	19.87
6,477.0	29.10	262.72	6,329.1	-673.4	-96.3	-601.2	12.68	7.77	21.05
SCMR @ 6477									
6,492.0	30.34	265.63	6,342.1	-674.1	-103.7	-599.4	12.68	8.26	19.42
6,523.0	32.31	269.57	6,368.6	-674.8	-119.8	-594.5	9.16	6.35	12.71
6,554.0	33.31	275.35	6,394.7	-674.1	-136.6	-588.2	10.60	3.23	18.65
6,586.0	34.61	283.28	6,421.2	-671.1	-154.2	-579.5	14.42	4.06	24.78
6,617.0	36.65	289.96	6,446.4	-666.0	-171.5	-568.8	14.17	6.58	21.55
6,648.0	38.00	293.63	6,471.1	-659.0	-188.9	-556.3	8.39	4.35	11.84
6,680.0	40.19	295.46	6,495.9	-650.6	-207.3	-542.2	7.74	6.84	5.72
6,686.0	40.95	295.50	6,500.5	-648.9	-210.8	-539.4	12.67	12.67	0.67
MDLX @ 6686									
6,710.0	43.99	295.65	6,518.2	-641.9	-225.4	-527.9	12.67	12.67	0.62
6,742.0	47.15	295.31	6,540.6	-632.1	-246.0	-511.7	9.90	9.88	-1.06
6,773.0	50.33	295.84	6,561.0	-622.0	-267.0	-495.1	10.34	10.26	1.71
6,804.0	53.87	297.38	6,580.0	-611.1	-288.9	-477.4	12.07	11.42	4.97

Company:	Antero Resources	**Local Co-ordinate Reference:**	Well Klondike Unit 2H
Project:	Tyler County WV	**TVD Reference:**	Patterson 340: 1201' GL + 24' KB @ 1225.0usft
Site:	Pierpoint Pad:Ingot/Klondike/Wall/Weigle	**MD Reference:**	Patterson 340: 1201' GL + 24' KB @ 1225.0usft
Well:	Klondike Unit 2H	**North Reference:**	Grid
Wellbore:	Original Wellpath	**Survey Calculation Method:**	Minimum Curvature
Design:	As Drilled	**Database:**	Antero NE

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
6,835.0	56.96	301.79	6,597.6	-598.5	-311.1	-458.0	15.38	9.97	14.23
6,839.0	57.47	302.18	6,599.8	-596.7	-313.9	-455.4	15.18	12.71	9.87
BRKT @ 6839									
6,867.0	61.06	304.83	6,614.1	-583.4	-334.0	-436.1	15.18	12.83	9.45
6,886.0	63.78	306.06	6,622.9	-573.6	-347.7	-422.3	15.41	14.31	6.45
TLLY @ 6886									
6,898.0	65.50	306.80	6,628.1	-567.2	-356.4	-413.3	15.41	14.35	6.20
6,929.0	68.97	308.10	6,640.1	-549.8	-379.1	-389.3	11.84	11.19	4.19
6,961.0	72.15	309.30	6,650.7	-530.9	-402.7	-363.5	10.55	9.94	3.75
6,992.0	74.97	311.97	6,659.5	-511.6	-425.2	-337.7	12.29	9.10	8.61
6,997.0	75.28	312.49	6,660.8	-508.3	-428.8	-333.4	11.89	6.30	10.43
MRCL_HOT @ 6997									
7,023.0	76.94	315.18	6,667.0	-490.8	-447.0	-310.8	11.89	6.37	10.34
7,055.0	78.44	318.21	6,673.8	-468.1	-468.4	-282.2	10.37	4.69	9.47
7,086.0	80.29	320.66	6,679.5	-444.9	-488.2	-253.7	9.79	5.97	7.90
7,118.0	82.67	323.87	6,684.3	-419.9	-507.6	-223.6	12.40	7.44	10.03
7,145.0	85.83	325.43	6,687.0	-398.0	-523.1	-197.7	13.04	11.70	5.78
7,184.0	90.34	328.51	6,688.3	-365.3	-544.4	-159.8	14.00	11.56	7.90
~As Drilled LP @ 7184 MD / 6688 TVD									
7,239.0	90.60	328.46	6,687.8	-318.5	-573.1	-105.9	0.48	0.47	-0.09
7,333.0	88.99	330.72	6,688.2	-237.4	-620.7	-13.6	2.95	-1.71	2.40
7,427.0	90.27	334.58	6,688.8	-153.9	-663.9	79.6	4.33	1.36	4.11
7,521.0	92.18	338.00	6,686.8	-67.9	-701.7	173.3	4.17	2.03	3.64
7,615.0	91.68	339.35	6,683.6	19.6	-735.8	267.2	1.53	-0.53	1.44
7,709.0	90.67	340.06	6,681.7	107.8	-768.4	361.2	1.31	-1.07	0.76
7,803.0	90.13	340.18	6,681.0	196.2	-800.4	455.2	0.59	-0.57	0.13
7,897.0	90.54	343.10	6,680.5	285.4	-830.0	549.2	3.14	0.44	3.11
7,991.0	89.87	340.45	6,680.1	374.6	-859.4	643.1	2.91	-0.71	-2.82
8,085.0	91.07	345.78	6,679.4	464.5	-886.7	737.0	5.81	1.28	5.67
8,180.0	93.25	348.20	6,675.8	557.0	-908.0	831.2	3.43	2.29	2.55
8,274.0	92.79	344.94	6,670.8	648.3	-929.8	924.5	3.50	-0.49	-3.47
8,368.0	91.58	341.36	6,667.3	738.2	-957.1	1,018.3	4.02	-1.29	-3.81
8,462.0	92.05	341.01	6,664.3	827.1	-987.4	1,112.2	0.62	0.50	-0.37
8,556.0	89.97	340.66	6,662.6	915.9	-1,018.2	1,206.2	2.24	-2.21	-0.37
8,650.0	90.44	340.75	6,662.3	1,004.6	-1,049.3	1,300.2	0.51	0.50	0.10
8,743.0	90.54	339.34	6,661.5	1,092.0	-1,081.0	1,393.2	1.52	0.11	-1.52
8,838.0	88.83	339.30	6,662.0	1,180.9	-1,114.6	1,488.2	1.80	-1.80	-0.04
8,932.0	88.76	338.72	6,664.0	1,268.6	-1,148.2	1,582.1	0.62	-0.07	-0.62
9,026.0	87.45	339.15	6,667.1	1,356.3	-1,182.0	1,676.1	1.47	-1.39	0.46
9,120.0	87.65	339.31	6,671.1	1,444.1	-1,215.3	1,770.0	0.27	0.21	0.17
9,214.0	87.58	339.52	6,675.0	1,532.1	-1,248.3	1,863.9	0.24	-0.07	0.22
9,308.0	88.52	340.23	6,678.2	1,620.3	-1,280.6	1,957.8	1.25	1.00	0.76
9,402.0	88.69	339.20	6,680.5	1,708.4	-1,313.2	2,051.8	1.11	0.18	-1.10
9,497.0	89.33	339.20	6,682.2	1,797.2	-1,347.0	2,146.8	0.67	0.67	0.00

Company:	Antero Resources	**Local Co-ordinate Reference:**	Well Klondike Unit 2H
Project:	Tyler County WV	**TVD Reference:**	Patterson 340: 1201' GL + 24' KB @ 1225.0usft
Site:	Pierpoint Pad:Ingot/Klondike/Wall/Weigle	**MD Reference:**	Patterson 340: 1201' GL + 24' KB @ 1225.0usft
Well:	Klondike Unit 2H	**North Reference:**	Grid
Wellbore:	Original Wellpath	**Survey Calculation Method:**	Minimum Curvature
Design:	As Drilled	**Database:**	Antero NE

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
9,591.0	90.54	340.06	6,682.3	1,885.3	-1,379.7	2,240.7	1.58	1.29	0.91
9,684.0	89.90	339.00	6,681.9	1,972.4	-1,412.2	2,333.7	1.33	-0.69	-1.14
9,778.0	90.37	338.60	6,681.7	2,060.1	-1,446.2	2,427.7	0.66	0.50	-0.43
9,872.0	90.27	339.93	6,681.2	2,148.0	-1,479.5	2,521.7	1.42	-0.11	1.41
9,966.0	89.53	342.08	6,681.3	2,236.9	-1,510.1	2,615.7	2.42	-0.79	2.29
10,060.0	90.27	343.14	6,681.5	2,326.6	-1,538.2	2,709.6	1.38	0.79	1.13
10,154.0	89.46	343.64	6,681.7	2,416.6	-1,565.0	2,803.4	1.01	-0.86	0.53
10,248.0	89.76	342.07	6,682.3	2,506.5	-1,592.7	2,897.3	1.70	0.32	-1.67
10,342.0	89.46	341.75	6,683.0	2,595.8	-1,621.9	2,991.3	0.47	-0.32	-0.34
10,436.0	87.65	338.10	6,685.4	2,684.1	-1,654.2	3,085.2	4.33	-1.93	-3.88
10,530.0	87.99	338.03	6,688.9	2,771.2	-1,689.3	3,179.1	0.37	0.36	-0.07
10,625.0	88.69	337.80	6,691.7	2,859.2	-1,725.0	3,274.0	0.78	0.74	-0.24
10,718.0	89.30	336.26	6,693.3	2,944.8	-1,761.2	3,366.8	1.78	0.66	-1.66
10,812.0	90.50	338.40	6,693.5	3,031.5	-1,797.5	3,460.7	2.61	1.28	2.28
10,906.0	90.50	340.47	6,692.7	3,119.5	-1,830.5	3,554.7	2.20	0.00	2.20
11,000.0	90.64	340.53	6,691.7	3,208.1	-1,861.9	3,648.7	0.16	0.15	0.06
11,094.0	88.52	339.20	6,692.4	3,296.4	-1,894.2	3,742.7	2.66	-2.26	-1.41
11,188.0	89.60	340.37	6,694.0	3,384.6	-1,926.7	3,836.6	1.69	1.15	1.24
11,283.0	90.77	340.47	6,693.7	3,474.1	-1,958.5	3,931.6	1.24	1.23	0.11
11,377.0	90.00	340.05	6,693.0	3,562.5	-1,990.3	4,025.6	0.93	-0.82	-0.45
11,471.0	89.36	339.15	6,693.5	3,650.6	-2,023.0	4,119.6	1.17	-0.68	-0.96
11,565.0	90.60	340.62	6,693.6	3,738.9	-2,055.4	4,213.6	2.05	1.32	1.56
11,659.0	90.50	339.94	6,692.7	3,827.4	-2,087.1	4,307.6	0.73	-0.11	-0.72
11,753.0	90.91	341.27	6,691.5	3,916.0	-2,118.3	4,401.6	1.48	0.44	1.41
11,847.0	90.64	341.19	6,690.2	4,005.0	-2,148.5	4,495.6	0.30	-0.29	-0.09
11,941.0	89.56	342.22	6,690.1	4,094.3	-2,178.0	4,589.6	1.59	-1.15	1.10
12,035.0	90.40	343.21	6,690.1	4,184.0	-2,206.0	4,683.5	1.38	0.89	1.05
12,129.0	88.59	342.18	6,690.9	4,273.8	-2,233.9	4,777.4	2.22	-1.93	-1.10
12,224.0	89.36	341.95	6,692.6	4,364.1	-2,263.2	4,872.3	0.85	0.81	-0.24
12,318.0	89.56	341.10	6,693.5	4,453.3	-2,293.0	4,966.3	0.93	0.21	-0.90
12,412.0	90.17	340.47	6,693.7	4,542.1	-2,323.9	5,060.3	0.93	0.65	-0.67
12,506.0	90.57	340.58	6,693.1	4,630.7	-2,355.2	5,154.3	0.44	0.43	0.12
12,599.0	89.56	338.22	6,693.0	4,717.7	-2,388.0	5,247.2	2.76	-1.09	-2.54
12,694.0	89.80	336.63	6,693.6	4,805.4	-2,424.4	5,342.1	1.69	0.25	-1.67
12,788.0	90.37	338.15	6,693.4	4,892.2	-2,460.6	5,436.0	1.73	0.61	1.62
12,882.0	90.47	335.96	6,692.7	4,978.8	-2,497.2	5,529.9	2.33	0.11	-2.33
12,976.0	90.50	338.62	6,691.9	5,065.5	-2,533.5	5,623.7	2.83	0.03	2.83
13,070.0	89.70	341.22	6,691.8	5,153.7	-2,565.8	5,717.7	2.89	-0.85	2.77
13,164.0	89.80	341.23	6,692.2	5,242.7	-2,596.0	5,811.7	0.11	0.11	0.01
13,258.0	90.24	339.81	6,692.2	5,331.4	-2,627.4	5,905.7	1.58	0.47	-1.51
13,352.0	89.33	341.96	6,692.5	5,420.2	-2,658.1	5,999.7	2.48	-0.97	2.29
13,446.0	89.23	341.64	6,693.7	5,509.5	-2,687.5	6,093.6	0.36	-0.11	-0.34
13,540.0	90.27	342.64	6,694.1	5,598.9	-2,716.3	6,187.6	1.53	1.11	1.06
13,634.0	91.08	342.57	6,693.0	5,688.6	-2,744.4	6,281.5	0.86	0.86	-0.07

Company:	Antero Resources	**Local Co-ordinate Reference:**	Well Klondike Unit 2H
Project:	Tyler County WV	**TVD Reference:**	Patterson 340. 1201' GL + 24' KB @ 1225.0usft
Site:	Pierpoint Pad:Ingot/Klondike/Wall/Weigle	**MD Reference:**	Patterson 340: 1201' GL + 24' KB @ 1225.0usft
Well:	Klondike Unit 2H	**North Reference:**	Grid
Wellbore:	Original Wellpath	**Survey Calculation Method:**	Minimum Curvature
Design:	As Drilled	**Database:**	Antero NE

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
13,728.0	90.00	342.45	6,692.1	5,778.3	-2,772.7	6,375.4	1.16	-1.15	-0.13
13,822.0	90.54	342.28	6,691.7	5,867.8	-2,801.2	6,469.3	0.60	0.57	-0.18
13,916.0	90.34	342.23	6,690.9	5,957.4	-2,829.8	6,563.3	0.22	-0.21	-0.05
14,010.0	88.09	339.94	6,692.2	6,046.3	-2,860.3	6,657.3	3.42	-2.39	-2.44
14,105.0	88.59	337.97	6,695.0	6,134.9	-2,894.4	6,752.2	2.14	0.53	-2.07
14,198.0	90.64	338.75	6,695.6	6,221.3	-2,928.7	6,845.1	2.36	2.20	0.84
14,292.0	91.38	338.34	6,694.0	6,308.8	-2,963.0	6,939.1	0.90	0.79	-0.44
14,385.0	90.91	340.31	6,692.1	6,395.8	-2,995.9	7,032.0	2.18	-0.51	2.12
14,479.0	89.53	339.35	6,691.7	6,484.0	-3,028.3	7,126.0	1.79	-1.47	-1.02
14,573.0	88.49	339.95	6,693.4	6,572.1	-3,061.0	7,220.0	1.28	-1.11	0.64
14,667.0	88.66	340.50	6,695.7	6,660.6	-3,092.8	7,314.0	0.61	0.18	0.59
14,761.0	89.25	339.09	6,697.4	6,748.8	-3,125.2	7,408.0	1.63	0.63	-1.50
14,856.0	89.87	339.58	6,698.1	6,837.7	-3,158.7	7,502.9	0.83	0.65	0.52
14,950.0	89.36	340.37	6,698.8	6,926.0	-3,190.9	7,596.9	1.00	-0.54	0.84
15,044.0	89.97	340.60	6,699.3	7,014.6	-3,222.3	7,690.9	0.69	0.65	0.24
15,137.0	90.87	341.84	6,698.6	7,102.6	-3,252.3	7,783.9	1.65	0.97	1.33
15,232.0	89.63	340.37	6,698.2	7,192.5	-3,283.0	7,878.9	2.02	-1.31	-1.55
15,326.0	89.83	339.37	6,698.7	7,280.7	-3,315.4	7,972.9	1.08	0.21	-1.06
15,420.0	90.17	337.58	6,698.7	7,368.2	-3,349.9	8,066.8	1.94	0.36	-1.90
15,515.0	88.69	338.36	6,699.6	7,456.2	-3,385.5	8,161.8	1.76	-1.56	0.82
15,609.0	89.33	339.29	6,701.2	7,543.9	-3,419.4	8,255.7	1.20	0.68	0.99
15,703.0	89.77	337.33	6,702.0	7,631.2	-3,454.2	8,349.7	2.14	0.47	-2.09
15,797.0	89.09	339.04	6,702.9	7,718.5	-3,489.1	8,443.6	1.96	-0.72	1.82
15,891.0	89.06	339.92	6,704.4	7,806.5	-3,522.1	8,537.6	0.94	-0.03	0.94
15,986.0	89.63	341.75	6,705.5	7,896.2	-3,553.2	8,632.6	2.02	0.60	1.93
16,080.0	90.47	341.34	6,705.4	7,985.4	-3,583.0	8,726.5	0.99	0.89	-0.44
16,174.0	89.63	340.89	6,705.3	8,074.3	-3,613.4	8,820.5	1.01	-0.89	-0.48
16,268.0	89.60	338.97	6,706.0	8,162.6	-3,645.7	8,914.5	2.04	-0.03	-2.04
16,362.0	89.80	341.53	6,706.5	8,251.1	-3,677.4	9,008.5	2.73	0.21	2.72
16,457.0	90.30	340.85	6,706.4	8,341.0	-3,708.1	9,103.5	0.89	0.53	-0.72
16,550.0	90.94	340.14	6,705.4	8,428.7	-3,739.1	9,196.5	1.03	0.69	-0.76
16,645.0	90.40	341.57	6,704.3	8,518.4	-3,770.3	9,291.5	1.61	-0.57	1.51
16,739.0	89.50	342.60	6,704.4	8,607.8	-3,799.2	9,385.4	1.46	-0.96	1.10
16,833.0	90.27	342.56	6,704.5	8,697.5	-3,827.3	9,479.3	0.82	0.82	-0.04
16,927.0	89.03	342.71	6,705.1	8,787.2	-3,855.4	9,573.2	1.33	-1.32	0.16
17,022.0	89.60	342.13	6,706.3	8,877.8	-3,884.1	9,668.2	0.86	0.60	-0.61
17,116.0	90.30	343.10	6,706.3	8,967.5	-3,912.2	9,762.1	1.27	0.74	1.03
17,210.0	90.54	340.78	6,705.6	9,056.9	-3,941.3	9,856.0	2.48	0.26	-2.47
17,304.0	90.10	339.36	6,705.1	9,145.2	-3,973.3	9,950.0	1.58	-0.47	-1.51
17,398.0	90.81	339.38	6,704.4	9,233.2	-4,006.4	10,044.0	0.76	0.76	0.02
17,492.0	90.77	338.34	6,703.1	9,320.9	-4,040.3	10,138.0	1.11	-0.04	-1.11
17,586.0	88.96	338.76	6,703.3	9,408.3	-4,074.7	10,231.9	1.98	-1.93	0.45
17,680.0	89.30	338.60	6,704.7	9,495.9	-4,108.9	10,325.9	0.40	0.36	-0.17

Company:	Antero Resources	**Local Co-ordinate Reference:**	Well Klondike Unit 2H
Project:	Tyler County WV	**TVD Reference:**	Patterson 340: 1201' GL + 24' KB @ 1225.0usft
Site:	Pierpoint Pad:Ingot/Klondike/Wall/Weigle	**MD Reference:**	Patterson 340: 1201' GL + 24' KB @ 1225.0usft
Well:	Klondike Unit 2H	**North Reference:**	Grid
Wellbore:	Original Wellpath	**Survey Calculation Method:**	Minimum Curvature
Design:	As Drilled	**Database:**	Antero NE

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
17,774.0	90.27	338.96	6,705.1	9,583.5	-4,142.9	10,419.9	1.10	1.03	0.38
17,868.0	90.91	340.57	6,704.1	9,671.7	-4,175.4	10,513.8	1.84	0.68	1.71
17,962.0	89.63	340.57	6,703.7	9,760.4	-4,206.7	10,607.8	1.36	-1.36	0.00
18,056.0	89.93	339.40	6,704.0	9,848.7	-4,238.9	10,701.8	1.28	0.32	-1.24
18,150.0	90.30	337.78	6,703.8	9,936.2	-4,273.2	10,795.8	1.77	0.39	-1.72
18,244.0	89.56	336.57	6,704.0	10,022.8	-4,309.6	10,889.7	1.51	-0.79	-1.29
18,307.0	89.93	336.34	6,704.2	10,080.6	-4,334.8	10,952.5	0.69	0.59	-0.37
18,347.0	90.30	337.09	6,704.2	10,117.3	-4,350.6	10,992.4	2.09	0.93	1.88
Last SDI MWD @ 18347									
18,411.0	90.30	337.09	6,703.8	10,176.3	-4,375.5	11,056.3	0.00	0.00	0.00
Projection To Bit @ 18411 MD / 6703 TVD									

Design Targets

Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
~As Drilled LP_Klondike - actual wellpath hits target center - Point	0.00	0.00	6,688.3	-365.3	-544.4	14,326,191.46	1,679,665.76	39° 27' 3.766 N	80° 51' 39.459 W

Formations

Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
6,125.0	6,006.3	RNST @ 6125		0.00	
6,477.0	6,329.1	SCMR @ 6477		0.00	
6,686.0	6,500.5	MDLX @ 6686		0.00	
6,839.0	6,599.8	BRKT @ 6839		0.00	
6,886.0	6,622.9	TLLY @ 6886		0.00	
6,997.0	6,660.8	MRCL_HOT @ 6997		0.00	

Design Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates +N/-S (usft)	Local Coordinates +E/-W (usft)	Comment
6,084.0	5,968.5	-560.2	-21.5	First SDI MWD @ 6084
7,184.0	6,688.3	-365.3	-544.4	~As Drilled LP @ 7184 MD / 6688 TVD
18,347.0	6,704.2	10,117.3	-4,350.6	Last SDI MWD @ 18347
18,411.0	6,703.8	10,176.3	-4,375.5	Projection To Bit @ 18411 MD / 6703 TVD

Checked By: _____ Approved By: _____ Date: _____