



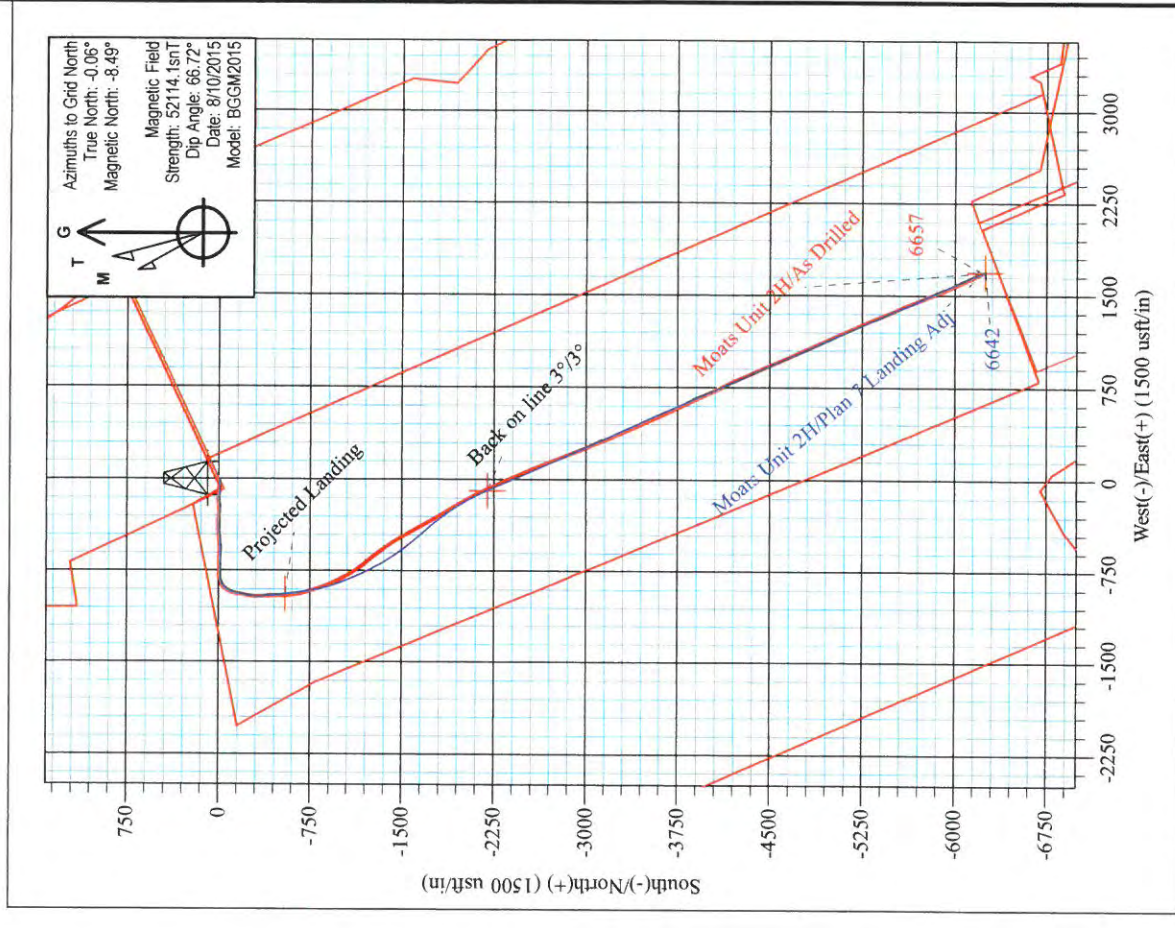
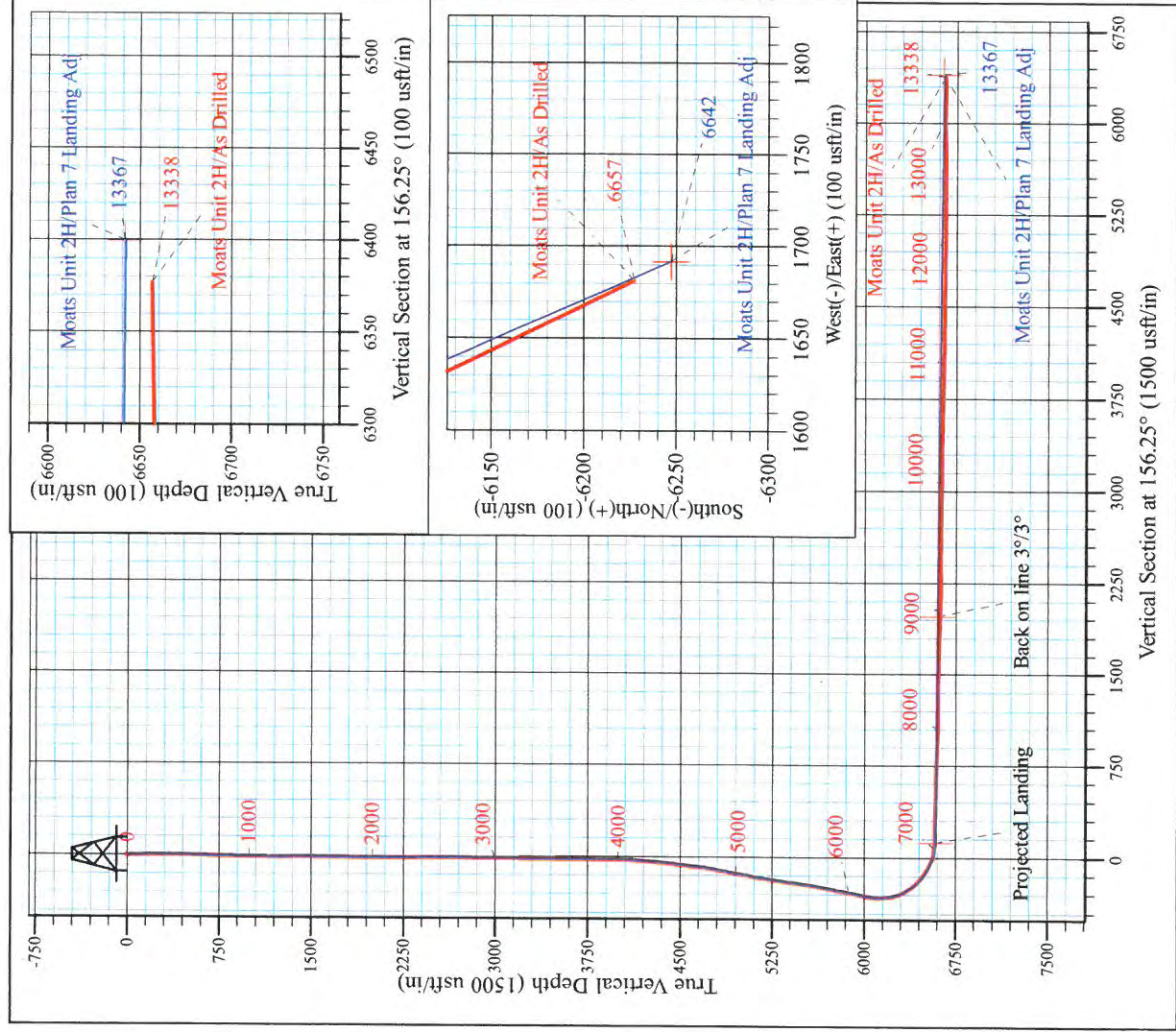
Edwin Pad: Hornet/Miracle/Moats/Myrtle
 Moats Unit 2H
 Plan 7 Landing Adj
 Precision 522: GL 1191' + KB 18' @ 1209.0usft
 Ritchie County WV

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



WELL DETAILS: Moats Unit 2H SHL

+N/-S	+E/-W	Northing	Latitude	Longitude
0.0	0.0	14245835.57	39° 13' 49.392 N	80° 54' 10.765 W
		Easting		
		1667887.57		



Moats Unit 2H
Approx. BHL
39° 12' 47.800 N 80° 53' 49.479 W

Shane Rhodes
 8:12, August 26 2015
 Scientific Drilling International
 124 Vista Drive
 Charleroi, PA 15022



RECEIVED

MAY 20 2016

WV GEOLOGICAL SURVEY
MORGANTOWN, WV

Antero

Ritchie County WV

Edwin Pad: Hornet/Miracle/Moats/Myrtle

Moats Unit 2H

Original Wellpath

Design: As Drilled

Standard Survey Report

26 August, 2015



www.scientificdrilling.com



Company:	Antero	Local Co-ordinate Reference:	Well Moats Unit 2H
Project:	Ritchie County WV	TVD Reference:	Precision 522: GL 1191' + KB 18' @ 1209.0usft
Site:	Edwin Pad: Hornet/Miracle/Moats/Myrtle	MD Reference:	Precision 522: GL 1191' + KB 18' @ 1209.0usft
Well:	Moats Unit 2H	North Reference:	Grid
Wellbore:	Original Wellpath	Survey Calculation Method:	Minimum Curvature
Design:	As Drilled	Database:	Antero NE

Project	Ritchie County WV, Ritchie County WV, WV North		
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	Edwin Pad: Hornet/Miracle/Moats/Myrtle		
Site Position:		Northing:	14,245,885.63 usft
From:	Map	Easting:	1,667,891.73 usft
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "
		Latitude:	39° 13' 49.887 N
		Longitude:	80° 54' 10.711 W
		Grid Convergence:	0.06 °

Well	Moats Unit 2H, Marcellus		
Well Position	+N/-S	0.0 usft	Northing: 14,245,835.57 usft
	+E/-W	0.0 usft	Easting: 1,667,887.57 usft
Position Uncertainty	2.0 usft	Wellhead Elevation:	1,209.0 usft
		Latitude:	39° 13' 49.392 N
		Longitude:	80° 54' 10.765 W
		Ground Level:	1,191.0 usft

Wellbore	Original Wellpath				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	BGGM2015	8/10/2015	-8.43	66.72	52,114

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	156.25	

Survey Program	Date	8/26/2015			
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
30.0	6,002.6	Survey #8 Final Gyro to KOP (Original We	Standard Keeper 104	Standard Wireline Keeper ver 1.0.4	
6,144.0	13,338.0	Survey #9 SDI 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)	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	
30.0	0.28	196.31	30.0	-0.1	0.0	0.1	0.93	0.93	0.00	
First SDI Gyro @ 30 MD										
55.0	0.57	196.31	55.0	-0.2	-0.1	0.2	1.16	1.16	0.00	
80.0	0.85	196.31	80.0	-0.5	-0.2	0.4	1.12	1.12	0.00	
105.0	1.14	196.31	105.0	-1.0	-0.3	0.8	1.16	1.16	0.00	
130.0	1.06	196.65	130.0	-1.4	-0.4	1.1	0.32	-0.32	1.36	
155.0	0.85	200.94	155.0	-1.8	-0.6	1.4	0.89	-0.84	17.16	
180.0	0.87	197.40	180.0	-2.2	-0.7	1.7	0.23	0.08	-14.16	
205.0	0.62	206.49	205.0	-2.5	-0.8	1.9	1.10	-1.00	36.36	



Company: Antero
Project: Ritchie County WV
Site: Edwin Pad: Hornet/Miracle/Moats/Myrtle
Well: Moats Unit 2H
Wellbore: Original Wellpath
Design: As Drilled

Local Co-ordinate Reference: Well Moats Unit 2H
TVD Reference: Precision 522: GL 1191' + KB 18' @ 1209.0usft
MD Reference: Precision 522: GL 1191' + KB 18' @ 1209.0usft
North Reference: Grid
Survey Calculation Method: Minimum Curvature
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)
230.0	0.47	202.30	230.0	-2.7	-0.9	2.1	0.62	-0.60	-16.76
255.0	0.31	210.84	255.0	-2.8	-1.0	2.2	0.68	-0.64	34.16
280.0	0.18	212.27	280.0	-2.9	-1.0	2.3	0.52	-0.52	5.72
305.0	0.16	250.15	305.0	-3.0	-1.1	2.3	0.45	-0.08	151.52
330.0	0.10	256.12	330.0	-3.0	-1.1	2.3	0.25	-0.24	23.88
355.0	0.21	266.47	355.0	-3.0	-1.2	2.3	0.45	0.44	41.40
380.0	0.16	253.69	380.0	-3.0	-1.3	2.2	0.26	-0.20	-51.12
405.0	0.12	257.58	405.0	-3.0	-1.3	2.2	0.16	-0.16	15.56
430.0	0.15	216.56	430.0	-3.1	-1.4	2.3	0.39	0.12	-164.08
455.0	0.22	269.06	455.0	-3.1	-1.4	2.2	0.70	0.28	210.00
480.0	0.56	281.70	480.0	-3.1	-1.6	2.2	1.39	1.36	50.56
505.0	1.02	285.29	505.0	-3.0	-1.9	1.9	1.85	1.84	14.36
530.0	1.52	282.76	530.0	-2.9	-2.5	1.6	2.01	2.00	-10.12
555.0	2.09	283.00	555.0	-2.7	-3.3	1.1	2.28	2.28	0.96
580.0	2.81	277.65	579.9	-2.5	-4.3	0.5	3.02	2.88	-21.40
605.0	3.32	275.17	604.9	-2.3	-5.6	-0.1	2.11	2.04	-9.92
630.0	3.68	271.29	629.9	-2.3	-7.2	-0.8	1.72	1.44	-15.52
655.0	4.28	269.51	654.8	-2.3	-8.9	-1.5	2.45	2.40	-7.12
680.0	4.74	264.56	679.7	-2.4	-10.9	-2.2	2.41	1.84	-19.80
705.0	5.57	260.07	704.6	-2.7	-13.1	-2.8	3.69	3.32	-17.96
730.0	5.74	260.08	729.5	-3.1	-15.5	-3.4	0.68	0.68	0.04
755.0	5.83	259.75	754.4	-3.5	-18.0	-4.0	0.38	0.36	-1.32
780.0	5.81	258.87	779.2	-4.0	-20.5	-4.6	0.37	-0.08	-3.52
805.0	5.75	258.47	804.1	-4.5	-22.9	-5.1	0.29	-0.24	-1.60
830.0	5.76	259.58	829.0	-5.0	-25.4	-5.7	0.45	0.04	4.44
855.0	5.16	256.20	853.9	-5.5	-27.7	-6.2	2.72	-2.40	-13.52
880.0	4.70	254.51	878.8	-6.0	-29.8	-6.5	1.93	-1.84	-6.76
905.0	4.54	253.76	903.7	-6.6	-31.7	-6.8	0.68	-0.64	-3.00
930.0	4.45	253.07	928.6	-7.1	-33.6	-7.0	0.42	-0.36	-2.76
955.0	3.90	255.54	953.6	-7.6	-35.4	-7.3	2.31	-2.20	9.88
980.0	3.71	255.58	978.5	-8.0	-37.0	-7.5	0.76	-0.76	0.16
1,005.0	3.58	256.95	1,003.4	-8.4	-38.5	-7.8	0.63	-0.52	5.48
1,030.0	3.25	256.66	1,028.4	-8.7	-40.0	-8.1	1.32	-1.32	-1.16
1,055.0	3.06	256.96	1,053.4	-9.1	-41.3	-8.3	0.76	-0.76	1.20
1,080.0	2.74	258.30	1,078.3	-9.3	-42.5	-8.6	1.31	-1.28	5.36
1,105.0	2.54	257.47	1,103.3	-9.6	-43.7	-8.8	0.81	-0.80	-3.32
1,130.0	2.28	255.28	1,128.3	-9.8	-44.7	-9.0	1.10	-1.04	-8.76
1,155.0	2.21	255.71	1,153.3	-10.1	-45.6	-9.2	0.29	-0.28	1.72
1,180.0	1.93	259.22	1,178.2	-10.3	-46.5	-9.3	1.23	-1.12	14.04
1,205.0	1.74	258.02	1,203.2	-10.4	-47.3	-9.5	0.78	-0.76	-4.80
1,230.0	1.57	258.83	1,228.2	-10.6	-48.0	-9.7	0.69	-0.68	3.24
1,255.0	1.36	257.52	1,253.2	-10.7	-48.6	-9.8	0.85	-0.84	-5.24
1,280.0	1.10	252.12	1,278.2	-10.8	-49.2	-9.9	1.14	-1.04	-21.60



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Project: Ritchie County WV
Site: Edwin Pad: Hornet/Miracle/Moats/Myrtle
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Wellbore: Original Wellpath
Design: As Drilled

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North Reference: Grid
Survey Calculation Method: Minimum Curvature
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)
1,305.0	0.99	249.24	1,303.2	-11.0	-49.6	-9.9	0.49	-0.44	-11.52
1,330.0	0.94	253.02	1,328.2	-11.1	-50.0	-10.0	0.32	-0.20	15.12
1,355.0	0.83	253.89	1,353.2	-11.2	-50.4	-10.0	0.44	-0.44	3.48
1,380.0	0.76	254.57	1,378.2	-11.3	-50.7	-10.1	0.28	-0.28	2.72
1,405.0	0.61	259.97	1,403.2	-11.4	-51.0	-10.1	0.65	-0.60	21.60
1,430.0	0.55	263.07	1,428.2	-11.4	-51.2	-10.2	0.27	-0.24	12.40
1,455.0	0.53	267.72	1,453.2	-11.4	-51.5	-10.3	0.19	-0.08	18.60
1,480.0	0.50	268.41	1,478.2	-11.5	-51.7	-10.3	0.12	-0.12	2.76
1,505.0	0.56	272.39	1,503.2	-11.5	-51.9	-10.4	0.28	0.24	15.92
1,530.0	0.44	279.71	1,528.2	-11.4	-52.1	-10.5	0.54	-0.48	29.28
1,555.0	0.41	280.07	1,553.2	-11.4	-52.3	-10.6	0.12	-0.12	1.44
1,580.0	0.51	279.02	1,578.2	-11.4	-52.5	-10.7	0.40	0.40	-4.20
1,605.0	0.48	272.95	1,603.2	-11.3	-52.7	-10.9	0.24	-0.12	-24.28
1,630.0	0.45	273.03	1,628.2	-11.3	-52.9	-10.9	0.12	-0.12	0.32
1,655.0	0.41	272.24	1,653.2	-11.3	-53.1	-11.0	0.16	-0.16	-3.16
1,680.0	0.36	266.48	1,678.2	-11.3	-53.3	-11.1	0.25	-0.20	-23.04
1,705.0	0.39	267.84	1,703.2	-11.3	-53.5	-11.2	0.13	0.12	5.44
1,730.0	0.36	262.67	1,728.2	-11.3	-53.6	-11.2	0.18	-0.12	-20.68
1,755.0	0.31	256.86	1,753.2	-11.4	-53.8	-11.2	0.24	-0.20	-23.24
1,780.0	0.30	259.71	1,778.2	-11.4	-53.9	-11.3	0.07	-0.04	11.40
1,805.0	0.29	253.22	1,803.2	-11.4	-54.0	-11.3	0.14	-0.04	-25.96
1,830.0	0.27	263.55	1,828.2	-11.5	-54.1	-11.3	0.22	-0.08	41.32
1,855.0	0.28	253.55	1,853.2	-11.5	-54.3	-11.3	0.20	0.04	-40.00
1,880.0	0.23	258.28	1,878.2	-11.5	-54.4	-11.4	0.22	-0.20	18.92
1,905.0	0.19	237.38	1,903.2	-11.5	-54.4	-11.4	0.34	-0.16	-83.60
1,930.0	0.12	208.24	1,928.2	-11.6	-54.5	-11.3	0.41	-0.28	-116.56
1,955.0	0.10	237.14	1,953.2	-11.6	-54.5	-11.3	0.23	-0.08	115.60
1,980.0	0.04	235.02	1,978.2	-11.6	-54.6	-11.3	0.24	-0.24	-8.48
2,005.0	0.07	209.89	2,003.2	-11.7	-54.6	-11.3	0.15	0.12	-100.52
2,030.0	0.05	286.21	2,028.2	-11.7	-54.6	-11.3	0.30	-0.08	305.28
2,055.0	0.08	296.08	2,053.2	-11.7	-54.6	-11.3	0.13	0.12	39.48
2,080.0	0.12	248.37	2,078.2	-11.7	-54.6	-11.3	0.36	0.16	-190.84
2,105.0	0.17	253.46	2,103.2	-11.7	-54.7	-11.3	0.21	0.20	20.36
2,130.0	0.14	258.48	2,128.2	-11.7	-54.8	-11.4	0.13	-0.12	20.08
2,155.0	0.13	245.05	2,153.2	-11.7	-54.8	-11.4	0.13	-0.04	-53.72
2,180.0	0.23	200.21	2,178.2	-11.8	-54.9	-11.3	0.66	0.40	-179.36
2,205.0	0.14	227.46	2,203.2	-11.8	-54.9	-11.3	0.49	-0.36	109.00
2,230.0	0.10	206.12	2,228.2	-11.9	-54.9	-11.3	0.24	-0.16	-85.36
2,255.0	0.12	236.74	2,253.2	-11.9	-55.0	-11.2	0.24	0.08	122.48
2,280.0	0.12	283.55	2,278.2	-11.9	-55.0	-11.3	0.38	0.00	187.24
2,305.0	0.15	252.60	2,303.2	-11.9	-55.1	-11.3	0.31	0.12	-123.80
2,330.0	0.23	247.17	2,328.2	-12.0	-55.2	-11.3	0.33	0.32	-21.72
2,355.0	0.22	243.78	2,353.2	-12.0	-55.2	-11.3	0.07	-0.04	-13.56



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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)
2,380.0	0.20	218.64	2,378.2	-12.0	-55.3	-11.3	0.37	-0.08	-100.56
2,405.0	0.23	254.60	2,403.2	-12.1	-55.4	-11.2	0.54	0.12	143.84
2,430.0	0.17	201.70	2,428.2	-12.1	-55.5	-11.2	0.74	-0.24	-211.60
2,455.0	0.11	247.81	2,453.2	-12.2	-55.5	-11.2	0.49	-0.24	184.44
2,480.0	0.23	216.81	2,478.2	-12.2	-55.5	-11.2	0.59	0.48	-124.00
2,505.0	0.35	266.86	2,503.2	-12.3	-55.6	-11.2	1.07	0.48	200.20
2,530.0	0.35	279.09	2,528.2	-12.3	-55.8	-11.2	0.30	0.00	48.92
2,555.0	0.36	290.71	2,553.2	-12.2	-56.0	-11.3	0.29	0.04	46.48
2,580.0	0.47	290.80	2,578.2	-12.2	-56.1	-11.5	0.44	0.44	0.36
2,605.0	0.51	282.54	2,603.2	-12.1	-56.3	-11.6	0.32	0.16	-33.04
2,630.0	0.61	292.88	2,628.2	-12.0	-56.6	-11.8	0.57	0.40	41.36
2,655.0	0.53	290.49	2,653.2	-11.9	-56.8	-11.9	0.33	-0.32	-9.56
2,680.0	0.45	278.73	2,678.2	-11.9	-57.0	-12.1	0.51	-0.32	-47.04
2,705.0	0.45	277.98	2,703.2	-11.9	-57.2	-12.2	0.02	0.00	-3.00
2,730.0	0.40	287.09	2,728.2	-11.8	-57.4	-12.3	0.34	-0.20	36.44
2,755.0	0.34	283.15	2,753.2	-11.8	-57.5	-12.4	0.26	-0.24	-15.76
2,780.0	0.35	292.61	2,778.2	-11.7	-57.7	-12.5	0.23	0.04	37.84
2,805.0	0.38	295.15	2,803.2	-11.7	-57.8	-12.6	0.14	0.12	10.16
2,830.0	0.48	302.47	2,828.2	-11.6	-58.0	-12.8	0.46	0.40	29.28
2,855.0	0.40	292.28	2,853.2	-11.5	-58.1	-12.9	0.45	-0.32	-40.76
2,880.0	0.40	296.74	2,878.2	-11.4	-58.3	-13.0	0.12	0.00	17.84
2,905.0	0.46	295.02	2,903.2	-11.3	-58.5	-13.2	0.25	0.24	-6.88
2,930.0	0.54	296.18	2,928.2	-11.2	-58.7	-13.3	0.32	0.32	4.64
2,955.0	0.51	296.30	2,953.2	-11.1	-58.9	-13.5	0.12	-0.12	0.48
2,980.0	0.54	300.23	2,978.2	-11.0	-59.1	-13.7	0.19	0.12	15.72
3,005.0	0.55	300.30	3,003.2	-10.9	-59.3	-13.9	0.04	0.04	0.28
3,030.0	0.63	300.46	3,028.2	-10.8	-59.5	-14.1	0.32	0.32	0.64
3,055.0	0.61	294.41	3,053.2	-10.6	-59.7	-14.3	0.27	-0.08	-24.20
3,080.0	0.63	286.23	3,078.2	-10.6	-60.0	-14.5	0.36	0.08	-32.72
3,105.0	0.69	293.46	3,103.2	-10.5	-60.3	-14.7	0.41	0.24	28.92
3,130.0	0.72	292.07	3,128.2	-10.3	-60.5	-14.9	0.14	0.12	-5.56
3,155.0	0.64	283.74	3,153.2	-10.2	-60.8	-15.1	0.51	-0.32	-33.32
3,180.0	0.67	287.14	3,178.2	-10.2	-61.1	-15.3	0.20	0.12	13.60
3,205.0	0.65	284.55	3,203.1	-10.1	-61.4	-15.5	0.14	-0.08	-10.36
3,230.0	0.55	280.27	3,228.1	-10.0	-61.6	-15.6	0.44	-0.40	-17.12
3,255.0	0.55	279.04	3,253.1	-10.0	-61.9	-15.8	0.05	0.00	-4.92
3,280.0	0.61	286.82	3,278.1	-9.9	-62.1	-15.9	0.40	0.24	31.12
3,305.0	0.65	281.86	3,303.1	-9.9	-62.4	-16.1	0.27	0.16	-19.84
3,330.0	0.57	283.87	3,328.1	-9.8	-62.6	-16.3	0.33	-0.32	8.04
3,355.0	0.68	289.67	3,353.1	-9.7	-62.9	-16.4	0.51	0.44	23.20
3,380.0	0.62	288.62	3,378.1	-9.6	-63.2	-16.6	0.24	-0.24	-4.20
3,405.0	0.68	299.19	3,403.1	-9.5	-63.4	-16.8	0.54	0.24	42.28
3,430.0	0.63	300.15	3,428.1	-9.4	-63.7	-17.1	0.20	-0.20	3.84
3,455.0	0.57	301.00	3,453.1	-9.2	-63.9	-17.3	0.24	-0.24	3.40

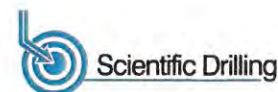


Company: Antero
Project: Ritchie County WV
Site: Edwin Pad: Hornet/Miracle/Moats/Myrtle
Well: Moats Unit 2H
Wellbore: Original Wellpath
Design: As Drilled

Local Co-ordinate Reference: Well Moats Unit 2H
TVD Reference: Precision 522: GL 1191' + KB 18' @ 1209.0usft
MD Reference: Precision 522: GL 1191' + KB 18' @ 1209.0usft
North Reference: Grid
Survey Calculation Method: Minimum Curvature
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)
3,480.0	0.64	300.06	3,478.1	-9.1	-64.1	-17.5	0.28	0.28	-3.76
3,505.0	0.67	293.94	3,503.1	-9.0	-64.4	-17.7	0.30	0.12	-24.48
3,530.0	0.75	297.50	3,528.1	-8.8	-64.7	-17.9	0.37	0.32	14.24
3,555.0	0.80	301.03	3,553.1	-8.7	-65.0	-18.2	0.28	0.20	14.12
3,580.0	0.78	295.43	3,578.1	-8.5	-65.3	-18.5	0.32	-0.08	-22.40
3,605.0	0.72	287.33	3,603.1	-8.4	-65.6	-18.7	0.49	-0.24	-32.40
3,630.0	0.55	293.03	3,628.1	-8.3	-65.8	-18.9	0.72	-0.68	22.80
3,655.0	0.62	299.55	3,653.1	-8.2	-66.1	-19.1	0.39	0.28	26.08
3,680.0	0.53	295.50	3,678.1	-8.1	-66.3	-19.3	0.39	-0.36	-16.20
3,705.0	0.66	290.81	3,703.1	-8.0	-66.5	-19.5	0.55	0.52	-18.76
3,730.0	0.71	288.20	3,728.1	-7.9	-66.8	-19.7	0.24	0.20	-10.44
3,755.0	0.55	282.63	3,753.1	-7.8	-67.1	-19.9	0.68	-0.64	-22.28
3,780.0	0.51	285.77	3,778.1	-7.7	-67.3	-20.0	0.20	-0.16	12.56
3,805.0	0.53	277.46	3,803.1	-7.7	-67.5	-20.1	0.31	0.08	-33.24
3,830.0	0.50	301.93	3,828.1	-7.6	-67.7	-20.3	0.88	-0.12	97.88
3,855.0	0.46	290.41	3,853.1	-7.5	-67.9	-20.5	0.42	-0.16	-46.08
3,880.0	0.46	274.47	3,878.1	-7.5	-68.1	-20.6	0.51	0.00	-63.76
3,905.0	0.62	286.34	3,903.1	-7.4	-68.3	-20.7	0.78	0.64	47.48
3,930.0	0.63	292.35	3,928.1	-7.4	-68.6	-20.9	0.27	0.04	24.04
3,955.0	0.64	298.10	3,953.1	-7.2	-68.8	-21.1	0.26	0.04	23.00
3,980.0	0.77	290.81	3,978.1	-7.1	-69.1	-21.3	0.63	0.52	-29.16
4,005.0	1.57	282.12	4,003.1	-7.0	-69.6	-21.6	3.27	3.20	-34.76
4,030.0	2.68	277.20	4,028.1	-6.8	-70.5	-22.1	4.50	4.44	-19.68
4,055.0	3.67	275.91	4,053.0	-6.7	-71.9	-22.8	3.97	3.96	-5.16
4,080.0	4.63	279.57	4,078.0	-6.4	-73.7	-23.8	3.98	3.84	14.64
4,105.0	5.64	280.50	4,102.9	-6.0	-75.9	-25.0	4.05	4.04	3.72
4,130.0	6.50	281.24	4,127.7	-5.5	-78.5	-26.5	3.45	3.44	2.96
4,155.0	7.05	281.47	4,152.6	-5.0	-81.4	-28.2	2.20	2.20	0.92
4,180.0	7.45	282.69	4,177.4	-4.3	-84.5	-30.1	1.71	1.60	4.88
4,205.0	7.77	281.48	4,202.1	-3.6	-87.7	-32.0	1.43	1.28	-4.84
4,230.0	8.49	276.97	4,226.9	-3.0	-91.2	-33.9	3.85	2.88	-18.04
4,255.0	9.01	273.06	4,251.6	-2.7	-95.0	-35.8	3.16	2.08	-15.64
4,280.0	9.43	271.52	4,276.3	-2.6	-99.0	-37.5	1.95	1.68	-6.16
4,305.0	9.62	272.75	4,300.9	-2.4	-103.1	-39.3	1.11	0.76	4.92
4,330.0	10.24	274.31	4,325.6	-2.1	-107.4	-41.3	2.70	2.48	6.24
4,355.0	10.82	275.01	4,350.1	-1.8	-112.0	-43.5	2.38	2.32	2.80
4,380.0	11.67	275.47	4,374.7	-1.3	-116.8	-45.8	3.42	3.40	1.84
4,405.0	12.44	274.59	4,399.1	-0.9	-122.0	-48.4	3.17	3.08	-3.52
4,430.0	13.52	274.27	4,423.5	-0.4	-127.6	-51.0	4.33	4.32	-1.28
4,455.0	14.60	274.00	4,447.7	0.0	-133.7	-53.8	4.33	4.32	-1.08
4,480.0	15.31	273.64	4,471.9	0.4	-140.1	-56.8	2.86	2.84	-1.44
4,505.0	16.01	272.95	4,495.9	0.8	-146.9	-59.9	2.90	2.80	-2.76
4,530.0	16.83	271.44	4,519.9	1.1	-153.9	-63.0	3.70	3.28	-6.04



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North Reference: Grid
Survey Calculation Method: Minimum Curvature
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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)
4,555.0	17.89	269.13	4,543.8	1.1	-161.4	-66.0	5.06	4.24	-9.24
4,580.0	18.55	267.07	4,567.5	0.9	-169.2	-68.9	3.69	2.64	-8.24
4,605.0	19.00	266.55	4,591.2	0.4	-177.2	-71.8	1.92	1.80	-2.08
4,630.0	19.35	266.48	4,614.8	-0.1	-185.4	-74.6	1.40	1.40	-0.28
4,655.0	19.63	266.64	4,638.4	-0.6	-193.7	-77.5	1.14	1.12	0.64
4,680.0	20.22	266.74	4,661.9	-1.1	-202.2	-80.5	2.36	2.36	0.40
4,705.0	20.62	266.76	4,685.3	-1.6	-211.0	-83.5	1.60	1.60	0.08
4,730.0	21.64	267.88	4,708.6	-2.0	-220.0	-86.8	4.39	4.08	4.48
4,755.0	22.13	268.97	4,731.8	-2.2	-229.3	-90.3	2.55	1.96	4.36
4,780.0	22.59	270.45	4,754.9	-2.3	-238.8	-94.1	2.91	1.84	5.92
4,805.0	23.62	272.12	4,777.9	-2.1	-248.6	-98.2	4.88	4.12	6.68
4,830.0	23.71	272.85	4,800.8	-1.6	-258.6	-102.7	1.23	0.36	2.92
4,855.0	23.90	273.02	4,823.7	-1.1	-268.7	-107.2	0.81	0.76	0.68
4,880.0	23.97	273.03	4,846.6	-0.6	-278.8	-111.8	0.28	0.28	0.04
4,905.0	24.47	273.01	4,869.4	0.0	-289.1	-116.4	2.00	2.00	-0.08
4,930.0	24.58	272.85	4,892.1	0.5	-299.4	-121.0	0.51	0.44	-0.64
4,955.0	24.31	272.01	4,914.9	0.9	-309.8	-125.6	1.76	-1.08	-3.36
4,980.0	24.03	271.20	4,937.7	1.2	-320.0	-130.0	1.74	-1.12	-3.24
5,005.0	23.89	270.37	4,960.5	1.4	-330.1	-134.2	1.46	-0.56	-3.32
5,030.0	23.55	269.00	4,983.4	1.3	-340.2	-138.2	2.59	-1.36	-5.48
5,055.0	23.71	268.54	5,006.3	1.1	-350.2	-142.0	0.98	0.64	-1.84
5,080.0	23.94	268.61	5,029.2	0.8	-360.3	-145.9	0.93	0.92	0.28
5,105.0	23.90	268.60	5,052.0	0.6	-370.4	-149.7	0.16	-0.16	-0.04
5,130.0	23.82	268.52	5,074.9	0.3	-380.6	-153.6	0.35	-0.32	-0.32
5,155.0	23.40	268.31	5,097.8	0.1	-390.6	-157.4	1.71	-1.68	-0.84
5,180.0	23.35	268.25	5,120.8	-0.2	-400.5	-161.1	0.22	-0.20	-0.24
5,205.0	23.04	267.73	5,143.7	-0.6	-410.3	-164.7	1.49	-1.24	-2.08
5,230.0	22.86	267.71	5,166.8	-1.0	-420.1	-168.3	0.72	-0.72	-0.08
5,255.0	22.89	268.04	5,189.8	-1.3	-429.8	-171.9	0.53	0.12	1.32
5,280.0	22.88	268.43	5,212.8	-1.6	-439.5	-175.5	0.61	-0.04	1.56
5,305.0	22.72	268.34	5,235.9	-1.9	-449.2	-179.2	0.66	-0.64	-0.36
5,330.0	22.77	268.18	5,258.9	-2.2	-458.8	-182.8	0.32	0.20	-0.64
5,355.0	23.23	267.50	5,281.9	-2.6	-468.6	-186.4	2.12	1.84	-2.72
5,380.0	23.74	266.74	5,304.9	-3.1	-478.5	-189.9	2.37	2.04	-3.04
5,405.0	23.56	266.13	5,327.8	-3.7	-488.6	-193.4	1.22	-0.72	-2.44
5,430.0	23.77	265.49	5,350.7	-4.4	-498.6	-196.7	1.33	0.84	-2.56
5,455.0	23.45	264.66	5,373.6	-5.3	-508.5	-200.0	1.85	-1.28	-3.32
5,480.0	23.11	263.93	5,396.5	-6.3	-518.4	-203.0	1.78	-1.36	-2.92
5,505.0	22.45	263.44	5,419.6	-7.3	-528.0	-205.9	2.75	-2.64	-1.96
5,530.0	22.23	263.91	5,442.7	-8.4	-537.4	-208.8	1.13	-0.88	1.88
5,555.0	21.51	266.65	5,465.9	-9.1	-546.7	-211.8	5.00	-2.88	10.96
5,580.0	21.50	269.43	5,489.2	-9.5	-555.9	-215.2	4.08	-0.04	11.12
5,605.0	21.65	270.76	5,512.4	-9.4	-565.1	-218.9	2.05	0.60	5.32



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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)	
5,630.0	21.78	271.29	5,535.6	-9.3	-574.3	-222.8	0.94	0.52	2.12	
5,655.0	21.84	271.72	5,558.9	-9.0	-583.6	-226.8	0.68	0.24	1.72	
5,680.0	22.01	271.90	5,582.0	-8.7	-592.9	-230.8	0.73	0.68	0.72	
5,705.0	22.56	271.98	5,605.2	-8.4	-602.4	-234.9	2.20	2.20	0.32	
5,730.0	22.82	272.29	5,628.2	-8.1	-612.0	-239.1	1.14	1.04	1.24	
5,755.0	22.95	272.41	5,651.3	-7.7	-621.7	-243.4	0.55	0.52	0.48	
5,780.0	23.21	272.79	5,674.3	-7.2	-631.5	-247.7	1.20	1.04	1.52	
5,805.0	23.15	272.84	5,697.3	-6.7	-641.4	-252.1	0.25	-0.24	0.20	
5,830.0	23.09	272.79	5,720.2	-6.3	-651.2	-256.5	0.25	-0.24	-0.20	
5,855.0	23.08	271.25	5,743.2	-5.9	-661.0	-260.8	2.42	-0.04	-6.16	
5,880.0	23.03	270.06	5,766.3	-5.8	-670.8	-264.8	1.87	-0.20	-4.76	
5,905.0	23.54	269.75	5,789.2	-5.8	-680.6	-268.8	2.10	2.04	-1.24	
5,930.0	23.91	269.76	5,812.1	-5.9	-690.7	-272.8	1.48	1.48	0.04	
5,955.0	23.67	269.65	5,835.0	-5.9	-700.8	-276.8	0.98	-0.96	-0.44	
5,980.0	23.85	270.24	5,857.9	-5.9	-710.9	-280.9	1.19	0.72	2.36	
6,002.0	24.60	271.85	5,877.9	-5.7	-719.9	-284.7	4.53	3.40	7.30	
Last SDI Gyro @ 6002 MD										
6,002.6	24.62	271.89	5,878.5	-5.7	-720.1	-284.8	4.53	3.44	7.08	
6,144.0	24.58	270.83	6,007.0	-4.3	-779.0	-309.8	0.31	-0.03	-0.75	
First SDI MWD @ 6144 MD										
6,175.0	24.27	267.20	6,035.3	-4.6	-791.8	-314.7	4.94	-1.00	-11.71	
6,205.0	24.10	261.47	6,062.6	-5.8	-804.0	-318.5	7.84	-0.57	-19.10	
6,236.0	25.20	255.05	6,090.8	-8.4	-816.6	-321.2	9.33	3.55	-20.71	
6,267.0	26.58	251.47	6,118.7	-12.3	-829.6	-322.8	6.72	4.45	-11.55	
6,298.0	28.23	247.63	6,146.2	-17.3	-842.9	-323.6	7.80	5.32	-12.39	
6,327.0	29.21	240.58	6,171.7	-23.4	-855.5	-323.1	12.15	3.38	-24.31	
6,358.0	30.68	233.56	6,198.5	-31.8	-868.4	-320.6	12.25	4.74	-22.65	
6,389.0	31.74	227.19	6,225.1	-42.1	-880.8	-316.2	11.18	3.42	-20.55	
6,412.0	31.96	221.66	6,244.6	-50.7	-889.2	-311.7	12.73	0.94	-24.06	
Sycamore @ 6412 MD										
6,419.0	32.07	219.99	6,250.5	-53.5	-891.7	-310.1	12.73	1.62	-23.81	
6,450.0	32.28	214.05	6,276.8	-66.7	-901.6	-302.1	10.22	0.68	-19.16	
6,481.0	33.93	209.54	6,302.7	-81.1	-910.5	-292.5	9.56	5.32	-14.55	
6,512.0	36.20	204.28	6,328.1	-97.0	-918.5	-281.2	12.19	7.32	-16.97	
6,543.0	37.27	198.63	6,353.0	-114.2	-925.3	-268.1	11.43	3.45	-18.23	
6,574.0	38.92	194.23	6,377.4	-132.5	-930.7	-253.5	10.24	5.32	-14.19	
6,604.0	42.21	191.52	6,400.2	-151.6	-935.0	-237.9	12.44	10.97	-9.03	
6,605.0	42.33	191.49	6,400.9	-152.2	-935.2	-237.3	12.16	12.02	-2.69	
Middlesex @ 6605 MD										
6,635.0	45.94	190.74	6,422.4	-172.7	-939.2	-220.2	12.16	12.03	-2.51	
6,666.0	49.61	191.06	6,443.3	-195.3	-943.5	-201.3	11.86	11.84	1.03	
6,697.0	54.04	191.47	6,462.4	-219.1	-948.3	-181.3	14.33	14.29	1.32	
6,728.0	57.50	189.69	6,479.9	-244.3	-953.0	-160.2	12.13	11.16	-5.74	
6,759.0	60.44	187.46	6,495.8	-270.6	-956.9	-137.7	11.31	9.48	-7.19	



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6,785.0	61.94	184.41	6,508.4	-293.3	-959.3	-117.9	11.80	5.78	-11.74	
Burkett @ 6785 MD										
6,790.0	62.24	183.83	6,510.7	-297.7	-959.6	-114.0	11.80	5.94	-11.54	
6,820.0	63.52	179.41	6,524.4	-324.3	-960.4	-89.9	13.79	4.27	-14.73	
6,851.0	64.64	176.11	6,537.9	-352.2	-959.3	-64.0	10.23	3.61	-10.65	
Tully @ 6851 MD										
6,882.0	67.72	176.10	6,550.5	-380.5	-957.3	-37.3	9.94	9.94	-0.03	
6,905.0	70.75	176.79	6,558.6	-402.0	-956.0	-17.1	13.45	13.16	2.99	
MRCL_HOT @ 6905 MD										
6,913.0	71.80	177.02	6,561.2	-409.5	-955.6	-10.0	13.45	13.17	2.91	
6,944.0	75.62	177.76	6,569.9	-439.2	-954.2	17.7	12.53	12.32	2.39	
6,975.0	79.85	178.75	6,576.5	-469.5	-953.3	45.8	14.00	13.65	3.19	
7,006.0	83.40	179.19	6,581.0	-500.2	-952.8	74.1	11.54	11.45	1.42	
7,036.0	85.52	177.26	6,583.9	-530.0	-951.8	101.8	9.54	7.07	-6.43	
7,067.0	88.95	175.51	6,585.4	-560.9	-949.9	130.8	12.42	11.06	-5.65	
7,098.0	89.95	171.68	6,585.7	-591.7	-946.4	160.4	12.77	3.23	-12.35	
7,129.0	90.57	170.35	6,585.5	-622.3	-941.6	190.4	4.73	2.00	-4.29	
7,222.0	88.62	165.85	6,586.2	-713.3	-922.4	281.4	5.27	-2.10	-4.84	
7,314.0	88.02	162.35	6,588.9	-801.7	-897.2	372.5	3.86	-0.65	-3.80	
7,407.0	88.65	158.50	6,591.6	-889.3	-866.1	465.2	4.19	0.68	-4.14	
7,499.0	88.82	154.16	6,593.6	-973.5	-829.2	557.1	4.72	0.18	-4.72	
7,592.0	89.56	150.84	6,594.9	-1,056.0	-786.2	649.9	3.66	0.80	-3.57	
7,684.0	88.52	145.38	6,596.5	-1,134.1	-737.7	740.9	6.04	-1.13	-5.93	
7,777.0	86.84	139.31	6,600.2	-1,207.6	-680.9	831.1	6.77	-1.81	-6.53	
7,869.0	87.38	141.31	6,604.9	-1,278.3	-622.3	919.4	2.25	0.59	2.17	
7,962.0	88.62	143.51	6,608.1	-1,351.9	-565.6	1,009.7	2.71	1.33	2.37	
8,055.0	90.30	147.16	6,609.0	-1,428.4	-512.7	1,101.0	4.32	1.81	3.92	
8,147.0	89.42	150.17	6,609.2	-1,507.0	-464.8	1,192.1	3.41	-0.96	3.27	
8,240.0	89.56	150.55	6,610.1	-1,587.8	-418.8	1,284.6	0.44	0.15	0.41	
8,332.0	89.43	151.54	6,610.9	-1,668.3	-374.3	1,376.3	1.09	-0.14	1.08	
8,425.0	88.49	149.96	6,612.6	-1,749.4	-328.9	1,468.8	1.98	-1.01	-1.70	
8,517.0	89.23	149.53	6,614.4	-1,828.9	-282.5	1,560.2	0.93	0.80	-0.47	
8,609.0	89.70	149.16	6,615.2	-1,908.0	-235.6	1,651.5	0.65	0.51	-0.40	
8,702.0	87.04	151.15	6,617.9	-1,988.6	-189.4	1,744.0	3.57	-2.86	2.14	
8,794.0	88.69	151.18	6,621.3	-2,069.2	-145.0	1,835.5	1.79	1.79	0.03	
8,887.0	88.09	152.32	6,623.9	-2,151.1	-101.0	1,928.2	1.38	-0.65	1.23	
8,979.0	88.15	153.99	6,626.9	-2,233.1	-59.5	2,020.0	1.82	0.07	1.82	
9,072.0	88.59	155.80	6,629.6	-2,317.3	-20.1	2,112.9	2.00	0.47	1.95	
9,164.0	90.27	156.18	6,630.5	-2,401.3	17.4	2,204.9	1.87	1.83	0.41	
9,257.0	90.74	157.18	6,629.7	-2,486.7	54.2	2,297.9	1.19	0.51	1.08	
9,349.0	90.47	156.82	6,628.7	-2,571.4	90.1	2,389.9	0.49	-0.29	-0.39	
9,442.0	89.43	158.38	6,628.8	-2,657.4	125.6	2,482.9	2.02	-1.12	1.68	
9,534.0	88.12	158.54	6,630.8	-2,742.9	159.3	2,574.8	1.43	-1.42	0.17	
9,627.0	89.13	158.70	6,633.0	-2,829.5	193.2	2,667.7	1.10	1.09	0.17	



Scientific Drilling International
Survey Report



Company: Antero
Project: Ritchie County WV
Site: Edwin Pad: Hornet/Miracle/Moats/Myrtle
Well: Moats Unit 2H
Wellbore: Original Wellpath
Design: As Drilled

Local Co-ordinate Reference: Well Moats Unit 2H
TVD Reference: Precision 522: GL 1191' + KB 18' @ 1209.0usft
MD Reference: Precision 522: GL 1191' + KB 18' @ 1209.0usft
North Reference: Grid
Survey Calculation Method: Minimum Curvature
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)
9,719.0	89.40	159.18	6,634.2	-2,915.3	226.3	2,759.6	0.60	0.29	0.52
9,812.0	89.87	156.87	6,634.8	-3,001.6	261.1	2,852.5	2.53	0.51	-2.48
9,905.0	89.47	158.03	6,635.3	-3,087.5	296.7	2,945.5	1.32	-0.43	1.25
9,997.0	90.07	158.18	6,635.7	-3,172.8	331.0	3,037.5	0.67	0.65	0.16
10,090.0	90.61	157.35	6,635.1	-3,258.9	366.2	3,130.4	1.06	0.58	-0.89
10,182.0	90.34	157.40	6,634.4	-3,343.8	401.6	3,222.4	0.30	-0.29	0.05
10,275.0	89.47	157.08	6,634.5	-3,429.6	437.6	3,315.4	1.00	-0.94	-0.34
10,368.0	88.70	155.72	6,636.0	-3,514.8	474.8	3,408.4	1.68	-0.83	-1.46
10,460.0	87.92	155.04	6,638.7	-3,598.4	513.1	3,500.3	1.12	-0.85	-0.74
10,553.0	87.65	154.22	6,642.3	-3,682.4	553.0	3,593.2	0.93	-0.29	-0.88
10,645.0	88.73	154.40	6,645.2	-3,765.2	592.8	3,685.1	1.19	1.17	0.20
10,738.0	90.14	154.42	6,646.1	-3,849.1	633.0	3,778.1	1.52	1.52	0.02
10,830.0	88.06	155.41	6,647.6	-3,932.4	672.0	3,870.0	2.50	-2.26	1.08
10,923.0	88.56	154.61	6,650.3	-4,016.7	711.3	3,962.9	1.01	0.54	-0.86
11,015.0	88.46	154.93	6,652.7	-4,099.9	750.5	4,054.9	0.36	-0.11	0.35
11,108.0	89.54	154.82	6,654.3	-4,184.0	789.9	4,147.8	1.17	1.16	-0.12
11,200.0	89.67	155.95	6,655.0	-4,267.7	828.3	4,239.8	1.24	0.14	1.23
11,293.0	89.90	158.38	6,655.3	-4,353.4	864.3	4,332.8	2.62	0.25	2.61
11,386.0	88.96	156.38	6,656.2	-4,439.2	900.1	4,425.8	2.38	-1.01	-2.15
11,478.0	89.43	156.36	6,657.5	-4,523.5	937.0	4,517.8	0.51	0.51	-0.02
11,571.0	89.57	155.19	6,658.3	-4,608.3	975.1	4,610.8	1.27	0.15	-1.26
11,663.0	89.37	156.28	6,659.2	-4,692.2	1,012.9	4,702.8	1.20	-0.22	1.18
11,756.0	90.47	157.09	6,659.3	-4,777.6	1,049.8	4,795.7	1.47	1.18	0.87
11,848.0	89.47	154.50	6,659.4	-4,861.5	1,087.5	4,887.7	3.02	-1.09	-2.82
11,941.0	89.70	156.55	6,660.0	-4,946.1	1,126.0	4,980.7	2.22	0.25	2.20
12,034.0	89.57	154.66	6,660.6	-5,030.8	1,164.4	5,073.7	2.04	-0.14	-2.03
12,126.0	89.40	155.71	6,661.5	-5,114.3	1,203.0	5,165.7	1.16	-0.18	1.14
12,219.0	90.17	157.71	6,661.8	-5,199.7	1,239.8	5,258.7	2.30	0.83	2.15
12,312.0	90.94	157.55	6,660.9	-5,285.7	1,275.2	5,351.6	0.85	0.83	-0.17
12,404.0	90.37	157.59	6,659.9	-5,370.7	1,310.3	5,443.6	0.62	-0.62	0.04
12,497.0	89.47	156.88	6,660.0	-5,456.5	1,346.3	5,536.6	1.23	-0.97	-0.76
12,590.0	89.60	155.09	6,660.7	-5,541.4	1,384.1	5,629.6	1.93	0.14	-1.92
12,682.0	91.31	155.34	6,660.0	-5,625.0	1,422.7	5,721.6	1.88	1.86	0.27
12,775.0	90.57	158.73	6,658.5	-5,710.6	1,458.9	5,814.5	3.73	-0.80	3.65
12,867.0	90.81	160.26	6,657.4	-5,796.7	1,491.2	5,906.4	1.68	0.26	1.66
12,960.0	90.91	157.86	6,656.0	-5,883.6	1,524.4	5,999.3	2.58	0.11	-2.58
13,052.0	88.53	156.10	6,656.4	-5,968.2	1,560.4	6,091.2	3.22	-2.59	-1.91
13,145.0	89.06	155.66	6,658.4	-6,053.1	1,598.4	6,184.2	0.74	0.57	-0.47
13,237.0	90.61	154.60	6,658.7	-6,136.5	1,637.0	6,276.2	2.04	1.68	-1.15
13,269.0	90.94	153.80	6,658.2	-6,165.4	1,651.0	6,308.2	2.70	1.03	-2.50
Last SDI MWD @ 13269 MD									
13,338.0	90.94	153.80	6,657.1	-6,227.2	1,681.4	6,377.1	0.00	0.00	0.00
Projection To Bit @ 13338 MD / 6657 TVD									



Company: Antero
Project: Ritchie County WV
Site: Edwin Pad: Hornet/Miracle/Moats/Myrtle
Well: Moats Unit 2H
Wellbore: Original Wellpath
Design: As Drilled

Local Co-ordinate Reference: Well Moats Unit 2H
TVD Reference: Precision 522: GL 1191' + KB 18' @ 1209.0usft
MD Reference: Precision 522: GL 1191' + KB 18' @ 1209.0usft
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: Antero NE

Formations

Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
6,412.0	6,244.6	Sycamore @ 6412 MD		0.00	
6,605.0	6,400.9	Middlesex @ 6605 MD		0.00	
6,785.0	6,508.4	Burkett @ 6785 MD		0.00	
6,851.0	6,537.9	Tully @ 6851 MD		0.00	
6,905.0	6,558.6	MRCL_HOT @ 6905 MD		0.00	

Design Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
30.0	30.0	-0.1	0.0	First SDI Gyro @ 30 MD
6,002.0	5,877.9	-5.7	-719.9	Last SDI Gyro @ 6002 MD
6,144.0	6,007.0	-4.3	-779.0	First SDI MWD @ 6144 MD
13,269.0	6,658.2	-6,165.4	1,651.0	Last SDI MWD @ 13269 MD
13,338.0	6,657.1	-6,227.2	1,681.4	Projection To Bit @ 13338 MD / 6657 TVD

Checked By: _____ Approved By: _____ Date: _____