



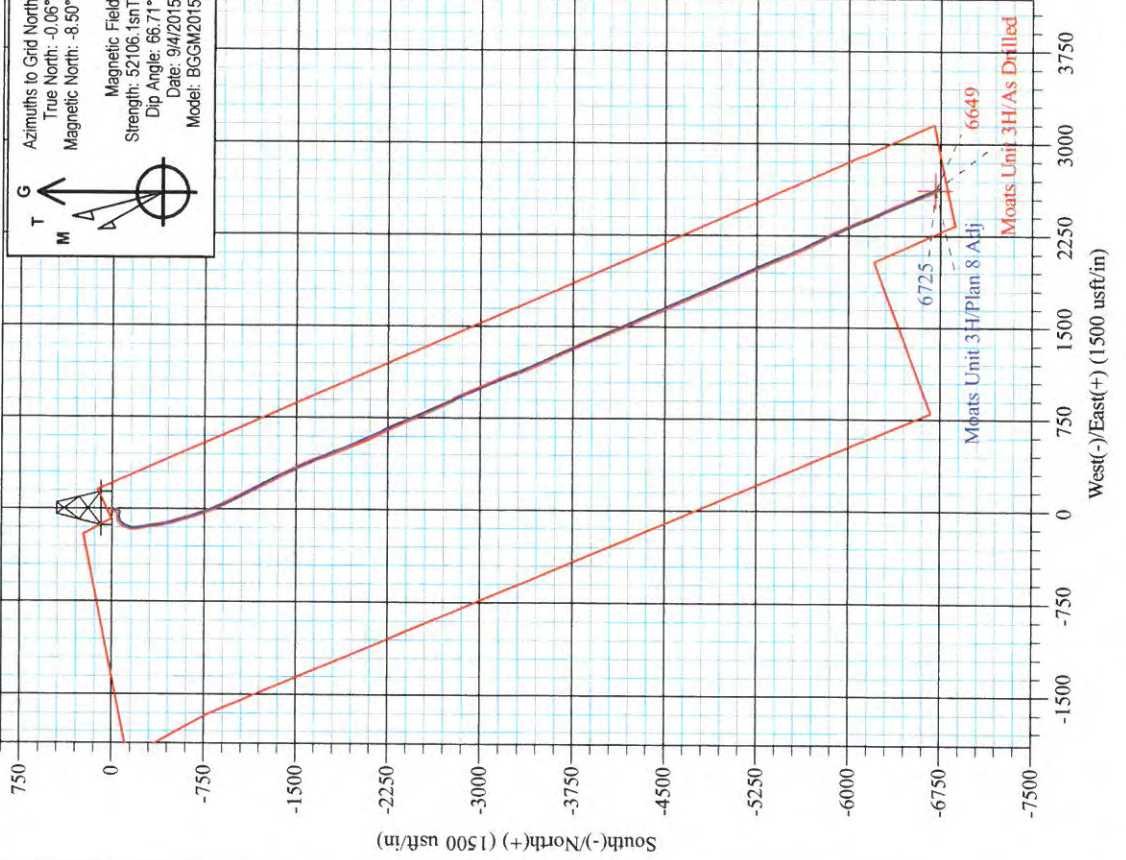
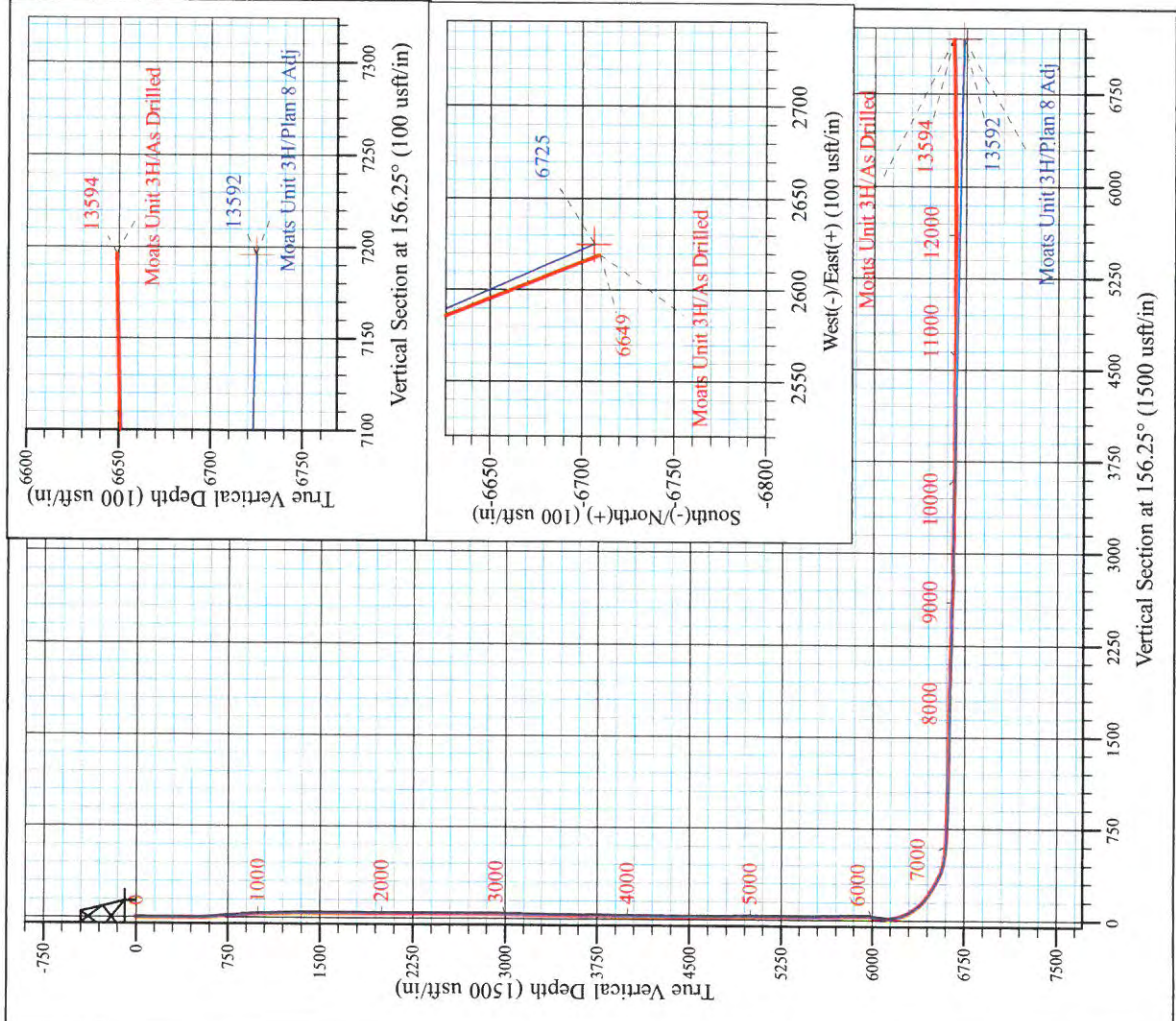
Edwin Pad: Hornet/Miracle/Moats/Myrtle
 Moats Unit 3H
 Plan 8 Adj

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



WELL DETAILS: Moats Unit 3H SHL

+N/-S	+E/-W	Northing	Latitude	Longitude
0.0	0.0	14245815.55	39° 13' 49.194 N	80° 54' 10.786 W
		Easting		
		1667885.91		



Moats Unit 3H
 Approx. BHL
 39° 12' 42.821 N 80° 53' 37.587 W

Shane Rhodes
 15:17, September 14, 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 3H

Original Wellpath

Design: As Drilled

Standard Survey Report

14 September, 2015



www.scientificdrilling.com



Company:	Antero	Local Co-ordinate Reference:	Well Moats Unit 3H
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 3H	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 3H, Marcellus		
Well Position	+N/-S	0.0 usft	Northing: 14,245,815.55 usft
	+E/-W	0.0 usft	Easting: 1,667,885.90 usft
Position Uncertainty	2.0 usft	Wellhead Elevation:	1,209.0 usft
		Latitude:	39° 13' 49.194 N
		Longitude:	80° 54' 10.786 W
		Ground Level:	1,191.0 usft

Wellbore	Original Wellpath				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	BGGM2015	9/4/2015	-8.44	66.71	52,106

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	9/14/2015			
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
105.0	5,767.0	Survey #6 Final Gyro to KOP (Original We	Standard Keeper 104	Standard Wireline Keeper ver 1.0.4	
5,810.0	13,594.0	Survey #7 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	
105.0	1.13	264.91	105.0	-0.1	-1.0	-0.3	1.08	1.08	0.00	
First SDI Gyro @ 105 MD										
130.0	1.37	263.89	130.0	-0.1	-1.6	-0.5	0.96	0.96	-4.08	
155.0	1.16	253.28	155.0	-0.3	-2.1	-0.6	1.25	-0.84	-42.44	
180.0	0.85	256.25	180.0	-0.4	-2.5	-0.7	1.26	-1.24	11.88	
205.0	0.60	261.28	205.0	-0.4	-2.8	-0.8	1.03	-1.00	20.12	
230.0	0.46	271.00	230.0	-0.4	-3.1	-0.8	0.66	-0.56	38.88	
255.0	0.30	263.19	255.0	-0.5	-3.2	-0.9	0.67	-0.64	-31.24	
280.0	0.18	242.64	280.0	-0.5	-3.3	-0.9	0.58	-0.48	-82.20	



Company: Antero
Project: Ritchie County WV
Site: Edwin Pad: Hornet/Miracle/Moats/Myrtle
Well: Moats Unit 3H
Wellbore: Original Wellpath
Design: As Drilled

Local Co-ordinate Reference: Well Moats Unit 3H
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)
305.0	0.21	266.21	305.0	-0.5	-3.4	-0.9	0.34	0.12	94.28
330.0	0.16	285.72	330.0	-0.5	-3.5	-1.0	0.32	-0.20	78.04
355.0	0.17	248.10	355.0	-0.5	-3.6	-1.0	0.43	0.04	-150.48
380.0	0.41	282.64	380.0	-0.5	-3.7	-1.0	1.15	0.96	138.16
405.0	0.46	243.13	405.0	-0.5	-3.9	-1.1	1.19	0.20	-158.04
430.0	0.66	220.11	430.0	-0.7	-4.0	-1.0	1.19	0.80	-92.08
455.0	1.40	211.94	455.0	-1.0	-4.3	-0.8	3.01	2.96	-32.68
480.0	2.24	204.06	480.0	-1.8	-4.7	-0.3	3.50	3.36	-31.52
505.0	2.85	203.28	504.9	-2.8	-5.1	0.5	2.44	2.44	-3.12
530.0	3.40	203.45	529.9	-4.0	-5.6	1.4	2.20	2.20	0.68
555.0	3.68	202.69	554.8	-5.4	-6.3	2.5	1.14	1.12	-3.04
580.0	3.84	202.87	579.8	-6.9	-6.9	3.6	0.64	0.64	0.72
605.0	4.30	199.48	604.7	-8.6	-7.5	4.8	2.08	1.84	-13.56
630.0	5.06	195.36	629.6	-10.6	-8.1	6.4	3.32	3.04	-16.48
655.0	5.44	191.41	654.5	-12.8	-8.7	8.2	2.10	1.52	-15.80
680.0	5.50	191.62	679.4	-15.1	-9.1	10.2	0.25	0.24	0.84
705.0	5.50	191.45	704.3	-17.5	-9.6	12.1	0.07	0.00	-0.68
730.0	5.48	192.64	729.2	-19.8	-10.1	14.0	0.46	-0.08	4.76
755.0	5.55	193.75	754.1	-22.1	-10.7	16.0	0.51	0.28	4.44
780.0	5.61	193.66	779.0	-24.5	-11.2	17.9	0.24	0.24	-0.36
805.0	5.64	193.87	803.8	-26.9	-11.8	19.8	0.15	0.12	0.84
830.0	5.71	194.60	828.7	-29.3	-12.4	21.8	0.40	0.28	2.92
855.0	5.38	195.56	853.6	-31.6	-13.1	23.7	1.37	-1.32	3.84
880.0	4.93	196.32	878.5	-33.8	-13.7	25.4	1.82	-1.80	3.04
905.0	4.67	197.37	903.4	-35.8	-14.3	27.0	1.10	-1.04	4.20
930.0	4.51	197.43	928.3	-37.7	-14.9	28.5	0.64	-0.64	0.24
955.0	4.08	198.31	953.3	-39.5	-15.4	29.9	1.74	-1.72	3.52
980.0	3.78	197.96	978.2	-41.1	-16.0	31.2	1.20	-1.20	-1.40
1,005.0	3.62	198.42	1,003.2	-42.6	-16.5	32.4	0.65	-0.64	1.84
1,030.0	3.22	200.03	1,028.1	-44.0	-17.0	33.5	1.65	-1.60	6.44
1,055.0	3.13	199.64	1,053.1	-45.3	-17.4	34.5	0.37	-0.36	-1.56
1,080.0	2.64	203.15	1,078.0	-46.5	-17.9	35.4	2.08	-1.96	14.04
1,105.0	2.49	204.36	1,103.0	-47.5	-18.4	36.1	0.64	-0.60	4.84
1,130.0	2.34	203.40	1,128.0	-48.5	-18.8	36.8	0.62	-0.60	-3.84
1,155.0	2.29	204.30	1,153.0	-49.4	-19.2	37.5	0.25	-0.20	3.60
1,180.0	1.89	204.92	1,178.0	-50.2	-19.6	38.1	1.60	-1.60	2.48
1,205.0	1.71	206.61	1,202.9	-51.0	-19.9	38.6	0.75	-0.72	6.76
1,230.0	1.62	207.97	1,227.9	-51.6	-20.2	39.1	0.39	-0.36	5.44
1,255.0	1.48	208.95	1,252.9	-52.2	-20.6	39.5	0.57	-0.56	3.92
1,280.0	1.44	212.89	1,277.9	-52.7	-20.9	39.9	0.43	-0.16	15.76
1,305.0	1.35	208.65	1,302.9	-53.3	-21.2	40.2	0.55	-0.36	-16.96
1,330.0	1.03	208.55	1,327.9	-53.7	-21.4	40.5	1.28	-1.28	-0.40
1,355.0	0.91	210.93	1,352.9	-54.1	-21.7	40.8	0.51	-0.48	9.52



Company: Antero
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Site: Edwin Pad: Hornet/Miracle/Moats/Myrtle
Well: Moats Unit 3H
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)
1,380.0	0.81	212.92	1,377.9	-54.4	-21.9	41.0	0.42	-0.40	7.96
1,405.0	0.59	221.76	1,402.9	-54.6	-22.0	41.1	0.98	-0.88	35.36
1,430.0	0.70	225.80	1,427.9	-54.9	-22.2	41.3	0.48	0.44	16.16
1,455.0	0.70	228.69	1,452.9	-55.1	-22.5	41.3	0.14	0.00	11.56
1,480.0	0.67	232.24	1,477.9	-55.2	-22.7	41.4	0.21	-0.12	14.20
1,505.0	0.68	228.81	1,502.9	-55.4	-22.9	41.5	0.17	0.04	-13.72
1,530.0	0.50	235.72	1,527.9	-55.6	-23.1	41.6	0.77	-0.72	27.64
1,555.0	0.35	230.92	1,552.9	-55.7	-23.3	41.6	0.62	-0.60	-19.20
1,580.0	0.36	237.77	1,577.9	-55.8	-23.4	41.6	0.17	0.04	27.40
1,605.0	0.27	243.49	1,602.9	-55.9	-23.5	41.7	0.38	-0.36	22.88
1,630.0	0.24	269.45	1,627.9	-55.9	-23.6	41.6	0.47	-0.12	103.84
1,655.0	0.32	265.11	1,652.9	-55.9	-23.7	41.6	0.33	0.32	-17.36
1,680.0	0.25	283.41	1,677.9	-55.9	-23.9	41.5	0.46	-0.28	73.20
1,705.0	0.38	263.55	1,702.9	-55.9	-24.0	41.5	0.67	0.52	-79.44
1,730.0	0.36	268.85	1,727.9	-55.9	-24.2	41.4	0.16	-0.08	21.20
1,755.0	0.35	255.19	1,752.9	-55.9	-24.3	41.4	0.34	-0.04	-54.64
1,780.0	0.30	256.55	1,777.9	-56.0	-24.4	41.4	0.20	-0.20	5.44
1,805.0	0.35	241.52	1,802.9	-56.0	-24.6	41.4	0.39	0.20	-60.12
1,830.0	0.24	245.03	1,827.9	-56.1	-24.7	41.4	0.45	-0.44	14.04
1,855.0	0.26	245.62	1,852.9	-56.1	-24.8	41.4	0.08	0.08	2.36
1,880.0	0.32	245.18	1,877.9	-56.2	-24.9	41.4	0.24	0.24	-1.76
1,905.0	0.32	248.96	1,902.9	-56.2	-25.0	41.4	0.08	0.00	15.12
1,930.0	0.28	241.59	1,927.9	-56.3	-25.2	41.4	0.22	-0.16	-29.48
1,955.0	0.22	246.30	1,952.9	-56.3	-25.3	41.4	0.25	-0.24	18.84
1,980.0	0.25	238.54	1,977.9	-56.4	-25.3	41.4	0.17	0.12	-31.04
2,005.0	0.27	251.11	2,002.9	-56.4	-25.4	41.4	0.24	0.08	50.28
2,030.0	0.19	242.61	2,027.9	-56.5	-25.5	41.4	0.35	-0.32	-34.00
2,055.0	0.17	219.44	2,052.9	-56.5	-25.6	41.4	0.30	-0.08	-92.68
2,080.0	0.17	232.47	2,077.9	-56.5	-25.7	41.4	0.15	0.00	52.12
2,105.0	0.08	250.83	2,102.9	-56.6	-25.7	41.4	0.39	-0.36	73.44
2,130.0	0.06	234.16	2,127.9	-56.6	-25.7	41.4	0.11	-0.08	-66.68
2,155.0	0.26	219.63	2,152.9	-56.6	-25.8	41.5	0.81	0.80	-58.12
2,180.0	0.13	265.76	2,177.9	-56.7	-25.8	41.5	0.78	-0.52	184.52
2,205.0	0.06	282.72	2,202.9	-56.7	-25.9	41.5	0.30	-0.28	67.84
2,230.0	0.02	274.54	2,227.9	-56.7	-25.9	41.5	0.16	-0.16	-32.72
2,255.0	0.17	348.47	2,252.9	-56.6	-25.9	41.4	0.66	0.60	295.72
2,280.0	0.19	332.15	2,277.9	-56.6	-25.9	41.3	0.22	0.08	-65.28
2,305.0	0.20	288.14	2,302.9	-56.5	-26.0	41.3	0.59	0.04	-176.04
2,330.0	0.10	281.30	2,327.9	-56.5	-26.1	41.2	0.41	-0.40	-27.36
2,355.0	0.08	321.61	2,352.9	-56.5	-26.1	41.2	0.26	-0.08	161.24
2,380.0	0.11	310.58	2,377.9	-56.5	-26.1	41.2	0.14	0.12	-44.12
2,405.0	0.14	317.37	2,402.9	-56.4	-26.2	41.1	0.13	0.12	27.16
2,430.0	0.25	295.72	2,427.9	-56.4	-26.2	41.0	0.52	0.44	-86.60



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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)
2,455.0	0.27	318.70	2,452.9	-56.3	-26.3	40.9	0.42	0.08	91.92
2,480.0	0.37	291.40	2,477.9	-56.2	-26.4	40.8	0.72	0.40	-109.20
2,505.0	0.11	271.32	2,502.9	-56.2	-26.5	40.8	1.08	-1.04	-80.32
2,530.0	0.11	286.81	2,527.9	-56.2	-26.6	40.7	0.12	0.00	61.96
2,555.0	0.12	301.29	2,552.9	-56.2	-26.6	40.7	0.12	0.04	57.92
2,580.0	0.21	304.95	2,577.9	-56.1	-26.7	40.6	0.36	0.36	14.64
2,605.0	0.18	307.21	2,602.9	-56.1	-26.7	40.6	0.12	-0.12	9.04
2,630.0	0.27	309.28	2,627.9	-56.0	-26.8	40.5	0.36	0.36	8.28
2,655.0	0.23	306.37	2,652.9	-56.0	-26.9	40.4	0.17	-0.16	-11.64
2,680.0	0.31	293.77	2,677.9	-55.9	-27.0	40.3	0.40	0.32	-50.40
2,705.0	0.25	276.99	2,702.9	-55.9	-27.1	40.2	0.40	-0.24	-67.12
2,730.0	0.40	299.89	2,727.9	-55.8	-27.3	40.1	0.78	0.60	91.60
2,755.0	0.44	297.04	2,752.9	-55.7	-27.4	40.0	0.18	0.16	-11.40
2,780.0	0.37	300.62	2,777.9	-55.6	-27.6	39.8	0.30	-0.28	14.32
2,805.0	0.34	300.79	2,802.9	-55.6	-27.7	39.7	0.12	-0.12	0.68
2,830.0	0.37	305.36	2,827.9	-55.5	-27.8	39.6	0.16	0.12	18.28
2,855.0	0.47	300.37	2,852.9	-55.4	-28.0	39.4	0.43	0.40	-19.96
2,880.0	0.41	301.38	2,877.9	-55.3	-28.2	39.3	0.24	-0.24	4.04
2,905.0	0.50	295.99	2,902.9	-55.2	-28.3	39.1	0.40	0.36	-21.56
2,930.0	0.44	300.00	2,927.9	-55.1	-28.5	38.9	0.27	-0.24	16.04
2,955.0	0.52	298.84	2,952.9	-55.0	-28.7	38.8	0.32	0.32	-4.64
2,980.0	0.57	298.16	2,977.9	-54.9	-28.9	38.6	0.20	0.20	-2.72
3,005.0	0.58	296.65	3,002.9	-54.8	-29.1	38.4	0.07	0.04	-6.04
3,030.0	0.50	293.87	3,027.9	-54.7	-29.3	38.2	0.34	-0.32	-11.12
3,055.0	0.53	296.66	3,052.9	-54.6	-29.5	38.0	0.15	0.12	10.76
3,080.0	0.51	300.59	3,077.9	-54.5	-29.7	37.9	0.17	-0.08	16.12
3,105.0	0.57	300.92	3,102.9	-54.3	-29.9	37.7	0.24	0.24	1.32
3,130.0	0.47	295.75	3,127.9	-54.2	-30.1	37.5	0.44	-0.40	-20.68
3,155.0	0.51	299.18	3,152.9	-54.1	-30.3	37.3	0.20	0.16	13.72
3,180.0	0.55	302.92	3,177.9	-54.0	-30.5	37.1	0.21	0.16	14.96
3,205.0	0.58	306.71	3,202.9	-53.9	-30.7	36.9	0.19	0.12	15.16
3,230.0	0.59	303.17	3,227.9	-53.7	-30.9	36.7	0.15	0.04	-14.16
3,255.0	0.59	304.82	3,252.9	-53.6	-31.2	36.5	0.07	0.00	6.60
3,280.0	0.57	305.30	3,277.9	-53.4	-31.4	36.3	0.08	-0.08	1.92
3,305.0	0.62	300.37	3,302.8	-53.3	-31.6	36.1	0.29	0.20	-19.72
3,330.0	0.70	300.82	3,327.8	-53.1	-31.8	35.8	0.32	0.32	1.80
3,355.0	0.69	302.64	3,352.8	-53.0	-32.1	35.6	0.10	-0.04	7.28
3,380.0	0.58	296.69	3,377.8	-52.8	-32.3	35.4	0.51	-0.44	-23.80
3,405.0	0.68	298.45	3,402.8	-52.7	-32.6	35.1	0.41	0.40	7.04
3,430.0	0.68	299.70	3,427.8	-52.6	-32.8	34.9	0.06	0.00	5.00
3,455.0	0.67	300.09	3,452.8	-52.4	-33.1	34.7	0.04	-0.04	1.56
3,480.0	0.62	299.61	3,477.8	-52.3	-33.3	34.4	0.20	-0.20	-1.92
3,505.0	0.67	299.71	3,502.8	-52.2	-33.6	34.2	0.20	0.20	0.40
3,530.0	0.59	295.57	3,527.8	-52.0	-33.8	34.0	0.37	-0.32	-16.56



Company: Antero
Project: Ritchie County WV
Site: Edwin Pad: Hornet/Miracle/Moats/Myrtle
Well: Moats Unit 3H
Wellbore: Original Wellpath
Design: As Drilled

Local Co-ordinate Reference: Well Moats Unit 3H
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)
3,555.0	0.61	296.00	3,552.8	-51.9	-34.1	33.8	0.08	0.08	1.72
3,580.0	0.64	298.80	3,577.8	-51.8	-34.3	33.6	0.17	0.12	11.20
3,605.0	0.63	298.14	3,602.8	-51.7	-34.5	33.4	0.05	-0.04	-2.64
3,630.0	0.58	295.64	3,627.8	-51.5	-34.8	33.2	0.23	-0.20	-10.00
3,655.0	0.70	298.28	3,652.8	-51.4	-35.0	32.9	0.49	0.48	10.56
3,680.0	0.68	300.27	3,677.8	-51.3	-35.3	32.7	0.12	-0.08	7.96
3,705.0	0.67	302.60	3,702.8	-51.1	-35.5	32.5	0.12	-0.04	9.32
3,730.0	0.54	295.21	3,727.8	-51.0	-35.8	32.3	0.61	-0.52	-29.56
3,755.0	0.61	299.49	3,752.8	-50.9	-36.0	32.1	0.33	0.28	17.12
3,780.0	0.61	300.98	3,777.8	-50.7	-36.2	31.8	0.06	0.00	5.96
3,805.0	0.68	301.72	3,802.8	-50.6	-36.5	31.6	0.28	0.28	2.96
3,830.0	0.59	303.46	3,827.8	-50.4	-36.7	31.4	0.37	-0.36	6.96
3,855.0	0.62	304.76	3,852.8	-50.3	-36.9	31.2	0.13	0.12	5.20
3,880.0	0.63	306.96	3,877.8	-50.1	-37.1	30.9	0.10	0.04	8.80
3,905.0	0.63	304.40	3,902.8	-50.0	-37.4	30.7	0.11	0.00	-10.24
3,930.0	0.67	302.97	3,927.8	-49.8	-37.6	30.4	0.17	0.16	-5.72
3,955.0	0.66	301.47	3,952.8	-49.7	-37.8	30.2	0.08	-0.04	-6.00
3,980.0	0.60	300.23	3,977.8	-49.5	-38.1	30.0	0.25	-0.24	-4.96
4,005.0	0.60	297.79	4,002.8	-49.4	-38.3	29.8	0.10	0.00	-9.76
4,030.0	0.62	296.67	4,027.8	-49.3	-38.5	29.6	0.09	0.08	-4.48
4,055.0	0.60	302.78	4,052.8	-49.1	-38.8	29.4	0.27	-0.08	24.44
4,080.0	0.57	304.85	4,077.8	-49.0	-39.0	29.1	0.15	-0.12	8.28
4,105.0	0.55	298.84	4,102.8	-48.9	-39.2	28.9	0.25	-0.08	-24.04
4,130.0	0.55	298.79	4,127.8	-48.7	-39.4	28.7	0.00	0.00	-0.20
4,155.0	0.44	299.04	4,152.8	-48.6	-39.6	28.6	0.44	-0.44	1.00
4,180.0	0.64	303.56	4,177.8	-48.5	-39.8	28.4	0.82	0.80	18.08
4,205.0	0.61	303.26	4,202.8	-48.4	-40.0	28.2	0.12	-0.12	-1.20
4,230.0	0.53	296.79	4,227.8	-48.2	-40.2	28.0	0.41	-0.32	-25.88
4,255.0	0.49	292.26	4,252.8	-48.1	-40.4	27.8	0.23	-0.16	-18.04
4,280.0	0.35	289.31	4,277.8	-48.1	-40.6	27.7	0.57	-0.56	-11.88
4,305.0	0.24	292.26	4,302.8	-48.0	-40.7	27.6	0.44	-0.44	11.80
4,330.0	0.27	292.15	4,327.8	-48.0	-40.8	27.5	0.12	0.12	-0.44
4,355.0	0.26	296.63	4,352.8	-47.9	-40.9	27.4	0.09	-0.04	17.92
4,380.0	0.22	292.72	4,377.8	-47.9	-41.0	27.3	0.17	-0.16	-15.64
4,405.0	0.21	295.84	4,402.8	-47.9	-41.1	27.3	0.06	-0.04	12.48
4,430.0	0.17	300.21	4,427.8	-47.8	-41.2	27.2	0.17	-0.16	17.48
4,455.0	0.17	321.50	4,452.8	-47.8	-41.2	27.1	0.25	0.00	85.16
4,480.0	0.09	295.37	4,477.8	-47.7	-41.3	27.1	0.39	-0.32	-104.52
4,505.0	0.06	283.13	4,502.8	-47.7	-41.3	27.0	0.14	-0.12	-48.96
4,530.0	0.00	9.52	4,527.8	-47.7	-41.3	27.0	0.24	-0.24	0.00
4,555.0	0.09	46.06	4,552.8	-47.7	-41.3	27.0	0.36	0.36	0.00
4,580.0	0.10	38.39	4,577.8	-47.7	-41.3	27.0	0.06	0.04	-30.68
4,605.0	0.11	78.20	4,602.8	-47.7	-41.2	27.0	0.29	0.04	159.24



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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)
4,630.0	0.16	118.43	4,627.8	-47.7	-41.2	27.0	0.42	0.20	160.92
4,655.0	0.08	99.07	4,652.8	-47.7	-41.1	27.1	0.35	-0.32	-77.44
4,680.0	0.08	44.89	4,677.8	-47.7	-41.1	27.1	0.29	0.00	-216.72
4,705.0	0.19	90.55	4,702.8	-47.7	-41.1	27.1	0.58	0.44	182.64
4,730.0	0.19	94.58	4,727.8	-47.7	-41.0	27.1	0.05	0.00	16.12
4,755.0	0.15	62.39	4,752.8	-47.7	-40.9	27.1	0.41	-0.16	-128.76
4,780.0	0.11	36.31	4,777.8	-47.6	-40.9	27.1	0.28	-0.16	-104.32
4,805.0	0.10	68.39	4,802.8	-47.6	-40.8	27.1	0.24	-0.04	128.32
4,830.0	0.11	83.36	4,827.8	-47.6	-40.8	27.1	0.12	0.04	59.88
4,855.0	0.19	101.80	4,852.8	-47.6	-40.7	27.2	0.37	0.32	73.76
4,880.0	0.20	112.22	4,877.8	-47.6	-40.6	27.2	0.15	0.04	41.68
4,905.0	0.22	120.19	4,902.8	-47.7	-40.6	27.3	0.14	0.08	31.88
4,930.0	0.38	107.09	4,927.8	-47.7	-40.4	27.4	0.69	0.64	-52.40
4,955.0	0.36	119.01	4,952.8	-47.8	-40.3	27.5	0.32	-0.08	47.68
4,980.0	0.30	112.34	4,977.8	-47.8	-40.2	27.6	0.28	-0.24	-26.68
5,005.0	0.38	122.25	5,002.8	-47.9	-40.0	27.7	0.40	0.32	39.64
5,030.0	0.29	119.63	5,027.8	-48.0	-39.9	27.8	0.37	-0.36	-10.48
5,055.0	0.43	128.84	5,052.8	-48.1	-39.8	28.0	0.60	0.56	36.84
5,080.0	0.40	125.76	5,077.8	-48.2	-39.6	28.1	0.15	-0.12	-12.32
5,105.0	0.39	120.84	5,102.8	-48.3	-39.5	28.3	0.14	-0.04	-19.68
5,130.0	0.50	121.84	5,127.8	-48.4	-39.3	28.4	0.44	0.44	4.00
5,155.0	0.48	112.64	5,152.8	-48.5	-39.1	28.6	0.32	-0.08	-36.80
5,180.0	0.45	122.07	5,177.8	-48.6	-39.0	28.8	0.33	-0.12	37.72
5,205.0	0.41	118.66	5,202.8	-48.7	-38.8	28.9	0.19	-0.16	-13.64
5,230.0	0.46	120.13	5,227.8	-48.8	-38.6	29.1	0.20	0.20	5.88
5,255.0	0.36	117.18	5,252.8	-48.8	-38.5	29.2	0.41	-0.40	-11.80
5,280.0	0.47	117.00	5,277.8	-48.9	-38.3	29.3	0.44	0.44	-0.72
5,305.0	0.49	130.68	5,302.8	-49.0	-38.1	29.5	0.46	0.08	54.72
5,330.0	0.54	118.61	5,327.8	-49.2	-38.0	29.7	0.48	0.20	-48.28
5,355.0	0.44	124.70	5,352.8	-49.3	-37.8	29.9	0.45	-0.40	24.36
5,380.0	0.54	123.08	5,377.8	-49.4	-37.6	30.1	0.40	0.40	-6.48
5,405.0	0.32	123.29	5,402.8	-49.5	-37.4	30.2	0.88	-0.88	0.84
5,430.0	0.40	125.43	5,427.8	-49.6	-37.3	30.4	0.32	0.32	8.56
5,455.0	0.41	134.19	5,452.8	-49.7	-37.2	30.5	0.25	0.04	35.04
5,480.0	0.28	139.15	5,477.8	-49.8	-37.1	30.7	0.53	-0.52	19.84
5,505.0	0.41	133.06	5,502.8	-49.9	-37.0	30.8	0.54	0.52	-24.36
5,530.0	0.61	123.23	5,527.8	-50.0	-36.8	31.0	0.87	0.80	-39.32
5,555.0	0.45	131.21	5,552.8	-50.2	-36.6	31.2	0.70	-0.64	31.92
5,580.0	0.48	134.51	5,577.8	-50.3	-36.4	31.4	0.16	0.12	13.20
5,605.0	0.54	127.39	5,602.8	-50.5	-36.3	31.6	0.35	0.24	-28.48
5,630.0	0.41	130.07	5,627.8	-50.6	-36.1	31.8	0.53	-0.52	10.72
5,655.0	0.45	135.96	5,652.8	-50.7	-36.0	31.9	0.24	0.16	23.56
5,680.0	0.33	124.32	5,677.8	-50.8	-35.9	32.1	0.57	-0.48	-46.56



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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)	
5,705.0	0.53	134.93	5,702.8	-51.0	-35.7	32.3	0.86	0.80	42.44	
5,730.0	0.48	136.30	5,727.8	-51.1	-35.6	32.5	0.21	-0.20	5.48	
5,755.0	0.68	130.89	5,752.8	-51.3	-35.4	32.7	0.83	0.80	-21.64	
5,767.0	0.67	123.82	5,764.8	-51.4	-35.3	32.8	0.70	-0.08	-58.92	
Last SDI Gyro @ 5767 MD										
5,810.0	0.54	108.92	5,807.8	-51.6	-34.9	33.2	0.47	-0.30	-34.65	
First SDI MWD @ 5810 MD										
5,841.0	0.48	105.83	5,838.8	-51.7	-34.6	33.4	0.21	-0.19	-9.97	
5,872.0	0.65	104.77	5,869.8	-51.7	-34.3	33.5	0.55	0.55	-3.42	
5,902.0	0.17	177.95	5,899.8	-51.8	-34.1	33.7	2.07	-1.60	243.93	
5,933.0	4.56	265.53	5,930.7	-52.0	-35.4	33.3	14.70	14.16	282.52	
5,964.0	8.93	269.66	5,961.5	-52.1	-39.0	32.0	14.17	14.10	13.32	
5,995.0	12.81	273.20	5,991.9	-51.9	-44.8	29.5	12.69	12.52	11.42	
6,026.0	17.38	274.17	6,021.9	-51.4	-52.9	25.7	14.76	14.74	3.13	
6,057.0	21.14	271.32	6,051.1	-50.9	-63.1	21.2	12.50	12.13	-9.19	
6,088.0	23.68	264.15	6,079.8	-51.4	-74.9	16.9	12.02	8.19	-23.13	
6,118.0	24.32	253.61	6,107.2	-53.8	-86.8	14.3	14.43	2.13	-35.13	
6,149.0	23.42	240.90	6,135.6	-58.6	-98.3	14.0	16.81	-2.90	-41.00	
6,180.0	23.79	230.74	6,164.0	-65.5	-108.6	16.3	13.16	1.19	-32.77	
6,211.0	25.19	220.66	6,192.2	-74.5	-117.7	20.8	14.20	4.52	-32.52	
6,242.0	28.16	214.20	6,219.9	-85.6	-126.1	27.5	13.38	9.58	-20.84	
6,273.0	30.82	209.93	6,246.9	-98.5	-134.2	36.1	10.93	8.58	-13.77	
6,293.0	33.20	206.83	6,263.9	-107.8	-139.2	42.6	14.46	11.90	-15.50	
Sycamore @ 6293 MD										
6,304.0	34.54	205.29	6,273.0	-113.3	-141.9	46.6	14.46	12.17	-14.00	
6,334.0	37.02	199.10	6,297.3	-129.6	-148.5	58.8	14.62	8.27	-20.63	
6,365.0	38.39	192.59	6,321.9	-147.8	-153.7	73.4	13.58	4.42	-21.00	
6,396.0	39.69	184.49	6,346.0	-167.1	-156.5	89.9	16.97	4.19	-26.13	
6,427.0	41.53	177.82	6,369.5	-187.2	-156.9	108.2	15.20	5.94	-21.52	
6,458.0	44.02	171.70	6,392.3	-208.1	-155.0	128.1	15.62	8.03	-19.74	
6,488.0	47.88	169.62	6,413.1	-229.4	-151.5	149.0	13.80	12.87	-6.93	
6,507.0	50.45	169.81	6,425.6	-243.6	-148.9	163.0	13.57	13.55	1.02	
Middlesex @ 6507 MD										
6,519.0	52.08	169.93	6,433.1	-252.8	-147.2	172.1	13.57	13.55	0.96	
6,550.0	55.57	170.88	6,451.4	-277.4	-143.1	196.3	11.53	11.26	3.06	
6,581.0	57.98	171.00	6,468.3	-303.1	-139.0	221.4	7.78	7.77	0.39	
6,612.0	60.12	171.82	6,484.3	-329.3	-135.0	247.1	7.27	6.90	2.65	
6,642.0	61.27	172.09	6,499.0	-355.2	-131.4	272.2	3.91	3.83	0.90	
6,673.0	61.88	171.86	6,513.7	-382.2	-127.6	298.5	2.07	1.97	-0.74	
6,704.0	62.76	170.38	6,528.1	-409.4	-123.3	325.0	5.09	2.84	-4.77	
6,721.0	63.69	169.10	6,535.8	-424.3	-120.6	339.8	8.66	5.46	-7.53	
Burkett @ 6721 MD										
6,735.0	64.46	168.06	6,541.9	-436.6	-118.1	352.1	8.66	5.52	-7.42	
6,766.0	67.29	165.18	6,554.6	-464.1	-111.6	379.9	12.46	9.13	-9.29	
6,797.0	71.50	163.05	6,565.5	-492.0	-103.6	408.6	15.03	13.58	-6.87	



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North Reference: Grid
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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)
6,801.0	72.03	163.06	6,566.7	-495.7	-102.5	412.4	13.23	13.23	0.20
Tully @ 6801 MD									
6,827.0	75.47	163.11	6,574.0	-519.6	-95.3	437.2	13.23	13.23	0.20
6,858.0	78.25	163.19	6,581.1	-548.4	-86.5	467.2	8.97	8.97	0.26
6,889.0	80.03	163.49	6,586.9	-577.6	-77.8	497.4	5.82	5.74	0.97
6,916.0	81.66	163.86	6,591.2	-603.2	-70.3	523.8	6.19	6.03	1.39
MRCL_HOT @ 6916 MD									
6,920.0	81.90	163.92	6,591.8	-607.0	-69.2	527.7	6.19	6.03	1.38
6,951.0	82.71	164.37	6,595.9	-636.5	-60.8	558.2	2.98	2.61	1.45
6,982.0	83.76	163.87	6,599.6	-666.2	-52.4	588.6	3.75	3.39	-1.61
7,012.0	85.19	162.96	6,602.5	-694.8	-43.9	618.3	5.64	4.77	-3.03
7,043.0	86.67	160.96	6,604.7	-724.2	-34.3	649.0	8.01	4.77	-6.45
7,071.0	87.75	159.15	6,606.0	-750.5	-24.7	676.9	7.52	3.86	-6.46
7,102.0	88.62	157.40	6,607.0	-779.2	-13.3	707.9	6.30	2.81	-5.65
7,133.0	88.79	157.32	6,607.7	-807.8	-1.3	738.9	0.61	0.55	-0.26
7,164.0	88.86	157.72	6,608.3	-836.5	10.5	769.9	1.31	0.23	1.29
7,225.0	88.29	155.55	6,609.9	-892.5	34.7	830.9	3.68	-0.93	-3.56
7,318.0	88.09	153.87	6,612.8	-976.5	74.4	923.8	1.82	-0.22	-1.81
7,411.0	88.36	152.42	6,615.7	-1,059.4	116.4	1,016.6	1.59	0.29	-1.56
7,503.0	88.43	152.52	6,618.2	-1,141.0	158.9	1,108.4	0.13	0.08	0.11
7,596.0	89.06	153.88	6,620.3	-1,224.0	200.8	1,201.2	1.61	0.68	1.46
7,688.0	89.13	153.66	6,621.7	-1,306.5	241.5	1,293.1	0.25	0.08	-0.24
7,781.0	89.30	153.92	6,623.0	-1,389.9	282.5	1,386.0	0.33	0.18	0.28
7,873.0	89.50	153.99	6,624.0	-1,472.6	322.9	1,477.9	0.23	0.22	0.08
7,966.0	89.57	155.58	6,624.7	-1,556.7	362.6	1,570.9	1.71	0.08	1.71
8,058.0	89.77	157.99	6,625.3	-1,641.2	398.8	1,662.9	2.63	0.22	2.62
8,151.0	89.03	159.15	6,626.2	-1,727.8	432.8	1,755.8	1.48	-0.80	1.25
8,244.0	88.26	158.29	6,628.4	-1,814.4	466.5	1,848.7	1.24	-0.83	-0.92
8,336.0	88.49	159.45	6,631.0	-1,900.2	499.7	1,940.5	1.28	0.25	1.26
8,429.0	88.73	156.76	6,633.3	-1,986.5	534.4	2,033.5	2.90	0.26	-2.89
8,521.0	87.15	154.70	6,636.6	-2,070.3	572.1	2,125.4	2.82	-1.72	-2.24
8,614.0	87.75	154.53	6,640.7	-2,154.2	612.0	2,218.3	0.67	0.65	-0.18
8,706.0	89.30	154.37	6,643.1	-2,237.2	651.6	2,310.2	1.69	1.68	-0.17
8,799.0	89.63	154.30	6,644.0	-2,321.0	691.9	2,403.1	0.36	0.35	-0.08
8,891.0	89.97	156.88	6,644.3	-2,404.8	729.9	2,495.1	2.83	0.37	2.80
8,984.0	87.00	156.37	6,646.8	-2,490.1	766.8	2,588.1	3.24	-3.19	-0.55
9,076.0	87.11	156.14	6,651.5	-2,574.2	803.8	2,679.9	0.28	0.12	-0.25
9,168.0	88.79	155.06	6,654.8	-2,657.9	841.8	2,771.9	2.17	1.83	-1.17
9,261.0	90.59	153.70	6,655.3	-2,741.8	882.0	2,864.8	2.43	1.94	-1.46
9,353.0	89.32	155.34	6,655.4	-2,824.8	921.6	2,956.8	2.25	-1.38	1.78
9,446.0	89.02	155.27	6,656.7	-2,909.3	960.4	3,049.7	0.33	-0.32	-0.08
9,538.0	89.22	156.00	6,658.1	-2,993.1	998.4	3,141.7	0.82	0.22	0.79
9,631.0	88.91	156.75	6,659.6	-3,078.3	1,035.6	3,234.7	0.87	-0.33	0.81



Company: Antero
Project: Ritchie County WV
Site: Edwin Pad: Hornet/Miracle/Moats/Myrtle
Well: Moats Unit 3H
Wellbore: Original Wellpath
Design: As Drilled

Local Co-ordinate Reference: Well Moats Unit 3H
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)
9,723.0	88.65	157.85	6,661.6	-3,163.2	1,071.1	3,326.7	1.23	-0.28	1.20
9,816.0	89.66	159.48	6,663.0	-3,249.8	1,105.0	3,419.6	2.06	1.09	1.75
9,908.0	88.79	158.52	6,664.2	-3,335.7	1,137.9	3,511.5	1.41	-0.95	-1.04
10,001.0	89.49	156.62	6,665.6	-3,421.6	1,173.4	3,604.4	2.18	0.75	-2.04
10,094.0	88.95	154.65	6,666.9	-3,506.3	1,211.8	3,697.4	2.20	-0.58	-2.12
10,186.0	90.23	153.57	6,667.5	-3,589.1	1,251.9	3,789.3	1.82	1.39	-1.17
10,279.0	89.96	155.17	6,667.4	-3,672.9	1,292.2	3,882.3	1.74	-0.29	1.72
10,371.0	89.49	155.52	6,667.8	-3,756.5	1,330.5	3,974.3	0.64	-0.51	0.38
10,464.0	90.16	156.79	6,668.1	-3,841.6	1,368.1	4,067.3	1.54	0.72	1.37
10,557.0	90.13	156.76	6,667.9	-3,927.1	1,404.8	4,160.3	0.05	-0.03	-0.03
10,649.0	89.59	157.73	6,668.1	-4,011.9	1,440.4	4,252.2	1.21	-0.59	1.05
10,742.0	89.83	158.19	6,668.6	-4,098.1	1,475.3	4,345.2	0.56	0.26	0.49
10,834.0	89.02	156.88	6,669.5	-4,183.1	1,510.4	4,437.2	1.67	-0.88	-1.42
10,927.0	89.12	156.59	6,671.0	-4,268.5	1,547.2	4,530.2	0.33	0.11	-0.31
11,019.0	89.79	156.11	6,671.9	-4,352.8	1,584.1	4,622.2	0.90	0.73	-0.52
11,112.0	90.29	156.09	6,671.8	-4,437.8	1,621.8	4,715.2	0.54	0.54	-0.02
11,204.0	90.56	156.29	6,671.1	-4,522.0	1,658.9	4,807.1	0.37	0.29	0.22
11,297.0	90.13	155.45	6,670.6	-4,606.9	1,696.9	4,900.1	1.01	-0.46	-0.90
11,389.0	90.30	155.39	6,670.2	-4,690.5	1,735.2	4,992.1	0.20	0.18	-0.07
11,482.0	90.91	156.23	6,669.2	-4,775.4	1,773.3	5,085.1	1.12	0.66	0.90
11,575.0	89.60	156.34	6,668.8	-4,860.5	1,810.7	5,178.1	1.41	-1.41	0.12
11,667.0	89.80	156.36	6,669.3	-4,944.8	1,847.6	5,270.1	0.22	0.22	0.02
11,760.0	90.17	156.43	6,669.3	-5,030.0	1,884.8	5,363.1	0.40	0.40	0.08
11,852.0	90.17	156.14	6,669.1	-5,114.2	1,921.8	5,455.1	0.32	0.00	-0.32
11,945.0	89.06	156.06	6,669.7	-5,199.2	1,959.5	5,548.1	1.20	-1.19	-0.09
12,037.0	89.13	156.59	6,671.1	-5,283.5	1,996.4	5,640.1	0.58	0.08	0.58
12,130.0	90.64	157.03	6,671.3	-5,369.0	2,033.1	5,733.1	1.69	1.62	0.47
12,223.0	91.14	157.90	6,669.9	-5,454.9	2,068.7	5,826.1	1.08	0.54	0.94
12,315.0	90.27	157.21	6,668.7	-5,539.9	2,103.8	5,918.0	1.21	-0.95	-0.75
12,408.0	89.37	155.40	6,669.0	-5,625.0	2,141.2	6,011.0	2.17	-0.97	-1.95
12,501.0	89.57	153.99	6,669.9	-5,709.1	2,180.9	6,104.0	1.53	0.22	-1.52
12,593.0	91.68	152.99	6,668.9	-5,791.4	2,222.0	6,195.9	2.54	2.29	-1.09
12,686.0	91.68	154.63	6,666.2	-5,874.8	2,263.0	6,288.7	1.76	0.00	1.76
12,779.0	91.79	156.36	6,663.3	-5,959.4	2,301.6	6,381.7	1.86	0.12	1.86
12,871.0	90.98	156.03	6,661.1	-6,043.6	2,338.7	6,473.7	0.95	-0.88	-0.36
12,964.0	91.25	156.14	6,659.3	-6,128.6	2,376.4	6,566.6	0.31	0.29	0.12
13,056.0	90.41	155.82	6,658.0	-6,212.6	2,413.8	6,658.6	0.98	-0.91	-0.35
13,149.0	90.58	156.58	6,657.2	-6,297.7	2,451.4	6,751.6	0.84	0.18	0.82
13,241.0	90.71	157.20	6,656.1	-6,382.3	2,487.5	6,843.6	0.69	0.14	0.67
13,334.0	91.11	158.27	6,654.7	-6,468.3	2,522.7	6,936.6	1.23	0.43	1.15
13,426.0	91.15	158.06	6,652.8	-6,553.7	2,556.9	7,028.5	0.23	0.04	-0.23
13,519.0	91.42	158.23	6,650.8	-6,640.0	2,591.5	7,121.4	0.34	0.29	0.18
Last SDI MWD @ 13519 MD									
13,594.0	91.42	158.23	6,648.9	-6,709.7	2,619.3	7,196.4	0.00	0.00	0.00



Company: Antero
Project: Ritchie County WV
Site: Edwin Pad: Hornet/Miracle/Moats/Myrtle
Well: Moats Unit 3H
Wellbore: Original Wellpath
Design: As Drilled

Local Co-ordinate Reference: Well Moats Unit 3H
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)
Projection To Bit @ 13594 MD / 6648 TVD									

Formations

Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
6,293.0	6,263.9	Sycamore @ 6293 MD		0.00	
6,507.0	6,425.6	Middlesex @ 6507 MD		0.00	
6,721.0	6,535.8	Burkett @ 6721 MD		0.00	
6,801.0	6,566.7	Tully @ 6801 MD		0.00	
6,916.0	6,591.2	MRCL_HOT @ 6916 MD		0.00	

Design Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
105.0	105.0	-0.1	-1.0	First SDI Gyro @ 105 MD
5,767.0	5,764.8	-51.4	-35.3	Last SDI Gyro @ 5767 MD
5,810.0	5,807.8	-51.6	-34.9	First SDI MWD @ 5810 MD
13,519.0	6,650.8	-6,640.0	2,591.5	Last SDI MWD @ 13519 MD
13,594.0	6,648.9	-6,709.7	2,619.3	Projection To Bit @ 13594 MD / 6648 TVD

Checked By: _____ Approved By: _____ Date: _____