

17-06378



McClain Unit 1H
Dodderidge County WV
Northing: 14242019.90
Easting: 1747834.60
As Drilled

Received
 SEP 28 2015
 Office of Oil and Gas
 WV Dept. of Environmental Protection

Precision 523 GL 1331' +N3 19' @ 1350.0m
 Gr: 1331.0

WELL DETAILS McClain Unit 1H
 Ground Level: 1331.0
 Easting: 1747834.60 39° 13' 9.596" N 0° 37' 14.622" W
 Northing: 14242019.90
 Latitude: 39° 13' 9.596" N 0° 37' 14.622" W

PROJECT DETAILS: Dodderidge County WV

Geodetic System: Universal Transverse Mercator (US Survey Feet)
 Datum: NAD 1987 (NADCON CONUS)
 Ellipsoid: Clarke 1866
 Zone: Zone 17N (84 W to 78 W)
 System Datum: Mean Sea Level

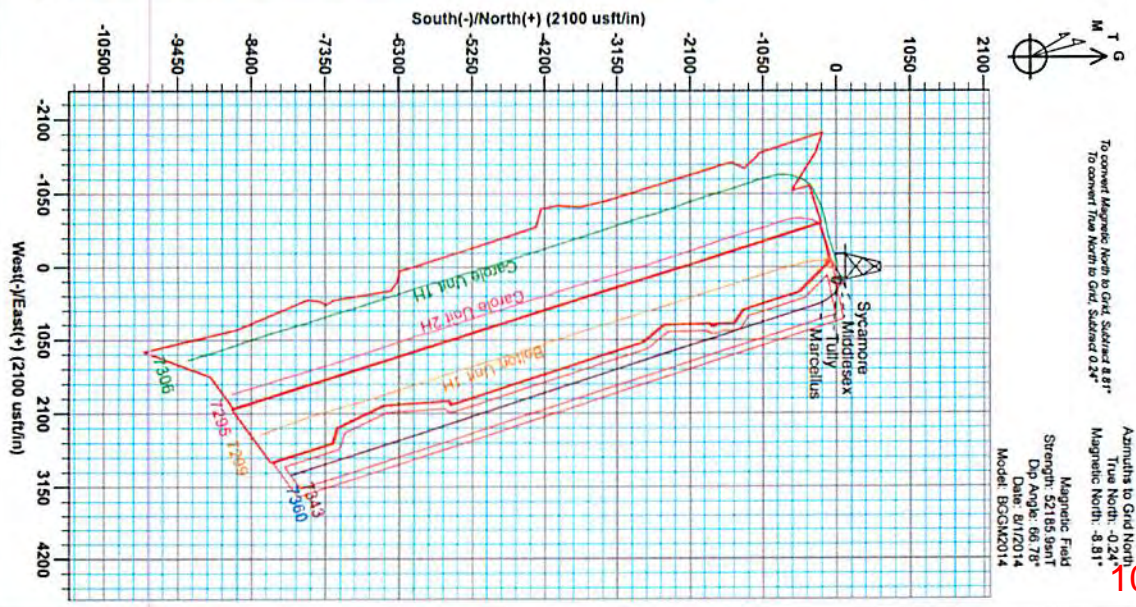
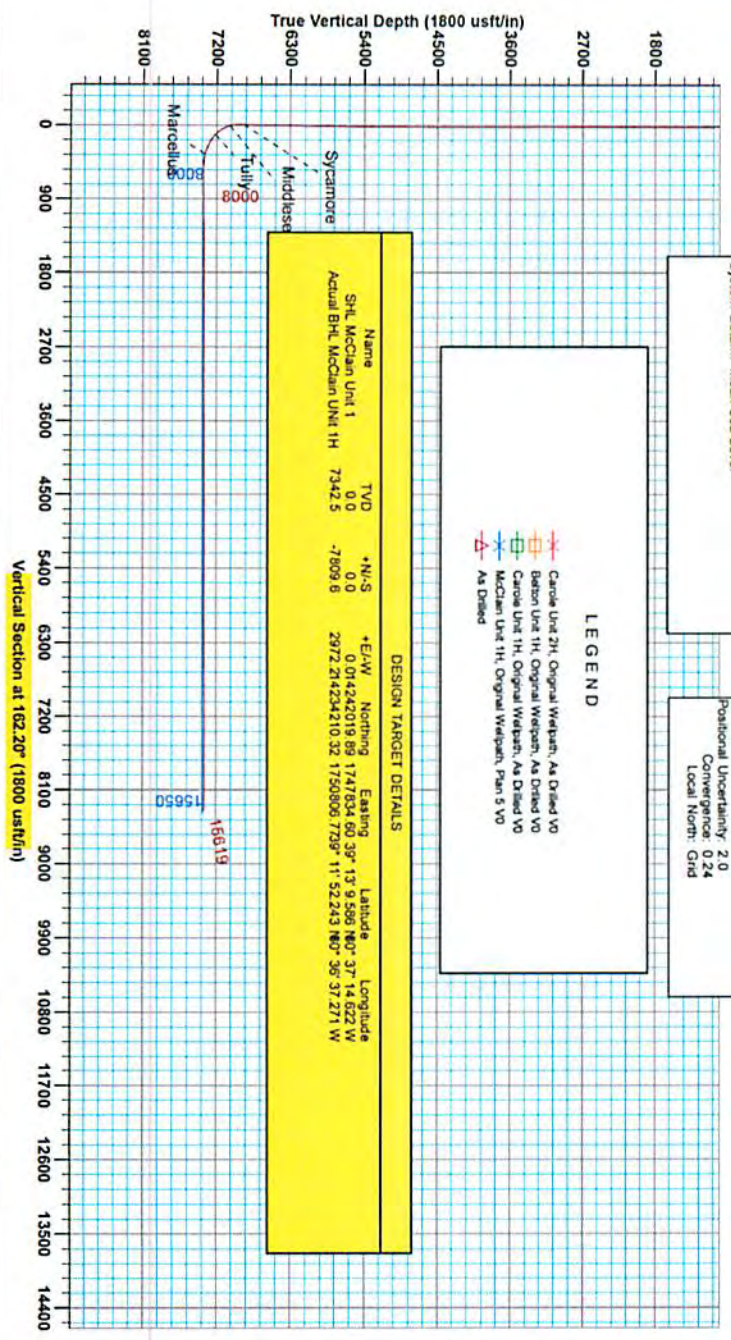
SITE DETAILS:
 Hughes Paul Belton/Carolee Estelwimer/Gully/Hughes
 Site Centre Northing: 14242041.55
 Easting: 1747814.24
 Positional Uncertainty: 2.0
 Convergence: 0.24
 Local North: Grd

Genie Lightlook
 11:43, December 18 2014
 Scientific Drilling
 11220 NW 10th Street
 Yukon, OK



LEGEND

- Carolee Unit 2H: Original Wellplan, As Drilled VO
- Barton Unit 1H: Original Wellplan, As Drilled VO
- Carolee Unit 1H: Original Wellplan, As Drilled VO
- McClain Unit 1H: Original Wellplan, Plan 5 VO
- As Drilled



10/30/2015

17-06378



Antero

Doddridge County WV

Hughes Pad:Belton/Carole/Earlewine/Gully/Hughes

McClain Unit 1H

Original Wellpath

Design: As Drilled

EOW Completion Report

18 December, 2014

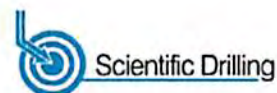


10/30/2015



17-06378

EOW Completion Report



Company: Antero	Local Co-ordinate Reference: Well McClain Unit 1H
Project: Doddridge County WV	TVD Reference: Precision 523: GL 1331' + KB 19' @ 1350.0usft
Site: Hughes Pad:Belton/Carole/Earlewine/Gully/Hugh	MD Reference: Precision 523: GL 1331' + KB 19' @ 1350.0usft
Well: McClain Unit 1H	North Reference: Grid
Wellbore: Original Wellpath	Survey Calculation Method: Minimum Curvature
Design: As Drilled	Database: Oklahoma District

Project	Doddridge County WV, McClellan District		
Map System:	Universal Transverse Mercator (US Survey Fee	System Datum:	Mean Sea Level
Geo Datum:	NAD 1927 (NADCON CONUS)		
Map Zone:	Zone 17N (84 W to 78 W)		

Site	Hughes Pad:Belton/Carole/Earlewine/Gully/Hughes				
Site Position:	Northing:	14,242,041.55 usft	Latitude:	39° 13' 9.801 N	
From: Map	Easting:	1,747,814.24 usft	Longitude:	80° 37' 14.880 W	
Position Uncertainty:	2.0 usft	Slot Radius:	13-3/16"	Grid Convergence:	0.24 °

Well	McClain Unit 1H					
Well Position	+N/-S	0.0 usft	Northing:	14,242,019.90 usft	Latitude:	39° 13' 9.586 N
	+E/-W	0.0 usft	Easting:	1,747,834.60 usft	Longitude:	80° 37' 14.622 W
Position Uncertainty		2.0 usft	Wellhead Elevation:	1,350.0 usft	Ground Level:	1,331.0 usft

Wellbore	Original Wellpath			
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Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	BGGM2014	8/1/2014	-8.57	66.78	52,186

Design	As Drilled			
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Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	0.0
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)	
	0.0	0.0	0.0	162.20	

Received
SEP 28 2015

Survey Program	Date 12/18/2014			
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
32.0	6,482.7	Survey #4 Final Gyro (Original Wellpath)	SDI Standard Keeper	Scientific Drilling Intl. Standard Wireline Keeper
6,493.0	15,619.0	Survey #5 MWD (Original Wellpath)	SDI MWD	Scientific Drilling Intl. MWD - Standard ver 1.0.1

Office of Oil and Gas
WV Dept. of Environmental Protection

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00
32.0	0.08	252.43	32.0	0.0	0.0	0.0	0.25
57.0	0.16	252.43	57.0	0.0	-0.1	0.0	0.32
82.0	0.25	252.43	82.0	0.0	-0.2	0.0	0.36
107.0	0.33	252.43	107.0	-0.1	-0.3	0.0	0.32
132.0	0.41	249.15	132.0	-0.1	-0.4	0.0	0.33
157.0	0.38	242.81	157.0	-0.2	-0.6	0.0	0.21
182.0	0.46	240.73	182.0	-0.3	-0.7	0.1	0.33
207.0	0.24	246.10	207.0	-0.4	-0.9	0.1	0.89
232.0	0.33	243.81	232.0	-0.4	-1.0	0.1	0.36
257.0	0.22	246.64	257.0	-0.5	-1.1	0.1	0.44



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EOW Completion Report



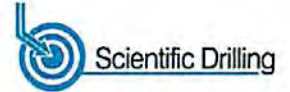
Company:	Antero	Local Co-ordinate Reference:	Well McClain Unit 1H
Project:	Doddridge County WV	TVD Reference:	Precision 523: GL 1331' + KB 19' @ 1350.0usft
Site:	Hughes Pad:Belton/Carole/Earlewine/Gully/Hugh-	MD Reference:	Precision 523: GL 1331' + KB 19' @ 1350.0usft
Well:	McClain Unit 1H	North Reference:	Grid
Wellbore:	Original Wellpath	Survey Calculation Method:	Minimum Curvature
Design:	As Drilled	Database:	Oklahoma District

Survey								
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)	
282.0	0.27	250.86	282.0	-0.5	-1.2	0.1	0.21	
307.0	0.35	249.97	307.0	-0.6	-1.3	0.1	0.32	
332.0	0.23	251.87	332.0	-0.6	-1.5	0.1	0.48	
357.0	0.10	292.56	357.0	-0.6	-1.5	0.1	0.67	
382.0	0.13	352.52	382.0	-0.6	-1.5	0.1	0.47	
407.0	0.11	278.99	407.0	-0.5	-1.6	0.0	0.58	
432.0	0.05	25.67	432.0	-0.5	-1.6	0.0	0.53	
457.0	0.15	258.63	457.0	-0.5	-1.6	0.0	0.74	
482.0	0.03	270.02	482.0	-0.5	-1.7	0.0	0.48	
507.0	0.05	196.07	507.0	-0.5	-1.7	0.0	0.20	
532.0	0.10	104.39	532.0	-0.6	-1.6	0.0	0.45	
557.0	0.17	108.40	557.0	-0.6	-1.6	0.1	0.28	
582.0	0.17	77.28	582.0	-0.6	-1.5	0.1	0.36	
607.0	0.69	85.27	607.0	-0.6	-1.3	0.1	2.09	
632.0	1.69	89.61	632.0	-0.5	-0.8	0.3	4.01	
657.0	2.69	92.87	657.0	-0.6	0.1	0.6	4.03	
682.0	2.81	92.26	681.9	-0.6	1.3	1.0	0.49	
707.0	4.00	96.58	706.9	-0.7	2.8	1.6	4.87	
732.0	4.31	96.92	731.8	-1.0	4.6	2.3	1.24	
757.0	4.31	98.46	756.8	-1.2	6.5	3.1	0.46	
782.0	4.66	97.55	781.7	-1.5	8.4	4.0	1.43	
807.0	4.68	97.86	806.6	-1.8	10.4	4.9	0.13	
832.0	4.92	96.42	831.5	-2.0	12.5	5.7	1.07	
857.0	5.03	95.86	856.4	-2.2	14.7	6.6	0.48	
882.0	5.05	94.65	881.3	-2.4	16.8	7.5	0.43	
907.0	5.25	89.85	906.2	-2.5	19.1	8.2	1.90	
932.0	5.30	89.05	931.1	-2.5	21.4	8.9	0.36	
957.0	5.32	89.33	956.0	-2.5	23.7	9.6	0.13	
982.0	5.39	88.73	980.9	-2.4	26.0	10.3	0.36	
1,007.0	5.51	88.94	1,005.8	-2.4	28.4	11.0	0.49	
1,032.0	5.48	89.63	1,030.7	-2.4	30.8	11.7	0.29	
1,057.0	5.53	88.35	1,055.6	-2.3	33.2	12.4	0.53	
1,082.0	5.54	89.63	1,080.4	-2.3	35.6	13.0	0.50	
1,107.0	4.50	89.24	1,105.3	-2.3	37.8	13.7	4.16	
1,132.0	3.16	88.38	1,130.3	-2.2	39.5	14.2	5.36	
1,157.0	2.81	86.67	1,155.3	-2.2	40.8	14.5	1.44	
1,182.0	2.75	87.07	1,180.2	-2.1	42.0	14.8	0.25	
1,207.0	2.36	88.53	1,205.2	-2.1	43.1	15.1	1.58	
1,232.0	2.07	89.90	1,230.2	-2.0	44.1	15.4	1.18	
1,257.0	2.01	89.55	1,255.2	-2.0	44.9	15.7	0.25	
1,282.0	1.63	89.50	1,280.2	-2.0	45.7	15.9	1.52	
1,307.0	1.56	89.14	1,305.1	-2.0	46.4	16.1	0.28	
1,332.0	1.55	91.01	1,330.1	-2.0	47.1	16.3	0.21	
1,357.0	1.36	88.07	1,355.1	-2.0	47.8	16.5	0.82	



17-06378

EOW Completion Report



Company:	Antero	Local Co-ordinate Reference:	Well McClain Unit 1H
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Site:	Hughes Pad:Belton/Carole/Earlewine/Gully/Hugh	MD Reference:	Precision 523: GL 1331' + KB 19' @ 1350.0usft
Well:	McClain Unit 1H	North Reference:	Grid
Wellbore:	Original Wellpath	Survey Calculation Method:	Minimum Curvature
Design:	As Drilled	Database:	Oklahoma District

Survey

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)
1,382.0	0.99	84.10	1,380.1	-2.0	48.3	16.6	1.51
1,407.0	0.90	87.32	1,405.1	-2.0	48.7	16.7	0.42
1,432.0	0.70	83.03	1,430.1	-1.9	49.0	16.8	0.83
1,457.0	0.45	82.86	1,455.1	-1.9	49.3	16.9	1.00
1,482.0	0.38	70.75	1,480.1	-1.9	49.4	16.9	0.45
1,507.0	0.42	58.70	1,505.1	-1.8	49.6	16.9	0.37
1,532.0	0.39	79.86	1,530.1	-1.7	49.8	16.8	0.61
1,557.0	0.35	61.02	1,555.1	-1.7	49.9	16.8	0.51
1,582.0	0.33	42.94	1,580.1	-1.6	50.0	16.8	0.43
1,607.0	0.33	39.59	1,605.1	-1.5	50.1	16.7	0.08
1,632.0	0.21	57.06	1,630.1	-1.4	50.2	16.7	0.58
1,657.0	0.25	43.32	1,655.1	-1.3	50.3	16.6	0.27
1,682.0	0.24	53.33	1,680.1	-1.3	50.4	16.6	0.18
1,707.0	0.28	56.81	1,705.1	-1.2	50.5	16.6	0.17
1,732.0	0.30	60.29	1,730.1	-1.1	50.6	16.5	0.11
1,757.0	0.40	70.31	1,755.1	-1.1	50.7	16.5	0.47
1,782.0	0.26	64.80	1,780.1	-1.0	50.8	16.5	0.57
1,807.0	0.13	51.77	1,805.1	-1.0	50.9	16.5	0.55
1,832.0	0.08	50.91	1,830.1	-0.9	50.9	16.5	0.20
1,857.0	0.10	66.41	1,855.1	-0.9	51.0	16.5	0.13
1,882.0	0.01	305.81	1,880.1	-0.9	51.0	16.5	0.42
1,907.0	0.03	12.28	1,905.1	-0.9	51.0	16.4	0.11
1,932.0	0.08	354.57	1,930.1	-0.9	51.0	16.4	0.21
1,957.0	0.07	120.30	1,955.1	-0.9	51.0	16.4	0.53
1,982.0	0.04	43.88	1,980.1	-0.9	51.0	16.4	0.29
2,007.0	0.08	46.65	2,005.1	-0.8	51.0	16.4	0.16
2,032.0	0.16	269.22	2,030.1	-0.8	51.0	16.4	0.90
2,057.0	0.08	283.35	2,055.1	-0.8	51.0	16.4	0.34
2,082.0	0.07	120.64	2,080.1	-0.8	51.0	16.4	0.59
2,107.0	0.14	339.07	2,105.1	-0.8	51.0	16.4	0.80
2,132.0	0.05	277.44	2,130.1	-0.8	51.0	16.3	0.50
2,157.0	0.10	295.88	2,155.1	-0.8	50.9	16.3	0.22
2,182.0	0.05	175.83	2,180.1	-0.8	50.9	16.3	0.53
2,207.0	0.15	193.19	2,205.1	-0.8	50.9	16.3	0.41
2,232.0	0.04	284.05	2,230.1	-0.8	50.9	16.4	0.62
2,257.0	0.10	95.20	2,255.1	-0.8	50.9	16.4	0.56
2,282.0	0.08	275.25	2,280.1	-0.8	50.9	16.4	0.72
2,307.0	0.16	295.17	2,305.1	-0.8	50.8	16.3	0.36
2,332.0	0.14	235.46	2,330.1	-0.8	50.8	16.3	0.60
2,357.0	0.19	214.99	2,355.1	-0.9	50.7	16.4	0.31
2,382.0	0.30	224.22	2,380.1	-1.0	50.7	16.4	0.47
2,407.0	0.14	244.07	2,405.1	-1.0	50.6	16.4	0.70
2,432.0	0.17	288.90	2,430.1	-1.0	50.5	16.4	0.49
2,457.0	0.23	267.13	2,455.1	-1.0	50.5	16.4	0.38
2,482.0	0.34	208.15	2,480.1	-1.1	50.4	16.4	1.19



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EOW Completion Report



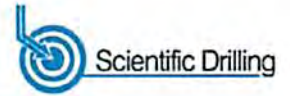
Company: Antero	Local Co-ordinate Reference: Well McClain Unit 1H
Project: Doddridge County WV	TVD Reference: Precision 523: GL 1331' + KB 19' @ 1350.0usft
Site: Hughes Pad:Belton/Carole/Earlewine/Gully/Hugh	MD Reference: Precision 523: GL 1331' + KB 19' @ 1350.0usft
Well: McClain Unit 1H	North Reference: Grid
Wellbore: Original Wellpath	Survey Calculation Method: Minimum Curvature
Design: As Drilled	Database: Oklahoma District

Survey								
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)	
2,507.0	0.50	214.54	2,505.1	-1.2	50.3	16.6	0.67	
2,532.0	0.30	217.43	2,530.1	-1.4	50.2	16.7	0.80	
2,557.0	0.26	216.16	2,555.1	-1.5	50.1	16.7	0.16	
2,582.0	0.30	227.77	2,580.1	-1.6	50.0	16.8	0.28	
2,607.0	0.28	226.99	2,605.1	-1.7	49.9	16.8	0.08	
2,632.0	0.33	229.27	2,630.1	-1.7	49.8	16.9	0.21	
2,657.0	0.33	215.14	2,655.1	-1.9	49.7	17.0	0.32	
2,682.0	0.38	224.18	2,680.1	-2.0	49.6	17.0	0.30	
2,707.0	0.37	230.55	2,705.1	-2.1	49.5	17.1	0.17	
2,732.0	0.35	222.07	2,730.1	-2.2	49.4	17.2	0.23	
2,757.0	0.39	234.26	2,755.1	-2.3	49.3	17.2	0.35	
2,782.0	0.38	230.26	2,780.1	-2.4	49.1	17.3	0.11	
2,807.0	0.37	235.75	2,805.1	-2.5	49.0	17.4	0.15	
2,832.0	0.39	231.99	2,830.1	-2.6	48.9	17.4	0.13	
2,857.0	0.45	238.98	2,855.1	-2.7	48.7	17.5	0.32	
2,882.0	0.46	226.68	2,880.1	-2.8	48.6	17.5	0.39	
2,907.0	0.38	237.42	2,905.1	-2.9	48.4	17.6	0.45	
2,932.0	0.44	227.79	2,930.1	-3.0	48.3	17.7	0.36	
2,957.0	0.42	229.21	2,955.1	-3.2	48.1	17.7	0.09	
2,982.0	0.40	229.90	2,980.1	-3.3	48.0	17.8	0.08	
3,007.0	0.40	227.23	3,005.1	-3.4	47.9	17.9	0.07	
3,032.0	0.42	230.90	3,030.1	-3.5	47.7	17.9	0.13	
3,057.0	0.42	223.44	3,055.1	-3.6	47.6	18.0	0.22	
3,082.0	0.40	228.25	3,080.1	-3.8	47.5	18.1	0.16	
3,107.0	0.41	218.27	3,105.1	-3.9	47.4	18.2	0.28	
3,132.0	0.45	226.17	3,130.1	-4.0	47.2	18.3	0.29	
3,157.0	0.44	229.85	3,155.1	-4.2	47.1	18.4	0.12	
3,182.0	0.47	217.34	3,180.1	-4.3	47.0	18.4	0.41	
3,207.0	0.50	221.38	3,205.1	-4.5	46.8	18.6	0.18	
3,232.0	0.53	215.90	3,230.1	-4.6	46.7	18.7	0.23	
3,257.0	0.49	221.93	3,255.1	-4.8	46.5	18.8	0.27	
3,282.0	0.48	235.37	3,280.1	-5.0	46.4	18.9	0.46	
3,307.0	0.46	231.77	3,305.1	-5.1	46.2	19.0	0.14	
3,332.0	0.52	236.33	3,330.1	-5.2	46.0	19.0	0.29	
3,357.0	0.41	241.64	3,355.1	-5.3	45.9	19.1	0.47	
3,382.0	0.36	247.77	3,380.1	-5.4	45.7	19.1	0.26	
3,407.0	0.39	255.68	3,405.1	-5.4	45.6	19.1	0.24	
3,432.0	0.36	245.39	3,430.1	-5.5	45.4	19.1	0.29	
3,457.0	0.33	245.23	3,455.1	-5.5	45.3	19.1	0.12	
3,482.0	0.27	243.96	3,480.1	-5.6	45.2	19.1	0.24	
3,507.0	0.32	249.83	3,505.1	-5.7	45.0	19.1	0.23	
3,532.0	0.30	232.43	3,530.1	-5.7	44.9	19.2	0.38	
3,557.0	0.34	246.69	3,555.1	-5.8	44.8	19.2	0.36	
3,582.0	0.35	241.06	3,580.1	-5.9	44.7	19.2	0.14	



17-06378

EOW Completion Report



Company:	Antero	Local Co-ordinate Reference:	Well McClain Unit 1H
Project:	Doddridge County WV	TVD Reference:	Precision 523: GL 1331' + KB 19' @ 1350.0usft
Site:	Hughes Pad:Belton/Carole/Earlewine/Gully/Hugh	MD Reference:	Precision 523: GL 1331' + KB 19' @ 1350.0usft
Well:	McClain Unit 1H	North Reference:	Grid
Wellbore:	Original Wellpath	Survey Calculation Method:	Minimum Curvature
Design:	As Drilled	Database:	Oklahoma District

Survey

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)
3,607.0	0.33	250.51	3,605.1	-5.9	44.5	19.2	0.24
3,632.0	0.34	250.72	3,630.1	-6.0	44.4	19.2	0.04
3,657.0	0.34	247.52	3,655.1	-6.0	44.3	19.3	0.08
3,682.0	0.31	242.20	3,680.1	-6.1	44.1	19.3	0.17
3,707.0	0.32	238.15	3,705.1	-6.1	44.0	19.3	0.10
3,732.0	0.38	262.16	3,730.1	-6.2	43.9	19.3	0.63
3,757.0	0.30	243.89	3,755.1	-6.2	43.7	19.3	0.54
3,782.0	0.33	249.10	3,780.1	-6.3	43.6	19.3	0.17
3,807.0	0.35	247.55	3,805.1	-6.3	43.5	19.3	0.09
3,832.0	0.29	245.95	3,830.1	-6.4	43.3	19.3	0.24
3,857.0	0.34	255.59	3,855.1	-6.4	43.2	19.3	0.29
3,882.0	0.40	248.14	3,880.1	-6.5	43.0	19.3	0.31
3,907.0	0.35	250.99	3,905.1	-6.5	42.9	19.3	0.21
3,932.0	0.41	243.91	3,930.1	-6.6	42.7	19.4	0.30
3,957.0	0.39	239.14	3,955.1	-6.7	42.6	19.4	0.16
3,982.0	0.45	254.38	3,980.1	-6.8	42.4	19.4	0.51
4,007.0	0.48	253.69	4,005.1	-6.8	42.2	19.4	0.12
4,032.0	0.45	259.74	4,030.1	-6.9	42.0	19.4	0.23
4,057.0	0.47	261.70	4,055.1	-6.9	41.8	19.4	0.10
4,082.0	0.40	257.32	4,080.1	-6.9	41.6	19.3	0.31
4,107.0	0.45	256.08	4,105.1	-7.0	41.5	19.3	0.20
4,132.0	0.50	262.63	4,130.1	-7.0	41.3	19.3	0.29
4,157.0	0.43	260.94	4,155.1	-7.0	41.1	19.3	0.29
4,182.0	0.50	266.70	4,180.1	-7.1	40.9	19.2	0.34
4,207.0	0.47	263.60	4,205.1	-7.1	40.6	19.2	0.16
4,232.0	0.51	262.50	4,230.1	-7.1	40.4	19.1	0.16
4,257.0	0.44	263.00	4,255.1	-7.1	40.2	19.1	0.28
4,282.0	0.49	266.55	4,280.1	-7.2	40.0	19.0	0.23
4,307.0	0.41	262.51	4,305.1	-7.2	39.8	19.0	0.34
4,332.0	0.45	258.12	4,330.1	-7.2	39.6	19.0	0.21
4,357.0	0.40	255.80	4,355.1	-7.2	39.5	19.0	0.21
4,382.0	0.46	260.13	4,380.1	-7.3	39.3	18.9	0.27
4,407.0	0.47	256.00	4,405.1	-7.3	39.1	18.9	0.14
4,432.0	0.42	249.49	4,430.1	-7.4	38.9	18.9	0.28
4,457.0	0.46	271.42	4,455.1	-7.4	38.7	18.9	0.69
4,482.0	0.38	258.55	4,480.1	-7.4	38.5	18.8	0.49
4,507.0	0.50	266.65	4,505.1	-7.4	38.3	18.8	0.54
4,532.0	0.41	269.78	4,530.1	-7.5	38.1	18.8	0.37
4,557.0	0.42	274.25	4,555.1	-7.4	38.0	18.7	0.14
4,582.0	0.39	279.54	4,580.1	-7.4	37.8	18.6	0.19
4,607.0	0.42	276.53	4,605.1	-7.4	37.6	18.5	0.15
4,632.0	0.28	290.99	4,630.1	-7.4	37.5	18.5	0.66
4,657.0	0.33	283.78	4,655.1	-7.3	37.3	18.4	0.25
4,682.0	0.34	272.15	4,680.1	-7.3	37.2	18.3	0.27



17-06378

EOW Completion Report



Company:	Antero	Local Co-ordinate Reference:	Well McClain Unit 1H
Project:	Doddridge County WV	TVD Reference:	Precision 523: GL 1331' + KB 19' @ 1350.0usft
Site:	Hughes Pad:Belton/Carole/Earlewine/Gully/Hugh	MD Reference:	Precision 523: GL 1331' + KB 19' @ 1350.0usft
Well:	McClain Unit 1H	North Reference:	Grid
Wellbore:	Original Wellpath	Survey Calculation Method:	Minimum Curvature
Design:	As Drilled	Database:	Oklahoma District

Survey								
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)	
4,707.0	0.36	286.09	4,705.1	-7.3	37.0	18.3	0.35	
4,732.0	0.36	292.51	4,730.0	-7.2	36.9	18.2	0.16	
4,757.0	0.32	284.89	4,755.0	-7.2	36.8	18.1	0.24	
4,782.0	0.29	285.80	4,780.0	-7.1	36.6	18.0	0.12	
4,807.0	0.33	287.90	4,805.0	-7.1	36.5	17.9	0.17	
4,832.0	0.27	278.80	4,830.0	-7.1	36.4	17.9	0.31	
4,857.0	0.25	283.80	4,855.0	-7.1	36.3	17.8	0.12	
4,882.0	0.29	283.89	4,880.0	-7.0	36.1	17.7	0.16	
4,907.0	0.33	276.14	4,905.0	-7.0	36.0	17.7	0.23	
4,932.0	0.28	282.85	4,930.0	-7.0	35.9	17.6	0.25	
4,957.0	0.26	272.06	4,955.0	-7.0	35.8	17.6	0.22	
4,982.0	0.30	280.03	4,980.0	-7.0	35.6	17.5	0.22	
5,007.0	0.56	303.51	5,005.0	-6.9	35.5	17.4	1.24	
5,032.0	0.33	306.41	5,030.0	-6.8	35.3	17.2	0.92	
5,057.0	0.20	306.92	5,055.0	-6.7	35.2	17.1	0.52	
5,082.0	0.28	328.52	5,080.0	-6.6	35.2	17.1	0.48	
5,107.0	0.36	345.93	5,105.0	-6.5	35.1	16.9	0.50	
5,132.0	0.28	351.47	5,130.0	-6.4	35.1	16.8	0.34	
5,157.0	0.42	339.84	5,155.0	-6.2	35.0	16.6	0.63	
5,182.0	0.52	340.49	5,180.0	-6.0	35.0	16.4	0.40	
5,207.0	0.51	343.18	5,205.0	-5.8	34.9	16.2	0.10	
5,232.0	0.47	351.25	5,230.0	-5.6	34.9	16.0	0.32	
5,257.0	0.58	342.31	5,255.0	-5.4	34.8	15.8	0.55	
5,282.0	0.53	347.14	5,280.0	-5.1	34.7	15.5	0.27	
5,307.0	0.59	340.94	5,305.0	-4.9	34.7	15.3	0.34	
5,332.0	0.59	345.30	5,330.0	-4.7	34.6	15.0	0.18	
5,357.0	0.57	338.06	5,355.0	-4.4	34.5	14.8	0.30	
5,382.0	0.49	347.35	5,380.0	-4.2	34.4	14.5	0.47	
5,407.0	0.55	345.96	5,405.0	-4.0	34.4	14.3	0.25	
5,432.0	0.57	338.76	5,430.0	-3.7	34.3	14.1	0.29	
5,457.0	0.67	340.44	5,455.0	-3.5	34.2	13.8	0.41	
5,482.0	0.50	346.38	5,480.0	-3.2	34.1	13.5	0.72	
5,507.0	0.58	336.17	5,505.0	-3.0	34.1	13.3	0.50	
5,532.0	0.56	337.44	5,530.0	-2.8	34.0	13.0	0.09	
5,557.0	0.67	341.06	5,555.0	-2.5	33.9	12.8	0.47	
5,582.0	0.61	336.61	5,580.0	-2.3	33.8	12.5	0.31	
5,607.0	0.68	336.11	5,605.0	-2.0	33.7	12.2	0.28	
5,632.0	0.72	337.91	5,630.0	-1.7	33.5	11.9	0.18	
5,657.0	0.81	334.17	5,655.0	-1.4	33.4	11.6	0.41	
5,682.0	0.82	333.37	5,680.0	-1.1	33.3	11.2	0.06	
5,707.0	0.81	336.39	5,705.0	-0.8	33.1	10.9	0.18	
5,732.0	0.85	334.48	5,730.0	-0.5	32.9	10.5	0.19	
5,757.0	0.83	336.61	5,755.0	-0.1	32.8	10.2	0.15	
5,782.0	0.83	336.07	5,780.0	0.2	32.7	9.8	0.03	



17-06378

EOW Completion Report



Company:	Antero	Local Co-ordinate Reference:	Well McClain Unit 1H
Project:	Doddridge County WV	TVD Reference:	Precision 523: GL 1331' + KB 19' @ 1350.0usft
Site:	Hughes Pad:Belton/Carole/Earlewine/Gully/Hugh	MD Reference:	Precision 523: GL 1331' + KB 19' @ 1350.0usft
Well:	McClain Unit 1H	North Reference:	Grid
Wellbore:	Original Wellpath	Survey Calculation Method:	Minimum Curvature
Design:	As Drilled	Database:	Oklahoma District

Survey								
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)	
5,807.0	0.93	340.31	5,805.0	0.5	32.5	9.4	0.48	
5,832.0	0.80	345.88	5,830.0	0.9	32.4	9.0	0.62	
5,857.0	0.85	351.75	5,855.0	1.3	32.3	8.7	0.39	
5,882.0	0.91	352.12	5,880.0	1.6	32.3	8.3	0.24	
5,907.0	0.87	354.43	5,905.0	2.0	32.2	7.9	0.21	
5,932.0	0.82	354.12	5,930.0	2.4	32.2	7.6	0.20	
5,957.0	0.95	352.97	5,955.0	2.8	32.2	7.2	0.52	
5,982.0	0.98	351.31	5,980.0	3.2	32.1	6.8	0.16	
6,007.0	0.99	352.55	6,005.0	3.6	32.0	6.3	0.09	
6,032.0	1.18	349.49	6,030.0	4.1	32.0	5.9	0.79	
6,057.0	1.12	350.59	6,055.0	4.6	31.9	5.4	0.26	
6,082.0	1.21	349.03	6,080.0	5.1	31.8	4.9	0.38	
6,107.0	1.23	355.31	6,105.0	5.6	31.7	4.4	0.54	
6,132.0	1.18	357.75	6,130.0	6.1	31.7	3.8	0.29	
6,157.0	1.13	2.18	6,154.9	6.6	31.7	3.4	0.41	
6,182.0	1.04	2.28	6,179.9	7.1	31.7	2.9	0.36	
6,207.0	1.13	8.96	6,204.9	7.6	31.7	2.5	0.62	
6,232.0	1.09	13.07	6,229.9	8.1	31.8	2.1	0.36	
6,257.0	0.99	11.08	6,254.9	8.5	31.9	1.7	0.43	
6,282.0	1.00	9.70	6,279.9	8.9	32.0	1.3	0.10	
6,307.0	0.77	14.19	6,304.9	9.3	32.1	0.9	0.96	
6,332.0	0.74	19.30	6,329.9	9.6	32.2	0.7	0.29	
6,357.0	0.82	33.77	6,354.9	9.9	32.3	0.4	0.85	
6,382.0	0.82	18.47	6,379.9	10.2	32.5	0.2	0.87	
6,407.0	0.72	43.99	6,404.9	10.5	32.7	0.0	1.42	
6,432.0	0.66	47.22	6,429.9	10.7	32.9	-0.2	0.29	
6,457.0	0.81	45.63	6,454.9	11.0	33.1	-0.3	0.61	
6,482.0	0.97	23.23	6,479.9	11.3	33.3	-0.5	1.52	
6,482.7	0.98	22.72	6,480.6	11.3	33.3	-0.6	1.98	
6,493.0	0.69	67.05	6,490.9	11.4	33.4	-0.6	6.63	
6,583.0	0.41	29.46	6,580.9	11.9	34.1	-0.9	0.49	
6,614.0	0.38	58.43	6,611.9	12.0	34.2	-1.0	0.64	
6,644.0	2.27	52.40	6,641.9	12.4	34.8	-1.2	6.31	
6,673.0	5.76	54.21	6,670.8	13.6	36.4	-1.9	12.04	
6,704.0	9.52	57.18	6,701.5	15.9	39.8	-3.0	12.19	
6,734.0	12.70	62.63	6,731.0	18.8	44.8	-4.2	11.15	
6,763.0	15.16	66.75	6,759.1	21.8	51.1	-5.1	9.14	
6,794.0	18.39	67.33	6,788.8	25.3	59.4	-5.9	10.43	
6,824.0	21.70	68.63	6,817.0	29.1	68.9	-6.6	11.13	
6,852.0	25.40	70.97	6,842.6	32.9	79.4	-7.1	13.63	
6,883.0	28.83	71.87	6,870.2	37.4	92.8	-7.3	11.14	
6,887.0	29.26	71.83	6,873.7	38.0	94.7	-7.3	10.88	
Sycamore 6,913.0	32.09	71.57	6,896.1	42.2	107.3	-7.4	10.88	

17-06378



EOW Completion Report



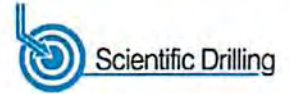
Company:	Antero	Local Co-ordinate Reference:	Well McClain Unit 1H
Project:	Doddridge County WV	TVD Reference:	Precision 523: GL 1331' + KB 19' @ 1350.0usft
Site:	Hughes Pad:Belton/Carole/Earlewine/Gully/Hugh	MD Reference:	Precision 523: GL 1331' + KB 19' @ 1350.0usft
Well:	McClain Unit 1H	North Reference:	Grid
Wellbore:	Original Wellpath	Survey Calculation Method:	Minimum Curvature
Design:	As Drilled	Database:	Oklahoma District

Survey								
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)	
6,942.0	34.98	71.24	6,920.2	47.3	122.4	-7.6	9.99	
6,973.0	35.76	71.98	6,945.5	53.0	139.5	-7.8	2.87	
7,003.0	35.48	77.63	6,969.9	57.6	156.3	-7.0	11.01	
7,031.0	35.30	84.98	6,992.8	60.0	172.3	-4.5	15.21	
7,062.0	35.95	91.50	7,018.0	60.6	190.3	0.5	12.42	
7,088.0	36.94	95.99	7,038.9	59.5	205.7	6.2	10.94	
Middlesex								
7,092.0	37.11	96.66	7,042.1	59.3	208.1	7.2	10.94	
7,121.0	38.50	99.28	7,065.0	56.8	225.7	14.9	7.32	
7,152.0	40.28	100.95	7,088.9	53.3	245.1	24.1	6.68	
7,182.0	42.17	105.50	7,111.5	48.8	264.3	34.3	11.81	
7,211.0	43.43	110.00	7,132.8	42.8	283.1	45.8	11.40	
7,242.0	44.46	115.63	7,155.1	34.5	302.9	59.8	13.03	
7,272.0	46.22	120.53	7,176.2	24.4	321.7	75.1	13.01	
7,300.0	47.87	123.75	7,195.3	13.5	339.0	90.8	10.27	
7,331.0	50.72	127.84	7,215.5	-0.3	358.1	109.7	13.58	
Tully								
7,361.0	54.23	129.89	7,233.8	-15.2	376.6	129.6	12.89	
7,390.0	57.39	132.49	7,250.1	-31.0	394.6	150.1	13.18	
7,421.0	60.33	135.54	7,266.1	-49.4	413.7	173.5	12.68	
7,451.0	62.23	138.22	7,280.5	-68.6	431.7	197.3	10.07	
7,479.0	63.89	141.65	7,293.2	-87.7	447.7	220.4	12.43	
7,510.0	65.96	144.94	7,306.4	-110.2	464.5	247.0	11.70	
7,540.0	68.74	147.17	7,317.9	-133.2	480.0	273.6	11.53	
7,569.0	71.78	150.47	7,327.7	-156.6	494.1	300.1	14.99	
7,600.0	74.14	152.54	7,336.8	-182.6	508.2	329.2	9.94	
7,619.0	75.67	153.94	7,341.7	-199.0	516.5	347.3	10.74	
Marcellus								
7,630.0	76.56	154.74	7,344.4	-208.6	521.1	357.9	10.74	
7,659.0	80.00	156.52	7,350.3	-234.5	532.8	386.1	13.30	
7,703.0	84.00	158.59	7,356.4	-274.7	549.4	429.5	10.21	
7,760.0	89.63	162.47	7,359.6	-328.4	568.4	486.4	11.99	
7,781.0	89.80	162.67	7,359.7	-348.4	574.7	507.4	1.25	
7,871.0	90.10	162.15	7,359.8	-434.2	601.9	597.4	0.67	
7,961.0	89.70	162.20	7,359.9	-519.9	629.4	687.4	0.45	
8,050.0	89.83	161.36	7,360.3	-604.4	657.3	776.4	0.96	
8,140.0	90.00	163.87	7,360.4	-690.3	684.2	866.4	2.80	
8,229.0	88.86	162.27	7,361.3	-775.4	710.1	955.4	2.21	
8,319.0	90.27	161.88	7,362.0	-861.0	737.8	1,045.4	1.63	
8,408.0	90.87	162.60	7,361.1	-945.8	764.9	1,134.4	1.05	
8,498.0	91.34	163.50	7,359.4	-1,031.9	791.1	1,224.3	1.13	
8,588.0	90.94	163.58	7,357.6	-1,118.2	816.6	1,314.3	0.45	
8,677.0	89.77	161.98	7,357.0	-1,203.2	843.0	1,403.3	2.23	
8,767.0	90.74	161.81	7,356.6	-1,288.7	871.0	1,493.3	1.09	
8,856.0	88.83	158.98	7,356.9	-1,372.5	900.8	1,582.2	3.84	



17-06378

EOW Completion Report



Company: Antero	Local Co-ordinate Reference: Well McClain Unit 1H
Project: Doddridge County WV	TVD Reference: Precision 523: GL 1331' + KB 19' @ 1350.0usft
Site: Hughes Pad:Belton/Carole/Earlewine/Gully/Hugh	MD Reference: Precision 523: GL 1331' + KB 19' @ 1350.0usft
Well: McClain Unit 1H	North Reference: Grid
Wellbore: Original Wellpath	Survey Calculation Method: Minimum Curvature
Design: As Drilled	Database: Oklahoma District

Survey							
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)
8,946.0	90.57	159.19	7,357.4	-1,456.6	932.9	1,672.1	1.95
9,035.0	90.97	162.13	7,356.2	-1,540.6	962.4	1,761.0	3.33
9,130.0	89.50	161.80	7,355.8	-1,630.9	991.8	1,856.0	1.59
9,225.0	90.27	162.38	7,356.0	-1,721.3	1,021.0	1,951.0	1.01
9,320.0	89.77	164.20	7,356.0	-1,812.3	1,048.3	2,046.0	1.99
9,415.0	90.40	164.07	7,355.8	-1,903.7	1,074.3	2,140.9	0.68
9,509.0	90.17	163.41	7,355.4	-1,993.9	1,100.6	2,234.9	0.74
9,604.0	90.40	163.35	7,354.9	-2,084.9	1,127.8	2,329.9	0.25
9,699.0	89.83	162.59	7,354.7	-2,175.8	1,155.6	2,424.9	1.00
9,794.0	90.20	163.21	7,354.7	-2,266.6	1,183.6	2,519.9	0.76
9,889.0	89.93	162.05	7,354.6	-2,357.2	1,211.9	2,614.9	1.25
9,983.0	90.13	161.50	7,354.5	-2,446.5	1,241.3	2,708.9	0.62
10,078.0	90.50	161.29	7,354.0	-2,536.5	1,271.6	2,803.8	0.45
10,171.0	89.60	162.15	7,353.9	-2,624.8	1,300.8	2,896.8	1.34
10,261.0	89.73	162.70	7,354.5	-2,710.6	1,328.0	2,986.8	0.63
10,350.0	90.40	163.16	7,354.4	-2,795.7	1,354.1	3,075.8	0.91
10,440.0	90.34	162.01	7,353.8	-2,881.6	1,381.0	3,165.8	1.28
10,530.0	90.54	160.69	7,353.1	-2,966.9	1,409.8	3,255.8	1.48
10,619.0	90.57	162.13	7,352.2	-3,051.2	1,438.2	3,344.8	1.62
10,709.0	90.87	162.72	7,351.1	-3,137.0	1,465.4	3,434.8	0.74
10,799.0	91.31	161.67	7,349.4	-3,222.7	1,492.9	3,524.8	1.26
10,888.0	89.87	161.77	7,348.5	-3,307.2	1,520.8	3,613.8	1.62
10,978.0	90.34	162.11	7,348.3	-3,392.7	1,548.7	3,703.8	0.64
11,068.0	90.40	161.47	7,347.7	-3,478.2	1,576.8	3,793.8	0.71
11,158.0	89.50	162.05	7,347.8	-3,563.7	1,605.0	3,883.8	1.19
11,247.0	89.90	162.36	7,348.3	-3,648.5	1,632.2	3,972.7	0.57
11,336.0	90.34	162.87	7,348.1	-3,733.4	1,658.8	4,061.7	0.76
11,426.0	89.30	162.41	7,348.4	-3,819.3	1,685.6	4,151.7	1.26
11,515.0	89.16	162.19	7,349.6	-3,904.1	1,712.7	4,240.7	0.29
11,604.0	90.13	161.73	7,350.1	-3,988.7	1,740.2	4,329.7	1.21
11,694.0	90.57	161.43	7,349.6	-4,074.1	1,768.7	4,419.7	0.59
11,783.0	90.71	161.91	7,348.6	-4,158.6	1,796.7	4,508.7	0.56
11,873.0	90.60	162.22	7,347.5	-4,244.2	1,824.4	4,598.7	0.37
11,963.0	90.57	163.31	7,346.6	-4,330.1	1,851.0	4,688.7	1.21
12,052.0	89.77	163.25	7,346.4	-4,415.4	1,876.6	4,777.7	0.90
12,142.0	90.20	162.93	7,346.4	-4,501.5	1,902.8	4,867.7	0.60
12,231.0	90.71	162.34	7,345.7	-4,586.4	1,929.4	4,956.7	0.88
12,321.0	90.13	162.20	7,345.0	-4,672.1	1,956.8	5,046.7	0.66
12,410.0	90.64	162.10	7,344.4	-4,756.8	1,984.1	5,135.7	0.58
12,500.0	90.10	161.56	7,343.8	-4,842.4	2,012.1	5,225.7	0.85
12,590.0	90.07	161.96	7,343.7	-4,927.8	2,040.3	5,315.6	0.45
12,679.0	89.06	161.80	7,344.4	-5,012.4	2,068.0	5,404.6	1.15
12,769.0	88.46	162.33	7,346.3	-5,098.0	2,095.7	5,494.6	0.89
12,858.0	89.73	161.21	7,347.7	-5,182.5	2,123.5	5,583.6	1.90



17-06378

EOW Completion Report



Company: Antero	Local Co-ordinate Reference: Well McClain Unit 1H
Project: Doddridge County WV	TVD Reference: Precision 523: GL 1331' + KB 19' @ 1350.0usft
Site: Hughes Pad:Elton/Carole/Earlewine/Gully/Hugh	MD Reference: Precision 523: GL 1331' + KB 19' @ 1350.0usft
Well: McClain Unit 1H	North Reference: Grid
Wellbore: Original Wellpath	Survey Calculation Method: Minimum Curvature
Design: As Drilled	Database: Oklahoma District

Survey

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)
12,948.0	90.13	160.97	7,347.8	-5,267.7	2,152.7	5,673.6	0.52
13,038.0	89.93	161.50	7,347.8	-5,352.9	2,181.7	5,763.6	0.63
13,127.0	90.17	163.52	7,347.7	-5,437.8	2,208.4	5,852.6	2.29
13,217.0	90.64	163.47	7,347.1	-5,524.1	2,234.0	5,942.5	0.53
13,306.0	90.10	161.36	7,346.5	-5,608.9	2,260.9	6,031.5	2.45
13,396.0	89.77	160.53	7,346.6	-5,694.0	2,290.2	6,121.5	0.99
13,485.0	89.70	161.30	7,347.0	-5,778.1	2,319.3	6,210.5	0.87
13,575.0	90.23	162.22	7,347.1	-5,863.6	2,347.5	6,300.5	1.18
13,664.0	91.04	163.49	7,346.1	-5,948.6	2,373.7	6,389.5	1.69
13,754.0	90.50	162.48	7,344.9	-6,034.6	2,400.1	6,479.5	1.27
13,844.0	90.70	162.42	7,343.9	-6,120.4	2,427.2	6,569.4	0.23
13,933.0	90.30	162.62	7,343.2	-6,205.3	2,453.9	6,658.4	0.50
14,023.0	89.77	161.90	7,343.1	-6,291.1	2,481.4	6,748.4	0.99
14,112.0	90.67	162.17	7,342.8	-6,375.7	2,508.8	6,837.4	1.06
14,202.0	91.24	162.15	7,341.3	-6,461.4	2,536.4	6,927.4	0.63
14,291.0	90.34	163.01	7,340.0	-6,546.3	2,563.0	7,016.4	1.40
14,381.0	89.70	162.56	7,340.0	-6,632.3	2,589.7	7,106.4	0.87
14,471.0	90.13	162.11	7,340.1	-6,718.0	2,617.0	7,196.4	0.69
14,560.0	90.30	162.55	7,339.8	-6,802.8	2,644.0	7,285.4	0.53
14,650.0	89.60	161.90	7,339.9	-6,888.5	2,671.5	7,375.4	1.06
14,739.0	89.40	161.83	7,340.7	-6,973.1	2,699.2	7,464.4	0.24
14,829.0	89.53	161.16	7,341.5	-7,058.4	2,727.7	7,554.4	0.76
14,918.0	89.73	162.06	7,342.1	-7,142.9	2,755.8	7,643.4	1.04
15,008.0	90.00	162.19	7,342.3	-7,228.5	2,783.4	7,733.4	0.33
15,097.0	90.30	163.50	7,342.0	-7,313.6	2,809.7	7,822.4	1.51
15,187.0	90.10	162.09	7,341.7	-7,399.5	2,836.3	7,912.4	1.58
15,276.0	90.40	161.95	7,341.3	-7,484.2	2,863.8	8,001.4	0.37
15,366.0	89.33	162.34	7,341.6	-7,569.9	2,891.4	8,091.4	1.27
15,456.0	89.40	162.04	7,342.6	-7,655.5	2,918.9	8,181.4	0.34
15,545.0	90.03	160.94	7,343.0	-7,739.9	2,947.1	8,270.3	1.42
15,563.0	90.34	160.23	7,342.9	-7,756.9	2,953.1	8,288.3	4.30
15,619.0	90.55	160.00	7,342.5	-7,809.6	2,972.2	8,344.3	0.56

Design Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
6,887.0	6,873.7	38.0	94.7	Sycamore
7,088.0	7,038.9	59.5	205.7	Middlesex
7,331.0	7,215.5	-0.3	358.1	Tully
7,619.0	7,341.7	-199.0	516.5	Marcellus

Checked By: _____ Approved By: _____ Date: _____