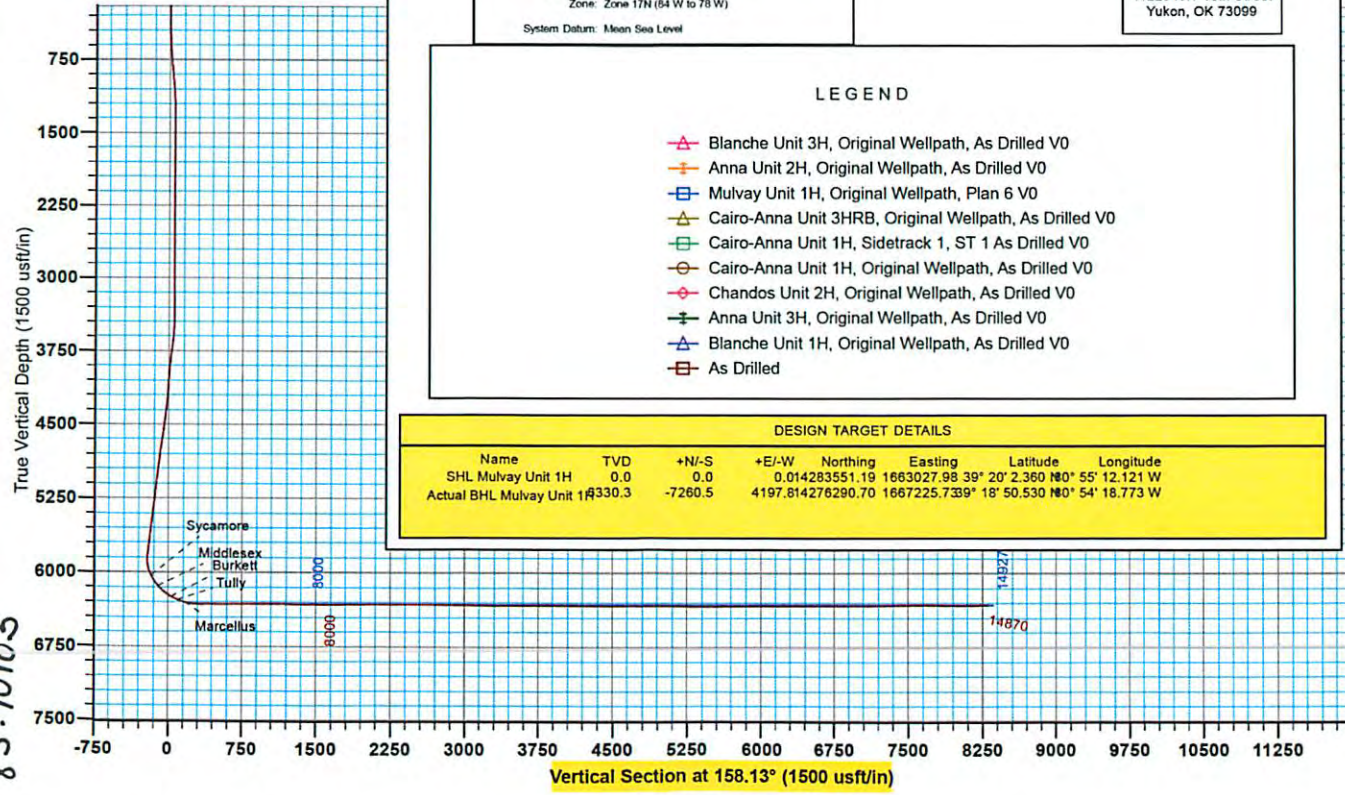


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SEP 14 2015



Antero Resources
Mulvey Unit 1H
Ritchie County WV
Northing: 14283551.19
Easting: 1663027.98
As Drilled

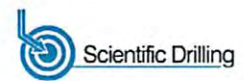


WELL DETAILS: Mulvey Unit 1H

Ground Level: 968.0		Slot	
+N/-S	+E/-W	Northing	Easting
0.0	0.0	14283551.19	1663027.98
		Latitude	Longitude
		39° 20' 2.360 N	80° 55' 12.121 W

REFERENCE INFORMATION

Coordinate (N/E) Reference: Well Mulvey Unit 1H, Grid North
 Vertical (TV) Reference: Frontier 25 CL 1667 83 24 @ 982 Duff
 Section (NS) Reference: Slot - @ DN, @ DE
 Measured Depth Reference: Frontier 25 CL 1667 83 24 @ 982 Duff
 Calculation Method: Minimum Curvature



PROJECT DETAILS: Ritchie County WV

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

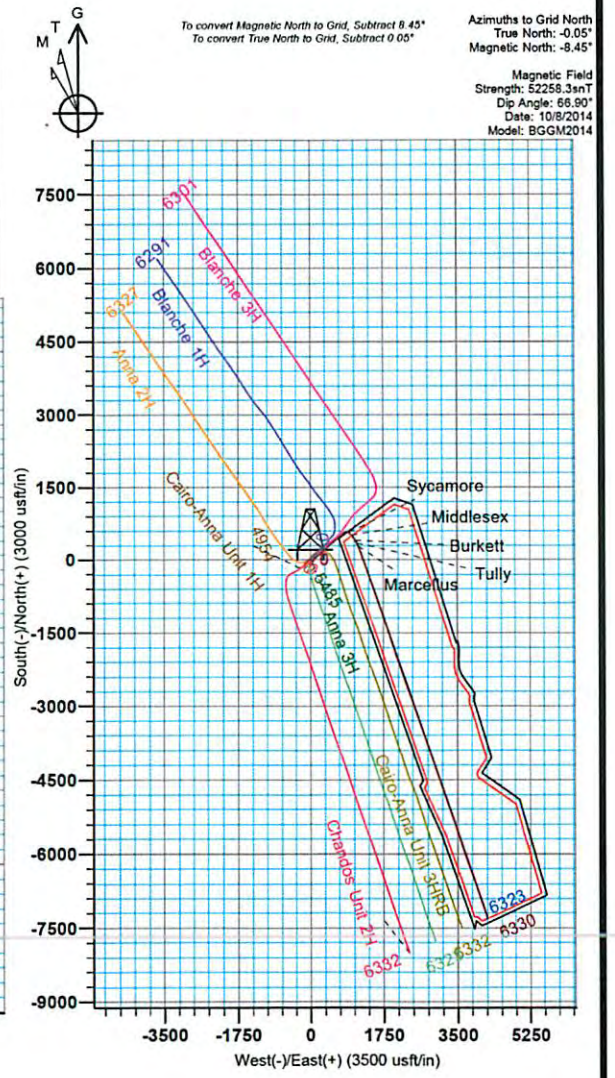
Genie Lightfoot
 1:00, December 02 2014
 Scientific Drilling Inter.
 11220 NW 10th Street
 Yukon, OK 73099

LEGEND

- ▲ Blanche Unit 3H, Original Wellpath, As Drilled V0
- + Anna Unit 2H, Original Wellpath, As Drilled V0
- Mulvey Unit 1H, Original Wellpath, Plan 6 V0
- ▲ Cairo-Anna Unit 3HRB, Original Wellpath, As Drilled V0
- Cairo-Anna Unit 1H, Sidetrack 1, ST 1 As Drilled V0
- Cairo-Anna Unit 1H, Original Wellpath, As Drilled V0
- ◆ Chandos Unit 2H, Original Wellpath, As Drilled V0
- + Anna Unit 3H, Original Wellpath, As Drilled V0
- ▲ Blanche Unit 1H, Original Wellpath, As Drilled V0
- As Drilled

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
SHL Mulvey Unit 1H	0.0	0.0	0.014283551.19	1663027.98	39° 20' 2.360 N	80° 55' 12.121 W	
Actual BHL Mulvey Unit 1H	8330.3	-7260.5	4197.814276290.70	1667225.7339° 18'	50.530 N	80° 54' 18.773 W	



85.1010.5



Antero Resources

Ritchie County WV
Eddy Pad
Mulvay Unit 1H
Original Wellpath

Design: As Drilled

EOW Completion Report

02 December, 2014

Received
Office of Oil & Gas
SEP 14 2015



10/16/2015

Company:	Antero Resources	Local Co-ordinate Reference:	Well Mulvay Unit 1H
Project:	Ritchie County WV	TVD Reference:	Frontier 25 GL 968' KB 24' @ 992.0usft
Site:	Eddy Pad	MD Reference:	Frontier 25 GL 968' KB 24' @ 992.0usft
Well:	Mulvay Unit 1H	North Reference:	Grid
Wellbore:	Original Wellpath	Survey Calculation Method:	Minimum Curvature
Design:	As Drilled	Database:	Oklahoma District

Project	Ritchie County WV, Ritchie County WV, WV North		
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	Eddy Pad				
Site Position:		Northing:	14,283,550.70usft	Latitude:	39° 20' 2.355 N
From:	Map	Easting:	1,662,998.99usft	Longitude:	80° 55' 12.490 W
Position Uncertainty:	2.0 usft	Slot Radius:	13-3/16"	Grid Convergence:	0.05 °

Well	Mulvay Unit 1H, Marcellus					
Well Position	+N/-S	0.0 usft	Northing:	14,283,551.19 usft	Latitude:	39° 20' 2.360 N
	+E/-W	0.0 usft	Easting:	1,663,027.98 usft	Longitude:	80° 55' 12.121 W
Position Uncertainty	2.0 usft		Wellhead Elevation:	992.0 usft	Ground Level:	968.0 usft

Wellbore	Original Wellpath				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	BGGM2014	10/8/2014	-8.39	66.90	52,258

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	158.13

Survey Program	Date 12/2/2014				
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
25.0	5,860.4	Survey #7 Final Gyro (Original Wellpath)	Standard Keeper 104	Standard Wireline Keeper ver 1.0.4	
5,860.5	14,870.0	Survey #8 MWD SDI (Original Wellpath)	MWD SDI	MWD - Standard ver 1.0.1	

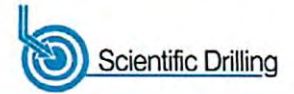
Survey									
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)		
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.0	0.00	
25.0	0.46	149.43	25.0	-0.1	0.1	0.1	0.1	1.84	
50.0	0.56	164.54	50.0	-0.3	0.1	0.3	0.3	0.67	
75.0	0.66	176.08	75.0	-0.6	0.2	0.6	0.6	0.63	
100.0	1.03	201.48	100.0	-0.9	0.1	0.9	0.9	2.07	
125.0	0.93	205.45	125.0	-1.3	-0.1	1.2	1.2	0.48	
150.0	0.78	204.99	150.0	-1.6	-0.2	1.4	1.4	0.60	
175.0	0.74	208.59	175.0	-1.9	-0.4	1.7	1.7	0.25	
200.0	0.74	206.77	200.0	-2.2	-0.5	1.9	1.9	0.09	
225.0	0.80	211.86	225.0	-2.5	-0.7	2.1	2.1	0.36	
250.0	0.88	215.90	250.0	-2.8	-0.9	2.3	2.3	0.40	

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SEP 14 2015

85.10105



EOW Completion Report



Company:	Antero Resources	Local Co-ordinate Reference:	Well Mulvay Unit 1H
Project:	Ritchie County WV	TVD Reference:	Frontier 25 GL 968' KB 24' @ 992.0usft
Site:	Eddy Pad	MD Reference:	Frontier 25 GL 968' KB 24' @ 992.0usft
Well:	Mulvay 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)	
275.0	0.69	208.31		275.0	-3.1	-1.1	2.5	0.86	
300.0	0.75	205.25		300.0	-3.4	-1.2	2.7	0.28	
325.0	0.77	201.63		325.0	-3.7	-1.3	2.9	0.21	
350.0	0.84	199.23		350.0	-4.0	-1.5	3.2	0.31	
375.0	0.71	188.68		375.0	-4.3	-1.6	3.4	0.77	
400.0	0.60	173.62		400.0	-4.6	-1.6	3.7	0.81	
425.0	0.63	174.81		425.0	-4.9	-1.5	4.0	0.13	
450.0	0.62	172.96		450.0	-5.2	-1.5	4.2	0.09	
475.0	0.94	164.30		475.0	-5.5	-1.4	4.6	1.36	
500.0	1.23	145.88		500.0	-5.9	-1.2	5.0	1.80	
525.0	2.00	140.07		524.9	-6.5	-0.8	5.7	3.14	
550.0	2.88	135.64		549.9	-7.3	-0.1	6.7	3.60	
575.0	3.22	131.14		574.9	-8.2	0.9	7.9	1.66	
600.0	3.88	124.35		599.8	-9.1	2.1	9.2	3.13	
625.0	4.36	119.75		624.8	-10.1	3.6	10.7	2.33	
650.0	4.34	121.38		649.7	-11.0	5.3	12.2	0.50	
675.0	4.94	124.08		674.6	-12.1	7.0	13.8	2.55	
700.0	5.30	126.61		699.5	-13.4	8.8	15.7	1.70	
725.0	5.45	127.37		724.4	-14.8	10.7	17.7	0.66	
750.0	5.48	125.92		749.3	-16.2	12.6	19.7	0.57	
775.0	5.57	126.79		774.2	-17.7	14.5	21.8	0.49	
800.0	5.58	127.68		799.1	-19.1	16.4	23.9	0.35	
825.0	5.53	126.11		823.9	-20.6	18.4	25.9	0.64	
850.0	5.72	125.21		848.8	-22.0	20.4	28.0	0.84	
875.0	6.12	120.35		873.7	-23.4	22.5	30.1	2.56	
900.0	6.40	122.74		898.5	-24.8	24.9	32.3	1.53	
925.0	6.31	121.42		923.4	-26.3	27.2	34.5	0.69	
950.0	6.31	122.63		948.2	-27.8	29.5	36.8	0.53	
975.0	6.24	121.66		973.1	-29.2	31.8	39.0	0.51	
1,000.0	6.35	120.98		997.9	-30.6	34.2	41.2	0.53	
1,025.0	6.55	120.68		1,022.8	-32.1	36.6	43.4	0.81	
1,050.0	5.51	116.53		1,047.6	-33.3	38.9	45.4	4.51	
1,075.0	4.75	115.38		1,072.5	-34.3	40.9	47.1	3.07	
1,100.0	4.29	111.60		1,097.5	-35.1	42.7	48.5	2.19	
1,125.0	3.80	110.65		1,122.4	-35.7	44.4	49.7	1.98	
1,150.0	2.54	101.45		1,147.4	-36.1	45.7	50.6	5.42	
1,175.0	1.98	90.39		1,172.3	-36.3	46.6	51.0	2.83	
1,200.0	1.82	84.93		1,197.3	-36.2	47.5	51.3	0.97	
1,225.0	1.79	83.32		1,222.3	-36.1	48.3	51.5	0.24	
1,250.0	1.64	87.44		1,247.3	-36.1	49.0	51.7	0.78	
1,275.0	1.45	89.80		1,272.3	-36.1	49.7	52.0	0.80	
1,300.0	1.27	88.57		1,297.3	-36.1	50.3	52.2	0.73	
1,325.0	1.07	95.84		1,322.3	-36.1	50.8	52.4	0.99	
1,350.0	1.03	99.88		1,347.3	-36.1	51.2	52.6	0.34	

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Office of Oil & Gas
SEP 14 2015



Company:	Antero Resources	Local Co-ordinate Reference:	Well Mulvay Unit 1H
Project:	Ritchie County WV	TVD Reference:	Frontier 25 GL 968' KB 24' @ 992.0usft
Site:	Eddy Pad	MD Reference:	Frontier 25 GL 968' KB 24' @ 992.0usft
Well:	Mulvay 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)	
1,375.0	0.90	93.33	93.33	1,372.3	-36.2	51.7	52.8	52.8	0.68
1,400.0	0.71	86.58	86.58	1,397.3	-36.2	52.0	53.0	53.0	0.85
1,425.0	0.58	94.41	94.41	1,422.3	-36.2	52.3	53.1	53.1	0.63
1,450.0	0.55	81.22	81.22	1,447.3	-36.2	52.5	53.1	53.1	0.53
1,475.0	0.39	94.30	94.30	1,472.3	-36.2	52.7	53.2	53.2	0.77
1,500.0	0.42	78.23	78.23	1,497.3	-36.2	52.9	53.3	53.3	0.47
1,525.0	0.35	86.81	86.81	1,522.3	-36.1	53.1	53.3	53.3	0.36
1,550.0	0.32	97.60	97.60	1,547.3	-36.1	53.2	53.4	53.4	0.28
1,575.0	0.34	102.08	102.08	1,572.3	-36.2	53.4	53.4	53.4	0.13
1,600.0	0.39	85.23	85.23	1,597.3	-36.2	53.5	53.5	53.5	0.47
1,625.0	0.30	83.70	83.70	1,622.3	-36.2	53.7	53.5	53.5	0.36
1,650.0	0.24	84.76	84.76	1,647.3	-36.1	53.8	53.6	53.6	0.24
1,675.0	0.25	50.70	50.70	1,672.3	-36.1	53.9	53.6	53.6	0.58
1,700.0	0.15	76.35	76.35	1,697.3	-36.1	54.0	53.6	53.6	0.53
1,725.0	0.22	61.01	61.01	1,722.3	-36.0	54.0	53.6	53.6	0.34
1,750.0	0.15	76.66	76.66	1,747.3	-36.0	54.1	53.6	53.6	0.34
1,775.0	0.17	79.95	79.95	1,772.3	-36.0	54.2	53.6	53.6	0.09
1,800.0	0.17	54.11	54.11	1,797.3	-36.0	54.2	53.6	53.6	0.30
1,825.0	0.16	41.57	41.57	1,822.3	-35.9	54.3	53.6	53.6	0.15
1,850.0	0.17	34.41	34.41	1,847.3	-35.9	54.3	53.5	53.5	0.09
1,875.0	0.14	42.61	42.61	1,872.3	-35.8	54.4	53.5	53.5	0.15
1,900.0	0.18	42.96	42.96	1,897.3	-35.8	54.4	53.5	53.5	0.16
1,925.0	0.15	40.48	40.48	1,922.3	-35.7	54.5	53.4	53.4	0.12
1,950.0	0.12	124.45	124.45	1,947.3	-35.7	54.5	53.4	53.4	0.73
1,975.0	0.07	319.75	319.75	1,972.3	-35.7	54.5	53.4	53.4	0.75
2,000.0	0.23	31.96	31.96	1,997.3	-35.6	54.5	53.4	53.4	0.88
2,025.0	0.17	55.64	55.64	2,022.3	-35.6	54.6	53.4	53.4	0.40
2,050.0	0.08	346.86	346.86	2,047.3	-35.5	54.6	53.3	53.3	0.64
2,075.0	0.06	40.06	40.06	2,072.3	-35.5	54.6	53.3	53.3	0.26
2,100.0	0.09	41.17	41.17	2,097.3	-35.5	54.6	53.3	53.3	0.12
2,125.0	0.05	2.60	2.60	2,122.3	-35.5	54.7	53.3	53.3	0.24
2,150.0	0.07	56.63	56.63	2,147.3	-35.4	54.7	53.3	53.3	0.23
2,175.0	0.14	76.33	76.33	2,172.3	-35.4	54.7	53.3	53.3	0.31
2,200.0	0.07	180.23	180.23	2,197.3	-35.4	54.7	53.3	53.3	0.68
2,225.0	0.05	190.46	190.46	2,222.3	-35.5	54.7	53.3	53.3	0.09
2,250.0	0.07	118.27	118.27	2,247.3	-35.5	54.8	53.3	53.3	0.29
2,275.0	0.08	214.73	214.73	2,272.3	-35.5	54.8	53.3	53.3	0.45
2,300.0	0.02	110.82	110.82	2,297.3	-35.5	54.8	53.4	53.4	0.35
2,325.0	0.08	173.16	173.16	2,322.3	-35.5	54.8	53.4	53.4	0.29
2,350.0	0.02	327.72	327.72	2,347.3	-35.5	54.8	53.4	53.4	0.39
2,375.0	0.13	274.64	274.64	2,372.3	-35.5	54.7	53.4	53.4	0.48
2,400.0	0.12	305.66	305.66	2,397.3	-35.5	54.7	53.3	53.3	0.27
2,425.0	0.11	128.54	128.54	2,422.3	-35.5	54.7	53.3	53.3	0.92
2,450.0	0.11	87.02	87.02	2,447.3	-35.5	54.7	53.4	53.4	0.31
2,475.0	0.06	101.47	101.47	2,472.3	-35.5	54.8	53.4	53.4	0.22

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EOW Completion Report



Company:	Antero Resources	Local Co-ordinate Reference:	Well Mulvay Unit 1H
Project:	Ritchie County WV	TVD Reference:	Frontier 25 GL 968' KB 24' @ 992.0usft
Site:	Eddy Pad	MD Reference:	Frontier 25 GL 968' KB 24' @ 992.0usft
Well:	Mulvay 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)	EW (usft)	V. Sec (usft)	DLeg (°/100usft)	
2,500.0	0.13	109.85	2,497.3	-35.5	54.8	53.4	0.28	
2,525.0	0.08	135.11	2,522.3	-35.6	54.8	53.4	0.27	
2,550.0	0.10	191.63	2,547.3	-35.6	54.8	53.5	0.35	
2,575.0	0.09	211.93	2,572.3	-35.6	54.8	53.5	0.14	
2,600.0	0.04	213.26	2,597.3	-35.7	54.8	53.5	0.20	
2,625.0	0.03	276.00	2,622.3	-35.7	54.8	53.5	0.15	
2,650.0	0.03	7.09	2,647.3	-35.7	54.8	53.5	0.17	
2,675.0	0.13	263.71	2,672.3	-35.7	54.8	53.5	0.56	
2,700.0	0.01	114.14	2,697.3	-35.7	54.7	53.5	0.55	
2,725.0	0.07	108.30	2,722.3	-35.7	54.8	53.5	0.24	
2,750.0	0.06	101.18	2,747.3	-35.7	54.8	53.5	0.05	
2,775.0	0.09	15.28	2,772.3	-35.7	54.8	53.5	0.42	
2,800.0	0.04	329.07	2,797.3	-35.6	54.8	53.5	0.27	
2,825.0	0.08	294.13	2,822.3	-35.6	54.8	53.5	0.21	
2,850.0	0.09	76.73	2,847.3	-35.6	54.8	53.5	0.64	
2,875.0	0.06	101.12	2,872.3	-35.6	54.8	53.5	0.17	
2,900.0	0.13	32.07	2,897.3	-35.6	54.8	53.5	0.49	
2,925.0	0.11	70.65	2,922.3	-35.6	54.9	53.4	0.33	
2,950.0	0.14	124.61	2,947.3	-35.6	54.9	53.5	0.47	
2,975.0	0.16	123.39	2,972.3	-35.6	55.0	53.5	0.08	
3,000.0	0.07	250.21	2,997.3	-35.6	55.0	53.6	0.84	
3,025.0	0.26	115.19	3,022.3	-35.7	55.0	53.6	1.25	
3,050.0	0.19	105.18	3,047.3	-35.7	55.1	53.7	0.32	
3,075.0	0.16	111.65	3,072.3	-35.7	55.2	53.7	0.14	
3,100.0	0.11	123.17	3,097.3	-35.7	55.3	53.8	0.23	
3,125.0	0.06	148.51	3,122.3	-35.8	55.3	53.8	0.25	
3,150.0	0.09	115.02	3,147.3	-35.8	55.3	53.8	0.21	
3,175.0	0.16	160.81	3,172.3	-35.8	55.3	53.9	0.47	
3,200.0	0.18	185.32	3,197.3	-35.9	55.3	53.9	0.30	
3,225.0	0.23	129.57	3,222.3	-36.0	55.4	54.0	0.79	
3,250.0	0.16	99.20	3,247.3	-36.0	55.5	54.1	0.49	
3,275.0	0.19	79.21	3,272.3	-36.0	55.5	54.1	0.27	
3,300.0	0.29	63.55	3,297.3	-36.0	55.6	54.1	0.47	
3,325.0	0.08	280.90	3,322.3	-35.9	55.7	54.1	1.43	
3,350.0	0.08	148.05	3,347.3	-35.9	55.7	54.1	0.59	
3,376.3	0.23	69.30	3,373.6	-35.9	55.7	54.1	0.87	
3,400.5	1.39	58.96	3,397.8	-35.8	56.0	54.1	4.80	
3,425.8	2.18	55.25	3,423.0	-35.3	56.7	53.9	3.16	
3,450.4	3.36	52.80	3,447.6	-34.6	57.6	53.6	4.82	
3,476.1	4.37	50.46	3,473.2	-33.6	59.0	53.1	3.98	
3,500.2	5.90	45.14	3,497.3	-32.1	60.6	52.4	6.63	
3,526.2	6.71	44.01	3,523.1	-30.1	62.6	51.2	3.16	
3,550.4	7.78	43.29	3,547.1	-27.9	64.7	49.9	4.43	
3,575.4	9.22	41.07	3,571.9	-25.1	67.2	48.3	5.90	

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EOW Completion Report



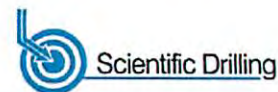
Company:	Antero Resources	Local Co-ordinate Reference:	Well Mulvay Unit 1H
Project:	Ritchie County WV	TVD Reference:	Frontier 25 GL 968' KB 24' @ 992.0usft
Site:	Eddy Pad	MD Reference:	Frontier 25 GL 968' KB 24' @ 992.0usft
Well:	Mulvay Unit 1H	North Reference:	Grid
Wellbore:	Original Wellpath	Survey 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)	
3,601.1	10.23	40.49	3,597.1	-21.8	70.0	46.3	3.96	
3,625.1	11.14	38.85	3,620.7	-18.4	72.8	44.2	3.99	
3,650.8	11.92	37.50	3,645.9	-14.4	76.0	41.6	3.21	
3,675.3	12.51	36.06	3,669.9	-10.2	79.1	38.9	2.70	
3,701.1	13.05	36.29	3,695.0	-5.6	82.5	35.9	2.11	
3,725.5	13.91	36.03	3,718.8	-1.0	85.8	32.9	3.52	
3,751.2	14.19	37.56	3,743.7	4.0	89.6	29.7	1.81	
3,775.7	14.60	39.18	3,767.5	8.8	93.4	26.6	2.34	
3,800.0	14.91	40.72	3,790.9	13.5	97.3	23.7	2.06	
3,826.0	14.51	40.04	3,816.1	18.5	101.6	20.6	1.68	
3,850.3	14.70	40.32	3,839.6	23.2	105.6	17.8	0.83	
3,876.4	15.09	42.10	3,864.8	28.3	110.0	14.7	2.31	
3,901.0	15.61	42.69	3,888.6	33.1	114.4	11.9	2.20	
3,926.2	15.79	43.21	3,912.8	38.1	119.0	9.0	0.91	
3,950.2	15.80	43.75	3,935.9	42.8	123.5	6.3	0.62	
3,975.8	14.96	48.74	3,960.6	47.5	128.4	3.8	6.12	
4,001.5	14.76	52.59	3,985.5	51.7	133.5	1.8	3.91	
4,025.5	15.00	54.59	4,008.6	55.3	138.4	0.2	2.37	
4,050.2	15.18	56.34	4,032.5	59.0	143.8	-1.2	1.98	
4,076.0	15.66	57.44	4,057.3	62.7	149.5	-2.5	2.18	
4,100.9	15.91	57.10	4,081.3	66.4	155.2	-3.8	1.07	
4,125.9	16.21	57.34	4,105.4	70.1	161.0	-5.1	1.23	
4,150.7	16.91	57.24	4,129.1	73.9	167.0	-6.4	2.83	
4,176.1	17.51	56.57	4,153.3	78.0	173.2	-7.9	2.49	
4,201.3	17.87	56.23	4,177.4	82.3	179.6	-9.5	1.48	
4,226.2	18.42	55.39	4,201.0	86.6	186.0	-11.1	2.45	
4,250.8	19.42	54.78	4,224.3	91.2	192.6	-12.9	4.14	
4,275.9	20.35	53.93	4,247.9	96.2	199.5	-14.9	3.87	
4,301.1	21.34	52.65	4,271.4	101.5	206.7	-17.2	4.34	
4,326.3	21.54	52.43	4,294.9	107.1	214.0	-19.7	0.85	
4,350.9	22.62	52.48	4,317.6	112.8	221.3	-22.2	4.40	
4,375.3	23.39	52.42	4,340.1	118.6	228.9	-24.8	3.16	
4,401.3	24.68	52.90	4,363.9	125.0	237.3	-27.6	5.02	
4,425.9	24.88	52.94	4,386.2	131.2	245.5	-30.3	0.82	
4,451.2	25.21	54.06	4,409.1	137.6	254.2	-33.0	2.28	
4,475.5	25.06	53.97	4,431.1	143.7	262.5	-35.5	0.64	
4,500.1	24.81	53.42	4,453.4	149.8	270.9	-38.1	1.39	
4,525.2	25.09	52.79	4,476.3	156.2	279.4	-40.9	1.53	
4,550.9	25.98	52.44	4,499.4	162.9	288.1	-43.8	3.53	
4,575.3	26.04	51.90	4,521.3	169.5	296.6	-46.8	1.00	
4,600.9	26.04	51.18	4,544.3	176.4	305.4	-50.0	1.23	
4,625.5	26.27	50.95	4,566.4	183.3	313.8	-53.2	1.02	
4,650.8	26.54	50.91	4,589.0	190.3	322.6	-56.5	1.07	
4,675.9	26.17	50.23	4,611.6	197.4	331.2	-59.9	1.90	

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EOW Completion Report

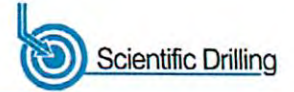


Company:	Antero Resources	Local Co-ordinate Reference:	Well Mulvay Unit 1H
Project:	Ritchie County WV	TVD Reference:	Frontier 25 GL 968' KB 24' @ 992.0usft
Site:	Eddy Pad	MD Reference:	Frontier 25 GL 968' KB 24' @ 992.0usft
Well:	Mulvay Unit 1H	North Reference:	Grid
Wellbore:	Original Wellpath	Survey 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)
4,700.3	25.73	49.70	49.70	4,633.5	204.3	339.3	-63.2	2.04
4,726.1	25.98	50.17	50.17	4,656.7	211.5	347.9	-66.7	1.25
4,750.4	26.27	50.75	50.75	4,678.6	218.4	356.2	-70.0	1.59
4,776.0	25.97	50.35	50.35	4,701.6	225.5	364.9	-73.4	1.36
4,800.7	25.30	49.57	49.57	4,723.8	232.4	373.1	-76.7	3.05
4,825.4	25.79	51.38	51.38	4,746.1	239.2	381.3	-79.9	3.73
4,850.1	26.17	52.80	52.80	4,768.3	245.8	389.9	-82.9	2.95
4,875.2	25.97	53.01	53.01	4,790.9	252.5	398.7	-85.8	0.88
4,900.5	25.95	52.50	52.50	4,813.6	259.2	407.5	-88.7	0.89
4,925.2	26.15	53.68	53.68	4,835.8	265.7	416.2	-91.6	2.25
4,951.2	26.34	53.90	53.90	4,859.1	272.5	425.4	-94.4	0.82
4,975.6	26.10	53.39	53.39	4,881.0	278.9	434.1	-97.1	1.34
5,000.4	26.21	52.99	52.99	4,903.3	285.4	442.9	-99.9	0.84
5,025.2	26.72	52.94	52.94	4,925.4	292.1	451.7	-102.8	2.06
5,050.9	27.15	52.76	52.76	4,948.4	299.1	461.0	-105.9	1.70
5,076.1	26.54	52.03	52.03	4,970.8	306.0	470.0	-109.0	2.76
5,101.0	26.32	52.43	52.43	4,993.2	312.8	478.7	-112.0	1.14
5,125.4	26.01	53.62	53.62	5,015.0	319.3	487.3	-114.8	2.50
5,150.0	25.75	53.55	53.55	5,037.2	325.7	496.0	-117.5	1.06
5,175.5	25.49	53.30	53.30	5,060.1	332.2	504.8	-120.3	1.11
5,201.4	25.94	53.79	53.79	5,083.5	338.9	513.8	-123.1	1.92
5,226.0	26.54	54.96	54.96	5,105.6	345.3	522.7	-125.7	3.21
5,250.7	26.14	55.27	55.27	5,127.7	351.5	531.7	-128.2	1.72
5,275.6	25.96	55.23	55.23	5,150.1	357.8	540.7	-130.6	0.72
5,300.8	26.04	55.96	55.96	5,172.7	364.0	549.8	-133.0	1.31
5,326.8	26.23	56.67	56.67	5,196.0	370.3	559.3	-135.4	1.41
5,350.8	26.04	56.06	56.06	5,217.6	376.2	568.1	-137.5	1.37
5,376.5	25.98	55.24	55.24	5,240.7	382.6	577.4	-139.9	1.42
5,400.8	26.44	54.93	54.93	5,262.5	388.7	586.2	-142.4	1.98
5,425.9	26.67	54.43	54.43	5,284.9	395.2	595.4	-145.0	1.28
5,450.3	26.20	53.26	53.26	5,306.8	401.6	604.1	-147.7	2.88
5,476.1	25.85	52.57	52.57	5,330.0	408.4	613.2	-150.6	1.79
5,500.2	26.17	52.92	52.92	5,351.7	414.8	621.6	-153.4	1.47
5,526.2	25.83	52.84	52.84	5,375.0	421.7	630.7	-156.4	1.32
5,550.2	25.12	51.42	51.42	5,396.7	428.0	638.8	-159.3	3.91
5,575.9	24.80	51.37	51.37	5,420.0	434.8	647.3	-165.3	1.24
5,600.9	24.80	52.43	52.43	5,442.6	441.3	655.5	-168.1	0.78
5,625.9	24.81	52.58	52.58	5,465.3	447.6	663.9	-171.0	0.25
5,650.8	24.58	51.71	51.71	5,488.0	454.0	672.1	-174.0	1.72
5,676.0	24.88	51.54	51.54	5,510.8	460.6	680.3	-176.9	1.23
5,700.5	25.68	52.30	52.30	5,533.0	467.0	688.6	-179.8	3.52
5,725.4	26.19	53.07	53.07	5,555.4	473.6	697.3	-182.6	2.45
5,750.6	26.14	54.42	54.42	5,578.0	480.2	706.2	-185.1	2.37
5,776.3	26.55	56.20	56.20	5,601.1	486.7	715.6	-185.1	3.47

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Company:	Antero Resources	Local Co-ordinate Reference:	Well Mulvay Unit 1H
Project:	Ritchie County WV	TVD Reference:	Frontier 25 GL 968' KB 24' @ 992.0usft
Site:	Eddy Pad	MD Reference:	Frontier 25 GL 968' KB 24' @ 992.0usft
Well:	Mulvay Unit 1H	North Reference:	Grid
Wellbore:	Original Wellpath	Survey Calculation Method:	Minimum Curvature
Design:	As Drilled	Database:	Oklahoma District

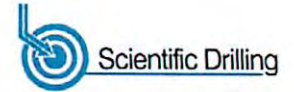
Survey								
MD (usft)	Inc (°)	Azi (azimuth) (°)		TVD (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)
5,800.6	26.89	57.25	57.25	5,622.8	492.7	724.7	-187.3	2.39
5,860.4	26.30	55.35	55.35	5,676.3	507.6	747.0	-192.8	1.73
5,925.0	26.47	53.17	53.17	5,734.1	524.3	770.3	-199.6	1.52
5,988.0	26.37	53.25	53.25	5,790.5	541.1	792.7	-206.9	0.17
6,020.0	26.41	54.26	54.26	5,819.2	549.5	804.2	-210.4	1.41
6,052.0	26.34	61.48	61.48	5,847.9	557.1	816.2	-212.9	10.02
6,083.0	27.18	69.57	69.57	5,875.6	562.8	828.9	-213.5	12.05
6,115.0	28.51	77.64	77.64	5,903.9	567.0	843.2	-212.1	12.48
6,146.0	29.91	85.94	85.94	5,931.0	569.1	858.2	-208.5	13.81
6,178.0	31.18	92.97	92.97	5,958.5	569.3	874.4	-202.6	11.84
6,210.0	32.31	100.36	100.36	5,985.7	567.3	891.1	-194.5	12.65
6,241.0	33.83	107.18	107.18	6,011.7	563.3	907.5	-184.7	12.96
6,264.0	35.26	111.30	111.30	6,030.7	559.0	919.8	-176.1	11.89
Sycamore								
6,273.0	35.85	112.83	112.83	6,038.0	557.0	924.7	-172.5	11.89
6,305.0	37.06	119.53	119.53	6,063.7	548.6	941.7	-158.3	13.00
6,337.0	39.17	125.21	125.21	6,088.9	538.0	958.3	-142.3	12.78
6,369.0	41.28	130.04	130.04	6,113.4	525.4	974.7	-124.5	11.76
6,400.0	43.76	134.25	134.25	6,136.2	511.3	990.2	-105.7	12.17
6,401.0	43.85	134.33	134.33	6,136.9	510.8	990.7	-105.0	10.80
Middlesex								
6,432.0	46.79	136.59	136.59	6,158.7	495.1	1,006.1	-84.7	10.80
6,463.0	49.43	139.25	139.25	6,179.4	478.0	1,021.6	-63.1	10.64
6,495.0	52.83	140.28	140.28	6,199.5	459.0	1,037.7	-39.4	10.92
6,526.0	55.99	141.92	141.92	6,217.6	439.4	1,053.5	-15.3	11.06
6,558.0	59.27	143.15	143.15	6,234.7	417.9	1,069.9	10.7	10.75
6,579.0	60.59	144.75	144.75	6,245.2	403.2	1,080.6	28.3	9.11
Burkett								
6,590.0	61.29	145.57	145.57	6,250.5	395.3	1,086.1	37.7	9.11
6,621.0	63.64	146.69	146.69	6,264.9	372.5	1,101.4	64.6	8.23
6,652.0	66.52	148.31	148.31	6,277.9	348.8	1,116.5	92.2	10.43
Tully								
6,684.0	70.79	150.27	150.27	6,289.6	323.2	1,131.8	121.7	14.51
6,716.0	74.56	152.46	152.46	6,299.1	296.4	1,146.4	152.0	13.47
6,733.0	75.84	153.39	153.39	6,303.5	281.7	1,153.9	168.4	9.21
Marcellus								
6,748.0	76.97	154.21	154.21	6,307.0	268.6	1,160.3	192.9	9.99
6,780.0	79.30	155.99	155.99	6,313.6	240.2	1,173.5	214.2	9.09
6,812.0	81.07	157.67	157.67	6,319.0	211.3	1,185.9	245.7	7.57
6,843.0	83.07	157.62	157.62	6,323.3	182.9	1,197.6	276.4	6.45
6,855.0	84.12	157.30	157.30	6,324.6	171.8	1,202.1	288.3	9.14
6,893.0	88.15	157.03	157.03	6,327.2	136.9	1,216.8	326.2	10.63
6,925.0	90.87	157.21	157.21	6,327.5	107.4	1,229.3	358.2	8.52
7,021.0	91.31	156.04	156.04	6,325.6	19.3	1,267.4	454.2	1.30
7,116.0	91.07	158.35	158.35	6,323.7	-68.2	1,304.2	549.1	2.44

Received
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SEP 14 2015

85-10105



EOW Completion Report



Company:	Antero Resources	Local Co-ordinate Reference:	Well Mulvay Unit 1H
Project:	Ritchie County WV	TVD Reference:	Frontier 25 GL 968' KB 24' @ 992.0usft
Site:	Eddy Pad	MD Reference:	Frontier 25 GL 968' KB 24' @ 992.0usft
Well:	Mulvay 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)
7,212.0	89.46	158.83	158.83	6,323.2	-157.6	1,339.2	645.1	1.75
7,307.0	89.46	159.01	159.01	6,324.1	-246.2	1,373.4	740.1	0.19
7,403.0	89.97	159.37	159.37	6,324.6	-336.0	1,407.5	836.1	0.65
7,499.0	89.63	157.52	157.52	6,324.9	-425.2	1,442.8	932.1	1.96
7,594.0	89.70	157.61	157.61	6,325.5	-513.1	1,479.0	1,027.1	0.12
7,690.0	90.27	157.82	157.82	6,325.5	-601.9	1,515.4	1,123.1	0.63
7,785.0	89.50	154.36	154.36	6,325.7	-688.7	1,553.9	1,218.0	3.73
7,880.0	88.69	157.28	157.28	6,327.2	-775.4	1,592.8	1,312.9	3.19
7,976.0	90.10	158.03	158.03	6,328.2	-864.1	1,629.3	1,408.9	1.66
8,071.0	89.63	158.37	158.37	6,328.4	-952.3	1,664.6	1,503.9	0.61
8,166.0	90.07	159.32	159.32	6,328.7	-1,040.9	1,698.9	1,598.9	1.10
8,261.0	90.50	159.48	159.48	6,328.2	-1,129.9	1,732.3	1,693.8	0.48
8,355.0	90.23	159.28	159.28	6,327.6	-1,217.8	1,765.4	1,787.8	0.36
8,450.0	90.50	160.10	160.10	6,327.0	-1,306.9	1,798.4	1,882.8	0.91
8,546.0	90.00	160.01	160.01	6,326.6	-1,397.2	1,831.1	1,978.7	0.53
8,641.0	90.84	159.16	159.16	6,325.9	-1,486.2	1,864.3	2,073.7	1.26
8,735.0	90.37	158.22	158.22	6,324.9	-1,573.8	1,898.4	2,167.7	1.12
8,830.0	90.10	156.67	156.67	6,324.5	-1,661.5	1,934.9	2,262.7	1.66
8,926.0	91.07	160.61	160.61	6,323.5	-1,750.9	1,969.8	2,358.6	4.23
9,016.0	89.87	160.25	160.25	6,322.8	-1,835.7	2,000.0	2,448.6	1.39
9,106.0	88.56	158.14	158.14	6,324.0	-1,919.8	2,031.9	2,538.5	2.76
9,198.0	89.06	157.92	157.92	6,325.9	-2,005.1	2,066.3	2,630.5	0.59
9,289.0	89.87	157.58	157.58	6,326.8	-2,089.3	2,100.8	2,721.5	0.97
9,381.0	89.13	157.69	157.69	6,327.6	-2,174.4	2,135.8	2,813.5	0.81
9,472.0	90.37	157.50	157.50	6,328.0	-2,258.5	2,170.5	2,904.5	1.38
9,562.0	88.46	158.34	158.34	6,328.9	-2,341.9	2,204.3	2,994.5	2.32
9,653.0	88.02	157.42	157.42	6,331.7	-2,426.2	2,238.6	3,085.4	1.12
9,743.0	90.67	158.29	158.29	6,332.7	-2,509.5	2,272.5	3,175.4	3.10
9,833.0	90.13	158.33	158.33	6,332.1	-2,593.1	2,305.7	3,265.4	0.60
9,924.0	90.00	158.33	158.33	6,332.0	-2,677.7	2,339.3	3,356.4	0.14
10,014.0	89.93	157.85	157.85	6,332.1	-2,761.2	2,372.9	3,446.4	0.54
10,109.0	89.83	157.88	157.88	6,332.3	-2,849.2	2,408.7	3,541.4	0.11
10,203.0	89.73	158.37	158.37	6,332.6	-2,936.4	2,443.7	3,635.4	0.53
10,297.0	89.80	159.26	159.26	6,333.0	-3,024.1	2,477.7	3,729.4	0.95
10,392.0	90.40	157.70	157.70	6,332.8	-3,112.5	2,512.6	3,824.4	1.76
10,486.0	89.70	155.84	155.84	6,332.8	-3,198.8	2,549.6	3,918.4	2.11
10,580.0	88.42	155.36	155.36	6,334.3	-3,284.4	2,588.5	4,012.3	1.45
10,674.0	89.60	156.82	156.82	6,335.9	-3,370.3	2,626.5	4,106.2	2.00
10,768.0	89.53	158.02	158.02	6,336.6	-3,457.1	2,662.6	4,200.2	1.28
10,862.0	89.66	158.99	158.99	6,337.3	-3,544.6	2,697.1	4,294.2	1.04
10,956.0	89.46	158.75	158.75	6,338.0	-3,632.3	2,731.0	4,388.2	0.33
11,051.0	89.50	158.57	158.57	6,338.9	-3,720.8	2,765.5	4,483.1	0.19
11,145.0	90.74	158.04	158.04	6,338.7	-3,808.1	2,800.3	4,577.1	1.43
11,239.0	90.27	157.73	157.73	6,337.9	-3,895.2	2,835.7	4,671.1	0.60

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EOW Completion Report



Company:	Antero Resources	Local Co-ordinate Reference:	Well Mulvay Unit 1H
Project:	Ritchie County WV	TVD Reference:	Frontier 25 GL 968' KB 24' @ 992.0usft
Site:	Eddy Pad	MD Reference:	Frontier 25 GL 968' KB 24' @ 992.0usft
Well:	Mulvay 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)	
11,333.0	89.83	156.96	6,337.8	-3,981.9	2,871.9	4,765.1	0.94	
11,427.0	90.30	157.78	6,337.7	-4,068.7	2,908.0	4,859.1	1.01	
11,522.0	90.64	158.19	6,336.9	-4,156.8	2,943.6	4,954.1	0.56	
11,615.0	89.60	158.06	6,336.7	-4,243.1	2,978.3	5,047.1	1.13	
11,709.0	88.99	158.31	6,337.9	-4,330.3	3,013.2	5,141.1	0.70	
11,803.0	89.50	158.25	6,339.1	-4,417.6	3,048.0	5,235.1	0.55	
11,897.0	89.56	158.51	6,339.9	-4,505.0	3,082.6	5,329.1	0.28	
11,991.0	90.23	157.82	6,340.0	-4,592.3	3,117.6	5,423.1	1.02	
12,086.0	90.30	155.94	6,339.6	-4,679.6	3,154.9	5,518.1	1.98	
12,180.0	90.60	157.94	6,338.9	-4,766.1	3,191.7	5,612.0	2.15	
12,274.0	90.44	157.61	6,338.0	-4,853.1	3,227.3	5,706.0	0.39	
12,368.0	90.27	157.55	6,337.4	-4,940.0	3,263.1	5,800.0	0.19	
12,462.0	90.20	157.88	6,337.0	-5,027.0	3,298.8	5,894.0	0.36	
12,556.0	90.07	158.73	6,336.8	-5,114.3	3,333.5	5,988.0	0.91	
12,650.0	89.97	158.94	6,336.8	-5,202.0	3,367.5	6,082.0	0.25	
12,744.0	89.93	159.03	6,336.9	-5,289.8	3,401.2	6,176.0	0.10	
12,839.0	89.76	158.01	6,337.1	-5,378.2	3,436.0	6,271.0	1.09	
12,933.0	89.70	158.56	6,337.6	-5,465.5	3,470.7	6,365.0	0.59	
13,027.0	90.00	159.18	6,337.8	-5,553.2	3,504.6	6,459.0	0.73	
13,121.0	90.13	160.14	6,337.7	-5,641.3	3,537.3	6,553.0	1.03	
13,215.0	90.54	159.87	6,337.2	-5,729.6	3,569.4	6,646.9	0.52	
13,310.0	90.34	159.75	6,336.4	-5,818.8	3,602.2	6,741.9	0.25	
13,405.0	90.44	157.95	6,335.8	-5,907.4	3,636.5	6,836.8	1.90	
13,499.0	90.47	157.38	6,335.0	-5,994.3	3,672.2	6,930.8	0.61	
13,593.0	90.17	157.50	6,334.5	-6,081.1	3,708.3	7,024.8	0.34	
13,688.0	89.97	156.33	6,334.4	-6,168.5	3,745.5	7,119.8	1.25	
13,782.0	90.47	156.72	6,334.0	-6,254.7	3,783.0	7,213.8	0.67	
13,877.0	90.71	157.67	6,333.1	-6,342.3	3,819.8	7,308.7	1.03	
13,971.0	90.84	157.79	6,331.8	-6,429.3	3,855.4	7,402.7	0.19	
14,065.0	90.81	157.71	6,330.4	-6,516.3	3,891.0	7,496.7	0.09	
14,159.0	90.81	158.08	6,329.1	-6,603.4	3,926.4	7,590.7	0.39	
14,254.0	89.50	158.66	6,328.8	-6,691.7	3,961.4	7,685.7	1.51	
14,348.0	89.50	158.10	6,329.7	-6,779.1	3,996.0	7,779.7	0.60	
14,442.0	89.43	157.55	6,330.5	-6,866.1	4,031.5	7,873.7	0.59	
14,536.0	89.93	157.14	6,331.1	-6,952.8	4,067.7	7,967.7	0.69	
14,630.0	90.20	157.12	6,331.0	-7,039.5	4,104.2	8,061.7	0.29	
14,724.0	90.17	157.33	6,330.7	-7,126.1	4,140.6	8,155.7	0.23	
14,810.0	90.10	156.81	6,330.4	-7,205.3	4,174.1	8,241.6	0.61	
14,870.0	90.10	156.81	6,330.3	-7,260.5	4,197.8	8,301.6	0.00	

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Project:	Ritchie County WV	TVD Reference:	Frontier 25 GL 968' KB 24' @ 992.0usft
Site:	Eddy Pad	MD Reference:	Frontier 25 GL 968' KB 24' @ 992.0usft
Well:	Mulvay Unit 1H	North Reference:	Grid
Wellbore:	Original Wellpath	Survey Calculation Method:	Minimum Curvature
Design:	As Drilled	Database:	Oklahoma District

Design Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
6,264.0	6,030.7	559.0	919.8	Sycamore
6,401.0	6,136.9	510.8	990.7	Middlesex
6,579.0	6,245.2	403.2	1,080.6	Burkett
6,652.0	6,277.9	348.8	1,116.5	Tully
6,733.0	6,303.5	281.7	1,153.9	Marcellus

Checked By: _____ Approved By: _____ Date: _____

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