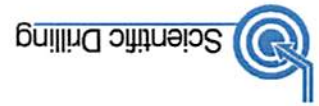




Irons Unit 2H
 Doddridge County WV
 Northing: 14258780.68
 Easting: 1754584.94
 As Drilled

WELL DETAILS Irons Unit 2H

+N/-S	0.0	+E/-W	0.0	14258780.68	1754584.94
Northing	0.0	Easting	0.0	15 55 021 N0° 35' 47.872 W	
Ground Level:	1318.0				



Gene Lightfoot
 10/25, May 08 2014
 Scientific Drilling
 421 South Eagle Lane
 Oklahoma City, OK 73128

LEGEND

- △ Rikk Unit 1H, Original Wellpath, As Drilled V0
- Rikk Unit 2H, Original Wellpath, As Drilled V0
- Irons Unit 2H, Original Wellpath, Plan 4 V0
- ◇ As Drilled

PROJECT DETAILS: Doddridge County WV

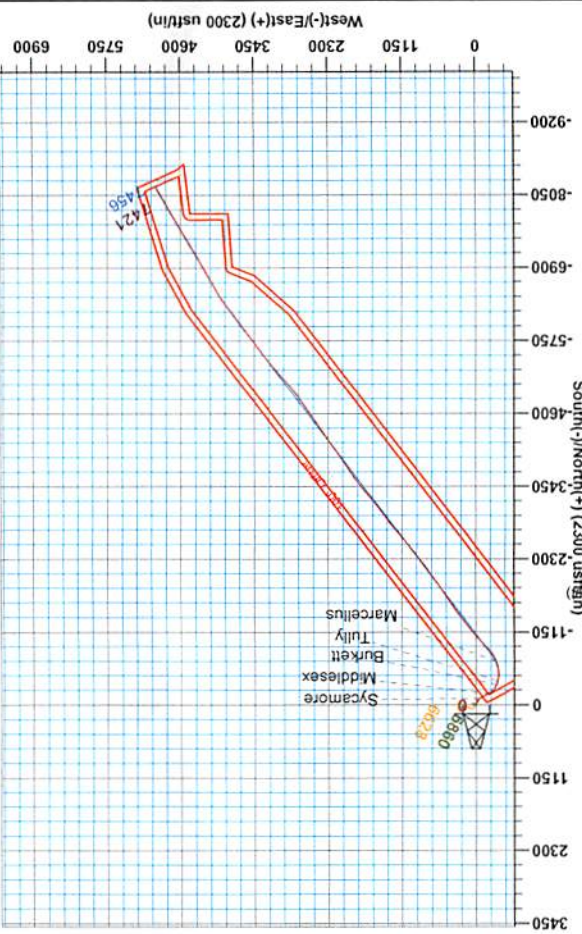
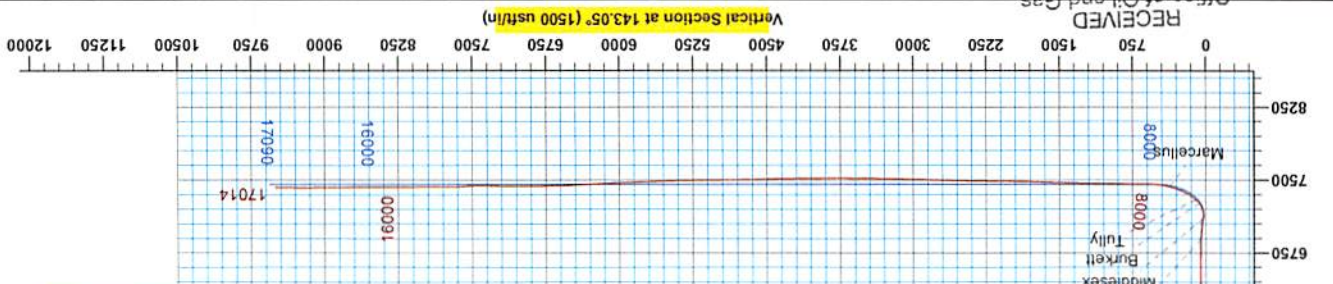
Geodetic System: Universal Transverse Mercator (US Survey Feet)
 Datum: NAD 1927 (NADCON CONUS)
 Ellipsoid: Clarke 1866
 Zone: 17N (84 W to 78 W)
 System Datum: Mean Sea Level

SITE DETAILS: Rikk/Pratt/Blackwood/Irons

Site Center Rikk Unit 1H
 Site Centre Northing: 14258782.29
 Easting: 1754594.81
 Positional Uncertainty: 2
 Convergence: 0.26
 Local North: Grid

DESIGN TARGET DETAILS

Name	SHI Irons Unit 2H	TVD	7421.4	+N/-S	0.0
	Actual BHL Irons Unit 2H		-8155.9	+E/-W	0.0
Latitude	15 55 021 N0° 35' 47.873 W	Longitude	0 01 4258780.67		
Latitude	1754584.94	Longitude	4966.914250624.76		





Company:	Antero Resources	Local Co-ordinate Reference:	Well Irons Unit 2H
Project:	Doddridge County WV	TVD Reference:	PATT 317: Irons 2H 1318 GL + 22.5 KB @ 1340.5
Site:	Rikk/Pratt/Blackwood/Irons	MD Reference:	PATT 317: Irons 2H 1318 GL + 22.5 KB @ 1340.5
Well:	Irons Unit 2H	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 Feet)	System Datum:	Mean Sea Level
Geo Datum:	NAD 1927 (NADCON CONUS)		
Map Zone:	Zone 17N (84 W to 78 W)		

Site	Rikk/Pratt/Blackwood/Irons				
Site Position:		Northing:	14,258,782.29 usft	Latitude:	39° 15' 55.036 N
From:	Map	Easting:	1,754,594.81 usft	Longitude:	80° 35' 47.747 W
Position Uncertainty:	2.8 usft	Slot Radius:	13-3/16"	Grid Convergence:	0.26 °

Well	Irons Unit 2H					
Well Position	+N/-S	0.0 usft	Northing:	14,258,780.68 usft	Latitude:	39° 15' 55.021 N
	+E/-W	0.0 usft	Easting:	1,754,584.94 usft	Longitude:	80° 35' 47.872 W
Position Uncertainty		2.8 usft	Wellhead Elevation:	1,340.5 usft	Ground Level:	1,318.0 usft

Wellbore	Original Wellpath				
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Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	1/6/2014	-8.58	66.81	52,313

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	143.05	

Survey Program	Date 5/8/2014				
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
109.5	6,637.5	Survey #4 Full Gyro to KOP (Original Well)	SDI Standard Keeper	Scientific Drilling Intl. Standard Wireline Keeper	RECEIVED Office of Oil and Gas SEP 11 2017
6,697.0	17,014.0	Survey #5 MWD (Original Wellpath)	MWD SDI	MWD - Standard ver 1.0.1	

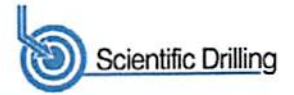
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00
109.5	1.74	137.22	109.5	-1.2	1.1	1.7	1.59
209.5	0.66	135.71	209.5	-2.7	2.6	3.7	1.08
309.5	0.34	144.17	309.5	-3.4	3.1	4.6	0.33
409.5	0.32	136.05	409.5	-3.8	3.5	5.2	0.05
509.5	0.28	152.26	509.5	-4.3	3.8	5.7	0.09
609.5	0.13	118.81	609.5	-4.5	4.0	6.0	0.19
709.5	0.15	67.12	709.5	-4.5	4.2	6.2	0.12
809.5	0.06	154.42	809.5	-4.5	4.4	6.3	0.16
909.5	0.05	163.62	909.5	-4.6	4.4	6.4	0.01
1,009.5	0.23	188.24	1,009.5	-4.9	4.4	6.5	0.19



Company:	Antero Resources	Local Co-ordinate Reference:	Well Irons Unit 2H
Project:	Doddridge County WV	TVD Reference:	PATT 317: Irons 2H 1318 GL + 22.5 KB @ 1340.5
Site:	Rikk/Pratt/Blackwood/Irons	MD Reference:	PATT 317: Irons 2H 1318 GL + 22.5 KB @ 1340.5
Well:	Irons Unit 2H	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)	
1,109.5	0.38	206.62	1,109.4	-5.4	4.2	6.8	0.18	
1,209.5	2.07	197.54	1,209.4	-7.4	3.5	8.0	1.70	
1,309.5	4.74	200.32	1,309.2	-13.0	1.6	11.3	2.67	
1,409.5	5.78	210.00	1,408.8	-21.2	-2.4	15.5	1.36	
1,509.5	6.64	215.21	1,508.2	-30.3	-8.2	19.3	1.03	
1,609.5	5.84	215.21	1,607.6	-39.2	-14.5	22.6	0.80	
1,709.5	5.61	224.50	1,707.1	-46.8	-20.9	24.9	0.95	
1,809.5	4.23	228.45	1,806.8	-52.7	-27.1	25.9	1.42	
1,909.5	3.06	228.68	1,906.6	-57.0	-31.8	26.4	1.17	
2,009.5	1.99	226.97	2,006.5	-59.9	-35.1	26.8	1.07	
2,109.5	1.27	223.20	2,106.4	-61.9	-37.1	27.1	0.73	
2,209.5	0.63	214.77	2,206.4	-63.2	-38.2	27.5	0.65	
2,309.5	0.20	198.51	2,306.4	-63.8	-38.6	27.8	0.44	
2,409.5	0.21	195.01	2,406.4	-64.1	-38.7	28.0	0.02	
2,509.5	0.14	203.56	2,506.4	-64.4	-38.8	28.2	0.07	
2,609.5	0.19	149.18	2,606.4	-64.7	-38.7	28.4	0.16	
2,709.5	0.21	134.01	2,706.4	-64.9	-38.5	28.7	0.06	
2,809.5	0.16	125.47	2,806.4	-65.1	-38.3	29.1	0.06	
2,909.5	0.19	113.04	2,906.4	-65.3	-38.0	29.3	0.05	
3,009.5	0.14	109.14	3,006.4	-65.4	-37.7	29.6	0.05	
3,109.5	0.06	175.61	3,106.4	-65.5	-37.6	29.7	0.13	
3,209.5	0.13	348.45	3,206.4	-65.4	-37.6	29.7	0.19	
3,309.5	0.13	140.10	3,306.4	-65.4	-37.6	29.7	0.25	
3,409.5	0.16	153.00	3,406.4	-65.6	-37.4	29.9	0.04	
3,509.5	0.17	65.70	3,506.4	-65.7	-37.2	30.1	0.23	
3,609.5	0.31	58.82	3,606.4	-65.5	-36.9	30.2	0.14	
3,709.5	0.29	70.53	3,706.4	-65.2	-36.4	30.3	0.06	
3,809.5	0.21	70.61	3,806.4	-65.1	-36.0	30.4	0.08	
3,909.5	0.17	64.81	3,906.4	-65.0	-35.7	30.5	0.04	
4,009.5	0.13	76.08	4,006.4	-64.9	-35.4	30.5	0.05	
4,109.5	0.13	98.37	4,106.4	-64.9	-35.2	30.7	0.05	
4,209.5	0.12	105.34	4,206.4	-64.9	-35.0	30.8	0.02	
4,309.5	0.24	116.32	4,306.4	-65.0	-34.7	31.1	0.12	
4,409.5	0.30	107.21	4,406.4	-65.2	-34.3	31.5	0.07	
4,509.5	0.43	109.74	4,506.4	-65.4	-33.7	32.0	0.13	
4,609.5	0.67	102.35	4,606.4	-65.7	-32.8	32.8	0.25	
4,709.5	0.70	90.74	4,706.4	-65.8	-31.6	33.6	0.14	
4,809.5	0.66	86.38	4,806.4	-65.8	-30.4	34.3	0.07	
4,909.5	0.68	107.77	4,906.4	-65.9	-29.2	35.1	0.25	
5,009.5	0.81	100.25	5,006.4	-66.2	-28.0	36.1	0.16	
5,109.5	0.71	100.94	5,106.4	-66.5	-26.7	37.1	0.10	
5,209.5	0.72	99.25	5,206.3	-66.7	-25.5	38.0	0.02	
5,309.5	0.68	95.02	5,306.3	-66.8	-24.2	38.8	0.07	
5,409.5	0.69	91.05	5,406.3	-66.9		39.6	0.05	

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Company:	Antero Resources	Local Co-ordinate Reference:	Well Irons Unit 2H
Project:	Doddridge County WV	TVD Reference:	PATT 317: Irons 2H 1318 GL + 22.5 KB @ 1340.5
Site:	Rikk/Pratt/Blackwood/Irons	MD Reference:	PATT 317: Irons 2H 1318 GL + 22.5 KB @ 1340.5
Well:	Irons Unit 2H	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)	
5,509.5	0.69	85.57	5,506.3	-66.9	-21.9	40.3	0.07	
5,609.5	0.81	83.92	5,606.3	-66.7	-20.5	41.0	0.12	
5,709.5	0.78	82.10	5,706.3	-66.6	-19.2	41.7	0.04	
5,809.5	0.89	88.88	5,806.3	-66.5	-17.7	42.5	0.15	
5,909.5	0.93	94.79	5,906.3	-66.5	-16.1	43.5	0.10	
6,009.5	0.80	97.01	6,006.3	-66.7	-14.6	44.5	0.13	
6,109.5	0.82	96.88	6,106.3	-66.8	-13.2	45.5	0.02	
6,209.5	0.95	97.59	6,206.2	-67.0	-11.7	46.5	0.13	
6,309.5	0.74	114.75	6,306.2	-67.4	-10.3	47.7	0.33	
6,409.5	0.61	106.25	6,406.2	-67.8	-9.2	48.7	0.16	
6,509.5	0.63	114.16	6,506.2	-68.2	-8.2	49.6	0.09	
6,609.5	0.59	125.31	6,606.2	-68.7	-7.3	50.6	0.13	
6,637.5	0.73	115.23	6,634.2	-68.9	-7.0	50.9	0.65	
6,697.0	2.34	225.58	6,693.7	-69.9	-7.5	51.4	4.51	
6,729.0	6.95	238.40	6,725.6	-71.4	-9.6	51.3	14.68	
6,760.0	12.49	239.28	6,756.1	-74.1	-14.1	50.7	17.88	
6,792.0	16.08	239.57	6,787.1	-78.1	-20.9	49.8	11.22	
6,823.0	18.03	237.69	6,816.8	-82.8	-28.7	49.0	6.54	
6,854.0	20.66	238.40	6,846.0	-88.3	-37.4	48.1	8.52	
6,886.0	24.28	237.64	6,875.6	-94.7	-47.7	47.0	11.35	
6,902.0	25.54	236.91	6,890.1	-98.4	-53.4	46.5	8.12	
Sycamore								
6,917.0	26.73	236.29	6,903.6	-102.0	-58.9	46.1	8.12	
6,948.0	29.23	237.83	6,930.9	-109.9	-71.1	45.1	8.39	
6,979.0	31.74	239.89	6,957.7	-118.0	-84.6	43.5	8.77	
7,011.0	34.47	241.30	6,984.5	-126.6	-99.8	41.2	8.86	
7,040.0	36.84	242.70	7,008.0	-134.5	-114.8	38.5	8.64	
7,074.0	40.04	242.88	7,034.6	-144.2	-133.5	35.0	9.42	
7,106.0	43.26	242.09	7,058.6	-154.0	-152.4	31.5	10.20	
7,137.0	47.66	240.33	7,080.3	-164.7	-171.8	28.4	14.76	
7,169.0	49.18	240.55	7,101.5	-176.5	-192.6	25.3	4.78	
7,178.0	49.19	239.49	7,107.4	-179.9	-198.5	24.5	8.89	
Middlesex								
7,200.0	49.26	236.91	7,121.8	-188.7	-212.6	23.0	8.89	
7,232.0	50.12	232.95	7,142.5	-202.7	-232.6	22.2	9.81	
7,264.0	50.83	227.59	7,162.9	-218.5	-251.6	23.4	13.11	
7,295.0	51.79	222.66	7,182.2	-235.5	-268.7	26.7	12.79	
7,327.0	51.97	216.34	7,202.0	-254.9	-284.7	32.6	15.54	
7,358.0	52.23	211.94	7,221.1	-275.2	-298.4	40.5	11.23	
7,390.0	52.99	208.24	7,240.5	-297.2	-311.2	50.5	9.49	
7,422.0	54.52	203.86	7,259.4	-320.4	-322.5	62.2	12.03	
7,423.0	54.61	203.73	7,260.0	-321.1	-322.8	62.6	13.95	
Burkett								
7,453.0	57.42	199.99	7,276.8	-344.2	-332.0	75.5	13.95	
7,485.0	60.06	196.12	7,293.4	-370.2	-340.0	91.2	13.22	

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Company:	Antero Resources	Local Co-ordinate Reference:	Well Irons Unit 2H
Project:	Doddridge County WV	TVD Reference:	PATT 317: Irons 2H 1318 GL + 22.5 KB @ 1340.5
Site:	Rikk/Pratt/Blackwood/Irons	MD Reference:	PATT 317: Irons 2H 1318 GL + 22.5 KB @ 1340.5
Well:	Irons Unit 2H	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)
7,491.0	60.49	195.29	7,296.4	-375.2	-341.9	94.3	13.94
Tully							
7,516.0	62.34	191.93	7,308.3	-396.5	-347.1	108.3	13.94
7,548.0	63.22	188.47	7,323.0	-424.5	-352.1	127.6	10.00
7,580.0	63.66	184.52	7,337.3	-453.0	-355.3	148.4	11.13
7,611.0	64.37	182.06	7,350.9	-480.8	-356.9	169.7	7.49
7,643.0	66.21	177.58	7,364.2	-509.8	-356.8	192.9	13.96
7,674.0	68.15	174.59	7,376.3	-538.3	-354.9	216.9	10.87
7,706.0	70.00	171.51	7,387.7	-568.0	-351.3	242.8	10.69
7,738.0	70.26	168.96	7,398.6	-597.7	-346.2	269.5	7.54
7,769.0	70.16	166.59	7,409.1	-626.2	-340.0	296.0	7.20
7,801.0	71.40	163.60	7,419.6	-655.4	-332.2	324.0	9.64
7,833.0	74.23	160.73	7,429.1	-684.5	-322.8	352.9	12.31
7,845.0	75.31	159.59	7,432.2	-695.3	-318.9	364.0	12.86
Marcellus							
7,864.0	77.03	157.80	7,436.8	-712.5	-312.2	381.7	12.86
7,896.0	80.68	154.40	7,442.9	-741.2	-299.5	412.3	15.45
7,928.0	82.31	149.80	7,447.7	-769.2	-284.7	443.6	15.10
7,959.0	83.40	146.91	7,451.5	-795.4	-268.6	474.2	9.90
7,991.0	84.59	144.70	7,454.9	-821.7	-250.7	506.0	7.81
8,022.0	85.82	141.63	7,457.5	-846.4	-232.1	536.9	10.64
8,079.0	89.87	135.74	7,459.6	-889.2	-194.6	593.6	12.53
8,174.0	90.48	136.53	7,459.3	-957.7	-128.7	687.9	1.05
8,269.0	88.99	137.59	7,459.8	-1,027.2	-64.0	782.4	1.92
8,364.0	89.25	139.34	7,461.2	-1,098.3	-1.0	877.1	1.86
8,459.0	88.81	140.66	7,462.8	-1,171.1	60.0	971.9	1.46
8,554.0	89.43	141.10	7,464.3	-1,244.8	119.9	1,066.9	0.80
8,649.0	89.25	143.74	7,465.4	-1,320.0	177.9	1,161.8	2.79
8,744.0	88.72	144.53	7,467.1	-1,397.0	233.5	1,256.8	1.00
8,839.0	88.46	144.09	7,469.4	-1,474.1	288.9	1,351.8	0.54
8,933.0	89.03	144.79	7,471.5	-1,550.6	343.6	1,445.7	0.96
9,028.0	89.08	147.25	7,473.0	-1,629.3	396.7	1,540.6	2.59
9,123.0	87.67	146.90	7,475.7	-1,709.1	448.3	1,635.3	1.53
9,218.0	87.32	146.99	7,479.9	-1,788.6	500.1	1,730.0	0.38
9,313.0	88.11	144.70	7,483.7	-1,867.1	553.3	1,824.8	2.55
9,407.0	88.64	144.62	7,486.3	-1,943.8	607.7	1,918.7	0.57
9,502.0	89.16	144.00	7,488.2	-2,020.9	663.1	2,013.7	0.85
9,597.0	89.78	142.86	7,489.0	-2,097.2	719.7	2,108.6	1.37
9,692.0	90.57	143.74	7,488.7	-2,173.4	776.5	2,203.6	1.24
9,787.0	89.52	142.51	7,488.7	-2,249.4	833.5	2,298.6	1.70
9,882.0	88.29	141.63	7,490.5	-2,324.3	891.9	2,393.6	1.59
9,976.0	88.42	141.65	7,493.2	-2,398.0	950.2	2,487.5	0.14
10,071.0	89.34	141.01	7,495.0	-2,472.1	1,009.5	2,582.5	1.18
10,166.0	88.37	140.84	7,496.9	-2,545.9	1,069.4	2,677.4	1.04
10,261.0	87.41	140.84	7,500.4	-2,619.5	1,129.3	2,772.3	1.01

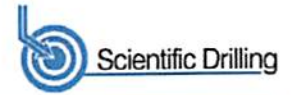
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Office of Oil and Gas



Company:	Antero Resources	Local Co-ordinate Reference:	Well Irons Unit 2H
Project:	Doddridge County WV	TVD Reference:	PATT 317: Irons 2H 1318 GL + 22.5 KB @ 1340.5
Site:	Rikk/Pratt/Blackwood/Irons	MD Reference:	PATT 317: Irons 2H 1318 GL + 22.5 KB @ 1340.5
Well:	Irons Unit 2H	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)
10,356.0	88.29	141.37	7,504.0	-2,693.4	1,188.9	2,867.1	1.08
10,450.0	89.34	142.16	7,505.9	-2,767.2	1,247.1	2,961.1	1.40
10,545.0	89.16	141.19	7,507.2	-2,841.7	1,306.0	3,056.1	1.04
10,640.0	88.72	141.89	7,508.9	-2,916.1	1,365.1	3,151.0	0.87
10,735.0	88.55	144.44	7,511.2	-2,992.1	1,422.0	3,246.0	2.69
10,830.0	88.99	145.14	7,513.2	-3,069.7	1,476.8	3,340.9	0.87
10,925.0	89.25	142.42	7,514.7	-3,146.3	1,532.9	3,435.9	2.88
11,017.0	89.60	140.57	7,515.6	-3,218.3	1,590.2	3,527.8	2.05
11,108.0	89.87	139.96	7,516.1	-3,288.3	1,648.4	3,618.7	0.73
11,199.0	89.60	140.49	7,516.5	-3,358.2	1,706.6	3,709.6	0.65
11,291.0	89.34	140.57	7,517.3	-3,429.2	1,765.0	3,801.5	0.30
11,382.0	88.99	141.54	7,518.7	-3,500.0	1,822.2	3,892.4	1.13
11,473.0	90.57	144.19	7,519.0	-3,572.5	1,877.2	3,983.4	3.39
11,565.0	91.98	144.97	7,517.0	-3,647.5	1,930.5	4,075.4	1.75
11,656.0	90.40	147.08	7,515.1	-3,722.9	1,981.3	4,166.2	2.90
11,747.0	90.84	147.43	7,514.1	-3,799.5	2,030.5	4,257.0	0.62
11,838.0	91.45	146.81	7,512.3	-3,875.9	2,079.9	4,347.7	0.96
11,929.0	91.80	145.14	7,509.7	-3,951.3	2,130.8	4,438.6	1.87
12,020.0	91.61	143.93	7,507.0	-4,025.3	2,183.6	4,529.5	1.35
12,115.0	91.89	145.32	7,504.1	-4,102.8	2,238.6	4,624.4	1.49
12,210.0	90.75	144.35	7,501.9	-4,180.4	2,293.3	4,719.3	1.58
12,305.0	91.19	144.27	7,500.3	-4,257.6	2,348.7	4,814.3	0.47
12,399.0	91.31	145.94	7,498.2	-4,334.6	2,402.4	4,908.2	1.78
12,494.0	91.10	146.46	7,496.2	-4,413.6	2,455.3	5,003.1	0.59
12,589.0	91.63	147.78	7,494.0	-4,493.3	2,506.8	5,097.8	1.50
12,684.0	89.52	145.58	7,493.0	-4,572.7	2,559.0	5,192.6	3.21
12,779.0	89.60	144.79	7,493.7	-4,650.7	2,613.2	5,287.5	0.84
12,873.0	91.61	144.26	7,492.7	-4,727.2	2,667.8	5,381.5	2.21
12,968.0	92.59	143.47	7,489.3	-4,803.9	2,723.8	5,476.4	1.32
13,063.0	93.56	144.70	7,484.2	-4,880.7	2,779.4	5,571.2	1.65
13,158.0	92.07	141.89	7,479.5	-4,956.8	2,836.1	5,666.1	3.34
13,253.0	91.54	141.63	7,476.5	-5,031.4	2,894.9	5,761.0	0.62
13,348.0	91.28	138.99	7,474.2	-5,104.4	2,955.5	5,855.9	2.79
13,443.0	91.80	138.82	7,471.6	-5,176.0	3,018.0	5,950.6	0.58
13,537.0	93.03	137.59	7,467.7	-5,246.0	3,080.6	6,044.2	1.85
13,632.0	93.74	139.43	7,462.0	-5,317.1	3,143.4	6,138.7	2.07
13,727.0	92.24	141.89	7,457.1	-5,390.4	3,203.5	6,233.5	3.03
13,822.0	92.51	143.21	7,453.2	-5,465.8	3,261.2	6,328.4	1.42
13,917.0	92.86	141.45	7,448.7	-5,540.9	3,319.2	6,423.3	1.89
14,012.0	91.89	143.03	7,444.8	-5,615.9	3,377.3	6,518.2	1.95
14,107.0	92.15	142.07	7,441.4	-5,691.3	3,435.1	6,613.1	1.05
14,202.0	91.71	144.35	7,438.2	-5,767.3	3,491.9	6,708.1	2.44
14,297.0	92.07	144.79	7,435.1	-5,844.7	3,547.0	6,803.0	0.60
14,392.0	90.40	144.44	7,433.0	-5,922.1	3,602.0	6,897.9	1.80

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Project:	Doddridge County WV	TVD Reference:	PATT 317: Irons 2H 1318 GL + 22.5 KB @ 1340.5
Site:	Rikk/Pratt/Blackwood/Irons	MD Reference:	PATT 317: Irons 2H 1318 GL + 22.5 KB @ 1340.5
Well:	Irons Unit 2H	North Reference:	Grid
Wellbore:	Original Wellpath	Survey Calculation Method:	Minimum Curvature
Design:	As Drilled	Database:	Oklahoma District

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)
14,487.0	89.25	143.65	7,433.3	-5,999.0	3,657.7	6,992.9	1.47
14,582.0	89.52	144.18	7,434.3	-6,075.8	3,713.7	7,087.9	0.63
14,676.0	88.55	142.07	7,435.9	-6,151.0	3,770.1	7,181.9	2.47
14,771.0	88.55	141.80	7,438.3	-6,225.7	3,828.6	7,276.8	0.28
14,866.0	90.13	142.77	7,439.4	-6,300.9	3,886.7	7,371.8	1.95
14,962.0	91.54	144.27	7,438.0	-6,378.1	3,943.8	7,467.8	2.14
15,057.0	93.03	148.75	7,434.2	-6,457.2	3,996.2	7,562.5	4.97
15,152.0	92.86	150.33	7,429.4	-6,539.0	4,044.3	7,656.8	1.67
15,247.0	91.36	151.03	7,425.9	-6,621.7	4,090.8	7,750.9	1.74
15,342.0	89.26	150.49	7,425.3	-6,704.6	4,137.2	7,845.0	2.28
15,437.0	89.60	150.42	7,426.3	-6,787.3	4,184.0	7,939.2	0.37
15,532.0	89.69	149.63	7,426.9	-6,869.6	4,231.5	8,033.5	0.84
15,627.0	90.40	149.89	7,426.8	-6,951.6	4,279.3	8,127.8	0.80
15,722.0	91.36	149.89	7,425.3	-7,033.8	4,327.0	8,222.2	1.01
15,817.0	89.69	150.59	7,424.5	-7,116.3	4,374.1	8,316.4	1.91
15,912.0	90.04	150.77	7,424.7	-7,199.1	4,420.6	8,410.6	0.41
16,007.0	90.13	149.71	7,424.6	-7,281.6	4,467.8	8,504.8	1.12
16,102.0	90.13	149.89	7,424.3	-7,363.7	4,515.6	8,599.2	0.19
16,197.0	91.01	148.31	7,423.4	-7,445.2	4,564.4	8,693.6	1.90
16,292.0	91.32	149.80	7,421.5	-7,526.6	4,613.2	8,788.1	1.60
16,386.0	90.57	150.68	7,419.9	-7,608.2	4,659.8	8,881.3	1.23
16,481.0	89.43	151.80	7,419.9	-7,691.5	4,705.6	8,975.3	1.68
16,576.0	90.22	151.56	7,420.2	-7,775.1	4,750.6	9,069.3	0.87
16,671.0	90.84	150.86	7,419.3	-7,858.4	4,796.4	9,163.3	0.98
16,766.0	89.08	151.12	7,419.4	-7,941.5	4,842.4	9,257.4	1.87
16,861.0	89.52	150.24	7,420.6	-8,024.3	4,889.0	9,351.5	1.04
16,953.0	89.78	149.36	7,421.1	-8,103.8	4,935.2	9,442.9	1.00
17,014.0	89.78	148.00	7,421.4	-8,155.9	4,966.9	9,503.6	2.23

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
6,902.0	6,890.1	-98.4	-53.4	Sycamore
7,178.0	7,107.4	-179.9	-198.5	Middlesex
7,423.0	7,260.0	-321.1	-322.8	Burkett
7,491.0	7,296.4	-375.2	-341.9	Tully
7,845.0	7,432.2	-695.3	-318.9	Marcellus

Checked By: _____ Approved By: _____ Date: _____

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