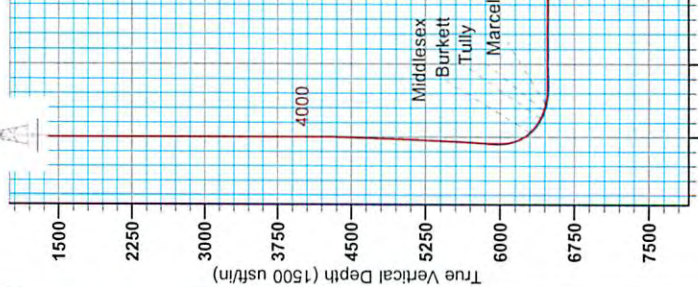




Antero Resources
 Rufus Unit 1H
 Ritchie County WV
 Northing: 14233077.53
 Easting: 1668370.43
 As Drilled

Office of Oil and Gas
 WV Dept. of Environmental Protection



06/12/2015

WELL DETAILS: Rufus Unit 1H

Ground Level:	1075.0	Slot
Easting:	1668370.43 39° 11' 43.2381 N 80° 54' 4.803 W	
Longitude:		
Latitude:		
+N/S:	0.0	
+E/W:	0.0	
Northing:	14233077.53	
Longtude:		

PROJECT DETAILS: Ritchie County WV

Ceodetic 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

REFERENCE INFORMATION
 Centralized NGS Reference: Well B/LAS Unit 1H, Old North
 Vertical (TVD) Reference: Rufus Unit 1H OL 1075 * 24 R/B @ 1099 Duft
 Measured Depth Reference: Rufus Unit 1H OL 1075 * 24 R/B @ 1099 Duft
 Calculation Method: Minimum Convolve

Scientific Drilling
 8:55, October 30 2013
 421 South Eagle Lane
 Oklahoma City, OK

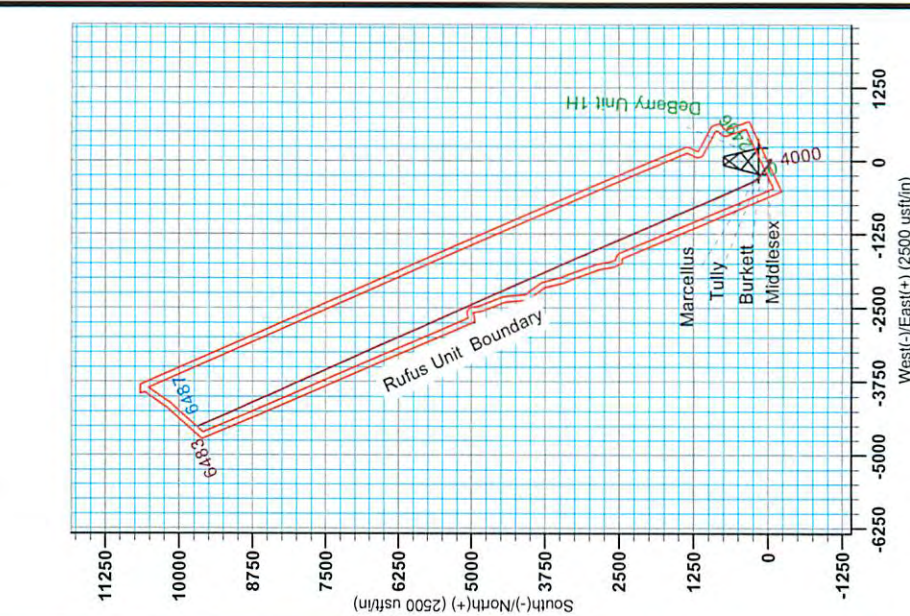
LEGEND

- Rufus Unit 1H, Original Wellpath, Plan 2 Post Gyro VO
- △ DeBerry Unit 1H, Original Wellpath, As Drilled VO
- As Drilled

DESIGN TARGET DETAILS

Name	TVD	+N/S	+E/W	Northing	Easting	Latitude	Longitude
SHL Rufus Unit 1H	0.0	0.0	0.0	0.01423307752	1668370.4389	11.43238 N 80° 54' 4.803 W	
Actual BHL Rufus Unit 1H	1483.4	9644.2	-4495.2	14242721.74	1663875.239	13.18642 N 80° 55' 1.810 W	

Azimuth to Grid North
 True North: -0.00°
 Magnetic North: -8.40°
 Magnetic Field
 Strength: 52357.5nT
 Dip Angle: 66.83°
 Declination: 10.13
 Model: IGRF2010





Antero Resources

Ritchie County WV
DeBerry/Rufus/Langford
Rufus Unit 1H
Original Wellpath

Design: As Drilled

EOW Completion Report

25 October, 2013

Received

APR 27 2015

Office of Oil and Gas
WV Dept. of Environmental Protection



06/12/2015



EOW Completion Report



Company:	Antero Resources	Local Co-ordinate Reference:	Well Rufus Unit 1H
Project:	Ritchie County WV	TVD Reference:	Rufus Unit 1H GL 1075 + 24' RKB @ 1099.0usft
Site:	DeBerry/Rufus/Langford	MD Reference:	Rufus Unit 1H GL 1075 + 24' RKB @ 1099.0usft
Well:	Rufus 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	DeBerry/Rufus/Langford, Site Center: Deberry 1H
-------------	---

Site Position:	Northing:	14,233,087.17 usft	Latitude:	39° 11' 43.333 N	
From: Map	Easting:	1,668,409.26 usft	Longitude:	80° 54' 4.310 W	
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16"	Grid Convergence:	0.06 °

Well	Rufus Unit 1H, Marcellus					
Well Position	+N/-S	0.0 usft	Northing:	14,233,077.53 usft	Latitude:	39° 11' 43.238 N
	+E/-W	0.0 usft	Easting:	1,668,370.43 usft	Longitude:	80° 54' 4.803 W
Position Uncertainty	2.0 usft	Wellhead Elevation:	1,099.0 usft	Ground Level:	1,075.0 usft	

Wellbore	Original Wellpath
-----------------	-------------------

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	8/29/2013	-8.34	66.83	52,358

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	336.25

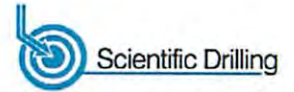
Survey Program	Date	10/25/2013			
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
100.0	5,698.0	Survey #3 Def Gyro to KOP (Original Well	SDI Standard Keeper	Scientific Drilling Intl. Standard Wireline Keeper	
5,698.0	17,014.0	Survey #4 MWD (Original Wellpath)	SDI MWD	Scientific Drilling Intl. 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
100.0	0.11	175.80	100.0	-0.1	0.0	-0.1	0.11
200.0	0.09	166.26	200.0	-0.3	0.0	-0.3	0.03
300.0	0.10	53.50	300.0	-0.3	0.1	-0.3	0.16
400.0	0.11	143.21	400.0	-0.3	0.2	-0.4	0.15
500.0	0.15	163.27	500.0	-0.5	0.3	-0.6	0.06
600.0	0.11	184.82	600.0	-0.7	0.4	-0.8	0.06
700.0	0.16	160.58	700.0	-1.0	0.4	-1.1	0.07
800.0	0.06	195.83	800.0	-1.1	0.4	-1.2	0.12
900.0	0.12	269.92	900.0	-1.2	0.3	-1.2	0.12
1,000.0	0.17	243.52	1,000.0	-1.3	0.1	-1.2	0.08

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APR 27 2015

Office of Oil and Gas
WV Dept. of Environmental Protection



Company:	Antero Resources	Local Co-ordinate Reference:	Well Rufus Unit 1H
Project:	Ritchie County WV	TVD Reference:	Rufus Unit 1H GL 1075 + 24' RKB @ 1099.0usft
Site:	DeBerry/Rufus/Langford	MD Reference:	Rufus Unit 1H GL 1075 + 24' RKB @ 1099.0usft
Well:	Rufus Unit 1H	North Reference:	Grid
Wellbore:	Original Wellpath	Survey Calculation Method:	Minimum Curvature
Design:	As Drilled	Database:	Oklahoma District

APR 27 2015
Office of Oil and Gas
WV Dept. of Environmental

Survey

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)
1,100.0	0.21	261.20	1,100.0	-1.4	-0.2	-1.2	0.07
1,200.0	0.22	269.88	1,200.0	-1.4	-0.6	-1.0	0.03
1,300.0	0.17	263.04	1,300.0	-1.4	-0.9	-0.9	0.06
1,400.0	0.20	271.63	1,400.0	-1.4	-1.3	-0.8	0.04
1,500.0	0.21	307.45	1,500.0	-1.3	-1.6	-0.6	0.13
1,600.0	0.08	307.15	1,600.0	-1.2	-1.8	-0.3	0.13
1,700.0	0.04	341.67	1,700.0	-1.1	-1.8	-0.2	0.05
1,800.0	0.06	343.88	1,800.0	-1.0	-1.9	-0.2	0.02
1,900.0	0.05	118.62	1,900.0	-1.0	-1.8	-0.1	0.10
2,000.0	0.11	5.84	2,000.0	-0.9	-1.8	-0.1	0.14
2,100.0	0.14	186.02	2,100.0	-0.9	-1.8	-0.1	0.25
2,200.0	0.10	274.16	2,200.0	-1.0	-1.9	-0.2	0.17
2,300.0	0.14	340.35	2,300.0	-0.9	-2.0	0.0	0.14
2,400.0	0.15	315.35	2,400.0	-0.7	-2.2	0.2	0.06
2,500.0	0.24	266.40	2,500.0	-0.6	-2.5	0.4	0.18
2,600.0	0.22	264.23	2,600.0	-0.7	-2.9	0.6	0.02
2,700.0	0.29	256.89	2,700.0	-0.7	-3.3	0.7	0.08
2,800.0	0.37	256.24	2,800.0	-0.9	-3.9	0.8	0.08
2,900.0	0.32	258.59	2,900.0	-1.0	-4.5	0.9	0.05
3,000.0	0.32	247.88	3,000.0	-1.2	-5.0	0.9	0.06
3,100.0	0.37	238.87	3,100.0	-1.4	-5.5	0.9	0.07
3,200.0	0.40	225.32	3,200.0	-1.8	-6.0	0.8	0.10
3,300.0	0.39	239.93	3,300.0	-2.3	-6.6	0.6	0.10
3,400.0	0.46	256.49	3,400.0	-2.5	-7.3	0.6	0.14
3,500.0	0.48	244.94	3,500.0	-2.8	-8.0	0.7	0.10
3,600.0	0.30	249.36	3,600.0	-3.1	-8.7	0.7	0.18
3,700.0	0.16	267.64	3,700.0	-3.2	-9.0	0.8	0.16
3,800.0	0.19	283.06	3,800.0	-3.1	-9.4	0.9	0.06
3,900.0	0.12	110.62	3,900.0	-3.1	-9.4	0.9	0.31
4,000.0	0.23	79.88	4,000.0	-3.1	-9.1	0.8	0.14
4,100.0	0.47	83.14	4,100.0	-3.0	-8.5	0.6	0.24
4,200.0	0.52	103.30	4,200.0	-3.1	-7.7	0.3	0.18
4,300.0	1.07	107.67	4,300.0	-3.5	-6.3	-0.6	0.55
4,400.0	1.59	114.81	4,399.9	-4.4	-4.2	-2.3	0.54
4,500.0	1.86	123.58	4,499.9	-5.8	-1.6	-4.7	0.38
4,600.0	2.42	133.27	4,599.8	-8.2	1.3	-8.0	0.66
4,700.0	2.16	137.01	4,699.7	-11.0	4.1	-11.7	0.30
4,800.0	2.46	134.40	4,799.7	-13.9	7.0	-15.5	0.32
4,900.0	2.34	137.55	4,899.6	-16.9	9.9	-19.4	0.18
5,000.0	2.41	135.72	4,999.5	-19.9	12.7	-23.3	0.10
5,100.0	2.43	132.36	5,099.4	-22.8	15.7	-27.2	0.14
5,200.0	2.43	134.36	5,199.3	-25.7	18.8	-31.1	0.08
5,300.0	2.19	131.68	5,299.2	-28.5	21.8	-34.9	0.26
5,400.0	2.42	130.93	5,399.1	-31.2	24.8	-38.5	0.23



EOW Completion Report



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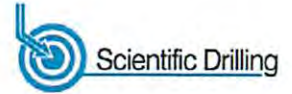
Office of Oil and Gas
WV Dept. of Environmental Protection

Company: Antero Resources	Local Co-ordinate Reference: Well Rufus Unit 1H
Project: Ritchie County WV	TVD Reference: Rufus Unit 1H GL 1075 + 24' RKB @ 1099.0usft
Site: DeBerry/Rufus/Langford	MD Reference: Rufus Unit 1H GL 1075 + 24' RKB @ 1099.0usft
Well: Rufus Unit 1H	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)
5,500.0	2.49	138.49	5,499.0	-34.2	27.8	-42.5	0.33
5,600.0	3.31	144.79	5,598.9	-38.1	30.9	-47.4	0.88
5,698.0	4.37	157.81	5,696.7	-43.9	34.0	-53.9	1.39
5,749.0	4.15	161.96	5,747.6	-47.5	35.3	-57.7	0.74
5,796.0	4.02	165.81	5,794.4	-50.7	36.2	-61.0	0.65
5,843.0	3.86	162.75	5,841.3	-53.8	37.1	-64.2	0.56
5,880.0	3.46	166.75	5,878.2	-56.1	37.7	-66.5	1.28
5,937.0	3.14	210.98	5,935.2	-59.1	37.3	-69.1	4.39
5,984.0	9.04	241.61	5,981.9	-61.9	33.4	-70.1	13.90
6,031.0	14.84	255.21	6,027.9	-65.2	24.3	-69.5	13.63
6,078.0	18.73	276.73	6,072.9	-65.9	11.0	-64.7	15.47
6,125.0	20.52	293.08	6,117.2	-61.8	-4.1	-54.9	12.24
6,172.0	25.41	299.65	6,160.5	-53.6	-20.5	-40.8	11.73
6,220.0	30.94	304.60	6,202.8	-41.4	-39.6	-22.0	12.50
6,267.0	36.00	306.20	6,242.0	-26.4	-60.7	0.3	10.93
6,314.0	41.16	307.43	6,278.7	-8.8	-84.1	25.8	11.10
6,347.0	44.93	308.25	6,302.8	5.0	-101.9	45.6	11.55
Middlesex							
6,361.0	46.53	308.56	6,312.6	11.2	-109.8	54.5	11.55
6,408.0	52.27	308.28	6,343.1	33.4	-137.7	86.0	12.22
6,455.0	58.23	308.95	6,369.9	57.5	-167.9	120.2	12.73
6,502.0	64.38	308.57	6,392.5	83.3	-200.0	156.8	13.10
6,546.0	65.11	307.65	6,411.3	107.8	-231.3	191.9	2.51
Burkett							
6,549.0	65.16	307.59	6,412.5	109.5	-233.5	194.2	2.51
6,596.0	69.35	312.54	6,430.7	137.4	-266.6	233.1	13.18
6,637.0	73.35	317.55	6,443.8	164.9	-294.0	269.3	15.15
Tully							
6,643.0	73.95	318.27	6,445.5	169.1	-297.9	274.8	15.15
6,691.0	77.14	324.08	6,457.5	205.3	-327.0	319.7	13.47
6,713.0	76.98	326.46	6,462.4	223.0	-339.2	340.7	10.57
Marcellus							
6,738.0	76.82	329.17	6,468.1	243.6	-352.2	364.8	10.57
6,785.0	81.80	333.11	6,476.8	284.0	-374.5	410.8	13.42
6,830.0	87.12	335.00	6,481.1	324.3	-394.0	455.5	12.54
6,880.0	90.34	335.31	6,482.3	369.6	-415.0	505.5	6.47
6,942.0	90.94	336.02	6,481.6	426.1	-440.6	567.5	1.50
7,036.0	90.20	337.62	6,480.6	512.5	-477.6	661.5	1.88
7,131.0	90.40	338.08	6,480.1	600.5	-513.4	756.4	0.53
7,225.0	90.22	336.04	6,479.6	687.1	-550.0	850.4	2.18
7,319.0	89.36	336.07	6,480.0	773.0	-588.2	944.4	0.92
7,413.0	89.43	336.29	6,481.0	859.0	-626.1	1,038.4	0.25
7,507.0	89.30	335.53	6,482.0	944.8	-664.5	1,132.4	0.82
7,601.0	89.70	335.50	6,482.8	1,030.3	-703.5	1,226.4	0.43
7,695.0	88.99	336.34	6,483.9	1,116.1	-741.8	1,320.4	1.17



EOW Completion Report



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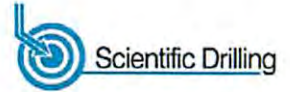
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Site:	DeBerry/Rufus/Langford	MD Reference:	Rufus Unit 1H GL 1075 + 24' RKB @ 1099.0usft
Well:	Rufus Unit 1H	North Reference:	Grid
Wellbore:	Original Wellpath	Survey Calculation Method:	Minimum Curvature
Design:	As Drilled	Database:	Oklahoma District

Survey

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)
7,789.0	89.60	335.26	6,485.0	1,201.9	-780.3	1,414.4	1.32
7,884.0	90.13	336.39	6,485.3	1,288.5	-819.3	1,509.3	1.31
7,978.0	89.49	337.34	6,485.6	1,375.0	-856.2	1,603.3	1.22
8,072.0	89.70	335.69	6,486.2	1,461.2	-893.6	1,697.3	1.77
8,166.0	90.40	334.93	6,486.2	1,546.6	-932.9	1,791.3	1.10
8,259.0	90.13	337.42	6,485.7	1,631.6	-970.5	1,884.3	2.69
8,354.0	90.57	336.43	6,485.2	1,719.0	-1,007.7	1,979.3	1.14
8,448.0	89.66	336.72	6,485.0	1,805.3	-1,045.1	2,073.3	1.02
8,542.0	89.63	335.58	6,485.5	1,891.3	-1,083.1	2,167.3	1.21
8,636.0	89.97	335.80	6,485.9	1,976.9	-1,121.8	2,261.3	0.43
8,730.0	90.20	336.54	6,485.7	2,062.9	-1,159.8	2,355.3	0.82
8,824.0	89.93	335.31	6,485.6	2,148.7	-1,198.1	2,449.3	1.34
8,918.0	90.24	336.08	6,485.5	2,234.4	-1,236.8	2,543.3	0.88
9,012.0	90.91	336.21	6,484.5	2,320.4	-1,274.8	2,637.3	0.73
9,106.0	90.20	336.37	6,483.6	2,406.4	-1,312.6	2,731.3	0.77
9,200.0	89.80	337.49	6,483.6	2,492.9	-1,349.4	2,825.3	1.27
9,294.0	89.87	336.74	6,483.9	2,579.5	-1,386.0	2,919.2	0.80
9,388.0	90.64	336.20	6,483.5	2,665.7	-1,423.5	3,013.2	1.00
9,482.0	88.83	336.77	6,483.9	2,751.9	-1,461.0	3,107.2	2.02
9,576.0	89.33	336.70	6,485.4	2,838.2	-1,498.1	3,201.2	0.54
9,670.0	89.16	335.37	6,486.7	2,924.1	-1,536.3	3,295.2	1.43
9,765.0	89.50	334.56	6,487.8	3,010.2	-1,576.5	3,390.2	0.92
9,859.0	89.40	337.07	6,488.7	3,095.9	-1,615.0	3,484.2	2.67
9,953.0	88.82	337.49	6,490.1	3,182.6	-1,651.3	3,578.1	0.76
10,047.0	89.80	337.38	6,491.3	3,269.4	-1,687.4	3,672.1	1.05
10,141.0	88.32	337.74	6,492.8	3,356.3	-1,723.3	3,766.1	1.62
10,235.0	89.33	335.66	6,494.7	3,442.6	-1,760.4	3,860.0	2.46
10,329.0	88.93	335.13	6,496.2	3,528.0	-1,799.6	3,954.0	0.71
10,424.0	89.23	334.94	6,497.7	3,614.1	-1,839.7	4,049.0	0.37
10,518.0	89.16	335.89	6,499.0	3,699.6	-1,878.8	4,143.0	1.01
10,612.0	89.73	336.61	6,499.9	3,785.7	-1,916.6	4,237.0	0.98
10,706.0	88.79	337.11	6,501.1	3,872.1	-1,953.6	4,330.9	1.13
10,800.0	89.97	336.55	6,502.2	3,958.5	-1,990.5	4,424.9	1.39
10,894.0	88.02	337.85	6,503.8	4,045.1	-2,027.0	4,518.9	2.49
10,988.0	88.45	337.52	6,506.7	4,132.0	-2,062.6	4,612.8	0.58
11,082.0	89.70	335.86	6,508.2	4,218.4	-2,099.8	4,706.8	2.21
11,176.0	89.39	335.70	6,509.0	4,304.1	-2,138.4	4,800.8	0.37
11,267.0	89.93	334.71	6,509.5	4,386.7	-2,176.5	4,891.8	1.24
11,358.0	90.00	336.35	6,509.6	4,469.5	-2,214.2	4,982.8	1.80
11,449.0	89.63	335.00	6,509.9	4,552.4	-2,251.7	5,073.8	1.54
11,540.0	89.70	336.00	6,510.4	4,635.2	-2,289.5	5,164.8	1.10
11,631.0	90.27	336.77	6,510.4	4,718.6	-2,325.9	5,255.8	1.05
11,722.0	89.93	336.73	6,510.3	4,802.2	-2,361.8	5,346.7	0.38
11,813.0	89.43	336.28	6,510.8	4,885.7	-2,398.1	5,437.7	0.74



EOW Completion Report



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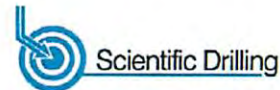
Company: Antero Resources	Local Co-ordinate Reference: Well Rufus Unit 1H
Project: Ritchie County WV	TVD Reference: Rufus Unit 1H GL 1075 + 24' RKB @ 1099.0usft
Site: DeBerry/Rufus/Langford	MD Reference: Rufus Unit 1H GL 1075 + 24' RKB @ 1099.0usft
Well: Rufus Unit 1H	North Reference: Grid
Wellbore: Original Wellpath	Survey Calculation Method: Minimum Curvature
Design: As Drilled	Database: Oklahoma District

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)
11,903.0	89.77	335.36	6,511.4	4,967.8	-2,435.0	5,527.7	1.09
11,994.0	89.46	335.68	6,512.0	5,050.6	-2,472.7	5,618.7	0.49
12,085.0	90.37	336.92	6,512.1	5,133.9	-2,509.3	5,709.7	1.69
12,177.0	90.23	336.70	6,511.7	5,218.5	-2,545.5	5,801.7	0.28
12,268.0	90.20	336.41	6,511.3	5,302.0	-2,581.7	5,892.7	0.32
12,362.0	89.87	334.71	6,511.3	5,387.5	-2,620.6	5,986.7	1.84
12,456.0	89.76	335.93	6,511.6	5,473.0	-2,659.8	6,080.7	1.30
12,551.0	90.03	335.95	6,511.7	5,559.7	-2,698.6	6,175.7	0.28
12,644.0	89.90	335.45	6,511.8	5,644.5	-2,736.8	6,268.7	0.56
12,738.0	91.11	336.23	6,511.0	5,730.2	-2,775.3	6,362.7	1.53
12,832.0	89.97	337.48	6,510.1	5,816.7	-2,812.2	6,456.7	1.80
12,926.0	89.70	337.58	6,510.4	5,903.5	-2,848.2	6,550.6	0.31
13,020.0	90.27	336.64	6,510.4	5,990.1	-2,884.7	6,644.6	1.17
13,115.0	90.77	336.09	6,509.5	6,077.1	-2,922.8	6,739.6	0.78
13,209.0	89.06	335.76	6,509.7	6,163.0	-2,961.2	6,833.6	1.85
13,303.0	89.12	336.49	6,511.1	6,248.9	-2,999.2	6,927.6	0.78
13,397.0	90.00	336.74	6,511.9	6,335.2	-3,036.5	7,021.6	0.97
13,491.0	89.93	336.87	6,511.9	6,421.6	-3,073.5	7,115.6	0.16
13,584.0	90.07	336.98	6,511.9	6,507.1	-3,110.0	7,208.6	0.19
13,679.0	90.87	336.09	6,511.1	6,594.3	-3,147.8	7,303.6	1.26
13,773.0	90.67	334.81	6,509.9	6,679.8	-3,186.9	7,397.6	1.38
13,866.0	90.97	334.74	6,508.6	6,763.9	-3,226.5	7,490.5	0.33
13,960.0	90.84	334.51	6,507.1	6,848.8	-3,266.8	7,584.5	0.28
14,054.0	91.11	335.58	6,505.5	6,934.0	-3,306.4	7,678.4	1.17
14,148.0	91.34	336.77	6,503.5	7,020.0	-3,344.4	7,772.4	1.29
14,242.0	91.17	335.91	6,501.4	7,106.1	-3,382.1	7,866.4	0.93
14,336.0	92.55	337.02	6,498.3	7,192.2	-3,419.6	7,960.3	1.88
14,430.0	91.48	337.32	6,495.0	7,278.8	-3,456.1	8,054.3	1.18
14,524.0	92.01	336.02	6,492.2	7,365.1	-3,493.3	8,148.2	1.49
14,619.0	92.18	335.39	6,488.7	7,451.6	-3,532.3	8,243.2	0.69
14,713.0	91.14	336.71	6,486.0	7,537.5	-3,570.5	8,337.1	1.79
14,807.0	90.67	336.85	6,484.5	7,623.8	-3,607.5	8,431.1	0.52
14,901.0	90.84	336.49	6,483.3	7,710.1	-3,644.7	8,525.1	0.42
14,995.0	89.16	338.05	6,483.3	7,796.8	-3,681.1	8,619.1	2.44
15,089.0	89.77	337.07	6,484.1	7,883.7	-3,716.9	8,713.0	1.23
15,183.0	90.23	336.83	6,484.1	7,970.2	-3,753.7	8,807.0	0.55
15,277.0	89.43	336.07	6,484.4	8,056.4	-3,791.3	8,901.0	1.17
15,371.0	89.50	335.08	6,485.3	8,142.0	-3,830.2	8,995.0	1.06
15,465.0	89.23	334.99	6,486.3	8,227.2	-3,869.8	9,089.0	0.30
15,559.0	89.66	335.62	6,487.2	8,312.6	-3,909.1	9,183.0	0.81
15,653.0	90.37	335.58	6,487.2	8,398.2	-3,947.9	9,277.0	0.76
15,747.0	89.77	336.87	6,487.1	8,484.2	-3,985.8	9,371.0	1.51
15,841.0	89.53	336.34	6,487.7	8,570.5	-4,023.2	9,464.9	0.62
15,935.0	90.37	335.59	6,487.8	8,656.3	-4,061.4	9,558.9	1.20
16,030.0	90.30	336.04	6,487.2	8,743.0	-4,100.4	9,653.9	0.48



EOW Completion Report



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Site:	DeBerry/Rufus/Langford	MD Reference:	Rufus Unit 1H GL 1075 + 24' RKB @ 1099.0usft
Well:	Rufus 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)
16,124.0	90.54	335.83	6,486.5	8,828.8	-4,138.7	9,747.9	0.34
16,217.0	89.63	336.30	6,486.4	8,913.8	-4,176.4	9,840.9	1.10
16,311.0	89.93	336.61	6,486.7	9,000.0	-4,214.0	9,934.9	0.46
16,404.0	90.27	335.58	6,486.6	9,085.0	-4,251.7	10,027.9	1.17
16,499.0	91.04	336.25	6,485.5	9,171.7	-4,290.4	10,122.9	1.07
16,593.0	90.20	335.96	6,484.5	9,257.6	-4,328.5	10,216.9	0.95
16,687.0	90.57	337.57	6,483.8	9,344.0	-4,365.6	10,310.9	1.76
16,781.0	89.70	336.65	6,483.6	9,430.6	-4,402.1	10,404.9	1.35
16,875.0	90.44	337.04	6,483.5	9,517.0	-4,439.1	10,498.9	0.89
16,965.0	89.70	335.90	6,483.4	9,599.6	-4,475.0	10,588.9	1.51
17,014.0	90.20	335.50	6,483.4	9,644.2	-4,495.2	10,637.9	1.31

Design Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
6,347.0	6,302.8	5.0	-101.9	Middlesex
6,546.0	6,411.3	107.8	-231.3	Burkett
6,637.0	6,443.8	164.9	-294.0	Tully
6,713.0	6,462.4	223.0	-339.2	Marcellus

Checked By: _____ Approved By: _____ Date: _____

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