



Antero
 Outback Unit 2H
 Doddridge County WV
 Northing: 14271022.45
 Easting: 1696911.85
 As Drilled

WELL DETAILS: Outback Unit 2H						
+N/-S	+E/-W	Northing	Ground Level: Easting	1189.0	Latitude	Longitude
0.0	0.0	14271022.45	1696911.85		39° 17' 57.962 N	80° 48' 1.077 W

PROJECT DETAILS: Doddridge 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

REFERENCE INFORMATION

Co-ordinate (N/E) Reference: Well Outback Unit 2H, Grid North
 Vertical (TVD) Reference: Frontier 22, GL 1189' + KB 25' @ 1214 Oust
 Section (G/S) Reference: Stat. = (D 24, 3/05)
 Measured Depth Reference: Frontier 22, GL 1189' + KB 25' @ 1214 Oust
 Calculation Method: Minimum Curvature

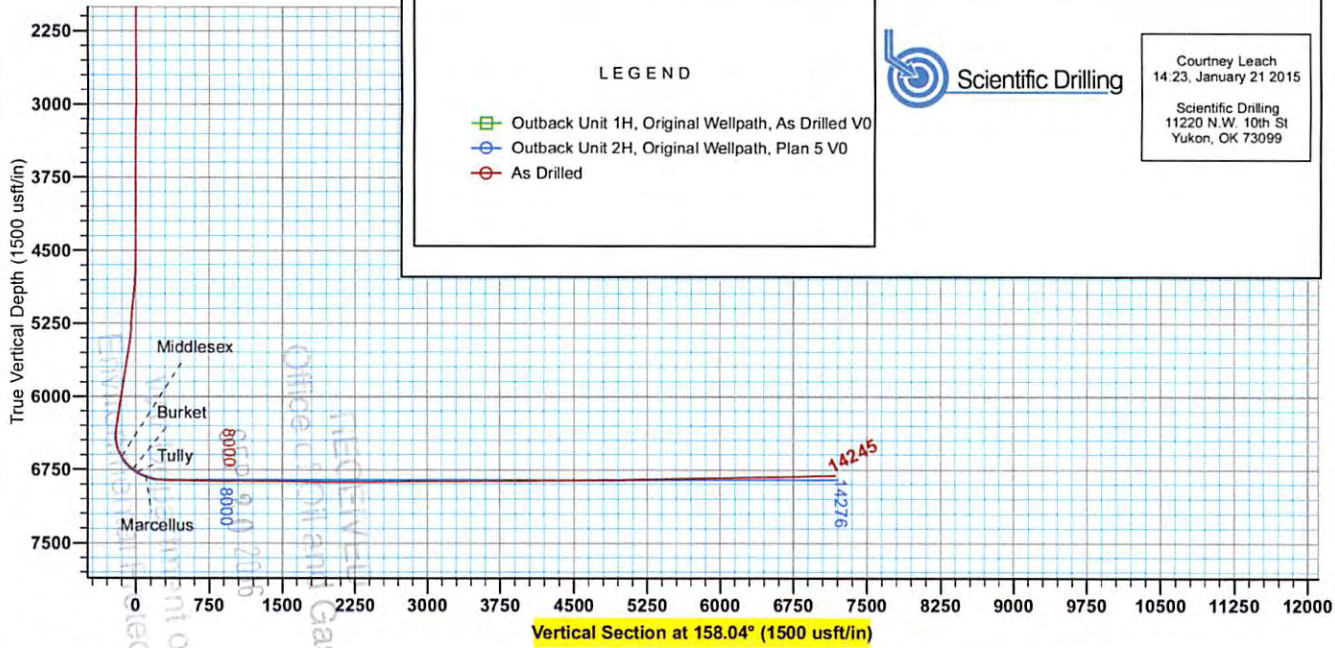
DESIGN TARGET DETAILS							
Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
SHL Outback Unit 2H	0.0	0.0	0.0	14271022.45	1696911.84	39° 17' 57.962 N	80° 48' 1.077 W
BHL Outback Unit 2H	6806.6	-7006.1	1821.5	14264016.39	1698733.34	39° 16' 48.648 N	80° 47' 38.101 W

LEGEND

- Outback Unit 1H, Original Wellpath, As Drilled V0
- Outback Unit 2H, Original Wellpath, Plan 5 V0
- As Drilled



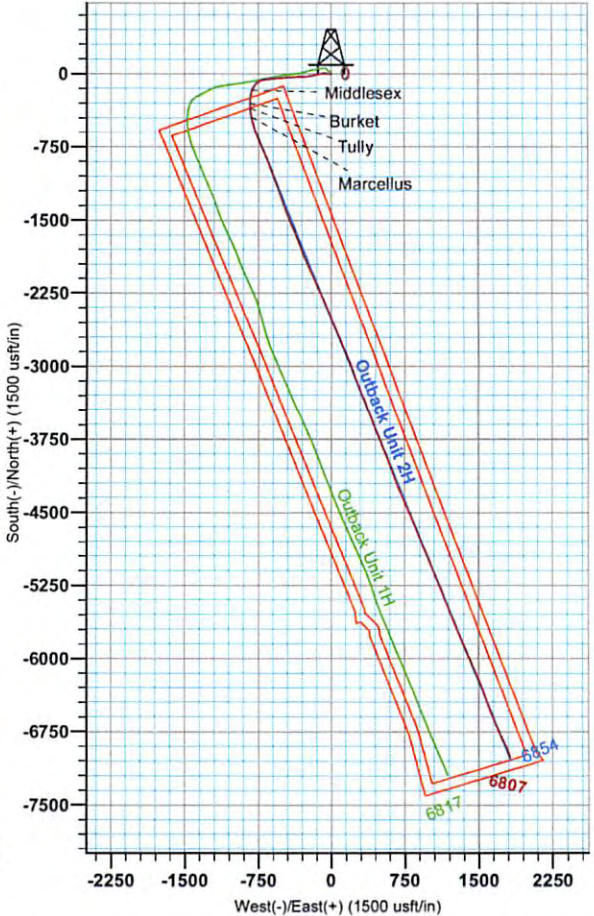
Courtney Leach
 14.23, January 21 2015
 Scientific Drilling
 11220 N.W. 10th St
 Yukon, OK 73099



To convert Magnetic North to Grid, Subtract 8.60°
 To convert True North to Grid, Subtract 0.13°

Azimuths to Grid North
 True North: -0.13°
 Magnetic North: -8.60°

Magnetic Field
 Strength: 52222.2enT
 Dip Angle: 66.85°
 Date: 10/16/2014
 Model: BGM2014





Antero

**Doddridge County WV
Cofor Pad/Outback Morton Nova Grape Rainer
Outback Unit 2H
Original Wellpath**

Design: As Drilled

EOW Completion Report

21 January, 2015



04/28/2017



EOW Completion Report



Company:	Antero	Local Co-ordinate Reference:	Well Outback Unit 2H
Project:	Doddridge County WV	TVD Reference:	Frontier 22: GL 1189' + KB 25' @ 1214.0usft
Site:	Cofor Pad/Outback Morton Nova Grape Rainer	MD Reference:	Frontier 22: GL 1189' + KB 25' @ 1214.0usft
Well:	Outback 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	Cofor Pad/Outback Morton Nova Grape Rainer				
Site Position:	Northing:	14,271,032.41 usft	Latitude:	39° 17' 58.061 N	
From: Map	Easting:	1,696,909.68 usft	Longitude:	80° 48' 1.105 W	
Position Uncertainty:	2.0 usft	Slot Radius:	13-3/16"	Grid Convergence:	0.13 °

Well	Outback Unit 2H				
Well Position	+N/-S	0.0 usft	Northing:	14,271,022.45 usft	
	+E/-W	0.0 usft	Easting:	1,696,911.85 usft	
Position Uncertainty	2.0 usft	Wellhead Elevation:	1,214.0 usft	Ground Level:	1,189.0 usft

Wellbore	Original Wellpath				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	BGGM2014	10/16/2014	-8.47	66.85	52,222

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	158.04	

Survey Program	Date	1/21/2015			
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
37.0	6,262.9	Survey #7 Final Gyro (Original Wellpath)	Standard Keeper 104	Standard Wireline Keeper ver 1.0.4	
6,354.0	14,245.0	Survey #8 SDI MWD (Original Wellpath)	SDI MWD	Scientific Drilling Intl. 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	0.00	0.00	
37.0	0.05	270.12	37.0	0.0	0.0	0.0	0.14	0.14	
62.0	0.11	270.12	62.0	0.0	-0.1	0.0	0.24	0.24	
87.0	0.16	270.12	87.0	0.0	-0.1	0.0	0.20	0.20	
112.0	0.22	270.12	112.0	0.0	-0.2	-0.1	0.24	0.24	
137.0	0.22	249.15	137.0	0.0	-0.3	-0.1	0.32	0.32	
162.0	0.27	270.48	162.0	0.0	-0.4	-0.1	0.41	0.41	
187.0	0.28	282.47	187.0	0.0	-0.5	-0.2	0.23	0.23	
212.0	0.33	265.86	212.0	0.0	-0.6	-0.2	0.40	0.40	
237.0	0.17	291.30	237.0	0.0	-0.7	-0.3	0.76	0.76	
262.0	0.04	183.71	262.0	0.0	-0.8	-0.3	0.74	0.74	

RECEIVED
Office of Oil and Gas
SEP 20 2016
WV Department of Environmental Protection
COMPASS 5000.1 Build 74



EOW Completion Report



Company:	Antero	Local Co-ordinate Reference:	Well Outback Unit 2H
Project:	Doddridge County WV	TVD Reference:	Frontier 22: GL 1189' + KB 25' @ 1214.0usft
Site:	Cofor Pad/Outback Morton Nova Grape Rainer	MD Reference:	Frontier 22: GL 1189' + KB 25' @ 1214.0usft
Well:	Outback 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)
287.0	0.09	242.01	287.0	0.0	-0.8	-0.3	0.31
312.0	0.18	239.93	312.0	0.0	-0.9	-0.3	0.36
337.0	0.24	277.63	337.0	-0.1	-0.9	-0.3	0.59
362.0	0.33	233.71	362.0	-0.1	-1.0	-0.3	0.92
387.0	0.24	249.84	387.0	-0.2	-1.2	-0.3	0.48
412.0	0.23	250.80	412.0	-0.2	-1.2	-0.3	0.04
437.0	0.22	250.76	437.0	-0.2	-1.3	-0.3	0.04
462.0	0.22	250.73	462.0	-0.3	-1.4	-0.3	0.00
487.0	0.21	250.69	487.0	-0.3	-1.5	-0.3	0.04
512.0	0.21	250.66	512.0	-0.3	-1.6	-0.3	0.00
537.0	0.21	250.62	537.0	-0.3	-1.7	-0.3	0.00
562.0	0.20	250.58	562.0	-0.4	-1.8	-0.3	0.04
587.0	0.20	250.54	587.0	-0.4	-1.9	-0.3	0.00
612.0	0.19	250.49	612.0	-0.4	-1.9	-0.3	0.04
637.0	0.19	250.45	637.0	-0.5	-2.0	-0.3	0.00
662.0	0.18	250.40	662.0	-0.5	-2.1	-0.3	0.04
687.0	0.18	250.35	687.0	-0.5	-2.2	-0.3	0.00
712.0	0.17	250.30	712.0	-0.5	-2.2	-0.3	0.04
737.0	0.17	250.24	737.0	-0.6	-2.3	-0.3	0.00
762.0	0.17	250.18	762.0	-0.6	-2.4	-0.3	0.00
787.0	0.16	250.12	787.0	-0.6	-2.4	-0.3	0.04
812.0	0.16	250.05	812.0	-0.6	-2.5	-0.3	0.00
837.0	0.15	249.98	837.0	-0.7	-2.6	-0.4	0.04
862.0	0.15	249.91	862.0	-0.7	-2.6	-0.4	0.00
887.0	0.14	249.83	887.0	-0.7	-2.7	-0.4	0.04
912.0	0.14	249.75	912.0	-0.7	-2.8	-0.4	0.00
937.0	0.14	249.66	937.0	-0.7	-2.8	-0.4	0.00
962.0	0.13	249.56	962.0	-0.8	-2.9	-0.4	0.04
987.0	0.13	249.46	987.0	-0.8	-2.9	-0.4	0.00
1,012.0	0.12	249.36	1,012.0	-0.8	-3.0	-0.4	0.04
1,037.0	0.12	249.24	1,037.0	-0.8	-3.0	-0.4	0.00
1,062.0	0.11	249.11	1,062.0	-0.8	-3.1	-0.4	0.04
1,087.0	0.11	248.98	1,087.0	-0.9	-3.1	-0.4	0.00
1,112.0	0.10	248.83	1,112.0	-0.9	-3.2	-0.4	0.04
1,137.0	0.10	248.67	1,137.0	-0.9	-3.2	-0.4	0.00
1,162.0	0.10	248.49	1,162.0	-0.9	-3.2	-0.4	0.00
1,187.0	0.09	248.30	1,187.0	-0.9	-3.3	-0.4	0.04
1,212.0	0.09	248.08	1,212.0	-0.9	-3.3	-0.4	0.00
1,237.0	0.08	247.85	1,237.0	-1.0	-3.3	-0.4	0.04
1,262.0	0.08	247.59	1,262.0	-1.0	-3.4	-0.4	0.00
1,287.0	0.07	247.29	1,287.0	-1.0	-3.4	-0.4	0.04
1,312.0	0.07	246.96	1,312.0	-1.0	-3.4	-0.4	0.00
1,337.0	0.06	246.58	1,337.0	-1.0	-3.5	-0.4	0.04
1,362.0	0.06	246.14	1,362.0	-1.0	-3.5	-0.4	0.00

RECEIVED
 Office of Oil and Gas
 SEP 29 2016
 WV Department of Environmental Protection
 COMPASS 5000.1 Build 74



EOW Completion Report



Company:	Antero	Local Co-ordinate Reference:	Well Outback Unit 2H
Project:	Doddridge County WV	TVD Reference:	Frontier 22: GL 1189' + KB 25' @ 1214.0usft
Site:	Cofor Pad/Outback Morton Nova Grape Rainer	MD Reference:	Frontier 22: GL 1189' + KB 25' @ 1214.0usft
Well:	Outback 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)
1,387.0	0.06	245.64	1,387.0	-1.0	-3.5	-0.4	0.00
1,412.0	0.05	245.05	1,412.0	-1.0	-3.5	-0.4	0.04
1,437.0	0.05	244.35	1,437.0	-1.0	-3.6	-0.4	0.00
1,462.0	0.04	243.50	1,462.0	-1.0	-3.6	-0.4	0.04
1,487.0	0.04	242.45	1,487.0	-1.1	-3.6	-0.4	0.00
1,512.0	0.03	241.13	1,512.0	-1.1	-3.6	-0.4	0.04
1,537.0	0.03	239.42	1,537.0	-1.1	-3.6	-0.4	0.00
1,562.0	0.02	237.11	1,562.0	-1.1	-3.6	-0.4	0.04
1,587.0	0.02	233.83	1,587.0	-1.1	-3.6	-0.4	0.00
1,612.0	0.02	228.88	1,612.0	-1.1	-3.6	-0.4	0.01
1,637.0	0.01	220.70	1,637.0	-1.1	-3.6	-0.3	0.04
1,662.0	0.01	205.66	1,662.0	-1.1	-3.6	-0.3	0.01
1,687.0	0.01	177.17	1,687.0	-1.1	-3.6	-0.3	0.02
1,712.0	0.01	139.96	1,712.0	-1.1	-3.6	-0.3	0.03
1,737.0	0.01	114.97	1,737.0	-1.1	-3.6	-0.3	0.02
1,762.0	0.01	101.95	1,762.0	-1.1	-3.6	-0.3	0.01
1,787.0	0.02	94.70	1,787.0	-1.1	-3.6	-0.3	0.04
1,812.0	0.02	90.21	1,812.0	-1.1	-3.6	-0.3	0.01
1,837.0	0.03	87.20	1,837.0	-1.1	-3.6	-0.3	0.04
1,862.0	0.03	85.04	1,862.0	-1.1	-3.6	-0.3	0.00
1,887.0	0.03	83.43	1,887.0	-1.1	-3.6	-0.3	0.00
1,912.0	0.04	82.18	1,912.0	-1.1	-3.6	-0.3	0.04
1,937.0	0.04	81.19	1,937.0	-1.1	-3.5	-0.3	0.00
1,962.0	0.05	80.37	1,962.0	-1.1	-3.5	-0.3	0.04
1,987.0	0.05	79.70	1,987.0	-1.1	-3.5	-0.3	0.00
2,012.0	0.06	79.13	2,012.0	-1.1	-3.5	-0.3	0.04
2,037.0	0.06	78.64	2,037.0	-1.1	-3.5	-0.3	0.00
2,062.0	0.07	78.22	2,062.0	-1.1	-3.4	-0.3	0.04
2,087.0	0.07	77.85	2,087.0	-1.1	-3.4	-0.3	0.00
2,112.0	0.07	77.53	2,112.0	-1.1	-3.4	-0.3	0.00
2,137.0	0.08	77.24	2,137.0	-1.1	-3.3	-0.3	0.04
2,162.0	0.08	76.98	2,162.0	-1.1	-3.3	-0.3	0.00
2,187.0	0.09	76.75	2,187.0	-1.0	-3.3	-0.3	0.04
2,212.0	0.09	76.55	2,212.0	-1.0	-3.2	-0.2	0.00
2,237.0	0.10	76.36	2,237.0	-1.0	-3.2	-0.2	0.04
2,262.0	0.10	76.18	2,262.0	-1.0	-3.1	-0.2	0.00
2,287.0	0.10	76.03	2,287.0	-1.0	-3.1	-0.2	0.00
2,312.0	0.11	75.88	2,312.0	-1.0	-3.1	-0.2	0.04
2,337.0	0.11	75.75	2,337.0	-1.0	-3.0	-0.2	0.00
2,362.0	0.12	75.62	2,362.0	-1.0	-3.0	-0.2	0.04
2,387.0	0.12	75.51	2,387.0	-1.0	-2.9	-0.2	0.00
2,412.0	0.13	75.40	2,412.0	-0.9	-2.9	-0.2	0.04
2,437.0	0.13	75.30	2,437.0	-0.9	-2.8	-0.2	0.00
2,462.0	0.14	75.21	2,462.0	-0.9	-2.8	-0.2	0.04
2,487.0	0.14	75.12	2,487.0	-0.9	-2.7	-0.2	0.00

RECEIVED
Office of Oil and Gas
SEP 20 2015
WV Department of Environmental Protection
04/28/2017



EOW Completion Report



Company:	Antero	Local Co-ordinate Reference:	Well Outback Unit 2H
Project:	Doddridge County WV	TVD Reference:	Frontier 22: GL 1189' + KB 25' @ 1214.0usft
Site:	Cofor Pad/Outback Morton Nova Grape Rainer	MD Reference:	Frontier 22: GL 1189' + KB 25' @ 1214.0usft
Well:	Outback 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)
2,512.0	0.14	75.16	2,512.0	-0.9	-2.6	-0.2	0.00
2,537.0	0.09	98.14	2,537.0	-0.9	-2.6	-0.2	0.27
2,562.0	0.08	65.22	2,562.0	-0.9	-2.5	-0.1	0.20
2,587.0	0.07	80.22	2,587.0	-0.9	-2.5	-0.1	0.09
2,612.0	0.11	30.98	2,612.0	-0.8	-2.5	-0.2	0.33
2,637.0	0.14	56.36	2,637.0	-0.8	-2.5	-0.2	0.25
2,662.0	0.06	31.81	2,662.0	-0.8	-2.4	-0.2	0.36
2,687.0	0.08	59.14	2,687.0	-0.8	-2.4	-0.2	0.15
2,712.0	0.08	93.45	2,712.0	-0.7	-2.4	-0.2	0.19
2,737.0	0.06	71.28	2,737.0	-0.7	-2.3	-0.2	0.13
2,762.0	0.10	32.16	2,762.0	-0.7	-2.3	-0.2	0.26
2,787.0	0.05	35.98	2,787.0	-0.7	-2.3	-0.2	0.20
2,812.0	0.09	58.95	2,812.0	-0.7	-2.3	-0.2	0.19
2,837.0	0.10	160.94	2,837.0	-0.7	-2.2	-0.2	0.59
2,862.0	0.04	250.55	2,862.0	-0.7	-2.2	-0.2	0.43
2,887.0	0.08	165.17	2,887.0	-0.7	-2.3	-0.2	0.35
2,912.0	0.03	103.68	2,912.0	-0.7	-2.2	-0.1	0.28
2,937.0	0.03	249.20	2,937.0	-0.7	-2.2	-0.1	0.23
2,962.0	0.09	312.52	2,962.0	-0.7	-2.3	-0.2	0.32
2,987.0	0.05	295.63	2,987.0	-0.7	-2.3	-0.2	0.18
3,012.0	0.13	335.42	3,012.0	-0.7	-2.3	-0.2	0.39
3,037.0	0.09	331.68	3,037.0	-0.6	-2.3	-0.3	0.16
3,062.0	0.14	359.68	3,062.0	-0.6	-2.3	-0.3	0.30
3,087.0	0.14	339.53	3,087.0	-0.5	-2.3	-0.4	0.20
3,112.0	0.10	333.09	3,112.0	-0.5	-2.4	-0.4	0.17
3,137.0	0.09	296.69	3,137.0	-0.5	-2.4	-0.5	0.24
3,162.0	0.07	44.59	3,162.0	-0.4	-2.4	-0.5	0.52
3,187.0	0.13	347.48	3,187.0	-0.4	-2.4	-0.5	0.44
3,212.0	0.09	0.26	3,212.0	-0.4	-2.4	-0.6	0.19
3,237.0	0.09	338.17	3,237.0	-0.3	-2.4	-0.6	0.14
3,262.0	0.09	322.00	3,262.0	-0.3	-2.4	-0.6	0.10
3,287.0	0.11	337.20	3,287.0	-0.2	-2.5	-0.7	0.13
3,312.0	0.17	347.36	3,312.0	-0.2	-2.5	-0.7	0.26
3,337.0	0.14	331.10	3,337.0	-0.1	-2.5	-0.8	0.21
3,362.0	0.13	338.23	3,362.0	-0.1	-2.5	-0.9	0.08
3,387.0	0.16	346.28	3,387.0	0.0	-2.5	-0.9	0.14
3,412.0	0.12	23.13	3,412.0	0.0	-2.5	-1.0	0.39
3,437.0	0.10	5.34	3,437.0	0.1	-2.5	-1.0	0.16
3,462.0	0.08	349.07	3,462.0	0.1	-2.5	-1.1	0.13
3,487.0	0.11	357.75	3,487.0	0.2	-2.5	-1.1	0.13
3,512.0	0.15	341.35	3,512.0	0.2	-2.5	-1.2	0.22
3,537.0	0.13	338.32	3,537.0	0.3	-2.6	-1.2	0.09
3,562.0	0.13	332.61	3,562.0	0.3	-2.6	-1.3	0.05
3,587.0	0.17	355.30	3,587.0	0.4	-2.6	-1.3	0.28

Company:	Antero	Local Co-ordinate Reference:	Well Outback Unit 2H
Project:	Doddridge County WV	TVD Reference:	Frontier 22: GL 1189' + KB 25' @ 1214.0usft
Site:	Cofor Pad/Outback Morton Nova Grape Rainer	MD Reference:	Frontier 22: GL 1189' + KB 25' @ 1214.0usft
Well:	Outback 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)
3,612.0	0.18	357.65	3,612.0	0.5	-2.6	-1.4	0.05
3,637.0	0.11	343.44	3,637.0	0.5	-2.6	-1.5	0.31
3,662.0	0.07	318.02	3,662.0	0.6	-2.6	-1.5	0.22
3,687.0	0.13	319.12	3,687.0	0.6	-2.7	-1.6	0.24
3,712.0	0.13	331.80	3,712.0	0.6	-2.7	-1.6	0.11
3,737.0	0.09	295.96	3,737.0	0.7	-2.7	-1.7	0.31
3,762.0	0.07	248.32	3,762.0	0.7	-2.8	-1.7	0.27
3,787.0	0.11	298.24	3,787.0	0.7	-2.8	-1.7	0.34
3,812.0	0.12	285.63	3,812.0	0.7	-2.8	-1.7	0.11
3,837.0	0.12	294.59	3,837.0	0.7	-2.9	-1.8	0.07
3,862.0	0.13	294.77	3,862.0	0.7	-2.9	-1.8	0.04
3,887.0	0.15	251.64	3,887.0	0.8	-3.0	-1.8	0.42
3,912.0	0.07	1.90	3,912.0	0.8	-3.0	-1.8	0.74
3,937.0	0.13	284.56	3,937.0	0.8	-3.0	-1.9	0.53
3,962.0	0.14	260.26	3,962.0	0.8	-3.1	-1.9	0.23
3,987.0	0.20	322.65	3,987.0	0.8	-3.2	-1.9	0.73
4,012.0	0.05	309.21	4,012.0	0.9	-3.2	-2.0	0.61
4,037.0	0.04	334.45	4,037.0	0.9	-3.2	-2.0	0.09
4,062.0	0.03	180.01	4,062.0	0.9	-3.2	-2.0	0.27
4,087.0	0.05	104.16	4,087.0	0.9	-3.2	-2.0	0.21
4,112.0	0.23	199.93	4,112.0	0.8	-3.2	-2.0	0.96
4,137.0	0.01	151.55	4,137.0	0.8	-3.2	-1.9	0.89
4,162.0	0.03	159.65	4,162.0	0.8	-3.2	-1.9	0.08
4,187.0	0.05	169.77	4,187.0	0.7	-3.2	-1.9	0.08
4,212.0	0.11	142.78	4,212.0	0.7	-3.2	-1.9	0.28
4,237.0	0.14	166.67	4,237.0	0.7	-3.2	-1.8	0.24
4,262.0	0.02	97.94	4,262.0	0.6	-3.2	-1.8	0.54
4,287.0	0.07	117.56	4,287.0	0.6	-3.2	-1.8	0.21
4,312.0	0.11	133.67	4,312.0	0.6	-3.1	-1.7	0.19
4,337.0	0.11	164.62	4,337.0	0.6	-3.1	-1.7	0.23
4,362.0	0.07	269.77	4,362.0	0.5	-3.1	-1.7	0.58
4,387.0	0.04	122.18	4,387.0	0.5	-3.1	-1.7	0.42
4,412.0	0.22	324.71	4,412.0	0.6	-3.1	-1.7	1.03
4,437.0	0.15	26.22	4,437.0	0.6	-3.1	-1.8	0.79
4,462.0	0.22	53.83	4,462.0	0.7	-3.1	-1.8	0.45
4,487.0	0.08	175.75	4,487.0	0.7	-3.1	-1.8	1.08
4,512.0	0.18	228.68	4,512.0	0.7	-3.1	-1.8	0.59
4,537.0	0.66	265.70	4,537.0	0.6	-3.3	-1.8	2.11
4,562.0	1.31	268.70	4,562.0	0.6	-3.7	-1.9	2.61
4,587.0	1.93	270.01	4,587.0	0.6	-4.4	-2.2	2.48
4,612.0	2.57	266.29	4,612.0	0.6	-5.4	-2.5	2.62
4,637.0	3.50	264.27	4,636.9	0.4	-6.7	-2.9	3.74
4,662.0	4.32	263.95	4,661.9	0.3	-8.4	-3.4	3.28
4,687.0	4.52	263.26	4,686.8	0.1	-10.3	-3.9	0.83



EOW Completion Report



Company:	Antero	Local Co-ordinate Reference:	Well Outback Unit 2H
Project:	Doddridge County WV	TVD Reference:	Frontier 22: GL 1189' + KB 25' @ 1214.0usft
Site:	Cofor Pad/Outback Morton Nova Grape Rainer	MD Reference:	Frontier 22: GL 1189' + KB 25' @ 1214.0usft
Well:	Outback 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)
4,712.0	5.37	266.14	4,711.7	-0.1	-12.4	-4.5	3.54
4,737.0	6.36	268.54	4,736.6	-0.3	-15.0	-5.4	4.08
4,762.0	7.23	271.38	4,761.4	-0.3	-18.0	-6.5	3.73
4,787.0	8.28	273.17	4,786.2	-0.1	-21.3	-7.9	4.31
4,812.0	9.07	274.60	4,810.9	0.1	-25.1	-9.5	3.28
4,837.0	9.80	275.50	4,835.5	0.5	-29.2	-11.4	2.98
4,862.0	10.56	276.14	4,860.1	1.0	-33.6	-13.4	3.07
4,887.0	11.09	276.24	4,884.7	1.5	-38.2	-15.7	2.12
4,912.0	11.66	276.41	4,909.2	2.0	-43.1	-18.0	2.28
4,937.0	12.31	275.58	4,933.7	2.5	-48.3	-20.4	2.69
4,962.0	13.28	273.72	4,958.0	3.0	-53.8	-22.9	4.21
4,987.0	14.39	271.34	4,982.3	3.3	-59.8	-25.4	4.99
5,012.0	15.08	269.64	5,006.5	3.3	-66.1	-27.8	3.26
5,037.0	16.03	269.57	5,030.6	3.3	-72.8	-30.3	3.80
5,062.0	16.63	269.11	5,054.6	3.2	-79.9	-32.8	2.46
5,087.0	17.28	268.74	5,078.5	3.0	-87.2	-35.4	2.64
5,112.0	17.68	266.56	5,102.3	2.7	-94.7	-37.9	3.07
5,137.0	18.14	263.35	5,126.1	2.1	-102.3	-40.2	4.36
5,162.0	18.83	261.30	5,149.8	1.0	-110.2	-42.1	3.79
5,187.0	19.71	258.70	5,173.4	-0.4	-118.3	-43.8	4.92
5,212.0	20.89	256.05	5,196.9	-2.3	-126.8	-45.2	5.98
5,237.0	21.53	255.40	5,220.2	-4.6	-135.5	-46.4	2.73
5,262.0	21.85	255.35	5,243.4	-6.9	-144.5	-47.6	1.28
5,287.0	22.30	255.33	5,266.6	-9.3	-153.6	-48.8	1.80
5,312.0	22.70	255.33	5,289.7	-11.7	-162.8	-50.0	1.60
5,337.0	23.15	255.46	5,312.7	-14.2	-172.2	-51.3	1.81
5,362.0	23.39	256.26	5,335.7	-16.6	-181.8	-52.6	1.59
5,387.0	23.84	257.25	5,358.6	-18.9	-191.6	-54.1	2.40
5,412.0	24.34	258.79	5,381.4	-21.0	-201.5	-55.9	3.21
5,437.0	25.02	261.11	5,404.1	-22.8	-211.8	-58.1	4.73
5,462.0	25.55	263.25	5,426.7	-24.3	-222.4	-60.7	4.23
5,487.0	26.10	265.75	5,449.2	-25.3	-233.2	-63.8	4.88
5,512.0	27.03	267.22	5,471.6	-26.0	-244.4	-67.3	4.56
5,537.0	27.33	267.78	5,493.8	-26.5	-255.8	-71.1	1.58
5,562.0	27.21	267.84	5,516.0	-26.9	-267.2	-75.0	0.49
5,587.0	26.71	267.71	5,538.3	-27.4	-278.6	-78.8	2.01
5,612.0	26.98	267.74	5,560.6	-27.8	-289.8	-82.6	1.08
5,637.0	27.05	267.58	5,582.9	-28.3	-301.2	-86.4	0.40
5,662.0	26.56	267.37	5,605.2	-28.8	-312.5	-90.2	2.00
5,687.0	26.17	267.16	5,627.6	-29.3	-323.5	-93.8	1.60
5,712.0	25.65	266.86	5,650.1	-29.9	-334.5	-97.4	2.15
5,737.0	25.88	266.67	5,672.6	-30.5	-345.3	-100.9	0.98
5,762.0	26.25	266.95	5,695.1	-31.1	-356.3	-104.4	1.56
5,787.0	26.54	267.15	5,717.5	-31.7	-367.4	-108.0	1.21

Company:	Antero	Local Co-ordinate Reference:	Well Outback Unit 2H
Project:	Doddridge County WV	TVD Reference:	Frontier 22: GL 1189' + KB 25' @ 1214.0usft
Site:	Cofor Pad/Outback Morton Nova Grape Rainer	MD Reference:	Frontier 22: GL 1189' + KB 25' @ 1214.0usft
Well:	Outback 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)	
5,812.0	26.57	267.52	5,739.8	-32.2	-378.5	-111.7	0.67	
5,837.0	25.93	267.65	5,762.3	-32.6	-389.6	-115.4	2.57	
5,862.0	26.21	267.65	5,784.7	-33.1	-400.6	-119.1	1.12	
5,887.0	26.59	267.46	5,807.1	-33.6	-411.7	-122.8	1.56	
5,912.0	27.19	267.19	5,829.4	-34.1	-423.0	-126.5	2.45	
5,937.0	27.76	267.04	5,851.6	-34.7	-434.5	-130.3	2.30	
5,962.0	28.19	266.79	5,873.7	-35.3	-446.2	-134.1	1.78	
5,987.0	28.28	266.35	5,895.7	-36.0	-458.0	-137.9	0.91	
6,012.0	28.73	265.66	5,917.7	-36.9	-469.9	-141.5	2.23	
6,037.0	29.34	265.44	5,939.5	-37.8	-482.0	-145.2	2.48	
6,062.0	29.43	264.95	5,961.3	-38.8	-494.2	-148.8	1.03	
6,087.0	29.37	264.62	5,983.1	-39.9	-506.4	-152.3	0.69	
6,112.0	29.26	264.48	6,004.9	-41.1	-518.6	-155.8	0.52	
6,137.0	29.29	264.46	6,026.7	-42.3	-530.8	-159.3	0.13	
6,162.0	29.17	264.54	6,048.5	-43.4	-542.9	-162.7	0.50	
6,187.0	29.20	264.82	6,070.3	-44.6	-555.1	-166.2	0.56	
6,212.0	28.77	264.81	6,092.2	-45.7	-567.2	-169.7	1.72	
6,237.0	28.42	264.76	6,114.1	-46.8	-579.1	-173.2	1.40	
6,262.0	28.00	264.60	6,136.2	-47.9	-590.8	-176.6	1.71	
6,262.9	27.98	264.60	6,137.0	-47.9	-591.2	-176.7	2.25	
6,354.0	26.95	263.71	6,217.8	-52.2	-633.0	-188.4	1.22	
6,450.0	26.31	263.06	6,303.6	-57.1	-675.8	-199.7	0.73	
6,482.0	27.00	262.68	6,332.2	-58.9	-690.0	-203.4	2.22	
6,514.0	28.15	258.47	6,360.6	-61.3	-704.6	-206.6	7.07	
6,546.0	28.24	251.08	6,388.8	-65.3	-719.2	-208.4	10.91	
6,578.0	28.46	243.57	6,417.0	-71.2	-733.2	-208.2	11.16	
6,610.0	29.15	236.63	6,445.0	-78.8	-746.5	-206.1	10.66	
6,642.0	30.29	229.15	6,472.8	-88.4	-759.2	-201.9	12.12	
6,674.0	31.55	222.07	6,500.3	-99.9	-770.9	-195.6	12.02	
6,706.0	32.91	215.88	6,527.3	-113.2	-781.6	-187.3	11.15	
6,739.0	34.43	212.45	6,554.8	-128.3	-791.8	-177.1	7.38	
6,771.0	35.58	207.17	6,581.0	-144.2	-800.9	-165.8	10.12	
6,803.0	38.00	201.98	6,606.7	-161.6	-808.9	-152.6	12.30	
6,816.0	38.97	200.30	6,616.8	-169.2	-811.8	-146.7	10.97	
Middlesex								
6,835.0	40.43	197.97	6,631.5	-180.7	-815.8	-137.5	10.97	
6,867.0	43.33	193.70	6,655.3	-201.2	-821.6	-120.6	12.70	
6,899.0	46.38	189.71	6,678.0	-223.3	-826.1	-101.8	12.97	
6,931.0	49.03	186.54	6,699.5	-246.7	-829.5	-81.4	11.06	
6,963.0	51.54	183.56	6,720.0	-271.2	-831.6	-59.4	10.62	
6,995.0	54.82	180.69	6,739.1	-296.8	-832.6	-36.0	12.51	
7,004.0	55.52	180.16	6,744.3	-304.2	-832.6	-29.2	9.15	
Burket								
7,028.0	57.40	178.80	6,757.5	-324.2	-832.4	-10.6	9.15	

Company:	Antero	Local Co-ordinate Reference:	Well Outback Unit 2H
Project:	Doddridge County WV	TVD Reference:	Frontier 22: GL 1189' + KB 25' @ 1214.0usft
Site:	Cofor Pad/Outback Morton Nova Grape Rainer	MD Reference:	Frontier 22: GL 1189' + KB 25' @ 1214.0usft
Well:	Outback 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)
7,060.0	60.11	176.94	6,774.1	-351.6	-831.4	15.1	9.82
Tully							
7,092.0	63.62	174.05	6,789.2	-379.7	-829.2	42.0	13.55
7,124.0	67.14	170.92	6,802.6	-408.5	-825.4	70.2	14.14
7,156.0	69.89	169.16	6,814.3	-437.8	-820.2	99.3	10.00
7,160.0	70.17	169.05	6,815.6	-441.5	-819.5	103.0	7.43
Marcellus							
7,188.0	72.12	168.29	6,824.7	-467.5	-814.3	129.1	7.43
7,220.0	75.51	166.40	6,833.6	-497.5	-807.6	159.4	12.02
7,252.0	78.10	164.35	6,840.9	-527.6	-799.7	190.3	10.22
7,284.0	80.35	163.06	6,846.9	-557.8	-790.9	221.6	8.07
7,316.0	83.41	160.79	6,851.4	-587.9	-781.0	253.2	11.86
7,325.0	83.41	160.73	6,852.4	-596.3	-778.1	262.1	0.66
7,384.0	90.00	158.26	6,855.8	-651.5	-757.5	320.9	11.93
7,480.0	89.53	157.16	6,856.2	-740.3	-721.1	416.9	1.25
7,577.0	89.56	156.22	6,857.0	-829.4	-682.7	513.9	0.97
7,673.0	88.56	159.04	6,858.6	-918.1	-646.2	609.9	3.12
7,769.0	88.86	161.05	6,860.7	-1,008.3	-613.4	705.8	2.12
7,860.0	88.36	159.41	6,862.9	-1,093.9	-582.6	796.7	1.88
7,951.0	90.20	160.28	6,864.1	-1,179.4	-551.3	887.6	2.24
8,042.0	90.91	159.95	6,863.2	-1,264.9	-520.3	978.6	0.86
8,132.0	89.53	158.52	6,862.9	-1,349.1	-488.4	1,068.6	2.21
8,222.0	89.33	160.83	6,863.8	-1,433.5	-457.2	1,158.5	2.58
8,313.0	89.66	155.92	6,864.6	-1,518.0	-423.6	1,249.5	5.41
8,404.0	89.90	155.74	6,864.9	-1,601.1	-386.4	1,340.4	0.33
8,495.0	88.89	158.46	6,865.9	-1,684.9	-351.0	1,431.4	3.19
8,585.0	89.56	159.48	6,867.1	-1,768.9	-318.7	1,521.4	1.36
8,675.0	90.34	158.73	6,867.2	-1,852.9	-286.6	1,611.3	1.20
8,766.0	88.26	155.79	6,868.3	-1,936.9	-251.4	1,702.3	3.96
8,856.0	87.71	155.66	6,871.4	-2,018.8	-214.4	1,792.2	0.63
8,952.0	89.76	155.34	6,873.6	-2,106.2	-174.6	1,888.1	2.16
9,048.0	89.87	155.14	6,873.9	-2,193.3	-134.4	1,983.9	0.24
9,145.0	90.13	157.62	6,873.9	-2,282.2	-95.6	2,080.9	2.57
9,241.0	90.67	157.93	6,873.2	-2,371.1	-59.3	2,176.9	0.65
9,337.0	90.74	156.68	6,872.0	-2,459.6	-22.2	2,272.9	1.30
9,434.0	90.44	156.05	6,871.0	-2,548.5	16.7	2,369.8	0.72
9,530.0	90.57	157.48	6,870.2	-2,636.7	54.5	2,465.8	1.50
9,626.0	90.37	157.92	6,869.4	-2,725.5	91.0	2,561.8	0.50
9,722.0	90.40	157.94	6,868.7	-2,814.5	127.0	2,657.8	0.04
9,819.0	90.24	157.18	6,868.2	-2,904.1	164.1	2,754.8	0.80
9,915.0	90.34	158.61	6,867.7	-2,993.1	200.2	2,850.8	1.49
10,012.0	91.31	159.11	6,866.3	-3,083.5	235.2	2,947.8	1.13
10,108.0	91.34	159.47	6,864.1	-3,173.3	269.1	3,043.7	0.38
10,203.0	89.66	157.02	6,863.3	-3,261.5	304.3	3,138.7	3.13



EOW Completion Report



Company:	Antero	Local Co-ordinate Reference:	Well Outback Unit 2H
Project:	Doddridge County WV	TVD Reference:	Frontier 22: GL 1189' + KB 25' @ 1214.0usft
Site:	Cofor Pad/Outback Morton Nova Grape Rainer	MD Reference:	Frontier 22: GL 1189' + KB 25' @ 1214.0usft
Well:	Outback 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)
10,300.0	89.77	156.79	6,863.8	-3,350.8	342.3	3,235.7	0.26
10,396.0	90.27	159.85	6,863.7	-3,440.0	377.8	3,331.7	3.23
10,492.0	90.91	160.48	6,862.7	-3,530.3	410.4	3,427.6	0.94
10,588.0	90.03	158.09	6,861.9	-3,620.0	444.3	3,523.6	2.65
10,684.0	90.34	157.93	6,861.6	-3,709.1	480.3	3,619.6	0.36
10,780.0	91.01	159.16	6,860.5	-3,798.4	515.4	3,715.5	1.46
10,876.0	90.24	157.47	6,859.5	-3,887.6	550.9	3,811.5	1.93
10,973.0	90.47	159.14	6,858.9	-3,977.7	586.7	3,908.5	1.74
11,069.0	90.30	160.00	6,858.2	-4,067.7	620.2	4,004.5	0.91
11,165.0	90.91	159.07	6,857.2	-4,157.6	653.8	4,100.4	1.16
11,262.0	89.80	158.48	6,856.6	-4,248.0	688.9	4,197.4	1.30
11,358.0	89.83	155.91	6,856.9	-4,336.5	726.1	4,293.4	2.68
11,455.0	90.57	157.07	6,856.6	-4,425.5	764.8	4,390.4	1.42
11,551.0	90.20	156.88	6,855.9	-4,513.8	802.3	4,486.4	0.43
11,647.0	90.34	156.79	6,855.5	-4,602.1	840.1	4,582.3	0.17
11,743.0	91.14	159.47	6,854.2	-4,691.1	875.9	4,678.3	2.91
11,839.0	90.97	158.79	6,852.5	-4,780.8	910.1	4,774.3	0.73
11,936.0	90.47	157.45	6,851.2	-4,870.8	946.2	4,871.3	1.47
12,032.0	90.94	156.95	6,850.1	-4,959.3	983.4	4,967.3	0.71
12,128.0	91.18	157.14	6,848.3	-5,047.7	1,020.8	5,063.2	0.32
12,225.0	91.75	159.48	6,845.8	-5,137.8	1,056.7	5,160.2	2.48
12,321.0	91.18	158.45	6,843.3	-5,227.4	1,091.1	5,256.1	1.23
12,417.0	90.97	157.01	6,841.5	-5,316.2	1,127.5	5,352.1	1.52
12,514.0	91.24	158.98	6,839.7	-5,406.1	1,163.8	5,449.1	2.05
12,610.0	90.87	158.31	6,837.9	-5,495.5	1,198.8	5,545.1	0.80
12,705.0	91.48	158.40	6,836.0	-5,583.8	1,233.8	5,640.0	0.65
12,802.0	90.71	157.57	6,834.1	-5,673.7	1,270.2	5,737.0	1.17
12,898.0	90.81	155.66	6,832.8	-5,761.8	1,308.3	5,833.0	1.99
12,994.0	91.61	156.83	6,830.8	-5,849.6	1,346.9	5,928.9	1.48
13,091.0	91.68	158.07	6,828.0	-5,939.2	1,384.1	6,025.9	1.28
13,187.0	90.64	156.78	6,826.1	-6,027.8	1,421.0	6,121.8	1.73
13,283.0	91.07	157.22	6,824.6	-6,116.2	1,458.5	6,217.8	0.64
13,379.0	90.13	156.72	6,823.6	-6,204.5	1,496.0	6,313.8	1.11
13,476.0	91.38	160.92	6,822.4	-6,294.9	1,531.1	6,410.7	4.52
13,572.0	90.87	160.63	6,820.5	-6,385.6	1,562.7	6,506.6	0.61
13,669.0	91.37	160.24	6,818.6	-6,476.9	1,595.1	6,603.5	0.65
13,765.0	91.58	159.59	6,816.1	-6,567.1	1,628.1	6,699.4	0.71
13,862.0	91.18	156.37	6,813.8	-6,657.0	1,664.4	6,796.4	3.34
13,958.0	91.04	155.96	6,811.9	-6,744.7	1,703.2	6,892.3	0.45
14,054.0	90.74	152.84	6,810.4	-6,831.3	1,744.7	6,988.1	3.26
14,151.0	91.38	157.27	6,808.6	-6,919.2	1,785.6	7,084.9	4.61
14,186.0	91.19	157.60	6,807.8	-6,951.5	1,799.0	7,119.9	1.09
14,245.0	91.19	157.60	6,806.6	-7,006.1	1,821.5	7,178.9	0.00



Company:	Antero	Local Co-ordinate Reference:	Well Outback Unit 2H
Project:	Doddridge County WV	TVD Reference:	Frontier 22: GL 1189' + KB 25' @ 1214.0usft
Site:	Cofor Pad/Outback Morton Nova Grape Rainer	MD Reference:	Frontier 22: GL 1189' + KB 25' @ 1214.0usft
Well:	Outback Unit 2H	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)	
6,816.0	6,616.8	-169.2	-811.8	Middlesex
7,004.0	6,744.3	-304.2	-832.6	Burket
7,060.0	6,774.1	-351.6	-831.4	Tully
7,160.0	6,815.6	-441.5	-819.5	Marcellus

Checked By: _____ Approved By: _____ Date: _____