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WV GEOLOGICAL SURVEY  
MORGANTOWN, WV



Antero Resources  
Josie Unit 2H  
Doddridge County WV  
Northing: 14238711.36  
Easting: 1734928.40  
As Drilled

**WELL DETAILS: Josie Unit 2H**

Ground Level:	876.0	Spot
Northing	14238711.36	Longitude
+N-S	0.0	+E-W
0.0	0.0	1734928.4036° 12' 37.374 80° 39' 58.824 W

**PROJECT DETAILS: Doddridge County WV**

Geographic System: Universal Transverse Mercator (US Survey Feet)  
Datum: North American 1983 (NAD83)  
Ellipsoid: Clarke 1866  
Zone: Zone 17N (64 W to 76 W)  
System Datum: Mean Sea Level

**VERTICAL DATUM OF OBSERVATION**

On-site (M) Reference: Well: Josie Unit 2H, Unit 2H  
Well: Josie Unit 2H, Unit 2H  
Well: Josie Unit 2H, Unit 2H  
Well: Josie Unit 2H, Unit 2H  
Well: Josie Unit 2H, Unit 2H

Genee Lightfoot  
14.42, November 05 2013  
Scientific Drilling  
421 South Eagle Lane  
Oklahoma City, OK

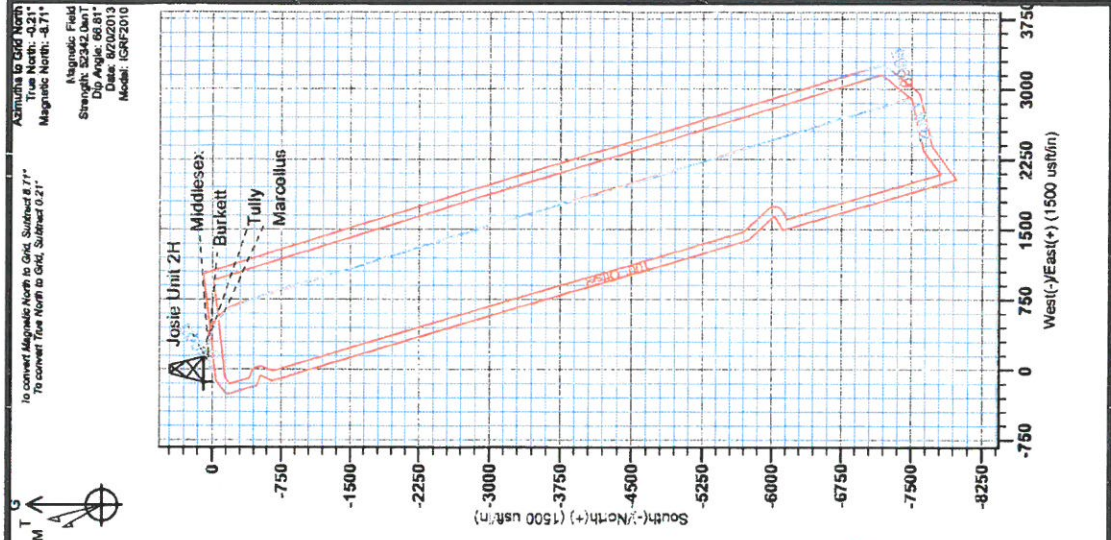
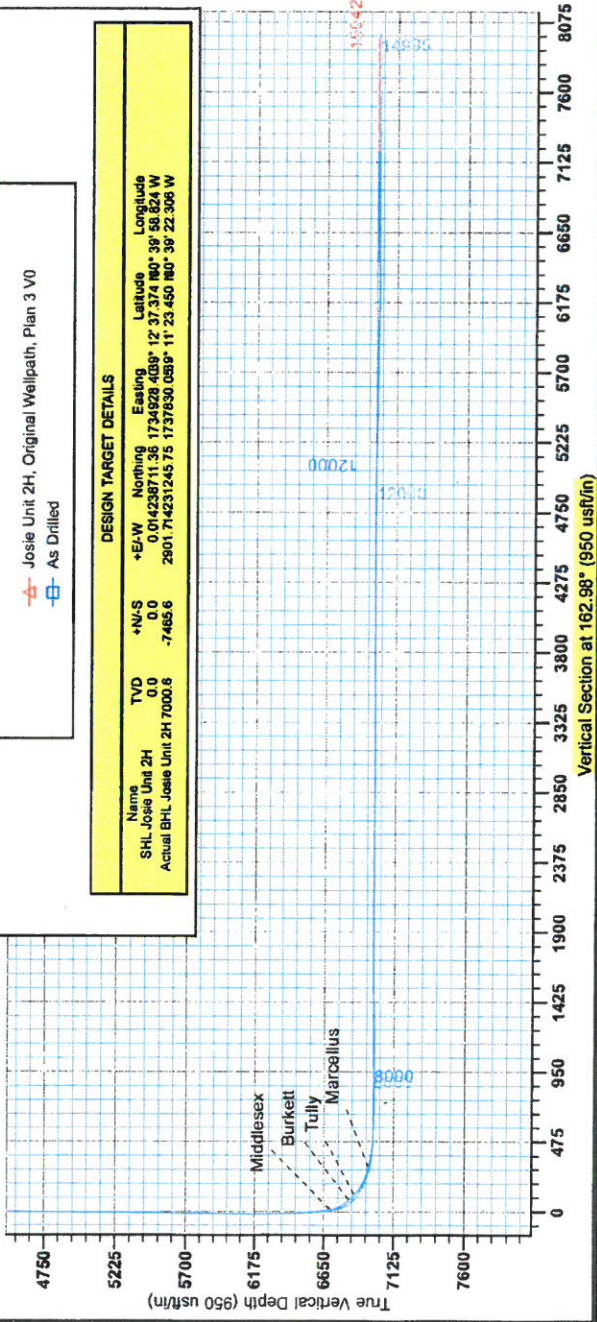


**LEGEND**

▲ Josie Unit 2H, Original Wellpath, Plan 3 VO  
■ As Drilled

**DESIGN TARGET DETAILS**

Name	TVD	+N-S	+E-W	Northing	Easting	Latitude	Longitude
SHL Josie Unit 2H	0.0	0.0	0.0	0.01423871136	1734928.4036	12° 37.374 80° 39' 58.824 W	
Actual BHL Josie Unit 2H	7000.6	-7485.6	2801.71423124575	1737830.089	11° 23.450 80° 39' 22.306 W		





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MORGANTOWN, WV

## **Antero Resources**

**Doddridge County WV  
Josie/Swisher/Union Pad  
Josie Unit 2H  
Original Wellpath**

**Design: As Drilled**

## **EOW Completion Report**

**05 November, 2013**





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MORGANTOWN, WV

EOW Completion Report



<b>Company:</b> Antero Resources	<b>Local Co-ordinate Reference:</b> Well Josie Unit 2H
<b>Project:</b> Doddridge County WV	<b>TVD Reference:</b> Josie 2H 976 GL + 24 KB @ 1000.0usft
<b>Site:</b> Josie/Swisher/Union Pad	<b>MD Reference:</b> Josie 2H 976 GL + 24 KB @ 1000.0usft
<b>Well:</b> Josie Unit 2H	<b>North Reference:</b> Grid
<b>Wellbore:</b> Original Wellpath	<b>Survey Calculation Method:</b> Minimum Curvature
<b>Design:</b> As Drilled	<b>Database:</b> Oklahoma District

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

Site Josie/Swisher/Union Pad

<b>Site Position:</b>		<b>Northing:</b>	14,238,711.36 usft	<b>Latitude:</b>	39° 12' 37.374 N
<b>From:</b>	Map	<b>Easting:</b>	1,734,928.40 usft	<b>Longitude:</b>	80° 39' 58.824 W
<b>Position Uncertainty:</b>	2.0 usft	<b>Slot Radius:</b>	13-3/16"	<b>Grid Convergence:</b>	0.21 °

<b>Well</b>	Josie Unit 2H, Marcellus					
<b>Well Position</b>	<b>+N/-S</b>	0.0 usft	<b>Northing:</b>	14,238,711.36 usft	<b>Latitude:</b>	39° 12' 37.374 N
	<b>+E/-W</b>	0.0 usft	<b>Easting:</b>	1,734,928.40 usft	<b>Longitude:</b>	80° 39' 58.824 W
<b>Position Uncertainty</b>	2.0 usft		<b>Wellhead Elevation:</b>	989.0 usft	<b>Ground Level:</b>	976.0 usft

Wellbore Original Wellpath

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	8/20/2013	-8.50	66.81	52,342

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	162.98

Survey Program		Date			
From (usft)	To (usft)	11/5/2013	Survey (Wellbore)	Tool Name	Description
111.0	6,231.0		Survey #1 Def Gyro to KOP (Original Well)	SDI Standard Keeper	Scientific Drilling Intl. Standard Wireline Keeper
6,253.0	14,995.0		Survey #2 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
111.0	0.66	261.57	111.0	-0.1	-0.6	-0.1	0.59
211.0	0.34	267.69	211.0	-0.2	-1.5	-0.3	0.32
311.0	0.22	240.96	311.0	-0.3	-2.0	-0.3	0.17
411.0	0.24	248.30	411.0	-0.5	-2.3	-0.2	0.04
511.0	0.23	250.78	511.0	-0.6	-2.7	-0.2	0.01
611.0	0.09	243.96	611.0	-0.7	-3.0	-0.2	0.14
711.0	0.16	223.23	711.0	-0.8	-3.1	-0.1	0.08
811.0	0.15	212.39	811.0	-1.1	-3.3	0.0	0.03
911.0	0.24	221.65	911.0	-1.3	-3.5	0.2	0.10
1,011.0	0.16	225.34	1,011.0	-1.6	-3.7	0.4	0.08

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## EOW Completion Report



**Company:** Antero Resources  
**Project:** Doddridge County WV  
**Site:** Josie/Swisher/Union Pad  
**Well:** Josie Unit 2H  
**Wellbore:** Original Wellpath  
**Design:** As Drilled

**Local Co-ordinate Reference:** Well Josie Unit 2H  
**TVD Reference:** Josie 2H 976 GL + 24 KB @ 1000.0usft  
**MD Reference:** Josie 2H 976 GL + 24 KB @ 1000.0usft  
**North Reference:** Grid  
**Survey Calculation Method:** Minimum Curvature  
**Database:** Oklahoma District

### Survey

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)
1,111.0	0.23	222.29	1,111.0	-1.8	-4.0	0.6	0.07
1,211.0	0.22	224.47	1,211.0	-2.1	-4.3	0.8	0.01
1,311.0	0.14	211.45	1,311.0	-2.4	-4.5	0.9	0.09
1,411.0	0.12	197.90	1,411.0	-2.6	-4.5	1.1	0.04
1,511.0	0.11	245.08	1,511.0	-2.7	-4.7	1.2	0.09
1,611.0	0.07	241.64	1,611.0	-2.8	-4.8	1.2	0.04
1,711.0	0.14	107.20	1,711.0	-2.8	-4.7	1.3	0.20
1,811.0	0.14	72.93	1,811.0	-2.8	-4.5	1.4	0.08
1,911.0	0.11	78.37	1,911.0	-2.8	-4.3	1.4	0.03
2,011.0	0.04	201.97	2,011.0	-2.8	-4.2	1.4	0.14
2,111.0	0.23	103.42	2,111.0	-2.9	-4.0	1.6	0.24
2,211.0	0.18	126.11	2,211.0	-3.0	-3.7	1.8	0.09
2,311.0	0.20	125.80	2,311.0	-3.2	-3.4	2.1	0.02
2,411.0	0.25	115.65	2,411.0	-3.4	-3.1	2.3	0.06
2,511.0	0.16	99.12	2,511.0	-3.5	-2.8	2.6	0.11
2,611.0	0.09	76.19	2,611.0	-3.5	-2.6	2.6	0.08
2,711.0	0.14	88.10	2,711.0	-3.5	-2.4	2.7	0.06
2,811.0	0.08	282.00	2,811.0	-3.5	-2.3	2.7	0.22
2,911.0	0.11	343.13	2,911.0	-3.4	-2.4	2.5	0.10
3,011.0	0.13	352.63	3,011.0	-3.2	-2.4	2.3	0.03
3,111.0	0.21	349.87	3,111.0	-2.9	-2.5	2.0	0.08
3,211.0	0.09	38.60	3,211.0	-2.6	-2.5	1.8	0.17
3,311.0	0.12	113.11	3,311.0	-2.6	-2.3	1.8	0.13
3,411.0	0.04	89.17	3,411.0	-2.7	-2.2	1.9	0.09
3,511.0	0.09	151.09	3,511.0	-2.7	-2.1	2.0	0.08
3,611.0	0.12	74.69	3,611.0	-2.8	-2.0	2.1	0.13
3,711.0	0.15	31.75	3,711.0	-2.6	-1.8	2.0	0.10
3,811.0	0.21	26.30	3,811.0	-2.3	-1.7	1.8	0.06
3,911.0	0.30	348.59	3,911.0	-1.9	-1.6	1.4	0.19
4,011.0	0.31	321.83	4,011.0	-1.5	-1.9	0.9	0.14
4,111.0	0.31	330.62	4,111.0	-1.0	-2.2	0.3	0.05
4,211.0	0.38	313.93	4,211.0	-0.5	-2.5	-0.2	0.12
4,311.0	0.33	332.29	4,311.0	-0.1	-2.9	-0.8	0.12
4,411.0	0.35	319.73	4,411.0	0.4	-3.2	-1.4	0.08
4,511.0	0.40	321.26	4,511.0	0.9	-3.6	-2.0	0.05
4,611.0	0.61	310.69	4,611.0	1.6	-4.3	-2.7	0.23
4,711.0	0.61	307.91	4,711.0	2.2	-5.1	-3.6	0.03
4,811.0	0.53	305.03	4,811.0	2.8	-5.9	-4.4	0.08
4,911.0	0.42	330.15	4,911.0	3.4	-6.5	-5.1	0.23
5,011.0	0.45	340.29	5,011.0	4.1	-6.8	-5.9	0.08
5,111.0	0.43	348.92	5,111.0	4.8	-7.0	-6.7	0.07
5,211.0	0.56	347.13	5,211.0	5.7	-7.2	-7.5	0.13
5,311.0	0.81	339.46	5,310.9	6.8	-7.5	-8.7	0.27
5,411.0	0.81	344.19	5,410.9	8.2	-8.0	-10.1	0.07



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EOW Completion Report



**Company:** Antero Resources  
**Project:** Doddridge County WV  
**Site:** Josie/Swisher/Union Pad  
**Well:** Josie Unit 2H  
**Wellbore:** Original Wellpath  
**Design:** As Drilled

**Local Co-ordinate Reference:** Well Josie Unit 2H  
**TVD Reference:** Josie 2H 976 GL + 24 KB @ 1000.0usft  
**MD Reference:** Josie 2H 976 GL + 24 KB @ 1000.0usft  
**North Reference:** Grnd  
**Survey Calculation Method:** Minimum Curvature  
**Database:** Oklahoma District

Survey

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)
5,511.0	0.87	355.96	5,510.9	9.6	-8.2	-11.6	0.18
5,611.0	0.94	4.57	5,610.9	11.2	-8.2	-13.1	0.15
5,711.0	0.81	15.06	5,710.9	12.7	-7.9	-14.4	0.21
5,811.0	0.77	14.20	5,810.9	14.0	-7.6	-15.6	0.04
5,911.0	0.65	34.12	5,910.9	15.1	-7.1	-16.5	0.27
6,011.0	0.65	46.33	6,010.9	16.0	-6.4	-17.2	0.14
6,111.0	0.60	71.69	6,110.9	16.5	-5.5	-17.4	0.28
6,211.0	0.54	76.82	6,210.9	16.8	-4.5	-17.4	0.08
6,231.0	0.63	79.38	6,230.9	16.9	-4.3	-17.4	0.47
6,253.0	0.67	89.26	6,252.9	16.9	-4.1	-17.3	0.54
6,285.0	0.51	68.71	6,284.9	16.9	-3.7	-17.3	0.82
6,313.0	0.62	62.57	6,312.8	17.0	-3.5	-17.3	0.45
6,348.0	4.17	80.87	6,347.8	17.3	-2.1	-17.2	10.25
6,379.0	8.76	85.29	6,378.6	17.7	1.4	-16.5	14.88
6,408.0	13.39	81.52	6,407.1	18.4	6.9	-15.6	16.15
6,442.0	17.18	81.58	6,439.9	19.7	15.8	-14.2	11.15
6,473.0	19.87	83.53	6,469.2	21.0	25.6	-12.6	8.90
6,502.0	22.60	84.59	6,496.3	22.0	36.0	-10.5	9.51
6,536.0	25.24	84.05	6,527.3	23.4	49.7	-7.8	7.79
6,568.0	28.75	84.73	6,555.9	24.8	64.2	-5.0	11.01
6,596.0	32.39	84.32	6,580.0	26.2	78.3	-2.1	13.02
6,630.0	35.58	82.41	6,608.2	28.4	97.2	1.3	9.89
6,662.0	38.19	83.10	6,633.7	30.8	116.3	4.6	8.26
6,690.0	40.49	82.17	6,655.4	33.1	133.9	7.5	8.48
6,725.0	44.38	82.24	6,681.2	36.3	157.3	11.3	11.12
6,743.0	46.74	82.99	6,693.8	37.9	170.0	13.5	13.45
<b>Middlesex</b>							
6,756.0	48.45	83.49	6,702.6	39.1	179.5	15.2	13.45
6,784.0	52.60	84.73	6,720.4	41.3	201.0	19.4	15.21
6,819.0	57.16	86.30	6,740.5	43.5	229.6	25.6	13.53
6,850.0	57.33	90.78	6,757.3	44.2	255.6	32.6	12.17
6,878.0	56.82	96.66	6,772.5	42.7	279.1	40.9	17.72
6,913.0	56.95	101.70	6,791.7	38.0	308.0	53.8	12.07
6,944.0	57.51	105.72	6,808.4	31.8	333.3	67.1	11.05
6,970.0	57.19	109.61	6,822.5	25.2	354.1	79.6	12.66
<b>Burkett</b>							
6,972.0	57.17	109.91	6,823.6	24.6	355.7	80.6	12.66
7,007.0	57.82	110.41	6,842.4	14.4	383.4	98.4	2.21
7,038.0	61.22	107.94	6,858.1	5.7	408.7	114.2	12.94
7,040.0	61.34	108.11	6,859.1	5.1	410.3	115.2	9.49
<b>Tully</b>							
7,070.0	63.11	110.63	6,873.0	-3.7	435.4	131.0	9.49
7,101.0	64.89	115.48	6,886.6	-14.6	461.0	148.9	15.19
7,132.0	66.65	121.19	6,899.4	-28.0	485.9	169.0	17.73
7,161.0	67.88	124.69	6,910.6	-42.6	508.3	189.5	11.91

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Well: Josie Unit 2H  
Wellbore: Original Wellpath  
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Local Co-ordinate Reference: Well Josie Unit 2H  
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North Reference: Grid  
Survey Calculation Method: Minimum Curvature  
Database: Oklahoma District

Survey

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)
7,195.0	70.37	127.78	6,922.7	-61.3	533.9	214.9	11.21
7,227.0	71.79	131.47	6,933.1	-80.6	557.2	240.2	11.78
7,255.0	73.45	134.36	6,941.4	-98.8	576.8	263.3	11.50
7,289.0	75.62	138.24	6,950.5	-122.5	599.4	292.6	12.72
7,299.0	76.25	140.01	6,952.9	-129.9	605.8	301.5	18.30
<b>Marcellus</b>							
7,301.0	76.37	140.37	6,953.4	-131.4	607.0	303.3	18.30
7,321.0	77.67	143.88	6,957.9	-146.7	619.0	321.5	18.30
7,349.0	79.42	146.95	6,963.5	-169.3	634.5	347.6	12.43
7,383.0	80.81	150.28	6,969.3	-197.9	652.0	380.1	10.48
7,443.0	83.62	154.44	6,977.4	-250.6	679.5	438.5	8.31
7,509.0	87.13	158.15	6,982.7	-310.8	706.0	503.8	7.72
7,604.0	87.34	159.37	6,987.3	-399.2	740.3	598.4	1.30
7,697.0	88.93	160.47	6,990.4	-486.5	772.3	691.3	2.08
7,792.0	90.50	161.95	6,990.8	-576.5	802.9	786.2	2.27
7,886.0	89.06	161.81	6,991.2	-665.8	832.1	880.2	1.54
7,980.0	90.90	164.67	6,991.2	-755.8	859.2	974.2	3.62
8,075.0	89.46	163.80	6,990.9	-847.2	885.0	1,069.1	1.77
8,169.0	89.90	163.47	6,991.5	-937.4	911.5	1,163.1	0.59
8,263.0	91.11	162.18	6,990.6	-1,027.2	939.2	1,257.1	1.88
8,357.0	91.95	162.64	6,988.1	-1,116.8	967.6	1,351.1	1.02
8,451.0	91.71	163.33	6,985.1	-1,206.6	995.1	1,445.0	0.78
8,546.0	90.03	164.55	6,983.7	-1,297.9	1,021.4	1,540.0	2.19
8,637.0	90.44	164.06	6,983.3	-1,385.5	1,046.0	1,631.0	0.70
8,728.0	90.77	163.99	6,982.3	-1,473.0	1,071.1	1,722.0	0.37
8,819.0	89.63	162.85	6,982.0	-1,560.2	1,097.0	1,813.0	1.77
8,911.0	89.93	162.36	6,982.4	-1,648.0	1,124.5	1,905.0	0.62
9,003.0	90.17	161.97	6,982.3	-1,735.6	1,152.7	1,996.9	0.50
9,093.0	90.00	161.89	6,982.2	-1,821.1	1,180.6	2,086.9	0.21
9,185.0	89.53	163.38	6,982.5	-1,908.9	1,208.1	2,178.9	1.70
9,275.0	89.50	163.26	6,983.3	-1,995.1	1,233.9	2,268.9	0.14
9,367.0	90.17	163.80	6,983.6	-2,083.4	1,260.0	2,360.9	0.94
9,458.0	89.16	162.76	6,984.1	-2,170.5	1,286.2	2,451.9	1.59
9,550.0	89.36	162.64	6,985.3	-2,258.3	1,313.5	2,543.9	0.25
9,642.0	89.87	162.58	6,985.9	-2,346.1	1,341.0	2,635.9	0.56
9,736.0	90.04	161.62	6,986.0	-2,435.6	1,369.9	2,729.9	1.04
9,833.0	90.20	164.06	6,985.8	-2,528.3	1,398.5	2,826.9	2.52
9,927.0	90.34	163.72	6,985.3	-2,618.6	1,424.6	2,920.9	0.39
10,021.0	90.54	164.00	6,984.6	-2,708.9	1,450.8	3,014.9	0.37
10,116.0	89.40	161.56	6,984.7	-2,799.6	1,478.9	3,109.8	2.83
10,209.0	90.13	163.12	6,985.0	-2,888.2	1,507.1	3,202.8	1.85
10,303.0	90.27	162.43	6,984.7	-2,978.0	1,534.9	3,296.8	0.75
10,397.0	89.12	161.42	6,985.2	-3,067.3	1,564.1	3,390.8	1.63
10,491.0	90.30	164.36	6,985.7	-3,157.2	1,591.7	3,484.8	3.37



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WV GEOLOGICAL SURVEY  
MORGANTOWN, WV

EOW Completion Report



Company: Antero Resources  
Project: Doddridge County WV  
Site: Josie/Swisher/Union Pad  
Well: Josie Unit 2H  
Wellbore: Original Wellpath  
Design: As Drilled

Local Co-ordinate Reference: Well Josie Unit 2H  
TVD Reference: Josie 2H 976 GL + 24 KB @ 1000.0usft  
MD Reference: Josie 2H 976 GL + 24 KB @ 1000.0usft  
North Reference: Grid  
Survey Calculation Method: Minimum Curvature  
Database: Oklahoma District

Survey

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)
10,585.0	90.77	165.03	6,984.8	-3,247.8	1,616.5	3,578.8	0.87
10,679.0	90.03	163.67	6,984.1	-3,338.3	1,641.9	3,672.7	1.65
10,774.0	90.44	163.61	6,983.8	-3,429.5	1,668.7	3,767.7	0.44
10,868.0	88.22	161.95	6,984.9	-3,519.3	1,696.5	3,861.7	2.95
10,962.0	90.44	163.26	6,986.0	-3,608.9	1,724.6	3,955.7	2.74
11,056.0	90.97	163.86	6,984.8	-3,699.1	1,751.2	4,049.7	0.85
11,150.0	90.40	164.52	6,983.7	-3,789.5	1,776.8	4,143.6	0.93
11,245.0	89.29	164.01	6,983.9	-3,881.0	1,802.6	4,238.6	1.29
11,339.0	90.50	164.67	6,984.1	-3,971.5	1,827.9	4,332.6	1.47
11,433.0	90.40	164.19	6,983.4	-4,062.0	1,853.2	4,426.6	0.52
11,527.0	90.67	164.23	6,982.5	-4,152.5	1,878.7	4,520.5	0.29
11,621.0	89.50	161.99	6,982.4	-4,242.4	1,906.0	4,614.5	2.69
11,715.0	89.60	161.68	6,983.1	-4,331.7	1,935.3	4,708.5	0.35
11,809.0	90.00	162.13	6,983.4	-4,421.1	1,964.5	4,802.5	0.64
11,903.0	90.37	162.48	6,983.1	-4,510.6	1,993.1	4,896.5	0.54
11,997.0	89.28	162.78	6,983.4	-4,600.3	2,021.2	4,990.5	1.20
12,091.0	89.20	162.57	6,984.6	-4,690.1	2,049.2	5,084.5	0.24
12,185.0	88.05	162.04	6,986.9	-4,779.6	2,077.7	5,178.4	1.35
12,279.0	89.23	162.23	6,989.1	-4,869.0	2,106.6	5,272.4	1.27
12,374.0	89.06	163.30	6,990.6	-4,959.8	2,134.7	5,367.4	1.14
12,468.0	88.93	162.43	6,992.2	-5,049.6	2,162.4	5,461.4	0.94
12,562.0	89.33	162.98	6,993.6	-5,139.3	2,190.3	5,555.3	0.72
12,656.0	89.93	163.57	6,994.2	-5,229.3	2,217.4	5,649.3	0.90
12,750.0	88.73	163.69	6,995.3	-5,319.5	2,243.9	5,743.3	1.28
12,844.0	89.06	163.95	6,997.1	-5,409.8	2,270.1	5,837.3	0.45
12,938.0	89.26	163.60	6,998.5	-5,500.0	2,296.3	5,931.3	0.43
13,032.0	88.56	162.05	7,000.3	-5,589.8	2,324.1	6,025.3	1.81
13,126.0	88.72	161.18	7,002.5	-5,679.0	2,353.7	6,119.2	0.94
13,220.0	91.07	161.84	7,002.7	-5,768.1	2,383.5	6,213.2	2.60
13,313.0	90.13	162.35	7,001.7	-5,856.6	2,412.1	6,306.1	1.15
13,408.0	90.30	161.89	7,001.4	-5,947.0	2,441.3	6,401.1	0.52
13,502.0	90.13	162.88	7,001.0	-6,036.6	2,469.7	6,495.1	1.07
13,596.0	90.34	162.98	7,000.6	-6,126.5	2,497.3	6,589.1	0.25
13,690.0	90.37	162.71	7,000.1	-6,216.3	2,525.0	6,683.1	0.29
13,784.0	90.44	162.80	6,999.4	-6,306.1	2,552.9	6,777.1	0.12
13,878.0	89.90	163.00	6,999.1	-6,395.9	2,580.5	6,871.1	0.61
13,972.0	90.44	163.19	6,998.8	-6,485.8	2,607.9	6,965.1	0.61
14,066.0	89.40	161.56	6,999.0	-6,575.4	2,636.3	7,059.1	2.06
14,161.0	89.16	163.20	7,000.2	-6,666.0	2,665.1	7,154.1	1.74
14,255.0	89.83	164.04	7,001.0	-6,756.1	2,691.6	7,248.1	1.14
14,349.0	90.23	164.19	7,000.9	-6,846.5	2,717.3	7,342.1	0.45
14,442.0	90.50	163.65	7,000.4	-6,935.9	2,743.1	7,435.0	0.65
14,537.0	88.76	163.71	7,001.0	-7,027.1	2,769.8	7,530.0	1.83
14,630.0	88.62	163.72	7,003.1	-7,116.3	2,795.9	7,623.0	0.15
14,725.0	90.34	163.13	7,004.0	-7,207.4	2,823.0	7,718.0	1.91



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**Well:** Josie Unit 2H  
**Wellbore:** Original Wellpath  
**Design:** As Drilled

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**MD Reference:** Josie 2H 976 GL + 24 KB @ 1000.0usft  
**North Reference:** Grid  
**Survey Calculation Method:** Minimum Curvature  
**Database:** Oklahoma District

Survey

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)
14,819.0	90.47	163.04	7,003.3	-7,297.3	2,850.3	7,812.0	0.17
14,945.0	91.10	163.03	7,001.6	-7,417.8	2,887.1	7,938.0	0.50
14,995.0	91.10	163.03	7,000.6	-7,465.6	2,901.7	7,988.0	0.00

Design Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/S (usft)	+E/W (usft)	
6,743.0	6,693.8	37.9	170.0	Middlesex
6,970.0	6,822.5	25.2	354.1	Burkett
7,040.0	6,859.1	5.1	410.3	Tully
7,299.0	6,952.9	-129.9	605.8	Marcellus

Checked By: \_\_\_\_\_ Approved By: \_\_\_\_\_ Date: \_\_\_\_\_

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