



Wellington Unit 1H
Doddridge County WV
Northings: 14252160.79
Easting: 1753987.62
As Drilled



WELL DETAILS Wellington Unit 1H

+N/-S	+E/-W	Northings	Easting	Ground Level	971.0	Longitude
0.0	0.0	14252160.79	1753987.62			97.10
						14 49 59.3 N 0° 35' 55.943 W

Genie Lightfoot
 16-43, August 27 2014
 Scientific Drilling
 421 South Eagle Lane
 Oklahoma City, OK 73128

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northings	Easting
SHL Wellington Unit 1H	0.0	0.0	0.0	14252160.79	1753987.62
Actual BHL Wellington Unit 1H	7036.4	-8948.6	2981.114243312.19	1756986.73	

SITE DETAILS: Fossie / Golden / Wellington Pad

Site Centre Northings	14252125.91
Easting	1754023.86
Positional Uncertainty	0.0
Convergence	0.25
Local North Grid	

PROJECT DETAILS: Doddridge County WV

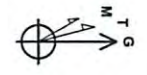
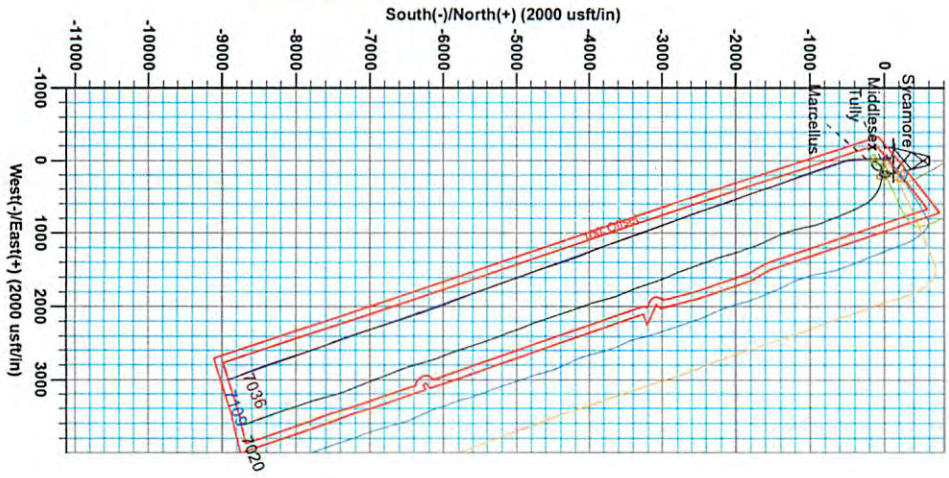
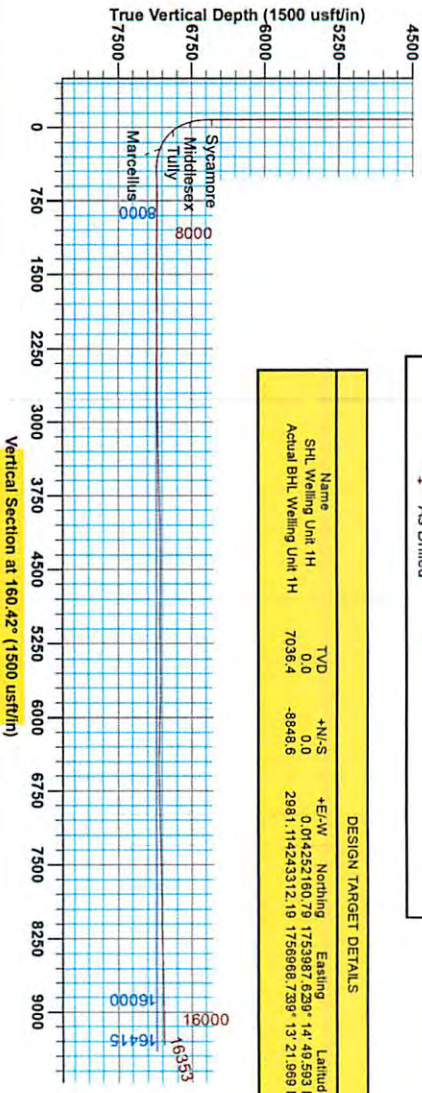
Geodetic System: Universal Transverse Mercator (US Survey Feet)
 Datum: NAD 1927 (NADCON CONUS)
 Ellipsoid: Clarke 1866
 Zone: Zone 17N (84 W to 78 W)
 System Datum: Mean Sea Level

LEGEND

- ▽ Fossie Unit 1H, Original Wellpath, As Drilled V0
- ⊥ Wellington Unit 2H, Original Wellpath, As Drilled V0
- Golden Unit 2H, Original Wellpath, As Drilled V0
- Wellington Unit 1H, Original Wellpath, Plan 5 V0
- Fossie Unit 2H, Original Wellpath, As Drilled V0
- Golden Unit 1H, Original Wellpath, As Drilled V0
- ⊥ As Drilled

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northings	Easting	Latitude	Longitude
SHL Wellington Unit 1H	0.0	0.0	0.0	14252160.79	1753987.62	39° 14' 49.593 N	80° 35' 55.943 W
Actual BHL Wellington Unit 1H	7036.4	-8948.6	2981.114243312.19	1756986.73	39° 13' 21.989 N	80° 35' 18.447 W	



To convert Magnetic North to Grid, Subtract 8.65°
 To convert True North to Grid, Subtract 0.25°

Magnetic Field Strength: 52224.2nT
 Dip Angle: 66.79°
 Date: 5/1/2014
 Model: BGSIM2013

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 Department of Environmental Protection
 07/21/2015

F3: Wellington 1H 971 GL +23 KB @ 994.0uqt
 Gr: 971.0



Antero Resources

Doddridge County WV
Flossie / Golden / Welling Pad
Welling Unit 1H
Original Wellpath

Design: As Drilled

EOW Completion Report

27 August, 2014



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WV Department of
Environmental Protection
07/24/2015



EOW Completion Report



Company: Antero Resources
 Project: Doddridge County WV
 Site: Flossie / Golden / Welling Pad
 Well: Welling Unit 1H
 Wellbore: Original Wellpath
 Design: As Drilled

Local Co-ordinate Reference: Well Welling Unit 1H
 TVD Reference: F3: Welling 1H 971 GL + 23 KB @ 994.0usft
 MD Reference: F3: Welling 1H 971 GL + 23 KB @ 994.0usft
 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)
360.0	0.28	225.91	360.0	-1.0	-1.0	0.6	0.13
385.0	0.34	222.00	385.0	-1.1	-1.0	0.7	0.25
410.0	0.35	219.88	410.0	-1.2	-1.1	0.8	0.06
435.0	0.39	228.28	435.0	-1.4	-1.3	0.9	0.27
460.0	0.33	221.48	460.0	-1.5	-1.4	0.9	0.29
485.0	0.38	214.19	485.0	-1.6	-1.5	1.0	0.27
510.0	0.48	203.43	510.0	-1.7	-1.6	1.1	0.51
535.0	0.32	211.92	535.0	-1.9	-1.6	1.2	0.68
560.0	0.38	216.09	560.0	-2.0	-1.7	1.3	0.26
585.0	0.34	216.55	585.0	-2.2	-1.8	1.4	0.16
610.0	0.35	193.35	610.0	-2.3	-1.9	1.5	0.56
635.0	0.32	206.63	635.0	-2.4	-1.9	1.6	0.33
660.0	0.29	184.72	660.0	-2.6	-2.0	1.7	0.48
685.0	0.31	198.03	685.0	-2.7	-2.0	1.9	0.29
710.0	0.41	187.22	710.0	-2.8	-2.0	2.0	0.48
735.0	0.48	207.00	735.0	-3.0	-2.1	2.1	0.67
760.0	0.46	215.09	760.0	-3.2	-2.2	2.3	0.28
785.0	0.34	205.71	785.0	-3.3	-2.3	2.4	0.55
810.0	0.50	183.68	810.0	-3.5	-2.3	2.5	0.90
835.0	0.62	199.15	835.0	-3.8	-2.4	2.7	0.77
860.0	0.42	200.94	860.0	-4.0	-2.4	2.9	0.80
885.0	0.58	216.74	885.0	-4.2	-2.5	3.1	0.84
910.0	1.35	239.68	910.0	-4.4	-2.9	3.2	3.39
935.0	2.49	243.69	935.0	-4.8	-3.6	3.3	4.59
960.0	3.56	243.65	959.9	-5.4	-4.8	3.5	4.28
985.0	4.46	243.38	984.9	-6.2	-6.4	3.7	3.60
1,010.0	5.24	242.36	1,009.8	-7.1	-8.2	3.9	3.14
1,035.0	5.67	241.43	1,034.7	-8.2	-10.3	4.3	1.76
1,060.0	5.88	240.51	1,059.5	-9.5	-12.5	4.7	0.92
1,085.0	5.99	240.56	1,084.4	-10.7	-14.8	5.2	0.44
1,110.0	6.00	240.50	1,109.3	-12.0	-17.1	5.6	0.05
1,135.0	6.01	240.65	1,134.1	-13.3	-19.3	6.1	0.07
1,160.0	5.96	242.48	1,159.0	-14.5	-21.6	6.5	0.79
1,185.0	5.99	243.67	1,183.9	-15.7	-24.0	6.8	0.51
1,210.0	5.77	246.21	1,208.7	-16.8	-26.3	7.0	1.36
1,235.0	5.44	250.76	1,233.6	-17.7	-28.5	7.1	2.21
1,260.0	5.07	262.75	1,258.5	-18.2	-30.8	6.9	4.63
1,285.0	4.96	279.51	1,283.4	-18.2	-32.9	6.1	5.86
1,310.0	4.72	289.70	1,308.3	-17.7	-35.0	4.9	3.57
1,335.0	4.52	294.25	1,333.2	-16.9	-36.8	3.6	1.67
1,360.0	4.60	296.28	1,358.2	-16.1	-38.6	2.2	0.72
1,385.0	4.65	300.52	1,383.1	-15.1	-40.4	0.7	1.38
1,410.0	5.39	312.88	1,408.0	-13.8	-42.1	1.1	5.23
1,435.0	6.07	319.92	1,432.9	-12.0	-43.8	-3.4	3.91

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EOW Completion Report



Company:	Antero Resources	Local Co-ordinate Reference:	Well Welling Unit 1H
Project:	Doddridge County WV	TVD Reference:	F3: Welling 1H 971 GL + 23 KB @ 994.0usft
Site:	Flossie / Golden / Welling Pad	MD Reference:	F3: Welling 1H 971 GL + 23 KB @ 994.0usft
Well:	Welling 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)	
1,460.0	6.41	321.78		1,457.7	-9.9	-45.5	-6.0	1.58	
1,485.0	6.24	326.96		1,482.6	-7.6	-47.2	-8.6	2.38	
1,510.0	5.51	337.32		1,507.4	-5.4	-48.4	-11.1	5.14	
1,535.0	4.86	348.34		1,532.3	-3.3	-49.0	-13.4	4.75	
1,560.0	4.79	349.37		1,557.2	-1.2	-49.4	-15.4	0.45	
1,585.0	4.73	351.94		1,582.2	0.9	-49.8	-17.5	0.89	
1,610.0	4.74	351.14		1,607.1	2.9	-50.1	-19.5	0.27	
1,635.0	4.74	351.35		1,632.0	4.9	-50.4	-21.5	0.07	
1,660.0	4.67	352.38		1,656.9	7.0	-50.7	-23.5	0.44	
1,685.0	4.66	352.80		1,681.8	9.0	-50.9	-25.5	0.14	
1,710.0	4.68	354.65		1,706.7	11.0	-51.2	-27.5	0.61	
1,735.0	4.58	355.10		1,731.6	13.0	-51.3	-29.5	0.43	
1,760.0	4.54	355.37		1,756.6	15.0	-51.5	-31.4	0.18	
1,785.0	4.44	357.79		1,781.5	16.9	-51.6	-33.3	0.86	
1,810.0	4.33	358.82		1,806.4	18.9	-51.7	-35.1	0.54	
1,835.0	4.27	359.16		1,831.4	20.7	-51.7	-36.9	0.26	
1,860.0	4.14	1.66		1,856.3	22.6	-51.7	-38.6	0.90	
1,885.0	4.02	2.48		1,881.2	24.3	-51.6	-40.2	0.53	
1,910.0	3.96	3.17		1,906.2	26.1	-51.6	-41.9	0.31	
1,935.0	3.94	4.66		1,931.1	27.8	-51.4	-43.4	0.42	
1,960.0	3.98	4.73		1,956.0	29.5	-51.3	-45.0	0.16	
1,985.0	3.81	4.61		1,981.0	31.2	-51.2	-46.6	0.68	
2,010.0	3.79	5.64		2,005.9	32.9	-51.0	-48.1	0.28	
2,035.0	3.75	6.68		2,030.9	34.5	-50.8	-49.5	0.32	
2,060.0	3.78	5.96		2,055.8	36.1	-50.7	-51.0	0.22	
2,085.0	3.81	7.50		2,080.8	37.8	-50.5	-52.5	0.42	
2,110.0	3.77	7.52		2,105.7	39.4	-50.2	-54.0	0.16	
2,135.0	3.77	9.11		2,130.7	41.0	-50.0	-55.4	0.42	
2,160.0	3.70	7.73		2,155.6	42.6	-49.8	-56.9	0.46	
2,185.0	3.72	8.05		2,180.6	44.2	-49.5	-58.3	0.12	
2,210.0	3.73	9.54		2,205.5	45.9	-49.3	-59.7	0.39	
2,235.0	3.72	10.51		2,230.4	47.5	-49.0	-61.1	0.26	
2,260.0	3.72	8.81		2,255.4	49.1	-48.7	-62.6	0.44	
2,285.0	3.62	9.38		2,280.3	50.6	-48.5	-64.0	0.43	
2,310.0	3.59	9.24		2,305.3	52.2	-48.2	-65.3	0.13	
2,335.0	3.42	11.33		2,330.2	53.7	-48.0	-66.7	0.85	
2,360.0	3.33	11.46		2,355.2	55.1	-47.7	-67.9	0.36	
2,385.0	3.32	10.76		2,380.2	56.6	-47.4	-69.2	0.17	
2,410.0	3.26	10.98		2,405.1	58.0	-47.1	-70.4	0.25	
2,435.0	3.17	12.54		2,430.1	59.3	-46.8	-71.7	0.50	
2,460.0	3.03	12.99		2,455.0	60.7	-46.5	-73.0	0.57	
2,485.0	3.09	14.85		2,480.0	61.9	-46.2	-73.9	0.46	
2,510.0	3.09	15.17		2,505.0	63.3	-45.9	-75.0	0.07	
2,535.0	3.14	15.10		2,529.9	64.6	-45.5	-76.1	0.20	
2,560.0	3.06	16.03		2,554.9	65.9	-45.2	-77.2	0.38	

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 WV Department of Environmental Protection
 COMPASS 5000.7 Bull 70
 07/24/2015

Company:	Antero Resources	Local Co-ordinate Reference:	Well Welling Unit 1H
Project:	Doddridge County WV	TVD Reference:	F3: Welling 1H 971 GL + 23 KB @ 994.0usft
Site:	Flossie / Golden / Welling Pad	MD Reference:	F3: Welling 1H 971 GL + 23 KB @ 994.0usft
Well:	Welling 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)	
2,585.0	2.88	15.86	2,579.9	67.1	-44.8	-78.2	0.72	
2,610.0	2.53	12.63	2,604.8	68.3	-44.5	-79.2	1.53	
2,635.0	2.16	14.92	2,629.8	69.2	-44.3	-80.1	1.53	
2,660.0	1.97	17.38	2,654.8	70.1	-44.0	-80.8	0.84	
2,685.0	1.82	15.28	2,679.8	70.9	-43.8	-81.5	0.66	
2,710.0	1.65	22.70	2,704.8	71.6	-43.5	-82.1	1.13	
2,735.0	1.35	12.67	2,729.8	72.2	-43.3	-82.6	1.59	
2,760.0	1.33	24.23	2,754.8	72.8	-43.1	-83.0	1.08	
2,785.0	1.37	31.43	2,779.8	73.3	-42.9	-83.4	0.70	
2,810.0	1.27	26.79	2,804.7	73.8	-42.6	-83.8	0.59	
2,835.0	1.18	28.03	2,829.7	74.3	-42.3	-84.2	0.38	
2,860.0	1.02	18.18	2,854.7	74.7	-42.2	-84.5	0.99	
2,885.0	0.87	15.75	2,879.7	75.1	-42.0	-84.9	0.62	
2,910.0	0.85	33.55	2,904.7	75.5	-41.9	-85.1	1.07	
2,935.0	0.76	35.00	2,929.7	75.7	-41.7	-85.3	0.37	
2,960.0	0.72	33.83	2,954.7	76.0	-41.5	-85.5	0.17	
2,985.0	0.78	41.93	2,979.7	76.3	-41.3	-85.7	0.49	
3,010.0	0.68	40.61	3,004.7	76.5	-41.1	-85.9	0.41	
3,035.0	0.69	40.61	3,029.7	76.7	-40.9	-86.0	0.04	
3,060.0	0.61	44.41	3,054.7	76.9	-40.7	-86.1	0.36	
3,085.0	0.45	38.82	3,079.7	77.1	-40.6	-86.2	0.67	
3,110.0	0.32	40.46	3,104.7	77.2	-40.4	-86.3	0.52	
3,135.0	0.28	58.90	3,129.7	77.3	-40.3	-86.4	0.42	
3,160.0	0.29	69.89	3,154.7	77.4	-40.2	-86.4	0.22	
3,185.0	0.22	80.64	3,179.7	77.4	-40.1	-86.4	0.34	
3,210.0	0.34	84.15	3,204.7	77.4	-40.0	-86.4	0.48	
3,235.0	0.41	92.83	3,229.7	77.4	-39.8	-86.3	0.36	
3,260.0	0.33	85.20	3,254.7	77.4	-39.7	-86.3	0.38	
3,285.0	0.25	79.39	3,279.7	77.5	-39.6	-86.2	0.34	
3,310.0	0.27	86.07	3,304.7	77.5	-39.4	-86.2	0.15	
3,335.0	0.09	94.42	3,329.7	77.5	-39.4	-86.2	0.73	
3,360.0	0.16	119.86	3,354.7	77.4	-39.3	-86.1	0.35	
3,385.0	0.20	112.41	3,379.7	77.4	-39.2	-86.1	0.19	
3,410.0	0.31	108.96	3,404.7	77.4	-39.1	-86.0	0.44	
3,435.0	0.25	113.70	3,429.7	77.3	-39.0	-85.9	0.26	
3,460.0	0.28	118.84	3,454.7	77.3	-38.9	-85.9	0.15	
3,485.0	0.36	111.76	3,479.7	77.2	-38.8	-85.8	0.36	
3,510.0	0.28	114.77	3,504.7	77.2	-38.7	-85.7	0.33	
3,535.0	0.33	105.22	3,529.7	77.1	-38.5	-85.6	0.28	
3,560.0	0.25	101.06	3,554.7	77.1	-38.4	-85.5	0.33	
3,585.0	0.28	101.13	3,579.7	77.1	-38.3	-85.5	0.12	
3,610.0	0.12	97.07	3,604.7	77.1	-38.2	-85.4	0.64	
3,635.0	0.13	119.31	3,629.7	77.0	-38.2	-85.4	0.20	
3,660.0	0.21	111.91	3,654.7	77.0	-38.1	-85.3	0.33	

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 COMPASS 5000.1 Build 70
 07/24/2015

Company:	Antero Resources	Local Co-ordinate Reference:	Well Welling Unit 1H
Project:	Doddridge County WV	TVD Reference:	F3: Welling 1H 971 GL + 23 KB @ 994.0usft
Site:	Flossie / Golden / Welling Pad	MD Reference:	F3: Welling 1H 971 GL + 23 KB @ 994.0usft
Well:	Welling 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)
3,685.0	0.28	104.68	3,679.7	77.0	-38.0	-85.3	0.31
3,710.0	0.16	175.99	3,704.7	76.9	-37.9	-85.2	1.10
3,735.0	0.21	147.41	3,729.7	76.9	-37.9	-85.1	0.41
3,760.0	0.26	142.73	3,754.7	76.8	-37.9	-85.0	0.21
3,785.0	0.39	119.50	3,779.7	76.7	-37.7	-84.9	0.73
3,810.0	0.31	133.56	3,804.7	76.6	-37.6	-84.8	0.47
3,835.0	0.22	139.76	3,829.7	76.5	-37.5	-84.7	0.38
3,860.0	0.30	120.01	3,854.7	76.4	-37.5	-84.6	0.48
3,885.0	0.34	108.75	3,879.7	76.4	-37.3	-84.5	0.30
3,910.0	0.10	131.27	3,904.7	76.3	-37.2	-84.4	1.00
3,935.0	0.14	102.10	3,929.7	76.3	-37.2	-84.4	0.29
3,960.0	0.30	102.85	3,954.7	76.3	-37.1	-84.3	0.64
3,985.0	0.15	126.27	3,979.7	76.3	-37.0	-84.3	0.69
4,010.0	0.12	159.54	4,004.7	76.2	-37.0	-84.2	0.33
4,035.0	0.27	131.75	4,029.7	76.2	-36.9	-84.1	0.69
4,060.0	0.29	126.50	4,054.7	76.1	-36.8	-84.0	0.13
4,085.0	0.30	129.53	4,079.7	76.0	-36.7	-83.9	0.07
4,110.0	0.34	117.51	4,104.7	75.9	-36.6	-83.8	0.31
4,135.0	0.45	106.17	4,129.7	75.9	-36.5	-83.7	0.54
4,160.0	0.44	106.42	4,154.7	75.8	-36.3	-83.6	0.04
4,185.0	0.38	100.81	4,179.7	75.8	-36.1	-83.5	0.29
4,210.0	0.51	92.18	4,204.7	75.8	-35.9	-83.4	0.58
4,235.0	0.57	91.94	4,229.7	75.7	-35.7	-83.3	0.24
4,260.0	0.55	90.25	4,254.7	75.7	-35.4	-83.2	0.10
4,285.0	0.50	90.09	4,279.7	75.7	-35.2	-83.2	0.20
4,310.0	0.55	92.58	4,304.7	75.7	-35.0	-83.1	0.22
4,335.0	0.53	91.10	4,329.7	75.7	-34.7	-83.0	0.10
4,360.0	0.53	93.58	4,354.7	75.7	-34.5	-82.9	0.09
4,385.0	0.63	93.89	4,379.7	75.7	-34.2	-82.8	0.40
4,410.0	0.57	95.88	4,404.7	75.7	-34.0	-82.7	0.25
4,435.0	0.63	88.81	4,429.7	75.7	-33.7	-82.6	0.38
4,460.0	0.63	93.26	4,454.7	75.7	-33.4	-82.5	0.20
4,485.0	0.74	92.11	4,479.7	75.6	-33.1	-82.4	0.44
4,510.0	0.72	94.21	4,504.7	75.6	-32.8	-82.3	0.13
4,535.0	0.82	87.45	4,529.7	75.6	-32.5	-82.1	0.54
4,560.0	0.85	86.10	4,554.7	75.6	-32.1	-82.0	0.14
4,585.0	0.84	79.58	4,579.7	75.7	-31.8	-82.0	0.39
4,610.0	0.87	74.94	4,604.7	75.8	-31.4	-81.9	0.30
4,635.0	0.71	69.21	4,629.7	75.9	-31.1	-81.8	0.71
4,660.0	0.77	79.51	4,654.7	76.0	-30.8	-81.8	0.58
4,685.0	0.77	79.48	4,679.7	76.0	-30.4	-81.8	0.00
4,710.0	0.69	82.04	4,704.7	76.1	-30.1	-81.6	0.35
4,735.0	0.81	87.00	4,729.7	76.1	-29.8	-81.7	0.55
4,760.0	0.86	79.49	4,754.7	76.2	-29.4	-81.6	0.48

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EOW Completion Report



Company:	Antero Resources	Local Co-ordinate Reference:	Well Welling Unit 1H
Project:	Doddridge County WV	TVD Reference:	F3: Welling 1H 971 GL + 23 KB @ 994.0usft
Site:	Flossie / Golden / Welling Pad	MD Reference:	F3: Welling 1H 971 GL + 23 KB @ 994.0usft
Well:	Welling 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)
4,785.0	0.83	81.54	4,779.7	76.2	-29.1	-81.5	0.17
4,810.0	0.93	79.04	4,804.7	76.3	-28.7	-81.5	0.43
4,835.0	0.88	76.20	4,829.7	76.4	-28.3	-81.4	0.27
4,860.0	0.93	82.81	4,854.6	76.4	-27.9	-81.4	0.46
4,885.0	1.01	74.99	4,879.6	76.5	-27.5	-81.3	0.62
4,910.0	0.83	78.64	4,904.6	76.6	-27.1	-81.3	0.76
4,935.0	0.83	83.20	4,929.6	76.7	-26.8	-81.2	0.26
4,960.0	0.87	82.89	4,954.6	76.7	-26.4	-81.1	0.16
4,985.0	0.96	77.10	4,979.6	76.8	-26.0	-81.1	0.52
5,010.0	0.85	70.97	5,004.6	76.9	-25.6	-81.0	0.59
5,035.0	0.74	76.23	5,029.6	77.0	-25.3	-81.0	0.53
5,060.0	0.79	83.83	5,054.6	77.0	-25.0	-81.0	0.45
5,085.0	0.77	82.68	5,079.6	77.1	-24.6	-80.9	0.10
5,110.0	0.81	79.75	5,104.6	77.1	-24.3	-80.8	0.23
5,135.0	0.81	78.70	5,129.6	77.2	-23.9	-80.8	0.06
5,160.0	0.86	73.20	5,154.6	77.3	-23.6	-80.7	0.38
5,185.0	0.79	72.89	5,179.6	77.4	-23.2	-80.7	0.28
5,210.0	0.68	75.53	5,204.6	77.5	-22.9	-80.7	0.46
5,235.0	0.84	80.27	5,229.6	77.6	-22.6	-80.6	0.69
5,260.0	0.77	80.30	5,254.6	77.6	-22.3	-80.6	0.28
5,285.0	0.88	76.40	5,279.6	77.7	-21.9	-80.5	0.49
5,310.0	0.82	72.54	5,304.6	77.8	-21.5	-80.5	0.33
5,335.0	0.66	72.26	5,329.6	77.9	-21.2	-80.5	0.64
5,360.0	0.66	71.78	5,354.6	78.0	-21.0	-80.5	0.02
5,385.0	0.76	69.43	5,379.6	78.1	-20.7	-80.5	0.42
5,410.0	0.74	63.89	5,404.6	78.2	-20.4	-80.5	0.30
5,435.0	0.71	59.54	5,429.6	78.4	-20.1	-80.6	0.25
5,460.0	0.63	61.35	5,454.6	78.5	-19.8	-80.6	0.33
5,485.0	0.63	62.39	5,479.6	78.6	-19.6	-80.6	0.05
5,510.0	0.69	68.46	5,504.6	78.7	-19.3	-80.7	0.37
5,535.0	0.72	69.12	5,529.6	78.9	-19.0	-80.7	0.12
5,560.0	0.68	63.65	5,554.6	79.0	-18.8	-80.7	0.31
5,585.0	0.68	63.92	5,579.6	79.1	-18.5	-80.7	0.01
5,610.0	0.66	63.59	5,604.6	79.2	-18.2	-80.8	0.08
5,635.0	0.53	69.36	5,629.6	79.3	-18.0	-80.8	0.57
5,660.0	0.58	78.12	5,654.6	79.4	-17.8	-80.8	0.39
5,685.0	0.70	71.87	5,679.6	79.5	-17.5	-80.8	0.55
5,710.0	0.46	65.39	5,704.6	79.6	-17.3	-80.8	0.99
5,735.0	0.45	72.50	5,729.6	79.6	-17.1	-80.8	0.23
5,760.0	0.44	71.27	5,754.6	79.7	-16.9	-80.8	0.06
5,785.0	0.50	88.37	5,779.6	79.7	-16.7	-80.7	0.61
5,810.0	0.58	85.85	5,804.6	79.8	-16.5	-80.7	0.33
5,835.0	0.52	82.04	5,829.6	79.8	-16.2	-80.6	0.28
5,860.0	0.47	85.27	5,854.6	79.8	-16.0	-80.5	0.23

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EOW Completion Report



Company:	Antero Resources	Local Co-ordinate Reference:	Well Welling Unit 1H
Project:	Doddridge County WV	TVD Reference:	F3: Welling 1H 971 GL + 23 KB @ 994.0usft
Site:	Flossie / Golden / Welling Pad	MD Reference:	F3: Welling 1H 971 GL + 23 KB @ 994.0usft
Well:	Welling 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)	
5,885.0	0.40	90.11	5,879.6	79.8	-15.8	-80.5	0.32	
5,910.0	0.48	96.39	5,904.6	79.8	-15.6	-80.4	0.37	
5,935.0	0.41	89.31	5,929.6	79.8	-15.4	-80.3	0.36	
5,960.0	0.41	86.55	5,954.6	79.8	-15.3	-80.3	0.08	
5,985.0	0.40	101.79	5,979.6	79.8	-15.1	-80.2	0.43	
6,010.0	0.47	92.95	6,004.6	79.8	-14.9	-80.1	0.39	
6,035.0	0.55	83.37	6,029.6	79.8	-14.7	-80.1	0.47	
6,060.0	0.25	89.04	6,054.6	79.8	-14.5	-80.0	1.21	
6,085.0	0.36	106.24	6,079.6	79.8	-14.4	-80.0	0.57	
6,110.0	0.24	67.31	6,104.6	79.8	-14.2	-79.9	0.92	
6,135.0	0.43	91.93	6,129.6	79.8	-14.1	-79.9	0.94	
6,160.0	0.12	62.84	6,154.6	79.8	-14.0	-79.9	1.32	
6,185.0	0.28	77.29	6,179.6	79.8	-13.9	-79.9	0.67	
6,210.0	0.12	59.66	6,204.6	79.8	-13.8	-79.8	0.68	
6,235.0	0.16	126.83	6,229.6	79.8	-13.8	-79.8	0.63	
6,260.0	0.13	57.93	6,254.6	79.8	-13.7	-79.8	0.66	
6,285.0	0.15	75.71	6,279.6	79.8	-13.7	-79.8	0.19	
6,310.0	0.09	120.39	6,304.6	79.8	-13.6	-79.8	0.43	
6,335.0	0.09	58.49	6,329.6	79.8	-13.6	-79.8	0.37	
6,360.0	0.15	261.85	6,354.6	79.8	-13.6	-79.8	0.94	
6,385.0	0.21	136.35	6,379.6	79.8	-13.6	-79.8	1.28	
6,410.0	0.24	146.46	6,404.6	79.7	-13.5	-79.7	0.20	
6,435.0	0.15	117.70	6,429.6	79.7	-13.5	-79.6	0.52	
6,460.0	0.19	111.53	6,454.6	79.6	-13.4	-79.5	0.18	
6,479.0	0.31	112.12	6,473.6	79.6	-13.3	-79.5	0.63	
6,530.0	0.21	119.62	6,524.6	79.5	-13.1	-79.3	0.21	
6,550.0	0.37	168.33	6,544.6	79.4	-13.1	-79.2	1.41	
Sycamore								
6,625.0	1.38	193.72	6,619.5	78.3	-13.2	-78.2	1.41	
6,657.0	5.02	181.34	6,651.5	76.5	-13.4	-76.6	11.51	
6,689.0	8.52	182.95	6,683.3	72.8	-13.5	-73.1	10.95	
6,720.0	12.46	188.79	6,713.7	67.2	-14.1	-68.0	13.15	
6,752.0	15.82	191.63	6,744.8	59.5	-15.6	-61.3	10.72	
6,778.0	18.82	189.95	6,769.6	51.9	-17.0	-54.6	11.70	
Middlesex								
6,783.0	19.40	189.68	6,774.3	50.3	-17.3	-53.2	11.70	
6,815.0	22.39	185.19	6,804.2	39.0	-18.7	-43.0	10.59	
6,846.0	25.21	185.08	6,832.6	26.5	-19.8	-31.6	9.10	
6,878.0	28.30	183.06	6,861.1	12.1	-20.8	-18.4	10.06	
6,909.0	32.30	182.00	6,887.9	-3.5	-21.5	-9.9	13.02	
6,941.0	36.05	183.11	6,914.4	-21.4	-22.3	-2.7	11.88	
6,973.0	40.34	183.67	6,939.5	-41.2	-23.5	30.9	13.45	
6,975.0	40.61	183.59	6,941.0	-42.5	-23.6	10.6	13.89	
Tully								
7,005.0	44.72	182.56	6,963.1	-62.8	-24.7	50.9	13.89	

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Company:	Antero Resources	Local Co-ordinate Reference:	Well Welling Unit 1H
Project:	Doddridge County WV	TVD Reference:	F3: Welling 1H 971 GL + 23 KB @ 994.0usft
Site:	Flossie / Golden / Welling Pad	MD Reference:	F3: Welling 1H 971 GL + 23 KB @ 994.0usft
Well:	Welling 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)	
7,036.0	49.56	182.25	6,984.2	-85.5	-25.6	71.9	15.63	
7,067.0	53.66	181.26	7,003.4	-109.8	-26.4	94.6	13.46	
7,099.0	56.61	180.26	7,021.7	-136.0	-26.7	119.2	9.57	
7,130.0	60.33	180.41	7,037.9	-162.4	-26.9	144.0	12.01	
7,162.0	64.57	178.86	7,052.7	-190.8	-26.7	170.8	13.93	
7,193.0	69.16	177.44	7,064.9	-219.3	-25.8	198.0	15.39	
7,214.0	70.98	177.15	7,072.0	-239.0	-24.8	216.9	8.78	
Marcellus								
7,225.0	71.94	177.00	7,075.5	-249.4	-24.3	226.8	8.78	
7,257.0	73.78	177.70	7,085.0	-280.0	-22.9	256.1	6.12	
7,288.0	75.83	179.37	7,093.1	-309.9	-22.1	284.5	8.41	
7,320.0	77.35	179.81	7,100.5	-341.0	-21.9	313.9	4.93	
7,352.0	80.91	177.58	7,106.6	-372.4	-21.2	343.8	13.06	
7,384.0	84.22	175.03	7,110.7	-404.1	-19.1	374.3	13.02	
7,432.0	91.14	172.70	7,112.6	-451.7	-14.0	420.9	15.21	
7,465.0	92.33	168.82	7,111.6	-484.3	-8.7	453.3	12.29	
7,560.0	91.80	160.47	7,108.2	-575.7	16.4	547.9	8.80	
7,655.0	91.28	160.30	7,105.7	-665.2	48.3	642.9	0.58	
7,750.0	89.08	160.21	7,105.4	-754.6	80.4	737.9	2.32	
7,845.0	89.87	160.47	7,106.2	-844.0	112.3	832.9	0.88	
7,937.0	90.57	160.30	7,105.9	-930.7	143.2	924.9	0.78	
8,031.0	89.60	158.36	7,105.7	-1,018.6	176.4	1,018.9	2.31	
8,126.0	89.52	158.27	7,106.5	-1,106.9	211.5	1,113.8	0.13	
8,222.0	89.69	158.80	7,107.1	-1,196.3	246.6	1,209.7	0.58	
8,316.0	89.08	157.22	7,108.1	-1,283.4	281.8	1,303.6	1.80	
8,412.0	90.04	159.42	7,108.9	-1,372.6	317.3	1,399.6	2.50	
8,506.0	89.43	160.38	7,109.3	-1,460.9	349.6	1,493.6	1.21	
8,599.0	89.43	162.32	7,110.2	-1,549.0	379.3	1,586.5	2.09	
8,695.0	90.57	160.82	7,110.2	-1,640.1	409.7	1,682.5	1.96	
8,789.0	89.52	159.94	7,110.2	-1,728.6	441.2	1,776.5	1.46	
8,884.0	90.22	160.03	7,110.4	-1,817.9	473.8	1,871.5	0.74	
8,979.0	90.13	159.77	7,110.1	-1,907.1	506.4	1,966.5	0.29	
9,073.0	90.84	158.01	7,109.3	-1,994.8	540.3	2,060.5	2.02	
9,167.0	90.84	158.54	7,107.9	-2,082.1	575.0	2,154.4	0.56	
9,262.0	91.36	162.49	7,106.1	-2,171.6	606.7	2,249.4	4.19	
9,357.0	90.04	162.05	7,104.9	-2,262.1	635.7	2,344.3	1.46	
9,452.0	90.22	162.14	7,104.7	-2,352.5	664.9	2,439.3	0.21	
9,547.0	90.66	161.79	7,104.0	-2,442.8	694.3	2,534.2	0.59	
9,641.0	91.45	161.88	7,102.3	-2,532.1	723.6	2,628.2	0.85	
9,736.0	89.96	158.27	7,101.1	-2,621.4	753.0	2,723.1	4.11	
9,829.0	90.22	158.89	7,100.9	-2,708.0	789.9	2,816.0	0.72	
9,923.0	90.66	159.24	7,100.2	-2,795.8	823.5	2,910.1	0.60	
10,014.0	91.36	159.59	7,098.6	-2,880.9	855.5	3,004.0	0.86	
10,104.0	91.01	159.24	7,096.7	-2,965.2	887.0	3,091.0	0.55	

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EOW Completion Report



Company:	Antero Resources	Local Co-ordinate Reference:	Well Welling Unit 1H
Project:	Doddridge County WV	TVD Reference:	F3: Welling 1H 971 GL + 23 KB @ 994.0usft
Site:	Flossie / Golden / Welling Pad	MD Reference:	F3: Welling 1H 971 GL + 23 KB @ 994.0usft
Well:	Welling 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)
10,194.0	91.36	161.17	7,094.9	-3,049.8	917.6	3,181.0	2.18
10,284.0	91.01	160.12	7,093.0	-3,134.7	947.4	3,271.0	1.23
10,374.0	90.48	158.63	7,091.9	-3,219.0	979.1	3,360.9	1.76
10,465.0	90.40	159.77	7,091.2	-3,304.0	1,011.4	3,451.9	1.26
10,555.0	90.75	161.97	7,090.3	-3,389.0	1,040.9	3,541.9	2.48
10,646.0	91.45	162.76	7,088.5	-3,475.7	1,068.5	3,632.8	1.16
10,736.0	91.89	159.94	7,085.9	-3,561.0	1,097.2	3,722.8	3.17
10,826.0	91.19	160.03	7,083.5	-3,645.5	1,128.0	3,812.7	0.78
10,917.0	91.71	160.38	7,081.2	-3,731.1	1,158.8	3,903.7	0.69
11,007.0	92.15	160.91	7,078.1	-3,816.0	1,188.6	3,993.6	0.77
11,102.0	90.48	159.59	7,076.0	-3,905.3	1,220.7	4,088.6	2.24
11,197.0	90.66	156.34	7,075.0	-3,993.4	1,256.4	4,183.5	3.43
11,292.0	90.31	158.54	7,074.2	-4,081.1	1,292.8	4,278.4	2.34
11,386.0	90.31	157.83	7,073.7	-4,168.4	1,327.7	4,372.3	0.76
11,480.0	89.60	160.65	7,073.8	-4,256.3	1,361.1	4,466.3	3.09
11,575.0	90.04	163.02	7,074.1	-4,346.5	1,390.7	4,561.2	2.54
11,668.0	90.31	162.93	7,073.8	-4,435.5	1,417.9	4,654.1	0.31
11,764.0	88.99	164.51	7,074.4	-4,527.6	1,444.8	4,750.0	2.14
11,858.0	88.55	161.88	7,076.4	-4,617.6	1,472.0	4,843.8	2.84
11,952.0	89.60	159.86	7,077.9	-4,706.3	1,502.8	4,937.8	2.42
12,047.0	90.92	158.54	7,077.5	-4,795.1	1,536.5	5,032.8	1.96
12,141.0	90.57	159.33	7,076.2	-4,882.9	1,570.3	5,126.7	0.92
12,236.0	90.31	162.23	7,075.5	-4,972.6	1,601.6	5,221.7	3.06
12,331.0	90.48	161.70	7,074.9	-5,062.9	1,631.0	5,316.7	0.59
12,425.0	90.84	160.38	7,073.8	-5,151.8	1,661.5	5,410.7	1.46
12,519.0	90.92	160.82	7,072.3	-5,240.4	1,692.7	5,504.7	0.48
12,614.0	90.66	160.47	7,071.0	-5,330.0	1,724.2	5,599.7	0.46
12,708.0	88.29	160.30	7,071.9	-5,418.6	1,755.8	5,693.7	2.53
12,803.0	87.67	160.38	7,075.2	-5,508.0	1,787.7	5,788.6	0.66
12,898.0	90.04	159.33	7,077.1	-5,597.2	1,820.4	5,883.6	2.73
12,993.0	88.64	159.68	7,078.2	-5,686.1	1,853.7	5,978.5	1.52
13,087.0	89.08	156.78	7,080.1	-5,773.4	1,888.5	6,072.4	3.12
13,181.0	89.25	158.27	7,081.5	-5,860.2	1,924.5	6,166.3	1.60
13,277.0	89.60	157.13	7,082.4	-5,949.1	1,960.9	6,262.2	1.24
13,372.0	88.99	161.09	7,083.6	-6,037.8	1,994.8	6,357.1	4.22
13,467.0	89.16	161.35	7,085.1	-6,127.7	2,025.3	6,452.1	0.33
13,562.0	90.48	160.82	7,085.4	-6,217.6	2,056.1	6,547.1	1.50
13,657.0	90.92	160.03	7,084.3	-6,307.1	2,088.0	6,642.0	0.95
13,751.0	90.22	161.09	7,083.3	-6,395.7	2,119.2	6,736.9	1.35
13,846.0	91.28	163.20	7,082.1	-6,486.1	2,148.4	6,831.0	2.49
13,940.0	92.15	161.00	7,079.3	-6,575.5	2,177.2	6,924.9	2.52
14,034.0	91.80	161.70	7,076.0	-6,664.6	2,207.3	7,018.9	0.83
14,128.0	90.84	162.76	7,073.9	-6,754.0	2,236.0	7,112.8	1.52
14,224.0	90.66	161.79	7,072.6	-6,845.5	2,265.2	7,206.7	1.03

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Company:	Antero Resources	Local Co-ordinate Reference:	Well Welling Unit 1H
Project:	Doddridge County WV	TVD Reference:	F3: Welling 1H 971 GL + 23 KB @ 994.0usft
Site:	Flossie / Golden / Welling Pad	MD Reference:	F3: Welling 1H 971 GL + 23 KB @ 994.0usft
Well:	Welling 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)
14,317.0	92.51	161.53	7,070.0	-6,933.7	2,294.4	7,301.7	2.01
14,412.0	91.54	162.93	7,066.7	-7,024.1	2,323.4	7,396.6	1.79
14,505.0	90.22	162.49	7,065.3	-7,112.9	2,351.0	7,489.5	1.50
14,599.0	90.22	162.05	7,064.9	-7,202.4	2,379.7	7,583.4	0.47
14,694.0	91.89	160.82	7,063.2	-7,292.5	2,409.9	7,678.4	2.18
14,789.0	92.24	159.77	7,059.7	-7,381.9	2,441.9	7,773.3	1.16
14,884.0	90.48	159.24	7,057.5	-7,470.8	2,475.2	7,868.3	1.93
14,979.0	90.40	157.57	7,056.7	-7,559.1	2,510.1	7,963.2	1.76
15,073.0	90.22	158.10	7,056.2	-7,646.2	2,545.6	8,057.1	0.60
15,168.0	90.48	159.42	7,055.7	-7,734.7	2,580.0	8,152.1	1.42
15,263.0	91.80	161.53	7,053.8	-7,824.2	2,611.8	8,247.1	2.62
15,358.0	92.51	161.70	7,050.2	-7,914.3	2,641.7	8,342.0	0.77
15,452.0	91.28	161.70	7,047.1	-8,003.5	2,671.2	8,435.9	1.31
15,547.0	91.01	162.67	7,045.2	-8,094.0	2,700.3	8,530.8	1.06
15,642.0	90.13	162.32	7,044.2	-8,184.5	2,728.8	8,625.8	1.00
15,737.0	90.75	163.02	7,043.5	-8,275.2	2,757.1	8,720.7	0.98
15,831.0	90.48	160.12	7,042.5	-8,364.4	2,786.8	8,814.7	3.10
15,923.0	91.36	159.77	7,041.0	-8,450.8	2,818.4	8,906.6	1.03
16,017.0	89.69	160.12	7,040.2	-8,539.1	2,850.6	9,000.6	1.82
16,111.0	90.40	157.83	7,040.1	-8,626.8	2,884.3	9,094.6	2.55
16,206.0	90.84	156.08	7,039.1	-8,714.2	2,921.5	9,189.4	1.90
16,297.0	91.19	155.73	7,037.5	-8,797.3	2,958.7	9,280.1	0.54
16,353.0	90.86	157.00	7,036.4	-8,848.6	2,981.1	9,336.0	2.34

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
6,550.0	6,544.6	79.4	-13.1	Sycamore
6,778.0	6,769.6	51.9	-17.0	Middlesex
6,975.0	6,941.0	-42.5	-23.6	Tully
7,214.0	7,072.0	-239.0	-24.8	Marcellus

Checked By: _____ Approved By: _____ Date: _____

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Environmental Protection
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