

RECEIVED

JUN 08 2015



**Violet Unit 1H**  
**Doddridge County WW**  
**Northing: 14262945.17**  
**Easting: 1679353.44**  
**As Drilled**



Azimuths to Grid North  
 True North: -0.09°  
 Magnetic North: -8.48°  
 Magnetic Field  
 Strength: 52348.9nT  
 Dip Angle: 66.85°  
 Date: 1/13/2014  
 Model: IGRF2010

To convert Magnetic North to Grid, Subtract 8.48°  
 To convert True North to Grid, Subtract 0.09°

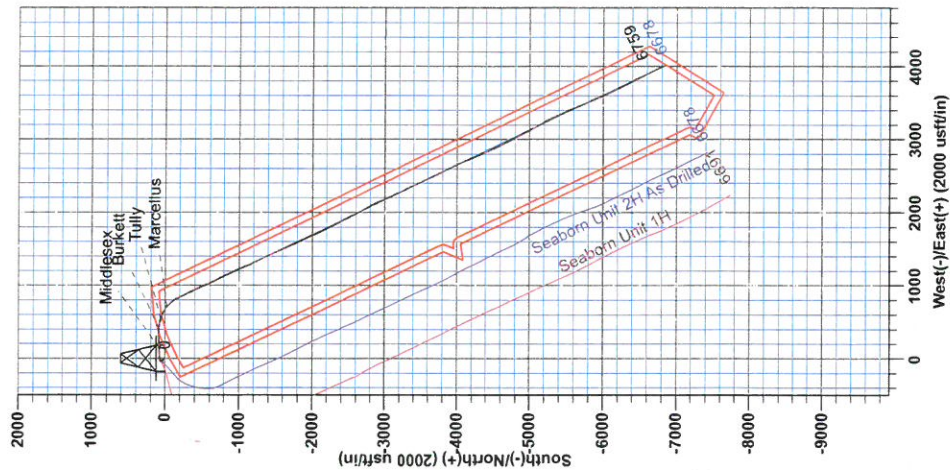
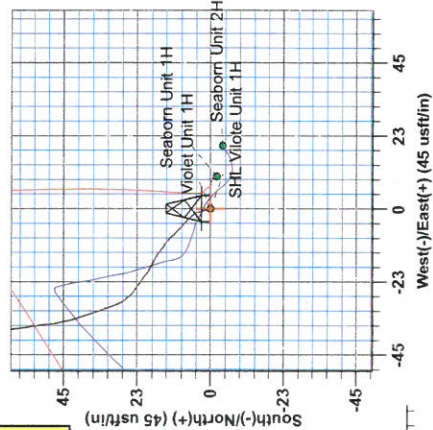
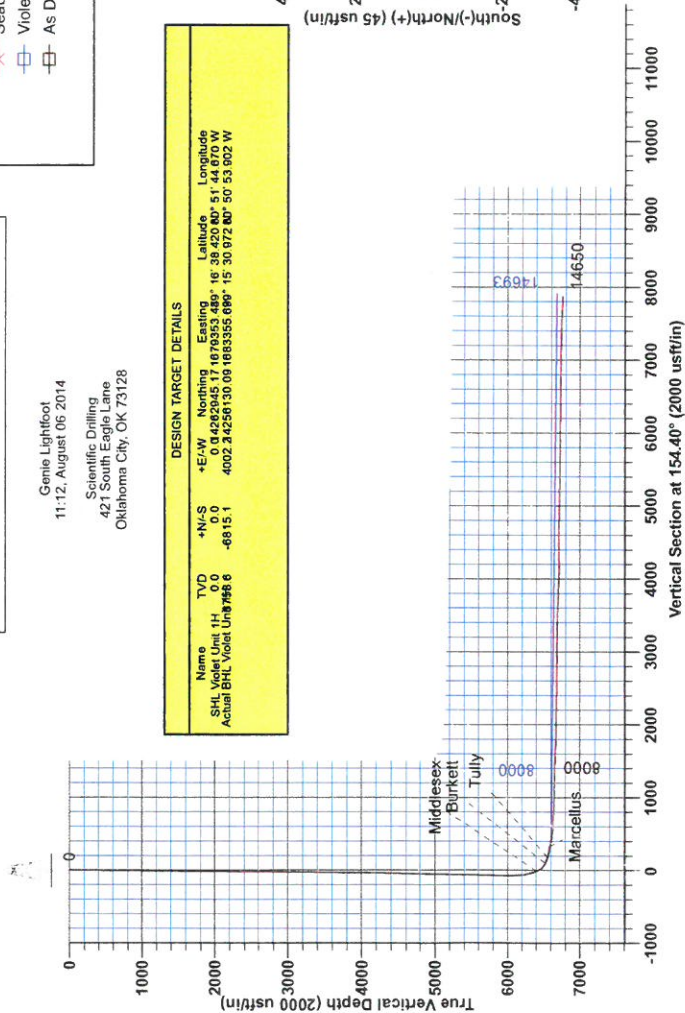
WELL DETAILS		Violet Unit 1H	
Ground Level:	1109.0	Latitude	39° 16' 38.420 N
Longitude	80° 51' 44.670 W	Longitude	80° 51' 44.670 W
+N/-S	0.0	+E/-W	1679353.44
Northing	14262945.17	Easting	1679353.44

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

Genie Lightfoot  
 11:12, August 06 2014  
 Scientific Drilling  
 421 South Eagle Lane  
 Oklahoma City, OK 73128

DESIGN TARGET DETAILS			
Name	TVD	+N/-S	+E/-W
SHL Violet Unit 1H	14650	-8815.1	4002.24256130.00
Actual BHL Violet Unit 1H	14693	-8815.1	4002.24256130.00
			1679353.44
			80° 51' 44.670 W

F23 Violet 1H 1109.G1 + 22.KB @ 1131.0.usft  
 Cr: 1109.0





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WV GEOLOGICAL SURVEY  
MORGANTOWN, WV

## **Antero Resources**

**Doddridge County WV  
Seaborn/Violet/Tulip/Marks Pad  
Violet Unit 1H  
Original Wellpath**

**Design: As Drilled**

## **EOW Completion Report**

**06 August, 2014**



JUN 08 2015



## EOW Completion Report



**Company:** Antero Resources  
**Project:** Doddridge County WV  
**Site:** Seaborn/Violet/Tulip/Marks Pad  
**Well:** Violet Unit 1H  
**Wellbore:** Original Wellpath  
**Design:** As Drilled

**Local Co-ordinate Reference:** Well Violet Unit 1H  
**TVD Reference:** F23 Violet 1H 1109 GL + 22 KB @ 1131.0usft  
**MD Reference:** F23 Violet 1H 1109 GL + 22 KB @ 1131.0usft  
**North Reference:** Grid  
**Survey Calculation Method:** Minimum Curvature  
**Database:** Oklahoma District

<b>Project</b>	Doddridge County WV, McClellan District		
<b>Map System:</b>	Universal Transverse Mercator (US Survey Fee	<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** Seaborn/Violet/Tulip/Marks Pad

**Site Position:**  
**From:** Map  
**Position Uncertainty:** 0.0 usft

**Northing:** 14,262,941.51 usft  
**Easting:** 1,679,373.00 usft  
**Slot Radius:** 13-3/16"

**Latitude:** 39° 16' 38.384 N  
**Longitude:** 80° 51' 44.422 W  
**Grid Convergence:** 0.09 °

**Well** Violet Unit 1H, Marcellus

**Well Position** +N/-S 0.0 usft  
 +E/-W 0.0 usft  
**Position Uncertainty** 2.0 usft

**Northing:** 14,262,945.17 usft  
**Easting:** 1,679,353.44 usft  
**Wellhead Elevation:** 1,131.0 usft

**Latitude:** 39° 16' 38.420 N  
**Longitude:** 80° 51' 44.670 W  
**Ground Level:** 1,109.0 usft

**Wellbore** Original Wellpath

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	1/13/2014	-8.40	66.85	52,349

**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	154.40

**Survey Program** Date 8/6/2014

From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
109.0	5,985.0	Survey #4 Final Gyro (Original Wellpath)	SDI Standard Keeper	Scientific Drilling Intl. Standard Wireline Keeper
6,020.0	14,650.0	Survey #5 MWD (Original Wellpath)	MWD SDI	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
109.0	0.88	341.42	109.0	0.8	-0.3	-0.8	0.81
159.0	0.92	342.39	159.0	1.5	-0.5	-1.6	0.09
209.0	0.69	351.04	209.0	2.2	-0.7	-2.3	0.52
259.0	0.49	332.39	259.0	2.7	-0.8	-2.8	0.55
309.0	0.45	344.41	309.0	3.1	-1.0	-3.2	0.21
359.0	0.25	8.47	359.0	3.4	-1.0	-3.5	0.49
409.0	0.16	336.10	409.0	3.6	-1.0	-3.6	0.29
459.0	0.31	337.94	459.0	3.7	-1.1	-3.9	0.30
509.0	0.32	353.72	509.0	4.0	-1.2	-4.1	0.17
559.0	0.16	5.98	559.0	4.2	-1.2	-4.3	0.33

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**Local Co-ordinate Reference:** Well Violet Unit 1H  
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**MD Reference:** F23 Violet 1H 1109 GL + 22 KB @ 1131.0usft  
**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)
609.0	0.28	331.93	609.0	4.4	-1.2	-4.5	0.35
659.0	0.39	346.57	659.0	4.7	-1.3	-4.8	0.28
709.0	0.29	325.89	709.0	4.9	-1.4	-5.1	0.31
759.0	0.32	313.65	759.0	5.1	-1.6	-5.3	0.14
809.0	0.48	311.05	809.0	5.4	-1.9	-5.7	0.32
859.0	0.47	325.46	859.0	5.7	-2.1	-6.0	0.24
909.0	0.44	329.39	909.0	6.0	-2.4	-6.4	0.09
959.0	0.35	321.83	959.0	6.3	-2.5	-6.8	0.21
1,009.0	0.49	305.77	1,009.0	6.5	-2.8	-7.1	0.36
1,059.0	0.47	320.21	1,059.0	6.8	-3.1	-7.5	0.24
1,109.0	0.36	321.37	1,109.0	7.1	-3.3	-7.9	0.22
1,159.0	0.56	302.44	1,159.0	7.4	-3.7	-8.2	0.50
1,209.0	0.59	315.49	1,209.0	7.7	-4.0	-8.7	0.27
1,259.0	0.52	319.65	1,259.0	8.0	-4.4	-9.1	0.16
1,309.0	0.48	305.34	1,309.0	8.3	-4.7	-9.5	0.26
1,359.0	0.63	305.28	1,359.0	8.6	-5.1	-10.0	0.30
1,409.0	0.57	311.18	1,409.0	8.9	-5.5	-10.4	0.17
1,459.0	0.59	316.14	1,458.9	9.3	-5.9	-10.9	0.11
1,509.0	0.44	325.65	1,508.9	9.6	-6.1	-11.3	0.34
1,559.0	0.33	315.20	1,558.9	9.9	-6.4	-11.7	0.26
1,609.0	0.53	305.35	1,608.9	10.1	-6.6	-12.0	0.43
1,659.0	0.56	306.02	1,658.9	10.4	-7.0	-12.4	0.06
1,709.0	0.43	331.01	1,708.9	10.7	-7.3	-12.8	0.50
1,759.0	0.45	301.01	1,758.9	11.0	-7.6	-13.2	0.46
1,809.0	0.60	310.30	1,808.9	11.2	-7.9	-13.6	0.34
1,859.0	0.63	323.91	1,858.9	11.6	-8.3	-14.1	0.30
1,909.0	0.61	314.39	1,908.9	12.0	-8.7	-14.6	0.21
1,959.0	0.50	311.28	1,958.9	12.4	-9.0	-15.0	0.23
2,009.0	0.60	300.74	2,008.9	12.6	-9.4	-15.5	0.28
2,059.0	0.60	314.24	2,058.9	13.0	-9.8	-15.9	0.28
2,109.0	0.45	326.44	2,108.9	13.3	-10.1	-16.4	0.37
2,159.0	0.40	325.90	2,158.9	13.6	-10.3	-16.7	0.10
2,209.0	0.36	303.35	2,208.9	13.8	-10.5	-17.0	0.31
2,259.0	0.42	291.34	2,258.9	14.0	-10.8	-17.3	0.20
2,309.0	0.32	294.23	2,308.9	14.1	-11.1	-17.6	0.20
2,359.0	0.57	287.98	2,358.9	14.3	-11.5	-17.8	0.51
2,409.0	0.38	296.00	2,408.9	14.4	-11.9	-18.1	0.40
2,459.0	0.41	328.02	2,458.9	14.6	-12.1	-18.4	0.44
2,509.0	0.35	316.56	2,508.9	14.9	-12.3	-18.8	0.19
2,559.0	0.39	312.77	2,558.9	15.1	-12.6	-19.1	0.09
2,609.0	0.31	298.66	2,608.9	15.3	-12.8	-19.3	0.23
2,659.0	0.33	299.61	2,658.9	15.4	-13.1	-19.6	0.04
2,709.0	0.51	306.02	2,708.9	15.6	-13.4	-19.9	0.37
2,759.0	0.51	310.48	2,758.9	15.9	-13.7	-20.3	0.08

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**Wellbore:** Original Wellpath  
**Design:** As Drilled

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**MD Reference:** F23 Violet 1H 1109 GL + 22 KB @ 1131.0usft  
**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)
2,809.0	0.60	312.59	2,808.9	16.2	-14.1	-20.7	0.18
2,859.0	0.62	306.03	2,858.9	16.6	-14.5	-21.2	0.15
2,909.0	0.59	298.96	2,908.9	16.9	-14.9	-21.7	0.16
2,959.0	0.63	294.48	2,958.9	17.1	-15.4	-22.1	0.12
3,009.0	0.68	296.23	3,008.9	17.3	-15.9	-22.5	0.11
3,059.0	0.74	301.52	3,058.9	17.6	-16.5	-23.0	0.18
3,109.0	0.67	294.28	3,108.9	17.9	-17.0	-23.5	0.23
3,159.0	0.66	292.60	3,158.9	18.2	-17.5	-24.0	0.04
3,209.0	0.65	304.58	3,208.9	18.4	-18.0	-24.4	0.27
3,259.0	0.67	301.18	3,258.9	18.7	-18.5	-24.9	0.09
3,309.0	0.67	299.46	3,308.9	19.0	-19.0	-25.4	0.04
3,359.0	0.70	301.59	3,358.9	19.3	-19.5	-25.9	0.08
3,409.0	0.69	303.50	3,408.9	19.7	-20.1	-26.4	0.05
3,459.0	0.66	313.81	3,458.9	20.0	-20.5	-26.9	0.25
3,509.0	0.59	311.87	3,508.9	20.4	-20.9	-27.4	0.15
3,559.0	0.57	304.40	3,558.9	20.7	-21.3	-27.9	0.16
3,609.0	0.61	302.55	3,608.9	21.0	-21.7	-28.3	0.09
3,659.0	0.69	297.94	3,658.8	21.3	-22.2	-28.8	0.19
3,709.0	0.74	302.92	3,708.8	21.6	-22.8	-29.3	0.16
3,759.0	0.71	311.59	3,758.8	22.0	-23.3	-29.9	0.23
3,809.0	0.62	314.34	3,808.8	22.4	-23.7	-30.4	0.19
3,859.0	0.61	303.33	3,858.8	22.7	-24.1	-30.9	0.24
3,909.0	0.63	298.50	3,908.8	23.0	-24.6	-31.4	0.11
3,959.0	0.74	300.58	3,958.8	23.3	-25.1	-31.8	0.23
4,009.0	0.82	311.54	4,008.8	23.7	-25.6	-32.4	0.34
4,059.0	1.06	316.01	4,058.8	24.3	-26.2	-33.2	0.50
4,109.0	1.03	317.95	4,108.8	24.9	-26.8	-34.1	0.09
4,159.0	0.97	321.11	4,158.8	25.6	-27.4	-34.9	0.16
4,209.0	1.01	321.99	4,208.8	26.3	-28.0	-35.8	0.09
4,259.0	1.07	321.24	4,258.8	27.0	-28.5	-36.6	0.12
4,309.0	1.12	330.21	4,308.8	27.8	-29.0	-37.6	0.36
4,359.0	1.21	337.92	4,358.8	28.7	-29.5	-38.6	0.36
4,409.0	1.24	344.43	4,408.8	29.7	-29.8	-39.7	0.28
4,459.0	1.18	339.67	4,458.7	30.7	-30.2	-40.7	0.23
4,509.0	1.24	339.47	4,508.7	31.7	-30.5	-41.8	0.12
4,559.0	1.34	337.80	4,558.7	32.7	-30.9	-42.9	0.21
4,609.0	1.39	338.42	4,608.7	33.8	-31.4	-44.1	0.10
4,659.0	1.46	340.46	4,658.7	35.0	-31.8	-45.3	0.17
4,709.0	1.46	344.33	4,708.7	36.2	-32.2	-46.6	0.20
4,759.0	1.33	341.10	4,758.7	37.4	-32.6	-47.8	0.30
4,809.0	1.33	341.37	4,808.6	38.5	-32.9	-48.9	0.01
4,859.0	1.28	342.29	4,858.6	39.6	-33.3	-50.1	0.11
4,909.0	1.30	339.33	4,908.6	40.6	-33.7	-51.2	0.14
4,959.0	1.43	343.49	4,958.6	41.7	-34.0	-52.4	0.33
5,009.0	1.41	345.49	5,008.6	42.9	-34.4	-53.6	0.11

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EOW Completion Report



**Company:** Antero Resources  
**Project:** Doddridge County WV  
**Site:** Seaborn/Violet/Tulip/Marks Pad  
**Well:** Violet Unit 1H  
**Wellbore:** Original Wellpath  
**Design:** As Drilled

**Local Co-ordinate Reference:** Well Violet Unit 1H  
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**Database:** Oklahoma District

Survey

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)
5,059.0	1.44	348.78	5,058.6	44.2	-34.6	-54.8	0.17
5,109.0	1.29	349.04	5,108.6	45.3	-34.9	-55.9	0.30
5,159.0	1.43	346.77	5,158.5	46.5	-35.1	-57.1	0.30
5,209.0	1.52	350.00	5,208.5	47.7	-35.4	-58.3	0.24
5,259.0	1.42	355.63	5,258.5	49.0	-35.5	-59.6	0.35
5,309.0	1.31	354.37	5,308.5	50.2	-35.6	-60.7	0.23
5,359.0	1.25	354.40	5,358.5	51.3	-35.8	-61.7	0.12
5,409.0	1.20	350.86	5,408.5	52.4	-35.9	-62.7	0.18
5,459.0	1.29	347.64	5,458.5	53.4	-36.1	-63.8	0.23
5,509.0	1.29	355.86	5,508.4	54.5	-36.3	-64.9	0.37
5,559.0	1.18	346.08	5,558.4	55.6	-36.4	-65.9	0.47
5,609.0	1.16	355.31	5,608.4	56.6	-36.6	-66.9	0.38
5,659.0	1.05	351.20	5,658.4	57.6	-36.7	-67.8	0.27
5,709.0	1.03	351.56	5,708.4	58.5	-36.8	-68.6	0.04
5,759.0	0.98	352.16	5,758.4	59.3	-37.0	-69.5	0.10
5,809.0	0.90	355.74	5,808.4	60.2	-37.0	-70.3	0.20
5,859.0	0.82	345.88	5,858.4	60.9	-37.2	-71.0	0.34
5,909.0	0.78	339.71	5,908.4	61.6	-37.4	-71.7	0.19
5,959.0	0.88	344.49	5,958.4	62.2	-37.6	-72.4	0.24
5,985.0	0.89	339.89	5,984.4	62.6	-37.7	-72.8	0.28
6,020.0	0.73	12.84	6,019.4	63.1	-37.8	-73.2	1.39
6,051.0	3.12	71.61	6,050.4	63.6	-36.9	-73.3	9.07
6,084.0	7.62	79.33	6,083.2	64.2	-33.9	-72.6	13.78
6,116.0	11.93	76.46	6,114.7	65.4	-28.6	-71.4	13.55
6,148.0	15.36	73.29	6,145.8	67.4	-21.3	-70.0	10.97
6,180.0	19.00	77.40	6,176.4	69.8	-12.2	-68.2	11.98
6,212.0	21.78	83.59	6,206.4	71.6	-1.2	-65.1	10.98
6,244.0	24.74	88.54	6,235.8	72.4	11.4	-60.4	11.08
6,276.0	28.63	89.70	6,264.4	72.6	25.8	-54.3	12.26
6,308.0	32.47	89.40	6,291.9	72.7	42.0	-47.4	12.01
6,340.0	35.22	89.46	6,318.5	72.9	59.8	-39.9	8.59
6,373.0	38.58	87.28	6,344.9	73.5	79.6	-31.9	10.93
6,403.0	42.52	84.98	6,367.7	74.8	99.1	-24.7	14.05
6,437.0	46.25	85.63	6,392.0	76.8	122.8	-16.2	11.05
6,455.0	47.98	86.07	6,404.2	77.7	136.0	-11.3	9.75
<b>Middlesex</b>							
6,469.0	49.32	86.39	6,413.5	78.4	146.4	-7.4	9.75
6,501.0	52.89	87.18	6,433.6	79.8	171.3	2.0	11.32
6,533.0	56.91	87.66	6,452.0	81.0	197.4	12.3	12.62
6,565.0	61.35	88.66	6,468.4	81.9	224.9	23.4	14.13
6,597.0	65.62	88.26	6,482.7	82.6	253.5	35.0	13.39
6,629.0	69.81	87.18	6,494.8	83.8	283.1	46.7	13.46
6,661.0	73.48	88.51	6,504.9	84.9	313.4	58.8	12.13
6,693.0	75.43	90.96	6,513.4	85.1	344.3	72.0	9.57



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**MD Reference:** F23 Violet 1H 1109 GL + 22 KB @ 1131.0usft  
**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)
6,725.0	76.13	93.62	6,521.3	83.8	375.3	86.5	8.35
6,750.0	76.39	95.66	6,527.2	81.9	399.5	98.8	7.99
<b>Burkett</b>							
6,757.0	76.46	96.23	6,528.9	81.2	406.2	102.3	7.99
6,789.0	76.50	98.82	6,536.4	77.1	437.1	119.3	7.87
6,822.0	77.28	101.66	6,543.9	71.4	468.7	138.1	8.71
6,854.0	78.02	103.69	6,550.7	64.5	499.2	157.5	6.61
6,886.0	78.70	105.70	6,557.2	56.6	529.5	177.8	6.51
6,892.0	78.78	105.65	6,558.3	55.0	535.2	181.6	1.50
<b>Tully</b>							
6,918.0	79.12	105.46	6,563.3	48.1	559.7	198.4	1.50
6,950.0	80.18	109.06	6,569.1	38.8	589.8	219.9	11.55
6,982.0	80.76	113.94	6,574.4	27.2	619.2	243.0	15.15
7,014.0	80.04	118.29	6,579.7	13.4	647.5	267.7	13.59
7,046.0	79.33	122.99	6,585.4	-2.7	674.6	293.9	14.62
7,078.0	79.52	127.27	6,591.3	-20.8	700.3	321.3	13.16
7,090.0	79.04	128.54	6,593.5	-28.0	709.6	331.9	11.16
<b>Marcellus</b>							
7,110.0	78.25	130.67	6,597.5	-40.5	724.7	349.7	11.16
7,142.0	77.04	134.53	6,604.3	-61.7	747.7	378.7	12.37
7,174.0	78.59	138.83	6,611.1	-84.4	769.1	408.5	14.00
7,206.0	80.70	142.89	6,616.8	-108.8	789.0	439.1	14.11
7,229.0	82.53	146.06	6,620.2	-127.4	802.2	461.5	15.79
7,284.0	85.03	152.44	6,626.2	-174.3	830.2	515.9	12.39
7,392.0	85.39	153.74	6,635.2	-270.3	878.9	623.5	1.24
7,488.0	87.04	153.89	6,641.5	-356.2	921.1	719.3	1.73
7,584.0	87.72	155.16	6,645.9	-442.8	962.4	815.2	1.50
7,680.0	90.00	156.76	6,647.8	-530.5	1,001.5	911.1	2.90
7,776.0	89.60	155.72	6,648.2	-618.3	1,040.2	1,007.1	1.16
7,872.0	87.68	152.51	6,650.4	-704.7	1,082.0	1,103.0	3.90
7,968.0	89.46	155.36	6,652.8	-790.9	1,124.2	1,199.0	3.50
8,064.0	88.25	153.44	6,654.7	-877.4	1,165.7	1,294.9	2.36
8,158.0	87.85	153.77	6,657.9	-961.6	1,207.4	1,388.9	0.55
8,254.0	87.61	155.73	6,661.7	-1,048.3	1,248.4	1,484.8	2.06
8,350.0	87.75	156.26	6,665.6	-1,135.9	1,287.4	1,580.7	0.57
8,446.0	87.78	156.96	6,669.4	-1,224.0	1,325.5	1,676.5	0.73
8,541.0	89.16	155.71	6,671.9	-1,311.0	1,363.6	1,771.4	1.96
8,638.0	87.41	152.49	6,674.8	-1,398.2	1,405.9	1,868.4	3.78
8,734.0	89.19	156.59	6,677.7	-1,484.8	1,447.2	1,964.3	4.65
8,830.0	89.53	157.49	6,678.7	-1,573.2	1,484.6	2,060.2	1.00
8,926.0	88.83	156.24	6,680.1	-1,661.4	1,522.3	2,156.1	1.49
9,022.0	89.73	155.35	6,681.3	-1,749.0	1,561.7	2,252.1	1.32
9,118.0	88.22	153.75	6,683.0	-1,835.6	1,602.9	2,348.0	2.29
9,213.0	87.99	153.55	6,686.2	-1,920.7	1,645.1	2,443.0	0.32
9,303.0	90.77	156.87	6,687.1	-2,002.4	1,682.8	2,532.9	4.81



**Company:** Antero Resources  
**Project:** Doddridge County WV  
**Site:** Seaborn/Violet/Tulip/Marks Pad  
**Well:** Violet Unit 1H  
**Wellbore:** Original Wellpath  
**Design:** As Drilled

**Local Co-ordinate Reference:** Well Violet Unit 1H  
**TVD Reference:** F23 Violet 1H 1109 GL + 22 KB @ 1131.0usft  
**MD Reference:** F23 Violet 1H 1109 GL + 22 KB @ 1131.0usft  
**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)
9,394.0	90.81	155.52	6,685.9	-2,085.7	1,719.5	2,623.9	1.48
9,484.0	89.70	153.20	6,685.5	-2,166.8	1,758.4	2,713.9	2.86
9,575.0	89.73	154.12	6,685.9	-2,248.3	1,798.8	2,804.9	1.01
9,666.0	90.13	153.75	6,686.1	-2,330.1	1,838.8	2,895.9	0.60
9,758.0	89.96	152.09	6,686.0	-2,412.0	1,880.7	2,987.8	1.81
9,849.0	89.40	154.57	6,686.5	-2,493.3	1,921.5	3,078.8	2.79
9,940.0	88.96	151.73	6,687.8	-2,574.5	1,962.6	3,169.8	3.16
10,032.0	88.59	149.46	6,689.8	-2,654.6	2,007.8	3,261.5	2.50
10,122.0	88.69	151.54	6,691.9	-2,732.9	2,052.1	3,351.3	2.31
10,213.0	88.39	155.49	6,694.2	-2,814.3	2,092.6	3,442.2	4.35
10,304.0	88.46	153.08	6,696.7	-2,896.3	2,132.1	3,533.2	2.65
10,400.0	89.13	154.92	6,698.7	-2,982.5	2,174.2	3,629.2	2.04
10,495.0	88.66	155.67	6,700.6	-3,068.8	2,213.9	3,724.1	0.93
10,590.0	89.03	155.90	6,702.5	-3,155.4	2,252.8	3,819.1	0.46
10,686.0	88.52	156.49	6,704.5	-3,243.3	2,291.6	3,915.0	0.81
10,781.0	87.01	154.44	6,708.2	-3,329.6	2,331.0	4,009.9	2.68
10,878.0	88.49	154.71	6,712.1	-3,417.1	2,372.6	4,106.9	1.55
10,974.0	91.04	155.11	6,712.4	-3,504.1	2,413.3	4,202.8	2.69
11,070.0	90.74	153.07	6,711.0	-3,590.4	2,455.2	4,298.8	2.15
11,166.0	90.57	154.85	6,709.9	-3,676.7	2,497.4	4,394.8	1.86
11,262.0	90.20	155.10	6,709.2	-3,763.6	2,538.0	4,490.8	0.47
11,358.0	89.56	153.98	6,709.4	-3,850.3	2,579.3	4,586.8	1.34
11,454.0	88.66	151.12	6,710.9	-3,935.5	2,623.5	4,682.7	3.12
11,550.0	89.19	156.18	6,712.7	-4,021.5	2,666.1	4,778.7	5.30
11,646.0	89.39	157.52	6,713.9	-4,109.7	2,703.8	4,874.6	1.41
11,742.0	88.89	157.59	6,715.3	-4,198.4	2,740.5	4,970.4	0.53
11,839.0	88.12	156.96	6,717.9	-4,287.9	2,777.9	5,067.3	1.03
11,935.0	89.34	156.48	6,720.0	-4,376.0	2,815.9	5,163.2	1.37
12,031.0	90.44	156.46	6,720.2	-4,464.1	2,854.2	5,259.1	1.15
12,127.0	88.72	153.23	6,720.9	-4,550.9	2,895.0	5,355.1	3.81
12,223.0	88.42	153.11	6,723.3	-4,636.6	2,938.3	5,451.0	0.34
12,318.0	89.02	152.93	6,725.4	-4,721.2	2,981.4	5,546.0	0.66
12,414.0	89.80	154.54	6,726.4	-4,807.3	3,023.9	5,642.0	1.86
12,510.0	89.43	152.64	6,727.0	-4,893.3	3,066.6	5,737.9	2.02
12,605.0	89.23	150.77	6,728.1	-4,976.9	3,111.6	5,832.8	1.98
12,701.0	89.13	148.08	6,729.5	-5,059.5	3,160.4	5,928.4	2.80
12,796.0	89.53	151.76	6,730.6	-5,141.7	3,208.0	6,023.1	3.90
12,892.0	89.33	151.11	6,731.6	-5,226.0	3,253.9	6,119.0	0.71
12,987.0	89.60	155.31	6,732.5	-5,310.8	3,296.7	6,213.9	4.43
13,083.0	89.60	155.63	6,733.1	-5,398.2	3,336.6	6,309.9	0.33
13,179.0	89.60	153.60	6,733.8	-5,484.9	3,377.7	6,405.9	2.11
13,275.0	90.03	156.44	6,734.1	-5,571.9	3,418.3	6,501.9	2.99
13,371.0	90.91	158.61	6,733.3	-5,660.6	3,455.0	6,597.8	2.44
13,467.0	90.37	157.24	6,732.3	-5,749.5	3,491.0	6,693.6	1.53
13,563.0	89.36	156.59	6,732.5	-5,837.9	3,528.7	6,789.5	1.25



JUN 08 2015



<b>Company:</b>	Antero Resources	<b>Local Co-ordinate Reference:</b>	Well Violet Unit 1H
<b>Project:</b>	Doddridge County WV	<b>TVD Reference:</b>	F23 Violet 1H 1109 GL + 22 KB @ 1131.0usft
<b>Site:</b>	Seaborn/Violet/Tulip/Marks Pad	<b>MD Reference:</b>	F23 Violet 1H 1109 GL + 22 KB @ 1131.0usft
<b>Well:</b>	Violet Unit 1H	<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

Survey

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)
13,658.0	89.40	158.52	6,733.5	-5,925.7	3,565.0	6,884.3	2.03
13,755.0	88.89	157.46	6,735.0	-6,015.6	3,601.3	6,981.1	1.21
13,851.0	88.12	153.05	6,737.5	-6,102.7	3,641.5	7,077.0	4.66
13,947.0	89.73	153.24	6,739.3	-6,188.3	3,684.8	7,173.0	1.69
14,043.0	89.83	154.51	6,739.6	-6,274.5	3,727.1	7,269.0	1.33
14,139.0	89.26	153.33	6,740.4	-6,360.7	3,769.3	7,365.0	1.37
14,235.0	88.42	152.29	6,742.3	-6,446.1	3,813.1	7,460.9	1.39
14,331.0	87.48	151.44	6,745.8	-6,530.7	3,858.4	7,556.8	1.32
14,428.0	87.24	153.24	6,750.3	-6,616.5	3,903.4	7,653.6	1.87
14,524.0	86.91	152.67	6,755.1	-6,701.9	3,947.0	7,749.4	0.69
14,599.0	89.13	154.50	6,757.7	-6,769.1	3,980.3	7,824.4	3.84
14,650.0	88.89	154.50	6,758.6	-6,815.1	4,002.3	7,875.4	0.47

Design Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
6,455.0	6,404.2	77.7	136.0	Middlesex
6,750.0	6,527.2	81.9	399.5	Burkett
6,892.0	6,558.3	55.0	535.2	Tully
7,090.0	6,593.5	-28.0	709.6	Marcellus

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