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WV GEOLOGICAL SURVEY  
MOUNTAIN GANTOWN, WV



**Downs Unit 2H**  
**Doddrige County WV**  
**Northing: 14238877.80**  
**Easting: 1752528.96**  
**As Drilled ST1**



Azimuths to Grid North  
True North: -0.25°  
Magnetic North: -8.83°  
Magnetic Field  
Strength: 52191.5nT  
Dip Angle: 96.79°  
Date: 6/29/2014  
Model: BGM2014

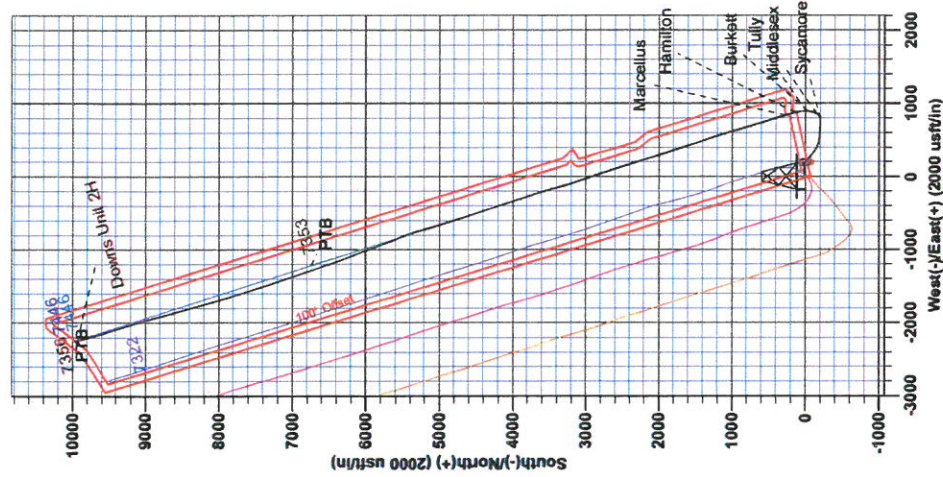
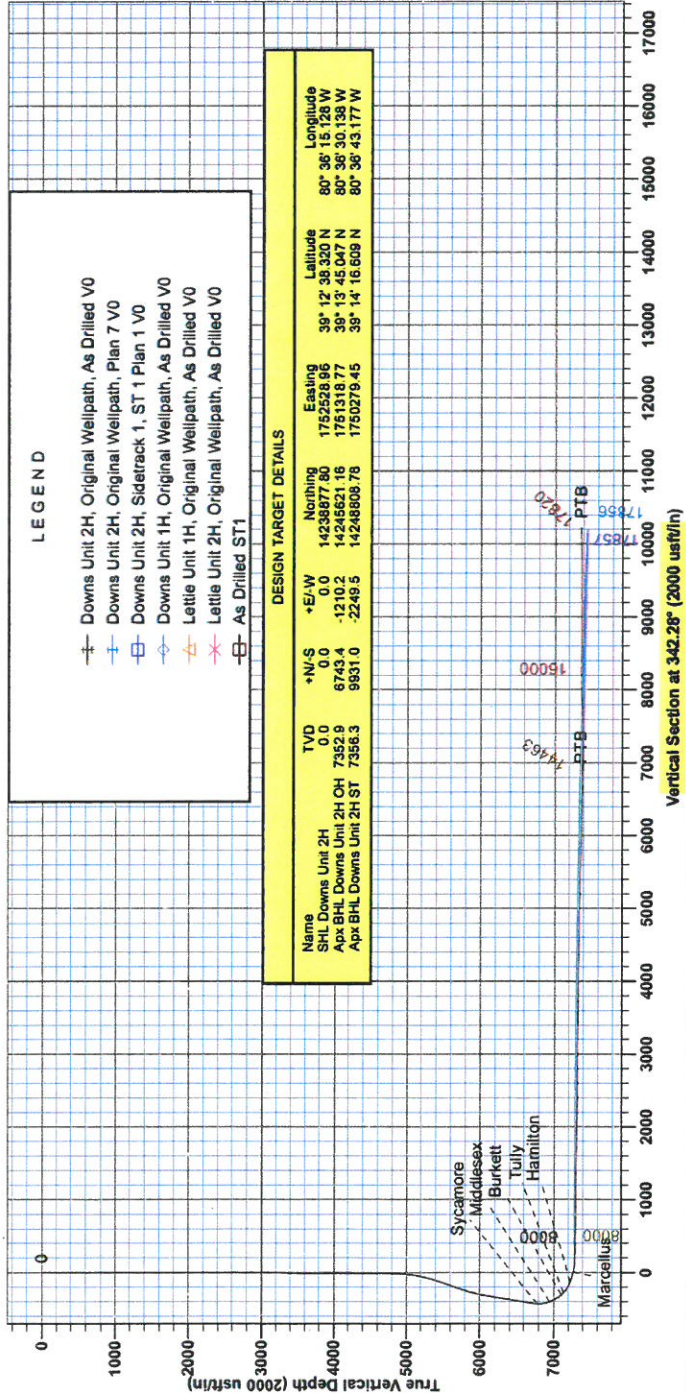
To convert Magnetic North to Grid, Subtract 8.83°  
To convert True North to Grid, Subtract 0.25°

**WELL DETAILS** Downs Unit 2H  
Ground Level: 1270.0  
Easting: 1752528.96  
Northing: 14238877.80  
Latitude: 39° 12' 38.320 N  
Longitude: 80° 36' 15.129 W

**PROJECT DETAILS** Doddrige County WV  
Geodetic System: Universal Transverse Mercator (US Survey Feet)  
Datum: NAD 1982 (NADCON CONUS)  
Ellipsoid: Clarke 1866  
Zone: Zone 17N (84 W to 78 W)  
System Datum: Mean Sea Level

**SITE DETAILS:** Wagner Pad  
Site Center: Lettie Unit 1H  
Site Centre Northing: 14238847.81  
Easting: 1752529.46  
Positional Uncertainty: 2.0  
Convergence: 0.25  
Local North: Grid

Genie Lightfoot  
11.36, June 30 2015  
Scientific Drilling  
421 South Eagle Lane  
Oklahoma City, OK 73128



Labels: Sycamore, Middlesex, Burkett, Tully, Hamilton, Marcellus



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WV GEOLOGICAL SURVEY  
MORGANTOWN, WV

## **Antero**

**Doddridge County WV**

**Wagner Pad : Lettie/Downs/Bolte/Mason/McQuire**

**Downs Unit 2H**

**Sidetrack 1**

**Design: As Drilled ST1**

# **EOW Completion Report**

**01 June, 2015**





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WV GEOLOGICAL SURVEY  
MARTINSBURG, WV

EOW Completion Report



<b>Company:</b> Antero	<b>Local Co-ordinate Reference:</b> Well Downs Unit 2H
<b>Project:</b> Doddridge County WV	<b>TVD Reference:</b> Precision 523 GL 1270' + 19' RKB @ 1289.0usft
<b>Site:</b> Wagner Pad : Lettie/Downs/Bolte/Mason/McQuire	<b>MD Reference:</b> Precision 523 GL 1270' + 19' RKB @ 1289.0usft
<b>Well:</b> Downs Unit 2H	<b>North Reference:</b> Grid
<b>Wellbore:</b> Sidetrack 1	<b>Survey Calculation Method:</b> Minimum Curvature
<b>Design:</b> As Drilled ST1	<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** Wagner Pad : Lettie/Downs/Bolte/Mason/McQuire

<b>Site Position:</b>		<b>Northing:</b>	14,238,847.81 usft	<b>Latitude:</b>	39° 12' 38.023 N
<b>From:</b>	Map	<b>Easting:</b>	1,752,529.46 usft	<b>Longitude:</b>	80° 36' 15.124 W
<b>Position Uncertainty:</b>	2.0 usft	<b>Slot Radius:</b>	13-3/16"	<b>Grid Convergence:</b>	0.25 °

**Well** Downs Unit 2H, Marcellus

<b>Well Position</b>	<b>+N/-S</b>	0.0 usft	<b>Northing:</b>	14,238,877.80 usft	<b>Latitude:</b>	39° 12' 38.320 N
	<b>+E/-W</b>	0.0 usft	<b>Easting:</b>	1,752,528.96 usft	<b>Longitude:</b>	80° 36' 15.129 W
<b>Position Uncertainty</b>		2.0 usft	<b>Wellhead Elevation:</b>	1,289.0 usft	<b>Ground Level:</b>	1,270.0 usft

**Wellbore** Sidetrack 1

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	BGGM2014	6/29/2014	-8.58	66.78	52,192

**Design** As Drilled ST1

**Audit Notes:**

<b>Version:</b>	1.0	<b>Phase:</b>	ACTUAL	<b>Tie On Depth:</b>	13,125.0
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<b>Vertical Section:</b>	<b>Depth From (TVD) (usft)</b>	<b>+N/-S (usft)</b>	<b>+E/-W (usft)</b>	<b>Direction (°)</b>
	0.0	0.0	0.0	342.28

**Survey Program** Date 6/1/2015

From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
108.0	5,740.6	Survey #4 Def Gyro to KOP (Original Well)	SDI Standard Keeper	Scientific Drilling Intl. Standard Wireline Keeper
5,793.0	13,125.0	Survey #5 MWD (Original Wellpath)	SDI MWD	Scientific Drilling Intl. MWD - Standard ver 1.0.1
13,178.0	17,820.0	Survey #1 MWD (Sidetrack 1)	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
108.0	0.73	209.63	108.0	-0.6	-0.3	-0.5	0.68
208.0	0.83	213.85	208.0	-1.8	-1.1	-1.3	0.12
308.0	0.50	248.64	308.0	-2.5	-1.9	-1.8	0.51
408.0	0.31	252.55	408.0	-2.8	-2.5	-1.9	0.19
508.0	0.11	225.15	508.0	-2.9	-2.9	-1.9	0.22
608.0	0.10	197.40	608.0	-3.1	-3.0	-2.0	0.05
708.0	0.10	192.67	708.0	-3.2	-3.0	-2.2	0.01
808.0	0.14	166.14	808.0	-3.4	-3.0	-2.4	0.07
908.0	0.11	66.08	908.0	-3.5	-2.9	-2.5	0.19

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EOW Completion Report



**Company:** Antero  
**Project:** Doddridge County WV  
**Site:** Wagner Pad : Lettie/Downs/Boite/Mason/McQuire  
**Well:** Downs Unit 2H  
**Wellbore:** Sidetrack 1  
**Design:** As Drilled ST1

**Local Co-ordinate Reference:** Well Downs Unit 2H  
**TVD Reference:** Precision 523 GL 1270' + 19' RKB @ 1289.0usft  
**MD Reference:** Precision 523 GL 1270' + 19' RKB @ 1289.0usft  
**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)
1,008.0	0.10	115.97	1,008.0	-3.5	-2.7	-2.5	0.09
1,108.0	0.14	69.46	1,108.0	-3.5	-2.5	-2.6	0.10
1,208.0	0.10	77.29	1,208.0	-3.4	-2.3	-2.6	0.04
1,308.0	0.11	175.50	1,308.0	-3.5	-2.2	-2.7	0.16
1,408.0	0.11	102.60	1,408.0	-3.6	-2.1	-2.8	0.13
1,508.0	0.17	55.57	1,508.0	-3.6	-1.9	-2.8	0.12
1,608.0	0.12	59.53	1,608.0	-3.4	-1.7	-2.8	0.05
1,708.0	0.26	60.84	1,708.0	-3.3	-1.4	-2.7	0.14
1,808.0	0.24	92.71	1,808.0	-3.2	-1.0	-2.7	0.14
1,908.0	0.35	82.02	1,908.0	-3.1	-0.5	-2.8	0.12
2,008.0	0.27	122.62	2,008.0	-3.2	0.0	-3.1	0.23
2,108.0	0.43	129.59	2,108.0	-3.6	0.5	-3.6	0.17
2,208.0	0.34	108.21	2,208.0	-3.9	1.1	-4.1	0.17
2,308.0	0.25	99.59	2,308.0	-4.0	1.6	-4.3	0.10
2,408.0	0.18	171.76	2,408.0	-4.2	1.8	-4.6	0.26
2,508.0	0.28	139.54	2,508.0	-4.6	2.0	-5.0	0.16
2,608.0	3.86	60.92	2,607.9	-3.1	5.1	-4.5	3.81
2,708.0	8.99	61.79	2,707.2	2.2	14.9	-2.4	5.13
2,808.0	8.70	67.97	2,806.0	8.7	28.8	-0.5	0.99
2,908.0	8.26	77.30	2,905.0	13.2	42.8	-0.5	1.44
3,008.0	6.88	80.48	3,004.1	15.7	55.8	-2.0	1.44
3,108.0	5.52	80.45	3,103.5	17.5	66.4	-3.5	1.36
3,208.0	4.03	81.67	3,203.1	18.8	74.6	-4.8	1.49
3,308.0	3.11	84.84	3,302.9	19.6	80.8	-6.0	0.94
3,408.0	2.36	88.92	3,402.8	19.9	85.6	-7.1	0.77
3,508.0	1.87	91.70	3,502.8	19.8	89.3	-8.3	0.50
3,608.0	1.26	97.31	3,602.7	19.7	92.0	-9.3	0.63
3,708.0	1.01	101.76	3,702.7	19.3	93.9	-10.2	0.26
3,808.0	0.73	113.71	3,802.7	18.9	95.4	-11.0	0.33
3,908.0	0.71	119.81	3,902.7	18.3	96.5	-11.9	0.08
4,008.0	0.44	122.83	4,002.7	17.8	97.4	-12.7	0.27
4,108.0	0.24	127.34	4,102.7	17.5	97.8	-13.1	0.20
4,208.0	0.29	130.41	4,202.7	17.2	98.2	-13.5	0.05
4,308.0	0.15	85.39	4,302.7	17.0	98.5	-13.8	0.21
4,408.0	0.20	88.85	4,402.7	17.1	98.8	-13.8	0.05
4,508.0	0.23	98.38	4,502.7	17.0	99.2	-14.0	0.05
4,608.0	0.24	59.24	4,602.7	17.1	99.6	-14.0	0.16
4,708.0	1.16	70.63	4,702.7	17.5	100.7	-13.9	0.93
4,808.0	5.56	86.12	4,802.5	18.2	106.5	-15.1	4.45
4,908.0	10.34	81.98	4,901.5	19.8	120.2	-17.7	4.81
5,008.0	13.55	91.79	4,999.3	20.7	140.8	-23.2	3.79
5,108.0	15.61	106.53	5,096.1	16.5	165.5	-34.7	4.23
5,208.0	18.10	121.58	5,191.9	4.5	191.6	-54.0	5.00
5,308.0	18.36	130.14	5,286.9	-13.8	216.9	-79.1	2.69
5,408.0	18.70	130.84	5,381.7	-34.4	241.1	-106.2	0.41



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EOW Completion Report



<b>Company:</b> Antero	<b>Local Co-ordinate Reference:</b> Well Downs Unit 2H
<b>Project:</b> Doddridge County WV	<b>TVD Reference:</b> Precision 523 GL 1270' + 19' RKB @ 1289.0usft
<b>Site:</b> Wagner Pad : Lettie/Downs/Bolte/Mason/McQuire	<b>MD Reference:</b> Precision 523 GL 1270' + 19' RKB @ 1289.0usft
<b>Well:</b> Downs Unit 2H	<b>North Reference:</b> Grid
<b>Wellbore:</b> Sidetrack 1	<b>Survey Calculation Method:</b> Minimum Curvature
<b>Design:</b> As Drilled ST1	<b>Database:</b> Oklahoma District

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	EW (usft)	V. Sec (usft)	DLeg (°/100usft)
5,508.0	21.67	132.27	5,475.5	-57.3	266.9	-135.8	3.01
5,608.0	23.48	130.19	5,567.9	-82.6	295.7	-168.7	1.98
5,708.0	24.58	126.05	5,659.2	-107.7	327.8	-202.4	2.01
5,740.6	23.95	124.65	5,688.9	-115.5	338.7	-213.1	2.62
5,793.0	23.39	120.73	5,736.9	-126.8	356.4	-229.3	3.19
5,837.0	22.51	120.06	5,777.4	-135.5	371.2	-242.0	2.09
5,926.0	23.20	118.59	5,859.4	-152.4	401.3	-267.3	1.01
6,016.0	21.52	110.67	5,942.7	-166.7	432.3	-290.4	3.83
6,106.0	21.11	101.71	6,026.6	-175.8	463.7	-308.6	3.64
6,195.0	22.87	97.96	6,109.1	-181.5	496.5	-324.0	2.53
6,285.0	22.64	97.40	6,192.1	-186.2	531.0	-338.9	0.35
6,374.0	22.73	94.06	6,274.2	-189.6	565.1	-352.6	1.45
6,464.0	22.77	93.78	6,357.2	-192.0	599.9	-365.4	0.13
6,553.0	24.62	93.30	6,438.7	-194.2	635.6	-378.4	2.09
6,643.0	23.63	93.76	6,520.8	-196.4	672.3	-391.7	1.12
6,732.0	24.34	92.40	6,602.1	-198.4	708.4	-404.6	1.01
6,817.0	24.53	94.19	6,679.5	-200.4	743.5	-417.2	0.90
6,834.0	24.18	94.32	6,695.0	-200.9	750.5	-419.8	2.08
6,879.0	24.18	93.31	6,736.1	-202.1	768.9	-426.6	0.92
6,923.0	24.17	79.91	6,776.2	-201.1	786.8	-431.0	12.45
6,969.0	25.50	65.18	6,818.0	-195.3	805.0	-431.0	13.72
7,013.0	27.35	56.22	6,857.4	-185.7	822.0	-427.0	9.98
7,059.0	27.26	43.39	6,898.4	-172.1	838.1	-419.0	12.77
7,103.0	29.21	32.79	6,937.1	-155.8	850.8	-407.3	12.21
7,148.0	31.92	25.28	6,975.9	-135.8	861.8	-391.6	10.40
7,192.0	35.47	19.36	7,012.5	-113.2	871.1	-372.9	10.98
7,238.0	39.57	15.17	7,049.0	-86.4	879.3	-350.0	10.49
7,281.0	43.19	9.61	7,081.3	-58.7	885.4	-325.4	11.99
7,327.0	46.96	2.78	7,113.8	-26.3	888.8	-295.6	13.32
7,371.0	51.23	358.47	7,142.6	6.9	889.1	-264.1	12.20
7,417.0	56.10	355.14	7,169.8	43.9	887.0	-228.2	12.08
7,461.0	60.14	350.79	7,193.1	80.9	882.4	-191.5	12.44
7,506.0	65.42	347.66	7,213.7	120.2	874.9	-151.8	13.26
7,550.0	70.46	345.31	7,230.2	159.8	865.4	-111.1	12.48
7,580.0	71.31	345.03	7,240.0	187.2	858.1	-82.8	2.97
7,610.0	71.29	345.10	7,249.6	214.7	850.8	-54.4	0.23
7,640.0	72.19	344.85	7,259.0	242.2	843.4	-26.0	3.10
7,671.0	75.36	344.15	7,267.7	270.9	835.5	3.8	10.45
7,701.0	78.26	343.27	7,274.5	298.9	827.3	32.9	10.08
7,729.0	80.00	343.06	7,279.8	325.2	819.3	60.4	6.26
7,760.0	81.51	342.57	7,284.8	354.5	810.3	91.0	5.11
7,772.0	83.01	342.65	7,286.4	365.8	806.7	102.9	12.52
7,825.0	89.13	342.06	7,290.0	416.2	790.7	155.8	11.60
7,872.0	89.33	342.18	7,290.7	460.9	776.3	202.8	0.50

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EOW Completion Report



<b>Company:</b> Antero	<b>Local Co-ordinate Reference:</b> Well Downs Unit 2H
<b>Project:</b> Doddridge County WV	<b>TVD Reference:</b> Precision 523 GL 1270' + 19' RKB @ 1289.0usft
<b>Site:</b> Wagner Pad : Lettie/Downs/Bolte/Mason/McQuirk	<b>MD Reference:</b> Precision 523 GL 1270' + 19' RKB @ 1289.0usft
<b>Well:</b> Downs Unit 2H	<b>North Reference:</b> Grid
<b>Wellbore:</b> Sidetrack 1	<b>Survey Calculation Method:</b> Minimum Curvature
<b>Design:</b> As Drilled ST1	<b>Database:</b> Oklahoma District

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)
7,962.0	89.73	341.82	7,291.4	546.5	748.5	292.8	0.60
8,051.0	88.96	344.35	7,292.4	631.6	722.6	381.7	2.97
8,140.0	89.09	344.13	7,293.9	717.3	698.4	470.7	0.29
8,230.0	89.16	343.51	7,295.3	803.7	673.3	560.6	0.69
8,319.0	89.50	343.74	7,296.3	889.1	648.2	649.6	0.46
8,409.0	89.53	344.54	7,297.1	975.7	623.6	739.6	0.89
8,498.0	89.56	342.84	7,297.8	1,061.1	598.6	828.5	1.91
8,587.0	89.60	342.48	7,298.5	1,146.0	572.1	917.5	0.41
8,677.0	89.76	341.06	7,299.0	1,231.5	544.0	1,007.5	1.59
8,766.0	89.76	341.36	7,299.3	1,315.8	515.3	1,096.5	0.34
8,856.0	89.70	341.22	7,299.8	1,401.0	486.4	1,186.5	0.17
8,945.0	89.09	342.01	7,300.7	1,485.4	458.4	1,275.5	1.12
9,035.0	89.09	341.45	7,302.1	1,570.9	430.1	1,365.4	0.62
9,124.0	89.46	342.53	7,303.3	1,655.5	402.6	1,454.4	1.28
9,214.0	89.16	342.78	7,304.3	1,741.4	375.8	1,544.4	0.43
9,303.0	88.76	341.88	7,306.0	1,826.2	348.8	1,633.4	1.11
9,393.0	88.66	342.40	7,308.0	1,911.9	321.2	1,723.4	0.59
9,482.0	88.72	341.15	7,310.0	1,996.4	293.4	1,812.4	1.41
9,572.0	88.99	340.89	7,311.8	2,081.5	264.1	1,902.3	0.42
9,662.0	89.19	344.22	7,313.2	2,167.3	237.1	1,992.3	3.71
9,751.0	88.86	344.74	7,314.8	2,253.0	213.3	2,081.2	0.69
9,840.0	88.82	343.75	7,316.6	2,338.7	189.2	2,170.1	1.11
9,930.0	89.53	342.43	7,317.9	2,424.8	163.0	2,260.1	1.67
10,020.0	90.00	341.54	7,318.2	2,510.4	135.1	2,350.1	1.12
10,109.0	90.67	341.31	7,317.7	2,594.7	106.8	2,439.1	0.80
10,198.0	90.20	342.54	7,317.0	2,679.3	79.2	2,528.1	1.48
10,288.0	90.17	341.36	7,316.7	2,764.9	51.3	2,618.1	1.31
10,377.0	89.06	340.40	7,317.3	2,849.0	22.2	2,707.1	1.65
10,467.0	88.99	339.90	7,318.9	2,933.6	-8.4	2,797.0	0.56
10,556.0	89.87	341.84	7,319.8	3,017.7	-37.6	2,886.0	2.39
10,645.0	90.30	341.36	7,319.6	3,102.1	-65.7	2,975.0	0.72
10,735.0	90.03	342.89	7,319.4	3,187.8	-93.3	3,064.9	1.73
10,824.0	90.03	343.94	7,319.3	3,273.1	-118.7	3,153.9	1.18
10,914.0	88.62	344.49	7,320.4	3,359.7	-143.2	3,243.9	1.68
11,003.0	88.59	345.07	7,322.5	3,445.5	-166.5	3,332.8	0.65
11,098.0	89.19	343.70	7,324.4	3,537.0	-192.1	3,427.7	1.57
11,193.0	89.66	342.36	7,325.3	3,627.9	-219.8	3,522.7	1.49
11,288.0	89.87	341.69	7,325.7	3,718.2	-249.1	3,617.7	0.74
11,382.0	89.93	340.86	7,325.9	3,807.3	-279.3	3,711.6	0.89
11,477.0	88.79	342.33	7,327.0	3,897.4	-309.3	3,806.6	1.96
11,572.0	88.96	343.13	7,328.8	3,988.1	-337.5	3,901.6	0.86
11,667.0	89.06	341.69	7,330.5	4,078.6	-366.2	3,996.6	1.52
11,762.0	89.50	341.67	7,331.7	4,168.8	-396.1	4,091.6	0.46
11,856.0	90.09	342.29	7,332.0	4,258.2	-425.1	4,185.6	0.91



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<b>Company:</b> Antero	<b>Local Co-ordinate Reference:</b> Well Downs Unit 2H
<b>Project:</b> Doddridge County WV	<b>TVD Reference:</b> Precision 523 GL 1270' + 19' RKB @ 1289.0usft
<b>Site:</b> Wagner Pad : Lettie/Downs/Bolte/Mason/McQuirk	<b>MD Reference:</b> Precision 523 GL 1270' + 19' RKB @ 1289.0usft
<b>Well:</b> Downs Unit 2H	<b>North Reference:</b> Grid
<b>Wellbore:</b> Sidetrack 1	<b>Survey Calculation Method:</b> Minimum Curvature
<b>Design:</b> As Drilled ST1	<b>Database:</b> Oklahoma District

Survey

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)
11,951.0	90.47	341.90	7,331.5	4,348.6	-454.3	4,280.6	0.57
12,046.0	89.40	341.79	7,331.6	4,438.9	-483.9	4,375.6	1.13
12,140.0	89.13	342.27	7,332.8	4,528.3	-512.9	4,469.6	0.59
12,230.0	89.46	342.03	7,333.9	4,613.9	-540.5	4,559.5	0.45
12,320.0	89.39	342.27	7,334.9	4,699.6	-568.1	4,649.5	0.28
12,409.0	89.13	341.75	7,336.0	4,784.2	-595.6	4,738.5	0.65
12,499.0	89.23	342.65	7,337.3	4,869.9	-623.1	4,828.5	1.01
12,588.0	89.29	342.31	7,338.4	4,954.8	-649.9	4,917.5	0.39
12,678.0	89.26	343.39	7,339.6	5,040.8	-676.4	5,007.5	1.20
12,767.0	88.92	343.42	7,341.0	5,126.1	-701.9	5,096.5	0.38
12,857.0	88.69	344.05	7,342.9	5,212.4	-727.1	5,186.4	0.75
12,946.0	89.70	343.92	7,344.1	5,298.0	-751.6	5,275.4	1.14
13,036.0	89.80	341.84	7,344.5	5,384.0	-778.1	5,365.4	2.31
13,125.0	88.76	339.16	7,345.6	5,467.9	-807.8	5,454.3	3.23
13,178.0	86.26	338.35	7,347.9	5,517.2	-827.0	5,507.1	4.96
13,256.0	85.83	336.97	7,353.3	5,589.2	-856.6	5,584.7	1.85
13,301.0	86.07	337.01	7,356.5	5,630.5	-874.1	5,629.4	0.54
13,391.0	87.72	337.51	7,361.4	5,713.4	-908.8	5,718.9	1.92
13,480.0	88.19	338.31	7,364.5	5,795.8	-942.3	5,807.6	1.04
13,570.0	89.16	341.26	7,366.6	5,880.2	-973.4	5,897.5	3.45
13,660.0	89.80	341.30	7,367.4	5,965.4	-1,002.3	5,987.5	0.71
13,749.0	89.13	338.68	7,368.3	6,049.1	-1,032.7	6,076.4	3.04
13,839.0	88.96	338.10	7,369.8	6,132.7	-1,065.9	6,166.2	0.67
13,929.0	89.90	339.45	7,370.7	6,216.6	-1,098.4	6,256.0	1.83
14,018.0	89.53	338.40	7,371.1	6,299.7	-1,130.4	6,344.8	1.25
14,108.0	89.73	340.52	7,371.7	6,383.9	-1,162.0	6,434.7	2.37
14,198.0	89.83	340.57	7,372.0	6,468.8	-1,192.0	6,524.7	0.12
14,287.0	89.77	342.03	7,372.3	6,553.1	-1,220.5	6,613.7	1.64
14,377.0	88.36	341.78	7,373.8	6,638.6	-1,248.5	6,703.6	1.59
14,466.0	88.25	341.77	7,376.4	6,723.1	-1,276.3	6,792.6	0.12
14,556.0	88.56	341.34	7,379.0	6,808.5	-1,304.8	6,882.6	0.59
14,645.0	89.97	340.51	7,380.1	6,892.6	-1,333.8	6,971.5	1.84
14,735.0	91.07	342.41	7,379.3	6,977.9	-1,362.5	7,061.5	2.44
14,824.0	90.54	341.19	7,378.0	7,062.4	-1,390.2	7,150.5	1.49
14,914.0	90.74	340.24	7,377.0	7,147.4	-1,420.0	7,240.5	1.08
15,004.0	91.18	341.95	7,375.5	7,232.5	-1,449.1	7,330.4	1.96
15,093.0	89.83	341.51	7,374.7	7,317.0	-1,477.0	7,419.4	1.60
15,183.0	89.93	340.46	7,374.9	7,402.1	-1,506.3	7,509.4	1.17
15,273.0	91.61	342.27	7,373.7	7,487.4	-1,535.1	7,599.4	2.74
15,362.0	90.75	342.13	7,371.9	7,572.1	-1,562.3	7,688.3	0.98
15,452.0	90.37	341.28	7,371.0	7,657.5	-1,590.6	7,778.3	1.03
15,541.0	91.08	341.85	7,369.9	7,742.0	-1,618.7	7,867.3	1.02
15,631.0	92.22	343.70	7,367.3	7,827.9	-1,645.3	7,957.3	2.41
15,721.0	91.51	343.39	7,364.4	7,914.1	-1,670.8	8,047.2	0.86

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EOW Completion Report



**Company:** Antero  
**Project:** Doddridge County WV  
**Site:** Wagner Pad : Lettie/Downs/Bole/Mason/McQuire  
**Well:** Downs Unit 2H  
**Wellbore:** Sidetrack 1  
**Design:** As Drilled ST1

**Local Co-ordinate Reference:** Well Downs Unit 2H  
**TVD Reference:** Precision 523 GL 1270' + 19' RKB @ 1289.0usft  
**MD Reference:** Precision 523 GL 1270' + 19' RKB @ 1289.0usft  
**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)
15,810.0	91.14	344.22	7,362.3	7,999.6	-1,695.6	8,136.1	1.02
15,900.0	90.00	344.68	7,361.4	8,086.3	-1,719.8	8,226.1	1.37
15,989.0	89.60	344.30	7,361.7	8,172.0	-1,743.6	8,315.0	0.62
16,079.0	88.62	344.88	7,363.1	8,258.8	-1,767.5	8,404.9	1.27
16,169.0	88.15	344.81	7,365.6	8,345.6	-1,791.0	8,494.8	0.53
16,258.0	89.43	344.54	7,367.5	8,431.4	-1,814.5	8,583.7	1.47
16,348.0	89.63	344.21	7,368.3	8,518.1	-1,838.7	8,673.6	0.43
16,438.0	89.13	345.32	7,369.2	8,604.9	-1,862.4	8,763.5	1.35
16,527.0	90.91	345.93	7,369.2	8,691.2	-1,884.5	8,852.4	2.11
16,617.0	90.00	345.76	7,368.5	8,778.4	-1,906.5	8,942.2	1.03
16,707.0	90.13	345.20	7,368.4	8,865.5	-1,929.1	9,032.1	0.64
16,796.0	90.91	345.27	7,367.6	8,951.6	-1,951.7	9,120.9	0.88
16,886.0	90.30	343.75	7,366.6	9,038.3	-1,975.8	9,210.9	1.82
16,976.0	89.77	341.49	7,366.6	9,124.2	-2,002.7	9,300.9	2.58
17,065.0	90.50	342.92	7,366.4	9,209.0	-2,029.9	9,389.9	1.80
17,155.0	90.03	342.55	7,365.9	9,294.9	-2,056.6	9,479.8	0.66
17,245.0	89.87	341.25	7,366.0	9,380.4	-2,084.5	9,569.8	1.46
17,334.0	89.83	342.80	7,366.3	9,465.1	-2,112.0	9,658.8	1.74
17,424.0	90.13	343.09	7,366.3	9,551.1	-2,138.4	9,748.8	0.46
17,514.0	90.30	342.12	7,366.0	9,637.0	-2,165.3	9,838.8	1.09
17,603.0	91.27	343.96	7,364.7	9,722.1	-2,191.2	9,927.8	2.34
17,693.0	92.12	344.47	7,362.1	9,808.7	-2,215.7	10,017.7	1.10
17,764.0	92.77	344.59	7,359.0	9,877.1	-2,234.6	10,088.6	0.93
17,820.0	92.77	344.59	7,356.3	9,931.0	-2,249.5	10,144.5	0.00

PTB

Design Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
17,820.0	7,356.3	9,931.0	-2,249.5	PTB

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