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AUG 31 2015

WV GEOLOGICAL SURVEY

MORGANTHAU, WV



Antero Resources
Amanda Unit 1H
Dodridge County WV
Northing: 14261499.41
Easting: 1676353.23
As Drilled

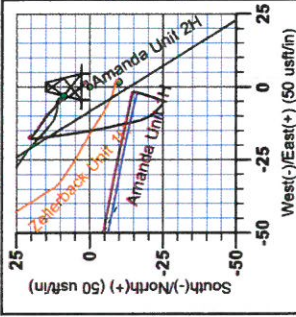
WELL DETAILS: Amanda Unit 1H
Ground Level: 999.0
Northing: 14261499.41
Easting: 1676353.23
Latitude: 39° 16' 24.108" N
Longitude: 80° 52' 22.863" W

REFERENCE INFORMATION
Coordinates (NAD 83) referenced to NAD 83 datum. All coordinates are in feet.
Vertical (VD) referenced to Mean Sea Level (MSL).
Horizontal (HD) referenced to Mean Sea Level (MSL).
Calculation Method: Minimum Curvature

PROJECT DETAILS: Dodridge County WV
Geoid: System: Universal Transverse Mercator (US Survey Feet)
Datum: NAD 1983 (NAD83 CONUS)
Eipsoid: Clarke 1866
Zone: Zone 17N (84 W to 78 W)
System Datum: Mean Sea Level



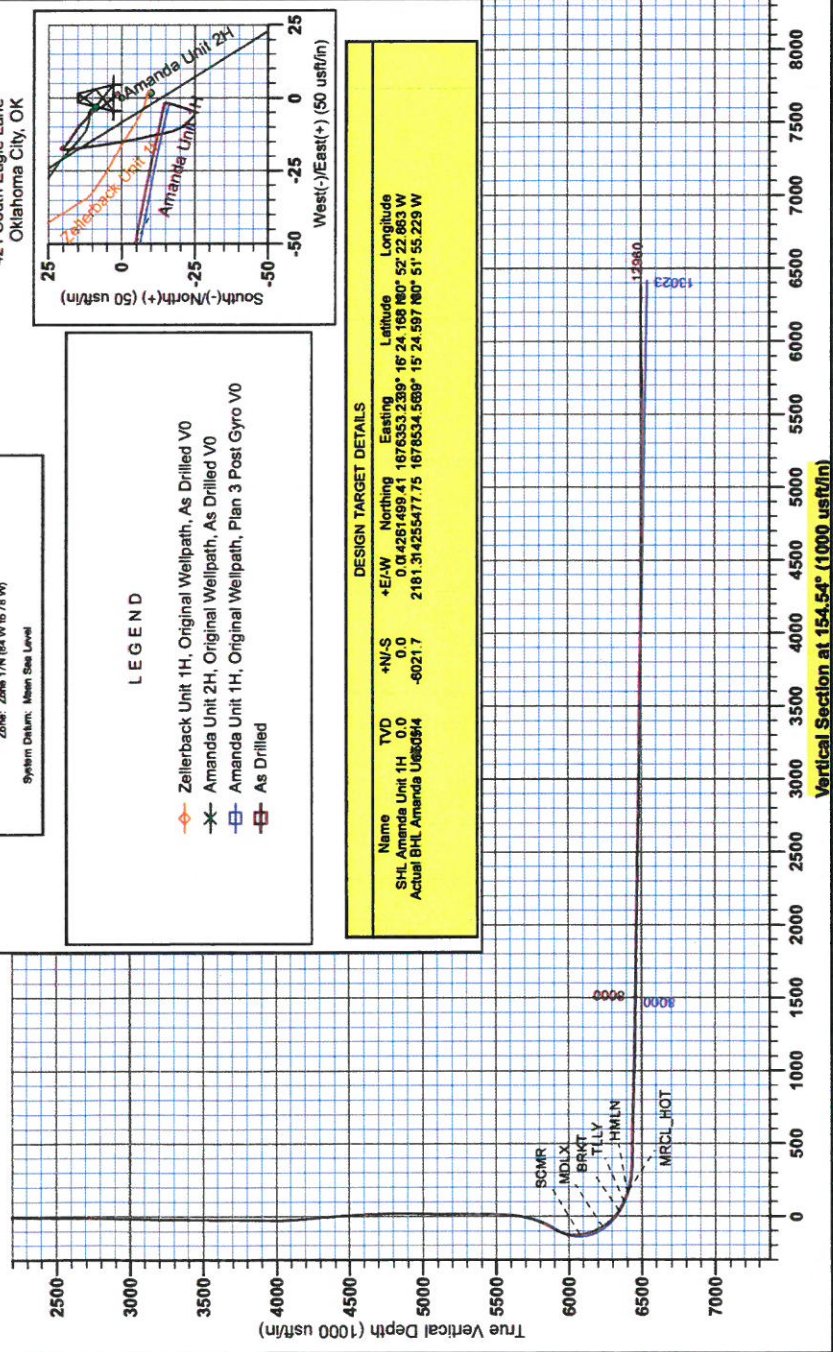
Genie Lightfoot
10-02, October 02 2014
Scientific Drilling
421 South Eagle Lane
Oklahoma City, OK



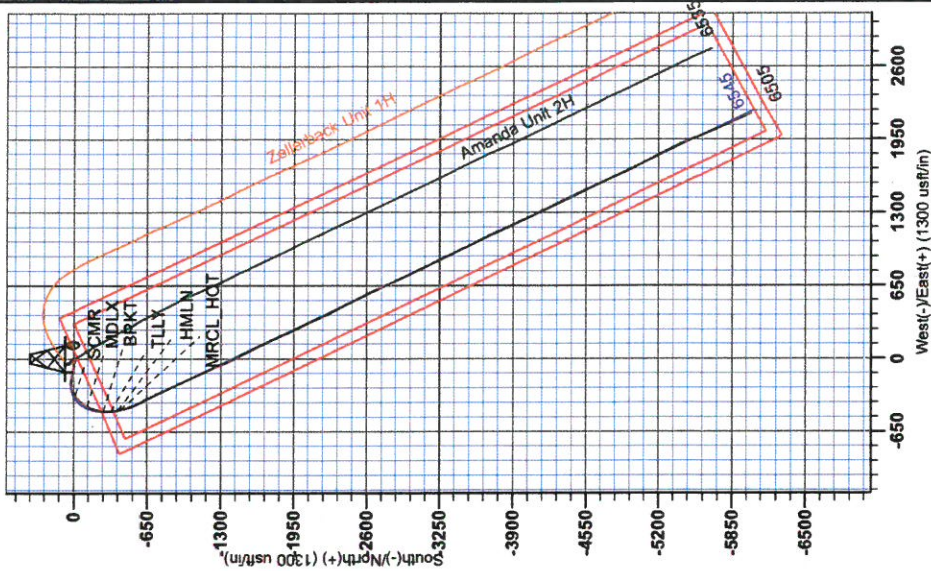
LEGEND
-o- Zellerbach Unit 1H, Original Wellpath, As Drilled V0
-x- Amanda Unit 2H, Original Wellpath, As Drilled V0
-□- Amanda Unit 1H, Original Wellpath, Plan 3 Post Gyro V0
-■- As Drilled

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
SHL Amanda Unit 1H	0.0	0.0	0.0	14261499.41	1676353.23	39° 16' 24.108" N	80° 52' 22.863" W
Actual BHL Amanda U6608/4		-6021.7		2181.31425547775	1676534.568	15° 24' 59.760" N	51° 55' 22.9" W



To convert Magnetic North to Grid, Subtract 8.69°
To convert True North to Grid, Subtract 0.08°
Magnetic North: -8.49°
True North: -0.08°
Grid North: 0.00°
Magnetic Field
Strength: 52235 gauss
Dip Angle: 66.85°
Date: 9/9/2014
Model: BIGGM2014



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WV GEOLOGICAL SURVEY
MORGANTOWN, WV



Antero Resources

**Doddridge County WV
Zellerback/Amanda Pad
Amanda Unit 1H
Original Wellpath**

Design: As Drilled

EOW Completion Report

02 October, 2014





Company:	Antero Resources	Local Co-ordinate Reference:	Well Amanda Unit 1H
Project:	Doddridge County WV	TVD Reference:	Precision 523: 989' GL + 19' KB @ 1008.0usft
Site:	Zellerback/Amanda Pad	MD Reference:	Precision 523: 989' GL + 19' KB @ 1008.0usft
Well:	Amanda Unit 1H	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	Zellerback/Amanda Pad				
Site Position:		Northing:	14,261,489.45 usft	Latitude:	39° 16' 24.070 N
From:	Map	Easting:	1,676,355.00 usft	Longitude:	80° 52' 22.841 W
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16"	Grid Convergence:	0.08 °

Well	Amanda Unit 1H, Marcellus					
Well Position	+N/-S	0.0 usft	Northing:	14,261,499.41 usft	Latitude:	39° 16' 24.168 N
	+E/-W	0.0 usft	Easting:	1,676,353.23 usft	Longitude:	80° 52' 22.863 W
Position Uncertainty		2.0 usft	Wellhead Elevation:	1,008.0 usft	Ground Level:	989.0 usft

Wellbore	Original Wellpath				
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Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	BGGM2014	9/9/2014	-8.41	66.85	52,233

Design	As Drilled				
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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	154.54

Survey Program	Date 10/2/2014				
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
100.0	5,316.0	Survey #8 Def Gyro to KOP (Original Well)	SDI Standard Keeper	Scientific Drilling Intl. Standard Wireline Keeper	
5,374.0	12,960.0	Survey #9 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
100.0	0.07	280.43	100.0	0.0	-0.1	0.0	0.07
125.0	0.19	277.67	125.0	0.0	-0.1	-0.1	0.48
150.0	0.06	294.18	150.0	0.0	-0.2	-0.1	0.53
175.0	0.13	17.09	175.0	0.1	-0.2	-0.1	0.55
200.0	0.28	33.95	200.0	0.1	-0.1	-0.2	0.64
225.0	0.24	2.86	225.0	0.2	-0.1	-0.3	0.58
250.0	0.23	40.16	250.0	0.3	-0.1	-0.3	0.60
275.0	0.16	55.83	275.0	0.4	0.0	-0.4	0.35
300.0	0.23	88.64	300.0	0.4	0.1	-0.3	0.52
325.0	0.27	124.11	325.0	0.4	0.2	-0.3	0.63

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EOW Completion Report



Company:	Antero Resources	Local Co-ordinate Reference:	Well Amanda Unit 1H
Project:	Doddridge County WV	TVD Reference:	Precision 523: 989' GL + 19' KB @ 1008.0usft
Site:	Zellerback/Amanda Pad	MD Reference:	Precision 523: 989' GL + 19' KB @ 1008.0usft
Well:	Amanda 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)
350.0	0.14	96.42	350.0	0.3	0.3	-0.2	0.64
375.0	0.15	87.03	375.0	0.3	0.3	-0.2	0.10
400.0	0.09	88.02	400.0	0.3	0.4	-0.2	0.24
425.0	0.21	102.22	425.0	0.3	0.4	-0.1	0.50
450.0	0.17	314.70	450.0	0.4	0.5	-0.1	1.46
475.0	0.13	32.44	475.0	0.4	0.4	-0.2	0.76
500.0	0.22	39.15	500.0	0.5	0.5	-0.2	0.37
525.0	0.24	66.56	525.0	0.5	0.6	-0.2	0.44
550.0	0.22	43.98	550.0	0.6	0.7	-0.2	0.37
575.0	0.31	54.89	575.0	0.7	0.7	-0.3	0.41
600.0	0.40	76.50	600.0	0.7	0.9	-0.3	0.64
625.0	0.27	77.11	625.0	0.7	1.0	-0.2	0.52
650.0	0.31	74.89	650.0	0.8	1.1	-0.2	0.17
675.0	0.25	71.85	675.0	0.8	1.3	-0.2	0.25
700.0	0.11	56.72	700.0	0.8	1.3	-0.2	0.59
725.0	0.14	97.60	725.0	0.8	1.4	-0.2	0.37
750.0	0.23	69.29	750.0	0.9	1.5	-0.1	0.50
775.0	0.17	104.63	775.0	0.9	1.5	-0.1	0.54
800.0	0.16	42.93	800.0	0.9	1.6	-0.1	0.68
825.0	0.27	67.12	825.0	0.9	1.7	-0.1	0.56
850.0	0.29	58.11	850.0	1.0	1.8	-0.1	0.19
875.0	0.27	24.33	875.0	1.1	1.9	-0.2	0.66
900.0	0.30	27.12	900.0	1.2	1.9	-0.2	0.13
925.0	0.30	47.19	925.0	1.3	2.0	-0.3	0.42
950.0	0.13	25.44	950.0	1.4	2.1	-0.3	0.74
975.0	0.09	32.69	975.0	1.4	2.1	-0.4	0.17
1,000.0	0.04	343.37	1,000.0	1.4	2.1	-0.4	0.28
1,025.0	0.13	273.56	1,025.0	1.4	2.1	-0.4	0.49
1,050.0	0.09	310.03	1,050.0	1.5	2.0	-0.4	0.31
1,075.0	0.12	36.98	1,075.0	1.5	2.0	-0.5	0.58
1,100.0	0.20	325.79	1,100.0	1.5	2.0	-0.5	0.79
1,125.0	0.17	349.85	1,125.0	1.6	2.0	-0.6	0.33
1,150.0	0.15	35.41	1,150.0	1.7	2.0	-0.7	0.50
1,175.0	0.09	18.45	1,175.0	1.7	2.0	-0.7	0.28
1,200.0	0.19	338.56	1,200.0	1.8	2.0	-0.7	0.54
1,225.0	0.06	13.43	1,225.0	1.8	2.0	-0.8	0.58
1,250.0	0.09	281.23	1,250.0	1.9	2.0	-0.8	0.44
1,275.0	0.05	96.89	1,275.0	1.9	2.0	-0.8	0.56
1,300.0	0.14	160.14	1,300.0	1.8	2.0	-0.8	0.50
1,325.0	0.12	277.39	1,325.0	1.8	2.0	-0.8	0.89
1,350.0	0.19	281.05	1,350.0	1.8	1.9	-0.8	0.28
1,375.0	0.21	305.86	1,375.0	1.8	1.8	-0.9	0.35
1,400.0	0.14	341.68	1,400.0	1.9	1.8	-0.9	0.51
1,425.0	0.14	266.94	1,425.0	1.9	1.7	-1.0	0.68

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WV GEOLOGICAL SURVEY
MORGANTOWN, WV

EOW Completion Report



Scientific Drilling

Company:	Antero Resources	Local Co-ordinate Reference:	Well Amanda Unit 1H
Project:	Doddridge County WV	TVD Reference:	Precision 523: 989' GL + 19' KB @ 1008.0usft
Site:	Zellerback/Amanda Pad	MD Reference:	Precision 523: 989' GL + 19' KB @ 1008.0usft
Well:	Amanda 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)
1,450.0	0.28	262.38	1,450.0	1.9	1.7	-1.0	0.56
1,475.0	0.17	267.55	1,475.0	1.9	1.6	-1.1	0.45
1,500.0	0.23	263.49	1,500.0	1.9	1.5	-1.1	0.25
1,525.0	0.25	280.54	1,525.0	1.9	1.4	-1.1	0.30
1,550.0	0.31	266.45	1,550.0	1.9	1.2	-1.2	0.36
1,575.0	0.21	306.98	1,575.0	1.9	1.1	-1.3	0.81
1,600.0	0.22	298.15	1,600.0	2.0	1.1	-1.3	0.14
1,625.0	0.18	308.41	1,625.0	2.0	1.0	-1.4	0.21
1,650.0	0.18	295.18	1,650.0	2.1	0.9	-1.5	0.17
1,675.0	0.16	322.89	1,675.0	2.1	0.9	-1.5	0.33
1,700.0	0.25	308.51	1,700.0	2.2	0.8	-1.6	0.41
1,725.0	0.32	297.12	1,725.0	2.2	0.7	-1.7	0.36
1,750.0	0.16	302.65	1,750.0	2.3	0.6	-1.8	0.65
1,775.0	0.37	307.95	1,775.0	2.4	0.5	-1.9	0.84
1,800.0	0.38	307.45	1,800.0	2.5	0.4	-2.1	0.04
1,825.0	0.23	307.37	1,825.0	2.5	0.3	-2.2	0.60
1,850.0	0.34	305.61	1,850.0	2.6	0.2	-2.3	0.44
1,875.0	0.40	312.65	1,875.0	2.7	0.1	-2.4	0.30
1,900.0	0.45	334.71	1,900.0	2.9	-0.1	-2.6	0.68
1,925.0	0.47	325.71	1,925.0	3.0	-0.2	-2.8	0.30
1,950.0	0.43	319.01	1,950.0	3.2	-0.3	-3.0	0.26
1,975.0	0.50	324.63	1,975.0	3.4	-0.4	-3.2	0.33
2,000.0	0.46	330.06	2,000.0	3.5	-0.5	-3.4	0.24
2,025.0	0.57	319.60	2,025.0	3.7	-0.6	-3.6	0.58
2,050.0	0.47	342.59	2,050.0	3.9	-0.8	-3.9	0.92
2,075.0	0.39	327.51	2,075.0	4.1	-0.8	-4.0	0.55
2,100.0	0.51	307.74	2,100.0	4.2	-1.0	-4.2	0.78
2,125.0	0.49	325.83	2,125.0	4.4	-1.1	-4.4	0.63
2,150.0	0.45	316.25	2,150.0	4.5	-1.2	-4.6	0.35
2,175.0	0.48	321.47	2,175.0	4.7	-1.4	-4.8	0.21
2,200.0	0.63	311.46	2,200.0	4.9	-1.5	-5.0	0.71
2,225.0	0.65	316.00	2,225.0	5.1	-1.7	-5.3	0.22
2,250.0	0.67	313.48	2,250.0	5.3	-1.9	-5.6	0.14
2,275.0	0.65	329.47	2,275.0	5.5	-2.1	-5.9	0.74
2,300.0	0.88	312.03	2,300.0	5.7	-2.3	-6.2	1.30
2,325.0	0.72	329.47	2,325.0	6.0	-2.6	-6.5	1.16
2,350.0	0.74	333.90	2,350.0	6.3	-2.7	-6.8	0.24
2,375.0	0.76	325.42	2,375.0	6.6	-2.9	-7.2	0.45
2,400.0	0.87	319.72	2,400.0	6.8	-3.1	-7.5	0.55
2,425.0	0.70	331.95	2,425.0	7.1	-3.3	-7.8	0.95
2,450.0	0.74	351.84	2,450.0	7.4	-3.4	-8.1	1.01
2,475.0	0.71	326.88	2,475.0	7.7	-3.5	-8.5	1.26
2,500.0	0.69	339.63	2,500.0	8.0	-3.6	-8.8	0.63
2,525.0	0.67	330.27	2,525.0	8.2	-3.8	-9.1	0.45
2,550.0	0.60	337.51	2,549.9	8.5	-3.9	-9.3	0.43

AUG 31 2015



WV GEOLOGICAL SURVEY FLOW Completion Report
MORGANTOWN, WV



Company:	Antero Resources	Local Co-ordinate Reference:	Well Amanda Unit 1H
Project:	Doddridge County WV	TVD Reference:	Precision 523: 989' GL + 19' KB @ 1008.0usft
Site:	Zellerback/Amanda Pad	MD Reference:	Precision 523: 989' GL + 19' KB @ 1008.0usft
Well:	Amanda Unit 1H	North Reference:	Grid
Wellbore:	Original Wellpath	Survey Calculation Method:	Minimum Curvature
Design:	As Drilled	Database:	Oklahoma District

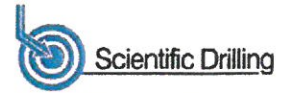
Survey

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	EW (usft)	V. Sec (usft)	DLeg (°/100usft)
2,575.0	0.65	335.11	2,574.9	8.7	-4.0	-9.6	0.23
2,600.0	0.62	327.44	2,599.9	9.0	-4.1	-9.9	0.36
2,625.0	0.61	325.70	2,624.9	9.2	-4.3	-10.1	0.08
2,650.0	0.59	323.01	2,649.9	9.4	-4.4	-10.4	0.14
2,675.0	0.60	316.64	2,674.9	9.6	-4.6	-10.6	0.27
2,700.0	0.72	315.35	2,699.9	9.8	-4.8	-10.9	0.48
2,725.0	0.74	316.41	2,724.9	10.0	-5.0	-11.2	0.10
2,750.0	0.85	315.08	2,749.9	10.3	-5.2	-11.6	0.45
2,775.0	0.85	320.56	2,774.9	10.6	-5.5	-11.9	0.33
2,800.0	0.82	321.90	2,799.9	10.9	-5.7	-12.3	0.14
2,825.0	0.87	324.99	2,824.9	11.2	-5.9	-12.6	0.27
2,850.0	0.76	306.33	2,849.9	11.4	-6.2	-13.0	1.14
2,875.0	0.82	309.32	2,874.9	11.6	-6.5	-13.3	0.29
2,900.0	0.93	309.61	2,899.9	11.9	-6.8	-13.6	0.44
2,925.0	0.93	311.34	2,924.9	12.1	-7.1	-14.0	0.11
2,950.0	0.94	312.94	2,949.9	12.4	-7.4	-14.4	0.11
2,975.0	0.96	311.36	2,974.9	12.7	-7.7	-14.7	0.13
3,000.0	1.07	313.72	2,999.9	13.0	-8.0	-15.2	0.47
3,025.0	1.02	311.27	3,024.9	13.3	-8.3	-15.6	0.27
3,050.0	0.98	313.70	3,049.9	13.6	-8.7	-16.0	0.23
3,075.0	0.96	318.73	3,074.9	13.9	-8.9	-16.4	0.35
3,100.0	0.91	312.84	3,099.9	14.2	-9.2	-16.8	0.43
3,125.0	0.85	304.65	3,124.9	14.4	-9.5	-17.1	0.56
3,150.0	0.87	306.58	3,149.9	14.6	-9.8	-17.4	0.14
3,175.0	0.88	306.18	3,174.9	14.9	-10.1	-17.8	0.05
3,200.0	0.77	301.70	3,199.9	15.1	-10.4	-18.1	0.51
3,225.0	0.79	304.11	3,224.9	15.2	-10.7	-18.4	0.15
3,250.0	0.72	303.86	3,249.9	15.4	-11.0	-18.7	0.28
3,275.0	0.83	298.09	3,274.9	15.6	-11.3	-18.9	0.54
3,300.0	0.73	307.54	3,299.9	15.8	-11.6	-19.2	0.65
3,325.0	0.61	310.60	3,324.9	16.0	-11.8	-19.5	0.50
3,350.0	0.54	307.81	3,349.9	16.1	-12.0	-19.7	0.30
3,375.0	0.46	300.07	3,374.9	16.2	-12.2	-19.9	0.42
3,400.0	0.61	301.69	3,399.9	16.4	-12.4	-20.1	0.60
3,425.0	0.57	302.81	3,424.9	16.5	-12.6	-20.3	0.17
3,450.0	0.60	298.53	3,449.9	16.6	-12.8	-20.5	0.21
3,475.0	0.65	306.57	3,474.9	16.8	-13.0	-20.8	0.40
3,500.0	0.67	316.98	3,499.9	17.0	-13.3	-21.0	0.49
3,525.0	0.60	290.43	3,524.9	17.1	-13.5	-21.3	1.20
3,550.0	0.47	300.27	3,549.9	17.2	-13.7	-21.4	0.63
3,575.0	0.57	294.25	3,574.9	17.3	-13.9	-21.6	0.46
3,600.0	0.50	293.89	3,599.9	17.4	-14.1	-21.8	0.28
3,625.0	0.62	298.77	3,624.9	17.5	-14.3	-22.0	0.52
3,650.0	0.35	302.69	3,649.9	17.6	-14.5	-22.2	1.09

AUG 31 2015



WV GEOLOGICAL SURVEY
MORGANTOWN, WV EOW Completion Report



Company:	Antero Resources	Local Co-ordinate Reference:	Well Amanda Unit 1H
Project:	Doddridge County WV	TVD Reference:	Precision 523: 989' GL + 19' KB @ 1008.0usft
Site:	Zellerback/Amanda Pad	MD Reference:	Precision 523: 989' GL + 19' KB @ 1008.0usft
Well:	Amanda Unit 1H	North Reference:	Grid
Wellbore:	Original Wellpath	Survey Calculation Method:	Minimum Curvature
Design:	As Drilled	Database:	Oklahoma District

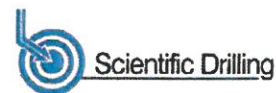
Survey

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)
3,675.0	0.63	302.45	3,674.9	17.8	-14.7	-22.3	1.12
3,700.0	0.53	291.78	3,699.9	17.9	-14.9	-22.5	0.59
3,725.0	0.39	313.02	3,724.9	18.0	-15.1	-22.7	0.87
3,750.0	0.47	334.82	3,749.8	18.1	-15.2	-22.9	0.72
3,775.0	0.65	315.96	3,774.8	18.3	-15.3	-23.1	1.02
3,800.0	0.71	305.03	3,799.8	18.5	-15.6	-23.4	0.57
3,825.0	0.55	316.20	3,824.8	18.7	-15.8	-23.6	0.80
3,850.0	0.74	296.69	3,849.8	18.8	-16.0	-23.9	1.15
3,875.0	0.61	305.76	3,874.8	19.0	-16.2	-24.1	0.67
3,900.0	0.60	329.44	3,899.8	19.2	-16.4	-24.4	0.99
3,925.0	0.89	341.06	3,924.8	19.5	-16.5	-24.7	1.30
3,950.0	1.02	341.79	3,949.8	19.9	-16.7	-25.1	0.52
3,975.0	1.14	332.86	3,974.8	20.3	-16.9	-25.6	0.83
4,000.0	0.79	313.87	3,999.8	20.6	-17.1	-26.0	1.88
4,025.0	0.53	238.72	4,024.8	20.7	-17.3	-26.1	3.32
4,050.0	0.94	198.97	4,049.8	20.5	-17.5	-26.0	2.52
4,075.0	2.15	181.98	4,074.8	19.8	-17.6	-25.4	5.12
4,100.0	3.32	178.05	4,099.8	18.6	-17.6	-24.3	4.74
4,125.0	4.49	174.39	4,124.7	16.9	-17.4	-22.8	4.78
4,150.0	4.87	172.30	4,149.6	14.9	-17.2	-20.8	1.67
4,175.0	4.88	171.71	4,174.6	12.8	-16.9	-18.8	0.20
4,200.0	5.00	172.06	4,199.5	10.6	-16.6	-16.7	0.49
4,225.0	5.07	172.23	4,224.4	8.5	-16.3	-14.7	0.29
4,250.0	5.07	172.39	4,249.3	6.3	-16.0	-12.6	0.06
4,275.0	5.09	170.42	4,274.2	4.1	-15.7	-10.4	0.70
4,300.0	5.14	171.51	4,299.1	1.9	-15.3	-8.3	0.44
4,325.0	5.10	170.22	4,324.0	-0.3	-15.0	-6.2	0.49
4,350.0	5.08	169.33	4,348.9	-2.5	-14.6	-4.0	0.33
4,375.0	5.08	168.78	4,373.8	-4.7	-14.2	-1.9	0.19
4,400.0	5.03	167.25	4,398.7	-6.8	-13.7	0.3	0.58
4,425.0	5.13	168.28	4,423.6	-9.0	-13.2	2.4	0.54
4,450.0	5.09	167.64	4,448.5	-11.2	-12.8	4.6	0.28
4,475.0	5.05	167.79	4,473.4	-13.3	-12.3	6.7	0.17
4,500.0	4.54	166.44	4,498.3	-15.4	-11.8	8.8	2.09
4,525.0	3.77	164.16	4,523.2	-17.1	-11.4	10.6	3.15
4,550.0	3.05	159.78	4,548.2	-18.5	-10.9	12.0	3.06
4,575.0	2.35	152.87	4,573.2	-19.6	-10.5	13.2	3.08
4,600.0	2.20	149.50	4,598.1	-20.5	-10.0	14.2	0.80
4,625.0	2.03	146.03	4,623.1	-21.3	-9.5	15.1	0.85
4,650.0	1.78	140.76	4,648.1	-21.9	-9.0	15.9	1.22
4,675.0	1.62	132.39	4,673.1	-22.5	-8.5	16.6	1.18
4,700.0	1.76	135.40	4,698.1	-23.0	-8.0	17.3	0.66
4,725.0	1.77	134.25	4,723.1	-23.5	-7.4	18.0	0.15
4,750.0	1.65	130.30	4,748.1	-24.0	-6.9	18.7	0.67

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GEOLOGICAL SURVEY EOW Completion Report
MORGANTOWN, WV



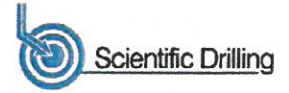
Company: Antero Resources	Local Co-ordinate Reference: Well Amanda Unit 1H
Project: Doddridge County WV	TVD Reference: Precision 523: 989' GL + 19' KB @ 1008.0usft
Site: Zellerback/Amanda Pad	MD Reference: Precision 523: 989' GL + 19' KB @ 1008.0usft
Well: Amanda Unit 1H	North Reference: Grid
Wellbore: 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)
4,775.0	1.59	134.22	4,773.0	-24.5	-6.3	19.4	0.50
4,800.0	1.35	125.96	4,798.0	-24.9	-5.9	20.0	1.28
4,825.0	0.86	92.73	4,823.0	-25.1	-5.4	20.3	3.15
4,850.0	0.74	59.26	4,848.0	-25.0	-5.1	20.4	1.90
4,875.0	0.79	49.18	4,873.0	-24.8	-4.8	20.3	0.57
4,900.0	0.85	30.01	4,898.0	-24.6	-4.6	20.2	1.12
4,925.0	1.25	21.04	4,923.0	-24.1	-4.4	19.9	1.73
4,950.0	1.10	18.29	4,948.0	-23.7	-4.2	19.5	0.64
4,975.0	1.19	21.05	4,973.0	-23.2	-4.1	19.2	0.42
5,000.0	1.17	23.37	4,998.0	-22.7	-3.9	18.8	0.21
5,025.0	1.22	18.40	5,023.0	-22.2	-3.7	18.5	0.46
5,050.0	1.29	21.19	5,048.0	-21.7	-3.5	18.1	0.37
5,075.0	1.56	19.47	5,073.0	-21.1	-3.3	17.7	1.09
5,100.0	1.52	11.92	5,098.0	-20.5	-3.1	17.1	0.83
5,125.0	1.36	16.08	5,123.0	-19.9	-3.0	16.7	0.76
5,150.0	1.42	17.91	5,148.0	-19.3	-2.8	16.2	0.30
5,175.0	0.96	21.67	5,173.0	-18.8	-2.6	15.8	1.87
5,200.0	0.64	12.09	5,198.0	-18.5	-2.5	15.6	1.38
5,225.0	0.49	34.58	5,223.0	-18.2	-2.4	15.4	1.06
5,250.0	0.37	46.05	5,248.0	-18.1	-2.3	15.4	0.59
5,275.0	0.39	28.21	5,273.0	-18.0	-2.2	15.3	0.48
5,300.0	0.33	8.67	5,298.0	-17.8	-2.2	15.2	0.54
5,316.0	0.39	352.41	5,314.0	-17.7	-2.2	15.1	0.74
5,374.0	0.85	15.57	5,372.0	-17.1	-2.1	14.6	0.89
5,404.0	0.84	3.50	5,401.9	-16.7	-2.0	14.2	0.59
5,434.0	0.97	17.73	5,431.9	-16.2	-1.9	13.8	0.86
5,464.0	0.97	11.84	5,461.9	-15.7	-1.8	13.4	0.33
5,493.0	1.02	4.94	5,490.9	-15.2	-1.7	13.0	0.45
5,523.0	0.75	18.04	5,520.9	-14.8	-1.6	12.6	1.12
5,553.0	1.24	288.64	5,550.9	-14.5	-1.9	12.3	4.81
5,583.0	5.70	280.14	5,580.9	-14.1	-3.6	11.2	14.92
5,613.0	9.83	280.91	5,610.6	-13.4	-7.6	8.8	13.77
5,643.0	13.55	282.74	5,640.0	-12.1	-13.6	5.1	12.46
5,673.0	17.22	282.13	5,668.9	-10.4	-21.3	0.2	12.25
5,703.0	20.67	281.76	5,697.2	-8.4	-30.9	-5.7	11.51
5,733.0	24.26	280.75	5,725.0	-6.2	-42.1	-12.5	12.04
5,762.0	28.10	280.32	5,751.0	-3.8	-54.7	-20.1	13.26
5,792.0	32.06	280.26	5,776.9	-1.1	-69.5	-28.8	13.20
5,822.0	35.26	279.91	5,801.9	1.8	-85.8	-38.5	10.69
5,852.0	37.99	279.56	5,826.0	4.8	-103.5	-48.8	9.13
5,882.0	41.49	279.86	5,849.0	8.0	-122.4	-59.9	11.68
5,912.0	44.49	279.59	5,871.0	11.5	-142.5	-71.6	10.02
5,942.0	47.00	278.64	5,891.9	14.9	-163.8	-83.8	8.67
5,972.0	46.26	276.40	5,912.5	17.7	-185.4	-95.7	5.96

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WV GEOLOGICAL SURVEY EOW Completion Report
MORGANTOWN, WV



Company:	Antero Resources	Local Co-ordinate Reference:	Well Amanda Unit 1H
Project:	Doddridge County WV	TVD Reference:	Precision 523: 989' GL + 19' KB @ 1008.0usft
Site:	Zellerback/Amanda Pad	MD Reference:	Precision 523: 989' GL + 19' KB @ 1008.0usft
Well:	Amanda 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)
6,002.0	43.21	271.44	5,933.8	19.2	-206.4	-106.1	15.45
6,031.0	41.37	264.93	5,955.3	18.6	-225.9	-113.9	16.38
6,061.0	40.27	259.16	5,978.0	15.9	-245.3	-119.8	13.09
6,091.0	39.31	254.26	6,001.1	11.5	-264.0	-123.9	10.93
6,121.0	38.75	248.56	6,024.4	5.5	-281.9	-126.1	12.11
6,151.0	39.18	243.56	6,047.7	-2.2	-299.1	-126.6	10.58
6,181.0	40.59	239.62	6,070.7	-11.3	-316.0	-125.6	9.64
6,186.0	40.75	238.95	6,074.5	-13.0	-318.8	-125.3	9.33
SCMR							
6,211.0	41.62	235.66	6,093.3	-21.9	-332.7	-123.3	9.33
6,241.0	42.38	231.24	6,115.6	-33.8	-348.8	-119.4	10.18
6,271.0	42.83	226.84	6,137.7	-47.1	-364.1	-114.0	10.04
6,300.0	43.26	223.25	6,158.9	-61.1	-378.1	-107.4	8.58
6,330.0	43.84	218.88	6,180.7	-76.7	-391.7	-99.1	10.22
6,360.0	44.88	214.77	6,202.1	-93.5	-404.2	-89.4	10.19
6,390.0	46.06	211.40	6,223.2	-111.4	-415.9	-78.2	8.92
6,402.0	46.42	209.77	6,231.5	-118.9	-420.3	-73.4	10.25
MDLX							
6,420.0	47.01	207.37	6,243.8	-130.4	-426.6	-65.7	10.25
6,450.0	48.40	202.28	6,264.0	-150.5	-435.9	-51.5	13.38
6,480.0	51.07	197.70	6,283.4	-172.0	-443.7	-35.4	14.66
6,510.0	53.63	194.26	6,301.7	-194.8	-450.2	-17.6	12.46
6,540.0	55.71	191.92	6,319.1	-218.7	-455.7	1.5	9.41
6,569.0	59.01	188.86	6,334.7	-242.7	-460.1	21.3	14.44
6,590.0	61.27	186.60	6,345.2	-260.7	-462.6	36.6	14.25
BRKT							
6,599.0	62.25	185.66	6,349.4	-268.6	-463.4	43.3	14.25
6,629.0	64.61	181.92	6,362.9	-295.4	-465.2	66.7	13.64
6,659.0	66.04	178.02	6,375.4	-322.6	-465.2	91.3	12.74
6,669.0	66.73	176.62	6,379.4	-331.8	-464.7	99.8	14.55
TLLY							
6,689.0	68.15	173.87	6,387.1	-350.2	-463.2	117.1	14.55
6,719.0	70.77	171.08	6,397.6	-378.0	-459.5	143.8	12.33
6,734.0	72.24	170.15	6,402.3	-392.1	-457.2	157.5	11.43
HMLN							
6,748.0	73.62	169.30	6,406.5	-405.2	-454.8	170.4	11.43
6,756.0	74.32	168.81	6,408.7	-412.8	-453.4	177.8	10.55
MRCL_HOT							
6,778.0	76.26	167.49	6,414.3	-433.6	-449.0	198.5	10.55
6,808.0	79.51	164.87	6,420.5	-462.1	-442.0	227.2	13.79
6,838.0	81.94	162.12	6,425.4	-490.5	-433.6	256.5	12.14
6,868.0	83.38	160.36	6,429.2	-518.6	-424.0	286.0	7.54
6,906.0	85.47	157.59	6,432.9	-553.9	-410.4	323.7	9.10
6,965.0	89.70	150.67	6,435.4	-606.9	-384.7	382.6	13.74
7,060.0	88.86	151.89	6,436.6	-690.2	-339.1	477.4	1.56

Company:	Antero Resources	Local Co-ordinate Reference:	Well Amanda Unit 1H
Project:	Doddridge County WV	TVD Reference:	Precision 523: 989' GL + 19' KB @ 1008.0usft
Site:	Zellerback/Amanda Pad	MD Reference:	Precision 523: 989' GL + 19' KB @ 1008.0usft
Well:	Amanda 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)
7,150.0	88.79	154.39	6,438.4	-770.5	-298.4	567.4	2.78
7,239.0	88.63	155.12	6,440.4	-851.0	-260.5	656.4	0.84
7,329.0	88.19	155.66	6,442.9	-932.8	-223.0	746.3	0.77
7,419.0	87.89	155.47	6,446.0	-1,014.7	-185.8	836.3	0.39
7,508.0	87.59	154.57	6,449.5	-1,095.3	-148.2	925.2	1.07
7,602.0	88.02	155.95	6,453.1	-1,180.6	-108.9	1,019.1	1.54
7,696.0	88.52	156.91	6,456.0	-1,266.7	-71.4	1,113.0	1.15
7,790.0	89.13	156.27	6,457.9	-1,352.9	-34.0	1,206.9	0.94
7,885.0	89.63	153.63	6,458.9	-1,439.0	6.2	1,301.9	2.83
7,979.0	89.73	152.73	6,459.4	-1,522.9	48.6	1,395.9	0.96
8,072.0	88.89	153.81	6,460.6	-1,605.9	90.4	1,488.8	1.47
8,166.0	88.39	153.35	6,462.8	-1,690.1	132.2	1,582.8	0.72
8,260.0	89.33	155.22	6,464.7	-1,774.8	173.0	1,676.8	2.23
8,354.0	89.19	156.35	6,465.9	-1,860.5	211.6	1,770.7	1.21
8,448.0	88.69	154.14	6,467.6	-1,945.8	250.9	1,864.7	2.41
8,542.0	89.46	153.95	6,469.1	-2,030.3	292.1	1,958.7	0.84
8,632.0	89.06	155.23	6,470.3	-2,111.6	330.7	2,048.7	1.49
8,721.0	89.19	155.97	6,471.7	-2,192.7	367.4	2,137.7	0.84
8,811.0	89.66	153.52	6,472.6	-2,274.0	405.8	2,227.7	2.77
8,901.0	89.50	152.26	6,473.2	-2,354.2	446.8	2,317.6	1.41
8,990.0	89.66	151.90	6,473.9	-2,432.8	488.5	2,406.5	0.44
9,080.0	88.99	152.53	6,474.9	-2,512.4	530.5	2,496.4	1.02
9,170.0	88.46	153.15	6,476.9	-2,592.5	571.5	2,586.4	0.91
9,259.0	88.22	154.61	6,479.5	-2,672.3	610.7	2,675.3	1.66
9,349.0	88.93	156.30	6,481.8	-2,754.2	648.1	2,765.3	2.04
9,439.0	89.23	157.76	6,483.2	-2,837.0	683.2	2,855.2	1.66
9,528.0	89.06	156.19	6,484.5	-2,918.9	718.0	2,944.1	1.77
9,618.0	89.56	153.89	6,485.6	-3,000.5	756.0	3,034.1	2.62
9,708.0	89.77	152.53	6,486.1	-3,080.8	796.5	3,124.1	1.53
9,797.0	89.97	153.63	6,486.3	-3,160.2	836.8	3,213.0	1.26
9,887.0	89.50	152.91	6,486.8	-3,240.6	877.3	3,303.0	0.96
9,977.0	88.99	154.88	6,487.9	-3,321.4	916.9	3,393.0	2.26
10,066.0	89.56	154.76	6,489.1	-3,401.9	954.8	3,482.0	0.65
10,156.0	89.13	153.70	6,490.1	-3,483.0	993.9	3,572.0	1.27
10,245.0	88.56	153.80	6,491.9	-3,562.8	1,033.2	3,660.9	0.65
10,335.0	89.93	154.54	6,493.1	-3,643.8	1,072.4	3,750.9	1.73
10,424.0	88.86	154.92	6,494.0	-3,724.2	1,110.4	3,839.9	1.28
10,514.0	88.26	154.75	6,496.3	-3,805.7	1,148.7	3,929.9	0.69
10,604.0	89.46	155.21	6,498.1	-3,887.2	1,186.8	4,019.9	1.43
10,693.0	89.00	154.52	6,499.3	-3,967.8	1,224.6	4,108.9	0.93
10,783.0	88.65	154.97	6,501.1	-4,049.2	1,262.9	4,198.8	0.63
10,873.0	88.56	154.29	6,503.3	-4,130.5	1,301.5	4,288.8	0.76
10,962.0	89.60	153.12	6,504.7	-4,210.2	1,340.9	4,377.8	1.76
11,052.0	88.52	153.16	6,506.2	-4,290.5	1,381.6	4,467.7	1.20

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EOW Completion Report



Company: Antero Resources	Local Co-ordinate Reference: Well Amanda Unit 1H
Project: Doddridge County WV	TVD Reference: Precision 523: 989' GL + 19' KB @ 1008.0usft
Site: Zellerback/Amanda Pad	MD Reference: Precision 523: 989' GL + 19' KB @ 1008.0usft
Well: Amanda 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)
11,142.0	89.30	154.85	6,507.9	-4,371.4	1,421.0	4,557.7	2.07
11,231.0	89.39	155.40	6,508.9	-4,452.1	1,458.4	4,646.7	0.63
11,321.0	89.93	154.05	6,509.5	-4,533.5	1,496.9	4,736.7	1.62
11,411.0	89.19	156.71	6,510.2	-4,615.3	1,534.4	4,826.7	3.07
11,500.0	89.33	155.74	6,511.3	-4,696.8	1,570.2	4,915.6	1.10
11,590.0	89.76	156.95	6,512.0	-4,779.2	1,606.3	5,005.6	1.43
11,680.0	89.43	155.24	6,512.7	-4,861.5	1,642.8	5,095.6	1.94
11,769.0	89.33	154.66	6,513.6	-4,942.1	1,680.5	5,184.5	0.66
11,859.0	89.70	154.03	6,514.4	-5,023.2	1,719.5	5,274.5	0.81
11,949.0	89.93	152.99	6,514.7	-5,103.8	1,759.6	5,364.5	1.18
12,038.0	90.17	150.13	6,514.6	-5,182.0	1,802.0	5,453.4	3.22
12,128.0	91.51	152.98	6,513.3	-5,261.1	1,844.8	5,543.3	3.50
12,218.0	90.40	153.40	6,511.8	-5,341.4	1,885.4	5,633.2	1.32
12,307.0	92.25	157.76	6,509.7	-5,422.4	1,922.2	5,722.1	5.32
12,397.0	91.07	157.37	6,507.1	-5,505.6	1,956.5	5,812.0	1.38
12,487.0	91.21	157.20	6,505.3	-5,588.6	1,991.3	5,901.9	0.24
12,576.0	90.43	156.99	6,504.1	-5,670.6	2,025.9	5,990.8	0.91
12,667.0	90.70	155.98	6,503.2	-5,754.0	2,062.2	6,081.7	1.15
12,756.0	90.03	155.75	6,502.6	-5,835.2	2,098.6	6,170.7	0.80
12,846.0	89.16	156.23	6,503.2	-5,917.4	2,135.2	6,260.6	1.10
12,903.0	88.79	156.11	6,504.2	-5,969.6	2,158.3	6,317.6	0.68
12,960.0	88.79	156.11	6,505.4	-6,021.7	2,181.3	6,374.6	0.00

Design Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N-S (usft)	+E-W (usft)	
6,186.0	6,074.5	-13.0	-318.8	SCMR
6,402.0	6,231.5	-118.9	-420.3	MDLX
6,590.0	6,345.2	-260.7	-462.6	BRKT
6,669.0	6,379.4	-331.8	-464.7	TLLY
6,734.0	6,402.3	-392.1	-457.2	HMLN
6,756.0	6,408.7	-412.8	-453.4	MRCL_HOT

Checked By: _____ Approved By: _____ Date: _____