

**Division of Environmental Protection  
Section of Oil and Gas  
Well Operator's Report of Well Work**

45-02335 ✓

Well Name Heartwood Forestland Fund  
Location Elevation 852  
District Unknown

Well Number 511767  
QUAD Mallory  
County Logan, WV  
WV

Latitude 39° 20' 00" Degree 37 Minutes 42 Seconds 30  
Longitude 81° 00' 00" East Degree 81 Minutes 47 Seconds 30

Company EQT Plaza  
Suite 1700  
625 Liberty Avenue  
Pittsburgh, Pa 15222

Longitude 37.68308  
Latitude -81.82233

Agent Cecil Ray  
Inspector Tom Morris  
Permit Issued 1/25/10

Casing & Tubing Size	Used In Drilling	Left in Well	Cement Cubic FT
13 3/8	36.00	36.00	
9 5/8	511.00	511.00	252.00
7	2081.00	2,081.00	470.60
4 1/2	7127.22	7,127.22	

Well Work Commenced 6/2/2010  
Well Work Completed 8/18/2010

Perforating

Rotary Rig  Rotary Rig

Total Depth TVD: 4124' MD: 7,165.00

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Type From  
Fresh Water 83.00  
Fresh Water 120.00

Type From  
Coal 83.00 ft. - 85.00 ft.  
Coal 133.00 ft. - 135.00 ft.

**Producing Formation**

Gas: Initial Open Flow 94  
Final Open Flow 1708  
Static Rock Pressure 650

NOTE: On back of this form put the following  
1) Details of Perforated intervals, fracturing or stimulating, physical change, etc.  
2) The well log, a systematic detailed geological record of all formations including coal encountered in the well bore

For EQT Production Company  
By Mike Butcher  
Date 9-14-2010

03/01/2013

45.02335

Formation record

Gas Tests

<u>Formation Name</u>	<u>Top</u>	<u>Bottom</u>	<u>Thickness</u>	<u>Depth Gas</u>	<u>Comments</u>
AND AND SHALE	0.00	83.00	83.00	2,486.00	0
COAL	83.00	85.00	2.00	2,675.00	0
AND AND SHALE	85.00	133.00	48.00	3,060.00	0
COAL	133.00	135.00	2.00	3,472.00	0
AND AND SHALE	135.00	559.00	424.00	4,255.00	0 Odor
ALT SAND	559.40	1,198.00	638.60	7,165.00	94 5/10 thru 2"
AVENCLIFF SAND	1,268.00	1,328.00	60.00		
UPPER MAXTON SAND	1,448.00	1,613.00	165.00		
MIDDLE MAXTON SAND	1,688.00	1,830.00	142.00		
LOWER MAXTON SAND	1,938.00	1,979.00	41.00		
LITTLE LIME	2,022.00	2,078.00	56.00		
HIGH LIME	2,094.00	2,430.00	336.00		
VEIR SAND	2,516.00	2,631.00	115.00		
WINBURY	2,956.00	2,980.00	24.00		
WEREA SAND	2,980.00	3,014.00	34.00		
UPPER DEVONIAN	3,015.25				
WYNDON SAND	3,288.00	3,318.00	30.00		
LOWER HURON SHALE	4,054.00	4,516.00	462.00		
HURON SILTSTONE	4,066.00	4,138.00	72.00		
AVA SHALE	4,516.00	4,670.00	154.00		
WINGOLA SHALE	4,670.00	4,902.00	232.00		
WINCHESTER SHALE	4,902.00				

Questions regarding formations can  
be directed to Jonette Speranzo.  
Jsperanzo@eqt.com

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Stage	Formation	Frac Type	
1	LOWER HURON SILT	N <sup>2</sup>	
Date	From / To	# of perfs	BD Press
8/10/2010	6965 - 7127		4,953.00
Avg Rate	Max Press PSI	ISIP	Frac Gradient
102,319.00	5,093.00		
Sand Proppant	Water-bbl	SCF N2	Acid-Gal
		1,002,646.00	

SIP Detail  
 5 Min:  
 10 Min:  
 15 Min:

Stage	Formation	Frac Type	
2	LOWER HURON SILT	N <sup>2</sup>	
Date	From / To	# of perfs	BD Press
8/10/2010	6724 - 6965		3,452.00
Avg Rate	Max Press PSI	ISIP	Frac Gradient
105,011.00	4,999.00		
Sand Proppant	Water-bbl	SCF N2	Acid-Gal
	5.80	1,003,078.00	

SIP Detail  
 5 Min:  
 10 Min:  
 15 Min:

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Stage	Formation	Frac Type	
3	LOWER HURON SILT	N <sup>2</sup>	
Date	From / To	# of perfs	BD Press
8/10/2010	6483 - 6724		3,259.00
Avg Rate	Max Press PSI	ISIP	Frac Gradient
104,378.00	4,972.00		
Sand Proppant	Water-bbl	SCF N2	Acid-Gal
	5.90	1,002,343.00	

SIP Detail  
 5 Min:  
 10 Min:  
 15 Min:

45-02335

Stage	Formation	Frac Type				
4	LOWER HURON SILT	N <sup>2</sup>				
Date	From / To	# of perfs	BD Press	ATP Psi	SIP Detail	
8/10/2010	6242 - 6483		3,285.00	4,839.00	5 Min:	
Avg Rate	Max Press PSI	ISIP	Frac Gradient		10 Min:	
104,639.00	4,859.00				15 Min:	
Sand Proppant	Water-bbl	SCF N2	Acid-Gal			
	6.60	1,002,202.00				

Stage	Formation	Frac Type				
5	LOWER HURON SILT	N <sup>2</sup>				
Date	From / To	# of perfs	BD Press	ATP Psi	SIP Detail	
8/10/2010	5957 - 6242		3,341.00	4,826.00	5 Min: 1714	
Avg Rate	Max Press PSI	ISIP	Frac Gradient		10 Min:	
103,409.00	4,845.00	2,362.00	0.667		15 Min:	
Sand Proppant	Water-bbl	SCF N2	Acid-Gal			
	5.90	1,004,054.00				

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6	LOWER HURON SILT	N <sup>2</sup>				
Date	From / To	# of perfs	BD Press	ATP Psi	SIP Detail	
8/10/2010	5716 - 5957		3,345.00	5,007.00	5 Min:	
Avg Rate	Max Press PSI	ISIP	Frac Gradient		10 Min:	
102,405.00	5,101.00	2,430.00	0.685		15 Min:	
Sand Proppant	Water-bbl	SCF N2	Acid-Gal			
	6.70	1,001,538.00				

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45-02335

Stage	Formation	Frac Type			
7	LOWER HURON SILT	N <sup>2</sup>			
Date	From / To	# of perfs	BD Press	ATP Psi	SIP Detail
8/10/2010	5477 - 5716		3,367.00	4,887.00	5 Min:
Avg Rate	Max Press PSI	ISIP	Frac Gradient		10 Min:
104,836.00	4,970.00				15 Min:
Sand Proppant	Water-bbl	SCF N2	Acid-Gal		
	6.10	1,000,335.00			

Stage	Formation	Frac Type			
8	LOWER HURON SILT	N <sup>2</sup>			
Date	From / To	# of perfs	BD Press	ATP Psi	SIP Detail
8/10/2010	5236 - 5477		3,388.00	5,625.00	5 Min:
Avg Rate	Max Press PSI	ISIP	Frac Gradient		10 Min:
106,860.00	5,667.00				15 Min:
Sand Proppant	Water-bbl	SCF N2	Acid-Gal		
	6.00	1,003,458.00			

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Stage	Formation	Frac Type			
9	LOWER HURON SILT	N <sup>2</sup>			
Date	From / To	# of perfs	BD Press	ATP Psi	SIP Detail
8/10/2010	4995 - 5236		3,469.00	6,113.00	5 Min:
Avg Rate	Max Press PSI	ISIP	Frac Gradient		10 Min:
107,498.00	6,158.00				15 Min:
Sand Proppant	Water-bbl	SCF N2	Acid-Gal		
	5.80	1,002,465.00			

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45.02335

Stage	Formation	Frac Type				
10	LOWER HURON SILT	N <sup>2</sup>				
Date	From / To	# of perfs	BD Press	ATP Psi	SIP Detail	
8/10/2010	4755 - 4995		3,513.00	6,243.00	5 Min: 1892	
Avg Rate	Max Press PSI	ISIP	Frac Gradient		10 Min:	
101,996.00	6,380.00	3,370.00	0.951		15 Min:	
Sand Proppant	Water-bbl	SCF N2	Acid-Gal			
	6.00	1,002,697.00				

Stage	Formation	Frac Type				
11	LOWER HURON SILT	N <sup>2</sup>				
Date	From / To	# of perfs	BD Press	ATP Psi	SIP Detail	
8/10/2010	4514 - 4755		3,524.00	4,994.00	5 Min:	
Avg Rate	Max Press PSI	ISIP	Frac Gradient		10 Min:	
103,103.00	5,088.00				15 Min:	
Sand Proppant	Water-bbl	SCF N2	Acid-Gal			
	5.50	1,001,438.00				

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Stage	Formation	Frac Type				
12	LOWER HURON SILT	N <sup>2</sup>				
Date	From / To	# of perfs	BD Press	ATP Psi	SIP Detail	
8/10/2010	4229 - 4514		3,327.00	4,488.00	5 Min: 1600	
Avg Rate	Max Press PSI	ISIP	Frac Gradient		10 Min: 1552	
103,109.00	4,589.00	2,137.00	0.604		15 Min: 1523	
Sand Proppant	Water-bbl	SCF N2	Acid-Gal			
	5.30	1,002,602.00				

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