

State of West Virginia  
Department of Environmental Protection - Office of Oil and Gas  
Well Operator's Report of Well Work

API 47-087-04754 County ROANE District SMITHFIELD  
Quad LOONEYVILLE 7.5' Pad Name FERRELL, C.B. Field/Pool Name CLOVER  
Farm name MAY, TIMOTHY D. Well Number 110  
Operator (as registered with the OOG) H.G. ENERGY LLC  
Address 5260 DuPONT ROAD City PARKERSBURG State WV Zip 26101

As Drilled location NAD 83/UTM Attach an as-drilled plat, profile view, and deviation survey  
Top hole Northing 4,285,443 M Easting 475,638 M  
Landing Point of Curve Northing \_\_\_\_\_ Easting \_\_\_\_\_  
Bottom Hole Northing 4,285,234 M Easting 475,776 M

Elevation (ft) 1,110' GL Type of Well  New  Existing Type of Report  Interim  Final  
Permit Type  Deviated  Horizontal  Horizontal 6A  Vertical Depth Type  Deep  Shallow  
Type of Operation  Convert  Deepen  Drill  Plug Back  Redrilling  Rework  Stimulate  
Well Type  Brine Disposal  CBM  Gas  Oil  Secondary Recovery  Solution Mining  Storage  Other \_\_\_\_\_  
Type of Completion  Single  Multiple Fluids Produced  Brine  Gas  NGL  Oil  Other \_\_\_\_\_  
Drilled with  Cable  Rotary

Drilling Media Surface hole  Air  Mud  Fresh Water Intermediate hole  Air  Mud  Fresh Water  Brine  
Production hole  Air  Mud  Fresh Water  Brine  
Mud Type(s) and Additive(s)  
N/A

received  
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Date permit issued 1/8/15 Date drilling commenced 2/4/15 Date drilling ceased 2/7/15  
Date completion activities began 3/23/15 Date completion activities ceased 3/26/15  
Verbal plugging (Y/N) N Date permission granted \_\_\_\_\_ Granted by \_\_\_\_\_

Please note: Operator is required to submit a plugging application within 5 days of verbal permission to plug

Freshwater depth(s) ft None Open mine(s) (Y/N) depths None  
Salt water depth(s) ft 1700' Void(s) encountered (Y/N) depths None  
Coal depth(s) ft None Cavern(s) encountered (Y/N) depths None  
Is coal being mined in area (Y/N) N

Reviewed by:  
JK 7/24/15

8/14/2015

API 47-087 - 04754 Farm name MAY, TIMOTHY D. Well number 110

CASING STRINGS	Hole Size	Casing Size	Depth	New or Used	Grade w/ft	Basket Depth(s)	Did cement circulate (Y/ N) * Provide details below*
Conductor	12 1/4"	11 5/8"	30'	Used	LS		Sand In
Surface	8 3/4"	7"	506'	New	LS	64'	Y
Coal							
Intermediate 1							
Intermediate 2							
Intermediate 3							
Production	6 1/4"	4 1/2"	2631.35'	New	J-55		Y
Tubing							
Packer type and depth set							

Comment Details Circulated Est. 25 sks to surface on 7" surface cement job. Circulated Est. 20 sks to surface on 4 1/2" cement job.

CEMENT DATA	Class/Type of Cement	Number of Sacks	Slurry wt (ppg)	Yield (ft <sup>3</sup> /sks)	Volume (ft <sup>3</sup> )	Cement Top (MD)	WOC (hrs)
Conductor							
Surface	Reg Neat	130	15.6	1.18	153	Surface	8
Coal							
Intermediate 1							
Intermediate 2							
Intermediate 3							
Production	50:50 Pozmix	120/125	13.2/14.2	1.64/1.27	197/186	50'	8
Tubing							

Drillers TD (ft) 2660' Loggers TD (ft) 2653'  
 Deepest formation penetrated Big Injun Plug back to (ft) N/A  
 Plug back procedure N/A

Kick off depth (ft) 600'

Check all wireline logs run  caliper  density  deviated/directional  induction  
 neutron  resistivity  gamma ray  temperature  sonic

Well cored  Yes  No Conventional Sidewall Were cuttings collected  Yes  No

DESCRIBE THE CENTRALIZER PLACEMENT USED FOR EACH CASING STRING \_\_\_\_\_  
20 Centralizers every 88 from bottom on 4 1/2". Centralizer placed mid string on 7"

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WAS WELL COMPLETED AS SHOT HOLE  Yes  No DETAILS \_\_\_\_\_ **JUL 9 2015**

WAS WELL COMPLETED OPEN HOLE?  Yes  No DETAILS \_\_\_\_\_  
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WERE TRACERS USED  Yes  No TYPE OF TRACER(S) USED \_\_\_\_\_

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PERFORATION RECORD

Stage No.	Perforation date	Perforated from MD ft.	Perforated to MD ft.	Number of Perforations	Formation(s)
1	3/23/15	2406'	2416'	40	Big Injun

Please insert additional pages as applicable.

STIMULATION INFORMATION PER STAGE

Complete a separate record for each stimulation stage.

Stage No.	Stimulations Date	Ave Pump Rate (BPM)	Ave Treatment Pressure (PSI)	Max Breakdown Pressure (PSI)	ISIP (PSI)	Amount of Proppant (lbs)	Amount of Water (bbls)	Amount of Nitrogen/other (units)
1	3/26/15	5	1800	2241	675	2,500	151	

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Please insert additional pages as applicable.

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Well number 110

PRODUCING FORMATION(S)

DEPTHS

Big Injun \_\_\_\_\_ 2122'- 2150' TVD 2382'- 2422' MD  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

Please insert additional pages as applicable.

GAS TEST  Build up  Drawdown  Open Flow OIL TEST  Flow  Pump

SHUT-IN PRESSURE Surface \_\_\_\_\_ psi Bottom Hole \_\_\_\_\_ psi DURATION OF TEST \_\_\_\_\_ hrs

OPEN FLOW Gas \_\_\_\_\_ Oil \_\_\_\_\_ NGL \_\_\_\_\_ Water \_\_\_\_\_ GAS MEASURED BY  
 Estimated  Orifice  Pilot

LITHOLOGY/ TOP BOTTOM TOP BOTTOM  
 FORMATION DEPTH IN FT DEPTH IN FT DEPTH IN FT DEPTH IN FT DESCRIBE ROCK TYPE AND RECORD QUANTITY AND  
 NAME TVD TVD MD MD TYPE OF FLUID (FRESHWATER, BRINE, OIL, GAS, H<sub>2</sub>S, ETC)

LITHOLOGY/ FORMATION	TOP DEPTH IN FT NAME TVD	BOTTOM DEPTH IN FT TVD	TOP DEPTH IN FT MD	BOTTOM DEPTH IN FT MD	DESCRIBE ROCK TYPE AND RECORD QUANTITY AND TYPE OF FLUID (FRESHWATER, BRINE, OIL, GAS, H <sub>2</sub> S, ETC)
Sand/Shale	0	1402	0	1432	
Sand	1402	1618	1432	1692	
Shale	1618	1656	1692	1738	
Sand	1656	1824	1738	1738	
Shale	1824	1842	1954	1954	
Sand	1842	1976	1977	2168	
Little Lime	1976	2036	2168	2236	
Pencil Cave	2032	2036	2236	2240	
Big Lime	2036	2104	2240	2356	
Keener	2104	2122	2356	2382	
Big Injun	2122	2150	2382	2422	Drilled directional S 39° E a distance of 797'
Shale	2150	2333	2422	2660	
TD	2333		2660		

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Please insert additional pages as applicable.

Drilling Contractor Decker Drilling  
 Address 11565 State Route 676 City Vincent State OH Zip 45784

Logging Company Weatherford International  
 Address 777 North River Avenue City Weston State WV Zip 26452

Cementing Company Universal Services  
 Address Hall Rd City Buckhannon State WV Zip 26201

Stimulating Company Producers Service Corp.  
 Address 109 South Graham Street City Zanesville State OH Zip 43701

Please insert additional pages as applicable.

Completed by Roger Haldman Telephone 304-420-1107  
 Signature \_\_\_\_\_ Title Operations Manager Date 4/10/15

Submittal of Hydraulic Fracturing Chemical Disclosure Information Attach copy of FRACFOCUS Registry