

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

API 47-043-03477 County LINCOLN District DUVAL  
Quad GRIFFITHSVILLE 7.5' Pad Name BAYS, M.A. Field/Pool Name GRIFFITHSVILLE  
Farm name HG ENERGY, LLC. Well Number 231  
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 4,232,188 M Easting 416,064 M  
Landing Point of Curve Northing \_\_\_\_\_ Easting \_\_\_\_\_  
Bottom Hole Northing 4,232,085 M Easting 416,132 M

Elevation (ft) 945' 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

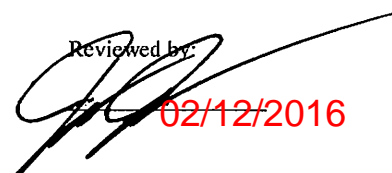
Drilling Media Surface hole  Air  Mud  Fresh Water Intermediate hole  Air  Mud  Fresh Water  Brine  
Production hole  Air  Mud  Fresh Water  Brine  
Mud Type(s) and Additive(s)  
N/A

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Date permit issued 6/29/15 Date drilling commenced 10/13/15 Date drilling ceased DEC 16/4 2015  
Date completion activities began 10/21/15 Date completion activities ceased 10/23/15  
Verbal plugging (Y/N) N Date permission granted \_\_\_\_\_ Granted by WV Department of Environmental Protection

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 1160' Void(s) encountered (Y/N) depths None  
Coal depth(s) ft 563'- 568' Cavern(s) encountered (Y/N) depths None  
Is coal being mined in area (Y/N) N

Reviewed by:   
**02/12/2016**

API 47- 043 - 03477 Farm name HG ENERGY, LLC. Well number 231

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"	591'	New	LS	64'	Y
Coal							
Intermediate 1							
Intermediate 2							
Intermediate 3							
Production	6 1/4"	4 1/2"	2675.7'	New	J-55		Y
Tubing							
Packer type and depth set							

Comment Details Circulated Est. 50 sks to surface on 7" surface cement job. Circulated Est. 35 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	150	15.6	1.18	177	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	88'	8
Tubing							

Drillers TD (ft) 2700' Loggers TD (ft) 2700'  
 Deepest formation penetrated Berea 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"

WAS WELL COMPLETED AS SHOT HOLE  Yes  No DETAILS \_\_\_\_\_

WAS WELL COMPLETED OPEN HOLE?  Yes  No DETAILS \_\_\_\_\_

WERE TRACERS USED  Yes  No TYPE OF TRACER(S) USED \_\_\_\_\_

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PRODUCING FORMATION(S)	DEPTHS	
Berea	2430'- 2452'	TVD 2520'- 2542' 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 \_\_\_\_\_ mcfpd Oil \_\_\_\_\_ bpd NGL \_\_\_\_\_ bpd Water \_\_\_\_\_ bpd  
 GAS MEASURED BY  Estimated  Orifice  Pilot

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	563	0	563	
Pittsburgh Coal	563	568	563	568	
Sand/Shale	568	1706	568	1760	
Big Lime	1706	1874	1760	1946	
Big Injun	1874	2016	1946	2096	
Shale	2016	2410	2096	2499	
Coffee Shale	2410	2430	2499	2520	
Berea	2430	2452	2520	2542	Drilled directional S 29.5° E a distance of 519'
Shale	2452		2542	2700	
TD			2700		

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 11000 Performance PL City Youngstown State OH Zip 44501

Cementing Company Universal Services  
 Address 14 Sewer Plant Rd City Buckhannon State OH 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 Heldman Telephone 304-420-1107  
 Signature *Roger Heldman* Title Operations Manager Date 12/10/15

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

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