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

API 47-043-03523 County LINCOLN District DUVAL  
Quad GRIFFITHSVILLE 7.5' Pad Name GRIFFITH, AUSTIN Field/Pool Name GRIFFITHSVILLE  
Farm name HG ENERGY, LLC Well Number 159  
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 4,231,258 M Easting 415,409 M  
Landing Point of Curve Northing \_\_\_\_\_ Easting \_\_\_\_\_  
Bottom Hole Northing 4,231,311 M Easting 415,632 M

Elevation (ft) 688' 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

Date permit issued 8/28/15 Date drilling commenced 9/15/15 Date drilling ceased 9/25/15  
Date completion activities began 10/6/15 Date completion activities ceased 10/8/15  
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 70', 90' Open mine(s) (Y/N) depths None  
Salt water depth(s) ft 800' Void(s) encountered (Y/N) depths None  
Coal depth(s) ft 296'- 302' Cavern(s) encountered (Y/N) depths None  
Is coal being mined in area (Y/N) N

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WS AX 02/15/16

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CASING STRINGS	Hole Size	Casing Size	Depth	New or Used	Grade wt/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"	338'	New	LS	64'	Y
Coal							
Intermediate 1							
Intermediate 2							
Intermediate 3							
Production	6 1/4"	4 1/2"	2483.9'	New	J-55		Y
Tubing							
Packer type and depth set							

Comment Details Grouted w/ 20 sks on 7" surface cement job. Circulated Est. 30 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	90	15.6	1.18	106	Surface	8
Coal							
Intermediate 1							
Intermediate 2							
Intermediate 3							
Production	50:50 Pozmix	105/125	13.2/14.2	1.64/1.27	172/186	90'	8
Tubing							

Drillers TD (ft) <sup>2542'</sup> Loggers TD (ft) <sup>2542'</sup>

Deepest formation penetrated <sup>Berea</sup> Plug back to (ft) <sup>N/A</sup>

Plug back procedure <sup>N/A</sup>

Kick off depth (ft) <sup>500'</sup>

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 80 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	2170'- 2192'	TVD 2362'- 2386' 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	296	0	296	
Pittsburgh Coal	296	302	296	302	
Sand/Shale	302	1444	302	1556	
Big Lime	1444	1654	1556	1797	
Big Injun	1654	1760	1797	1920	
Shale	1760	2149	1920	2342	
Coffee Shale	2149	2170	2342	2362	
Berea	2170	2192	2362	2386	Drilled directional N 73.5° E a distance of 811'
Shale	2192	2341	2386	2542	
TD	2341		2542		

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 44502

Cementing Company Universal Services  
 Address 14 Sewer Plant 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 Heldman Telephone 304-420-1107  
 Signature *Roger Heldman* Title Operations Manager Date 10/26/13

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

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