

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

Received
Office of Oil & Gas
NOV 25 2015

API 47-043-03524 County LINCOLN District DUVAL
Quad GRIFFITHSVILLE 7.5' Pad Name GRIFFITH, AUSTIN Field/Pool Name GRIFFITHSVILLE
Farm name HG ENERGY, L.L.C. Well Number 160
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 4,231,254 M Easting 415,411 M
Landing Point of Curve Northing _____ Easting _____
Bottom Hole Northing 4,231,149 M Easting 415,597 M

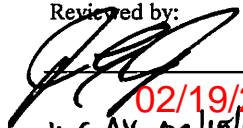
Elevation (ft) 688' GL Type of Well New Existing Type of Report Interim Final
Permit Type Deviated Horizontal Horizontal 6A Vertical Depth Type Deep Shallow
Type of Operation Convert Deepen Drill Plug Back Redrilling Rework Stimulate
Well Type Brine Disposal CBM Gas Oil Secondary Recovery Solution Mining 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 9/25/15 Date drilling ceased 10/1/15
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 None Open mine(s) (Y/N) depths None
Salt water depth(s) ft 900' Void(s) encountered (Y/N) depths None
Coal depth(s) ft 284'- 290' Cavern(s) encountered (Y/N) depths None
Is coal being mined in area (Y/N) N

Reviewed by:

02/19/2016
WS AX 02/10/16

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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"	337'	New	LS	64'	Y
Coal							
Intermediate 1							
Intermediate 2							
Intermediate 3							
Production	6 1/4"	4 1/2"	2495.95'	New	J-55		Y
Tubing							
Packer type and depth set							

Comment Details Grouted w/ 10 sks to surface on 7" surface cement job. Circulated Est. 15 sks to surface on 4 1/2" cement job.

CEMENT DATA	Class/Type of Cement	Number of Sacks	Slurry wt (ppg)	Yield (ft ³ /sks)	Volume (ft ³)	Cement Top (MD)	WOC (hrs)
Conductor							
Surface	Reg Neat	100	15.6	1.18	118	Surface	8
Coal							
Intermediate 1							
Intermediate 2							
Intermediate 3							
Production	50:50 Pozmix	100/125	13.2/14.2	1.64/1.27	164/186	40'	8
Tubing							

Drillers TD (ft) 2530' Loggers TD (ft) 2526'
 Deepest formation penetrated Berea Plug back to (ft) N/A
 Plug back procedure N/A

Kick off depth (ft) 400'

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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PERFORATION RECORD

Stage No.	Perforation date	Perforated from MD ft.	Perforated to MD ft.	Number of Perforations	Formation(s)
1	10/6/15	2330'	2340'	40	Berea

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	10/8/15	4	1160	2520	1064	1,000	146	

Please insert additional pages as applicable.

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PRODUCING FORMATION(S)

DEPTHS

Berea 2166'- 2189' TVD 2322'- 2348' MD

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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 ₂ S, ETC)
Sand/Shale	0	284	0	284	
Pittsburgh Coal	284	290	284	290	
Sand/Shale	290	1444	290	1536	
Big Lime	1444	1670	1536	1784	
Big Injun	1670	1750	1784	1868	
Shale	1750	2146	1868	2300	
Coffee Shale	2146	2166	2300	2322	
Berea	2166	2189	2322	2348	Drilled directional S 67° E a distance of 713'
Shale	2189	2358	2348	2530	
TD	2358		2530		

Please insert additional pages as applicable.

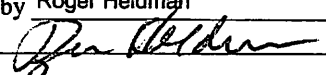
Drilling Contractor Decker Drilling
Address 11565 State Route 676 City Vincent State OH Zip 45784

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  Title Operations Manager Date 11/23/15

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

Prepared for:

H G Energy

Dustin Hendershot

304-481-7342



Prepared by:

Producers Service Corp

Daniel L. Graham

109 S. Graham St.

Zanesville, OH 43702

740-454-6253

INVOICE #: 19412

WELL NAME: A Griffith#160

COUNTY/STATE: Lincoln WV

TOWNSHIP/FIELD: Griffithsville

DATE of SERVICE: 10/8/2015

CUSTOMER PO#:

Description	Notes	Amount	Units	Unit Cost	Total Cost
FLUID PUMP CHARGE 0-3000 PSI MIN CHARGE 4 HRS		1	EA		
BLENDER CHARGE 0-10 BPM		1	EA		
MILEAGE CHARGE PER UNIT ONE WAY	2 Units @200 Miles		MI		
IC ACID 15%		250	GAL		
PRO HIB II		0.5	GAL		
ACID DELIVERY		4	HR		
PRO CLA FIRM LP		6	GAL		
PRO NE-21		6	GAL		
PRO GEL 4		150	LB		
BUFFER I		50	LB		
DATA VAN		1	STAGE		
BIO CLEAR 750		1	LB		
IRONTRON		50	LB		
SAND 20/40 OTTAWA		10	CWT		
SAND DELIVERY / TON MILES		100	TMILE		

Customer Approval: _____

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