

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

API 47-043 ³⁵⁹⁴ ~~3/5/19~~ County LINCOLN District DUVAL
Quad GRIFFITHSVILLE 7.5' Pad Name HAGER HEIRS Field/Pool Name GRIFFITHSVILLE
Farm name ROBERTS, RANDY & KELLY Well Number 252
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 4,230,109 M Easting 415,964 M
Landing Point of Curve Northing _____ Easting _____
Bottom Hole Northing 4,230,226 M Easting 415,960 M

Elevation (ft) 940' 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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AUG 16 2019
WV Department of
Environmental Protection

Date permit issued 3/5/19 Date drilling commenced 7/11/19 Date drilling ceased 7/17/19
Date completion activities began 7/23/19 Date completion activities ceased 8/1/19
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 1110', 1180' Void(s) encountered (Y/N) depths None
Coal depth(s) ft 481'- 487' Cavern(s) encountered (Y/N) depths None
Is coal being mined in area (Y/N) N

Reviewed by:

Reviewed by: J. Myer

JB

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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	15"	13 3/8"	12'	New	LS		Sand In
Surface	8 7/8"	7"	549.55'	New	LS	64'	Y
Coal							
Intermediate 1							
Intermediate 2							
Intermediate 3							
Production	6 1/4"	4 1/2"	2574.66'	New	LS		N
Tubing							
Packer type and depth set							

Comment Details Circulated Est. 40 sks to surface on 7" surface cement job. Did not circulate cement 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	140	15.6	1.18	165	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	300'	8
Tubing							

Drillers TD (ft) 2640' Loggers TD (ft) 2627' **RECEIVED**
 Deepest formation penetrated Berea Plug back to (ft) N/A Office of Oil and Gas
 Plug back procedure N/A **AUG 16 2019**

Kick off depth (ft) 650' WV Department of Environmental Protection

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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<u>PRODUCING FORMATION(S)</u>	<u>DEPTHS</u>		
Berea	2396'- 2418'	TVD	2442'- 2464' 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 ₂ S, ETC)
Sand/Shale	0	481	0	481	
Pittsburgh Coal	481	487	481	487	
Sand/Shale	487	1673	487	1704	
Big Lime	1673	1887	1704	1923	
Big Injun	1887	1983	1923	2022	
Shale	1983	2376	2022	2422	
Coffee Shale	2376	2396	2422	2442	
Berea	2396	2418	2442	2464	Drilled directional N 2° W a distance of 385'
Shale	2418	2593	2464	2640	
TD	2593		2640		
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Please insert additional pages as applicable.

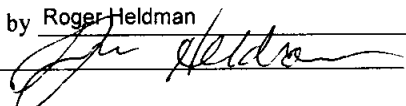
Drilling Contractor Noah Horn Well Drilling
Address 1070 Sandy Valley Lane City Vansant State VA Zip 24656

Logging Company Weatherford International
Address 13211 Old Hwy 50 City Flora State IL Zip 62839

Cementing Company Petroset Services
Address P.O. Box 1076 City Wooster State OH Zip 44691

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 8/14/19

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

