

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

API 47 - 043 - 03597 County LINCOLN District DUVAL
Quad GRIFFITHSVILLE 7.5' Pad Name E.P. BELL Field/Pool Name GRIFFITHSVILLE
Farm name HG ENERGY LLC Well Number 508
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 4,231,183 M Easting 417,328 M
Landing Point of Curve Northing _____ Easting _____
Bottom Hole Northing 4,231,243 M Easting 417,184 M

Elevation (ft) 903' 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
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Date permit issued 4/29/19 Date drilling commenced 6/19/19 Date drilling ceased 6/26/19
Date completion activities began 7/23/19 Date completion activities ceased 7/25/19
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 1050', 1100' Void(s) encountered (Y/N) depths None
Coal depth(s) ft 135', 280', 485' Cavern(s) encountered (Y/N) depths None
Is coal being mined in area (Y/N) N

Reviewed by:

Reviewed
[Signature]

JS

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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"	14'	New	LS		Sand In
Surface	8 7/8"	7"	551.4'	New	LS	64'	Y
Coal							
Intermediate 1							
Intermediate 2							
Intermediate 3							
Production	6 1/4"	4 1/2"	2610.78'	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	110/125	13.2/14.2	1.64/1.27	180/186	485'	8
Tubing							

Drillers TD (ft) 2637 Loggers TD (ft) 2637 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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PRODUCING FORMATION(S)

DEPTHS

Berea 2366'- 2388' TVD 2452'- 2474' 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	BOTTOM	TOP	BOTTOM	DESCRIBE ROCK TYPE AND RECORD QUANTITY AND TYPE OF FLUID (FRESHWATER, BRINE, OIL, GAS, H ₂ S, ETC)
	DEPTH IN FT NAME TVD	DEPTH IN FT TVD	DEPTH IN FT MD	DEPTH IN FT MD	
Sand/Shale	0	485	0	485	
Pittsburgh Coal	485	491	485	491	
Sand/Shale	491	1653	491	1700	
Big Lime	1653	1858	1700	1918	
Big Injun	1858	1942	1918	2009	
Shale	1942	2346	2009	2431	
Coffee Shale	2346	2366	2431	2452	
Berea	2366	2388	2452	2474	Drilled directional N 67.3° W a distance of 511'
Shale	2388	2543	2474	2637	
TD	2543		2637		

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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 *Roger Heldman* Title Operations Manager

Date 8/12/19

Submittal of Hydraulic Fracturing Chemical Disclosure Information

Attach copy of FRACFOCUS Registry

