

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

API 47 - 087 - 04753 County ROANE District SMITHFIELD  
Quad LOONEYVILLE 7.5' Pad Name KINKEAD, S.B. Field/Pool Name CLOVER  
Farm name MAY, TIMOTHY D. Well Number 109  
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 4,285,442 M Easting 475,633 M  
Landing Point of Curve Northing \_\_\_\_\_ Easting \_\_\_\_\_  
Bottom Hole Northing 4,285,245 M Easting 475,464 M

Elevation (ft) 1,110' 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 9/14/20 Date drilling commenced N/A Date drilling ceased N/A  
Date completion activities began 9/17/20 Date completion activities ceased 9/17/20  
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 1730' Void(s) encountered (Y/N) depths None  
Coal depth(s) ft None Cavern(s) encountered (Y/N) depths None  
Is coal being mined in area (Y/N) N

Reviewed by:  
  
11-18-20

API 47- 087 - 04753 Farm name MAY, TIMOTHY D. Well number 109

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		Existing
Surface	8 3/4"	7"	508'	New	LS	64'	Existing
Coal							
Intermediate 1							
Intermediate 2							
Intermediate 3							
Production	6 1/4"	4 1/2"	2583.3'	New	J-55		Existing
Tubing		2 3/8"	2297'	New	J-55		
Packer type and depth set							

Comment Details Circulated Est. 25 sks to surface on 7" surface cement job. Circulated Est. 25 sks to surface on 4 1/2" cement job. \* Existing Casing/cement program\*

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	130	15.6	1.18	153.4	Surface	Existing
Coal							
Intermediate 1							
Intermediate 2							
Intermediate 3							
Production	50:50 Pozmix	115/125	13.2/14.2	1.64/1.27	189/186	Surface	Existing
Tubing							

Drillers TD (ft) 2630' Loggers TD (ft) 2623'  
 Deepest formation penetrated Big Injun Plug back to (ft) N/A  
 Plug back procedure N/A

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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 86 from bottom on 4 1/2". Centralizer placed mid string on 7" \*Existing\*

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 \_\_\_\_\_

*JJZ*

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PERFORATION RECORD

Stage No.	Perforation date	Perforated from MD ft.	Perforated to MD ft.	Number of Perforations	Formation(s)
1	7/23/18	2398'	2408'	60	Big Injun

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	7/27/18	2.7	1393	NA	610	0	12	2000 gals HCL
1	9/17/20	3	1397	1652	654		9	2500 gals HCL

Please insert additional pages as applicable.

*JP*

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<u>PRODUCING FORMATION(S)</u>	<u>DEPTHS</u>	
<u>Big Injun</u>	<u>2148'- 2165'</u> TVD	<u>2383'- 2425'</u> 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

<u>LITHOLOGY/ FORMATION</u>	<u>TOP DEPTH IN FT NAME TVD</u>	<u>BOTTOM DEPTH IN FT TVD</u>	<u>TOP DEPTH IN FT MD</u>	<u>BOTTOM DEPTH IN FT MD</u>	<u>DESCRIBE ROCK TYPE AND RECORD QUANTITY AND TYPE OF FLUID (FRESHWATER, BRINE, OIL, GAS, H<sub>2</sub>S, ETC)</u>
Sand/Shale	0	1665	0	1724	
Sand	1665	1671	1724	1730	
Shale	1671	1677	1730	1738	
Sand	1677	1790	1738	1878	
Shale	1790	1809	1878	1904	
Sand	1809	1972	1904	2139	
Little Lime	1972	1987	2139	2162	
Pencil Cave	1987	1998	2162	2176	
Big Lime	1998	2119	2176	2356	
Keener	2119	2148	2356	2383	
Big Injun	2148	2165	2383	2425	Drilled directional S 41° W a distance of 771'
Shale	2165	2312	2425	2630	
TD	2312		2630		

Please insert additional pages as applicable.

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

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Logging Company Weatherford International  
Address 777 North River Avenue City Weston State WV Zip 26452  
WV Department of Environmental Protection

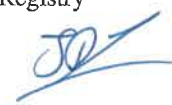
Cementing Company Universal Services  
Address Hall Rd City Buckhannon State WV Zip 26201

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 11/3/20

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







Producers Service Corporation  
109 South Graham Street  
Zanesville, OH 43701  
(740) 454-6253  
www.producerservicecorp.com

# Acid

## HG Energy

Company Rep: Dustin  
Treater: Daniel L Graham  
9/17/2020  
Well: S.B Kinkead  
Roane County, WV

### Casing

OD: 4.5"  
ID: N/A  
Weight: 10.5 lb.  
TD: 2630 ft.

### Tubing

Size: N/A  
Depth: N/A

### Packers

Upper Make: N/A  
Upper Depth: N/A  
Lower Make: N/A  
Lower Depth: N/A

### Pressures

PSI Test: N/A  
Breakdown: 989 psi  
Max: 1652 psi  
Average: 1397 psi  
Displacement: 1440 psi

### Volumes:

Pad N/A  
Treatment: 60 BBL  
#VALUE! 2500 Gal  
Total: 69 BBL  
Flush: 9 BBL

### Open Hole

Size: N/A  
From: N/A  
To: N/A

### Perforations

# of Shots: N/A  
Top Perf: 2398 ft.  
Bottom Perf: 2408 ft.

### Rates

Average: 3 bbl/min  
Max: 3.5 bbl/min

### Notes:

Invoice #: 23828

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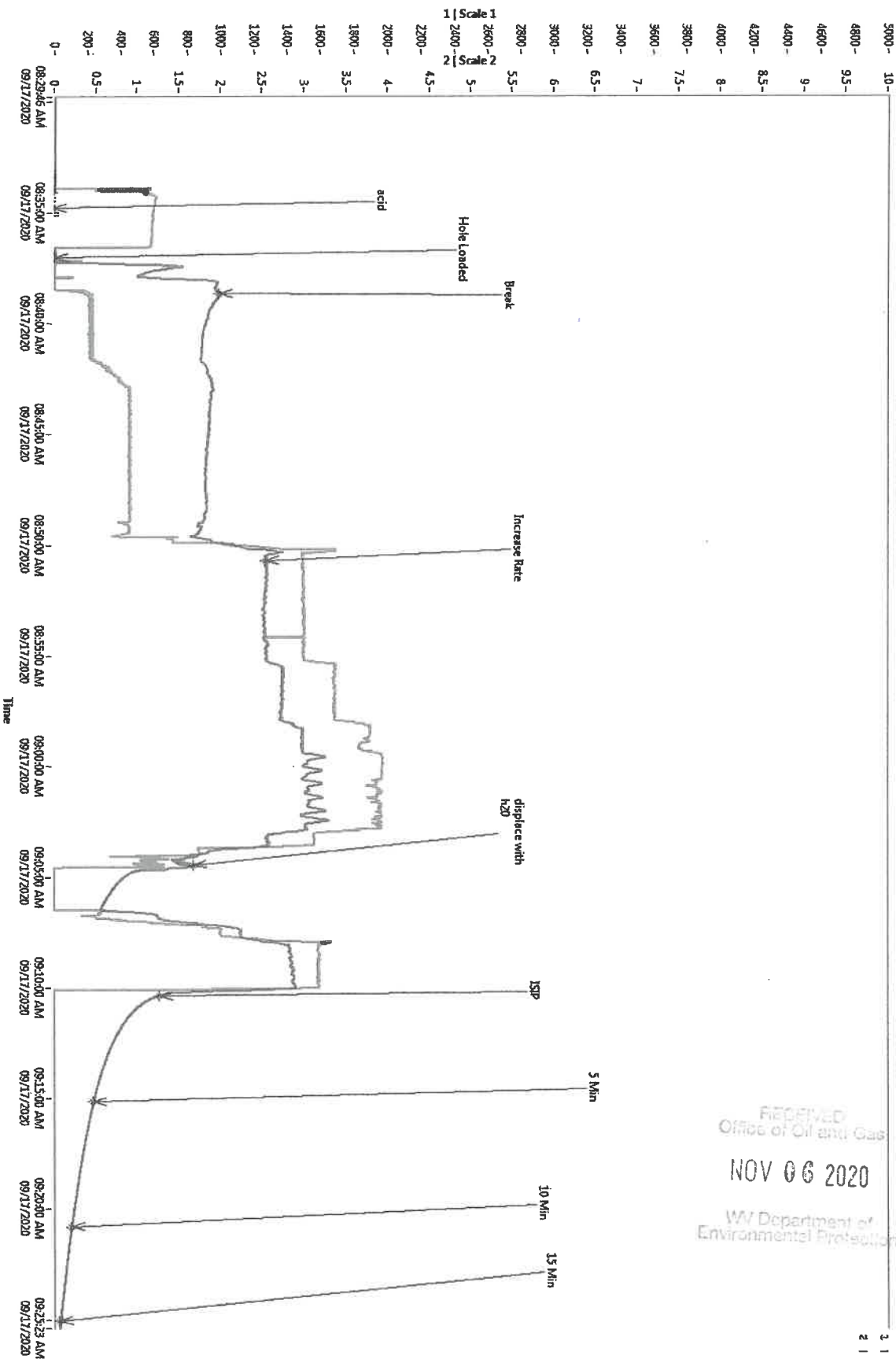
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*JP*

Sep 17, 2020

HG Energys B Kinhead#109



3 | Pressure 1  
2 | Discharge Rate



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Timestamp	Annotation	Pressure 1	Discharge Rate	Stage Total (gal)	Grand Total (gal)	Stage Total (bb)	Grand Total (bb)
9/17/2020 8:34:03 AM	open well	-11.81	1.13	6.95	6.95	0.17	0.17
9/17/2020 8:34:45 AM	acid	-11.66	1.20	42.30	42.30	1.01	1.01
9/17/2020 8:36:58 AM	Hole Loaded	2.78	0.00	131.69	131.69	3.14	3.14
9/17/2020 8:38:36 AM	Break	998.92	0.42	134.53	134.53	3.20	3.20
9/17/2020 8:50:42 AM	Increase Rate	1278.18	2.98	597.70	597.70	14.23	14.23
9/17/2020 9:04:26 AM	displace with h2o	848.77	1.23	2502.78	2502.78	59.59	59.59
9/17/2020 9:10:19 AM	ISIP	643.93	0.00	377.12	2886.53	9.00	68.73
9/17/2020 9:15:08 AM	5 Min	236.02	0.00	377.12	2886.53	9.00	68.73
9/17/2020 9:20:46 AM	10 Min	102.56	0.00	377.12	2886.53	9.00	68.73
9/17/2020 9:25:03 AM	15 Min	35.72	0.00	377.12	2886.53	9.00	68.73

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