

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

API 47-087-04751 County ROANE District SMITHFIELD
Quad LOONEYVILLE 7.5' Pad Name KINKEAD, S.B. Field/Pool Name CLOVER
Farm name SNODGRASS, REVA ET AL Well Number 104
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 4,285,363 M Easting 475,278 M
Landing Point of Curve Northing _____ Easting _____
Bottom Hole Northing 4,285,543 M Easting 475,446 M

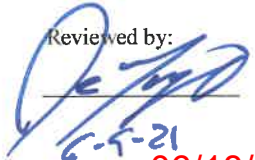
Elevation (ft) 1,110' GL Type of Well New Existing Type of Report Interim Final
Permit Type Deviated Horizontal Horizontal 6A Vertical Depth Type Deep Shallow
Type of Operation Convert Deepen Drill Plug Back Redrilling Rework Stimulate
Well Type Brine Disposal CBM Gas Oil Secondary Recovery Solution Mining Storage Other Injection
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 4/8/21 Date drilling commenced N/A Date drilling ceased N/A
Date completion activities began 4/29/21 Date completion activities ceased 4/29/21
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 1820' 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:

6-5-21
06/18/2021

API 47- 087 - 04751 Farm name SNODGRASS, REVA ET AL Well number 104

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/NA		Existing
Surface	8 3/4"	7"	546'	New	LS/17	64'	Existing
Coal							
Intermediate 1							
Intermediate 2							
Intermediate 3							
Production	6 1/4"	4 1/2"	2618.3'	New	J-55/10.5		Existing
Tubing		2 3/8"	2307'	New	J-55/4.7		
Packer type and depth set							

Comment Details Circulated Est. 25 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	Existing
Coal							
Intermediate 1							
Intermediate 2							
Intermediate 3							
Production	50:50 Pozmix	110/125	13.2/14.2	1.64/1.27	180/186	604'	Existing
Tubing							

Drillers TD (ft) 2650' Loggers TD (ft) 2598'
 Deepest formation penetrated Big Injun Plug back to (ft) N/A
 Plug back procedure N/A

Kick off depth (ft) 550'

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 _____

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 _____

SDZ

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PRODUCING FORMATION(S)	DEPTHS	
Big Injun	2156'- 2182'	TVD 2450'- 2492' 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	1610	0	1600	
Sand	1610	1642	1600	1649	
Shale	1642	1736	1649	1766	
Sand	1736	1806	1766	1910	
Shale	1806	1830	1910	1950	
Sand	1830	1980	1950	2180	
Little Lime	1980	1997	2180	2210	
Pencil Cave	1997	2009	2210	2226	
Big Lime	2009	2134	2226	2426	
Keener	2134	2156	2426	2450	
Big Injun	2156	2182	2450	2492	Drilled directional N 41° E a distance of 888'
Shale	2182	2290	2492	2650	
TD	2290		2650		

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 777 North River Avenue City Weston State WV Zip 26452

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 6/2/21

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



06/18/2021

From: Dustin A. Hendershot dhendershot@hgenergyllc.com
Subject: [External] CH McGraw 114 4/29/21 Frac
Date: May 5, 2021 at 10:42:33 AM
To: Taylor, Joseph D Joseph.D.Taylor@wv.gov

CAUTION: External email. Do not click links or open attachments unless you verify sender.

CH McGraw [114 4/29/21](#) Frac

Clover Frac report

BDP - 1185 psig

Avg rate - 4.5 Bpm

Min TP - 1148 psig

Max TP - 1551 psig

Avg TP - 1278 psig

250 gals 15% HCl acid

Fluid bbls- 99 bbls cross link gel

20/40 sand- 5,000#

ISIP - 889 psig

5 min SIP - 335 psig

10 min SIP - 187 Psig

15 min SIP - 136Psig

Frac report format

Treated Big Injun Perfs w/ 250 gals 15% HCL, 99 bbls cross linked gel, & 5,000# 20/40 sand- BDP- 1185 psig, Max TP- 1551 psig, Min TP- 1148 psig, Avg TP- 1278 psig, Avg TR- 4.5 BPM- ISIP- 889 Psig , 5 min SIP- 335 psig, 10 min SIP- 187 psig, 15 min SIP- 136 psig

Gel crossed good, ran 35 bbls pad, sand density 1-4# per bbl

Dustin A. Hendershot
Drilling Engineer
HG Energy
Cell 1 - [304 481 7342](#)

06/18/2021