

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

API 47-087-04759 County ROANE District SMITHFIELD
Quad LOONEYVILLE 7.5' Pad Name MCGRAW, CHARLES Field/Pool Name CLOVER
Farm name ATKINSON, DELORES Well Number 114
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 4,285,136 M Easting 475,573 M
Landing Point of Curve Northing _____ Easting _____
Bottom Hole Northing 4,284,937 M Easting 475,484 M


Elevation (ft) 1,111' 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 NA Date drilling ceased NA
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 1740' 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:

4-5-21
06/18/2021

API 47-087 - 04759

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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	12 1/4"	11 5/8"	30'	Used	LS/NA		Existing
Surface	8 3/4"	7"	507'	New	LS/17	64'	Existing
Coal							
Intermediate 1							
Intermediate 2							
Intermediate 3							
Production	6 1/4"	4 1/2"	2450.4'	New	J-55/10.5		Existing
Tubing		2 3/8"	2174.9'	New	J-55/4.7		
Packer type and depth set							

Comment Details Grouted w/ Est. 25 sks to surface on 7" surface cement job. Circulated Est. 25 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	130	15.6	1.18	153	Surface	Existing
Coal							
Intermediate 1							
Intermediate 2							
Intermediate 3							
Production	50:50 Pozmix	100/125	13.2/14.2	1.64/1.27	164/186	Surface	Existing
Tubing							

Drillers TD (ft) 2480' Loggers TD (ft) 2467'

Deepest formation penetrated Big Injun Plug back to (ft) N/A

Plug back procedure N/A

Kick off depth (ft) 650'

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 _____

JP

API 47-087 - 04759 Farm name ATKINSON, DELORES Well number 114

PERFORATION RECORD

Stage No.	Perforation date	Perforated from MD ft.	Perforated to MD ft.	Number of Perforations	Formation(s)
1	7/24/18	2284'	2292'	48	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	6/30/15	5	994	1957	604	2500	146	
1	7/27/18	3.5	1367	NA	490		12	2000 gals 15%+
1	4/29/21	4.5	1278	1185	889	5000	99	

Please insert additional pages as applicable.

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PRODUCING FORMATION(S)	DEPTHS	
Big Injun	2120'- 2146'	TVD 2272'- 2304' 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	1592	0	1644	
Sand	1592	1603	1644	1656	
Shale	1603	1640	1656	1698	
Sand	1640	1778	1698	1860	
Shale	1778	1788	1860	1872	
Sand	1788	1946	1872	2060	
Little Lime	1946	1964	2060	2080	
Pencil Cave	1964	1974	2080	2094	
Big Lime	1974	2100	2094	2248	
Keener	2100	2120	2248	2272	
Big Injun	2120	2146	2272	2304	Drilled directional S 22.6° W a distance of 642.5'
Shale	2146	2298	2304	2480	
TD	2298		2480		

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

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

Prepared for:		 PRODUCERS SERVICE CORP.	Prepared by:	
HG			Producers Service Corp	
Dustin Hendershot			Joe Stevens	
			109 S. Graham St.	
			Zanesville, OH 43702	
			740-454-6253	

FIELD TICKET:	26314
WELL NAME:	CH McGraw 114
COUNTY/STATE:	WV
TOWNSHIP/FIELD:	Clover
DATE of SERVICE:	4/29/2021
CUSTOMER PO#:	

Description	Notes	Amount	Units	Unit Cost	Total Cost
ACID PUMP CHARGE 0-1000 PSI		1	EA		
FLUID PUMP CHARGE 0-3000 PSI MIN CHARGE 4 HRS		1	EA		
MILEAGE CHARGE PER UNIT ONE WAY		0	MI		
IC ACID 15%		250	GAL		
4N1 INHIBATOR		0.5	GAL		
Acid Delivery		2	HR		
PRO CLA FIRM LP		10	GAL		
PRO NE-21		10	GAL		
PRO GEL 4.0		20	GAL		
BXL-A		10	GAL		
BXL-10C		10	GAL		
AP Breaker		10	LB		
BIO CLEAR 750		1	LB		
SAND 20/40 OTTAWA		50	CWT		
SAND DELIVERY / TON MILES		375	TMILE		
DATA VAN		1	STAGE		
Customer Approval:					

JD

From: Dustin A. Hendershot dhendershot@hgenergyllc.com
Subject: [External] CB Ferrell 110 4/29/21
Date: May 5, 2021 at 10:42:19 AM
To: Taylor, Joseph D Joseph.D.Taylor@wv.gov

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

CB Ferrell [110 4/29/21](#)

Clover Frac report

BDP - 1875 psig

Avg rate - 4.5 Bpm

Min TP - 1339 psig

Max TP - 1803 psig

Avg TP - 1464 psig

250 gals 15% HCl acid

Fluid bbls- 97 bbls cross link gel

20/40 sand- 5,000#

ISIP - 809 psig

5 min SIP - 479 psig

10 min SIP - 360 Psig

15 min SIP - 260 Psig

Frac report format

Treated Big Injun Perfs w/ 250 gals 15% HCL, 97 bbls cross linked gel, & 5,000# 20/40 sand- BDP- 1875 psig, Max TP- 1803 psig, Min TP- 1339 psig, Avg TP- 1464 psig, Avg TR- 4.5 BPM- ISIP- 809 Psig , 5 min SIP- 479 psig, 10 min SIP- 360 psig, 15 min SIP- 260 psig

Dustin A. Hendershot

Drilling Engineer

HG Energy

Cell 1 - [304 481 7342](tel:3044817342)

06/18/2021