

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

API 47-087-04757 County ROANE District SMITHFIELD
Quad LOONEYVILLE 7.5' Pad Name STARR, J.H. Field/Pool Name CLOVER
Farm name FISHER, FREDDIE ET AL Well Number 117
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 4,284,844 M Easting 474,986 M
Landing Point of Curve Northing _____ Easting _____
Bottom Hole Northing 4,284,632 M Easting 474,820 M

Elevation (ft) 1,064' 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

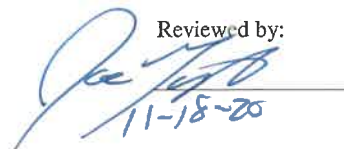
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Date permit issued 9/16/20 Date drilling commenced N/A Date drilling ceased N/A
Date completion activities began 10/1/20 Date completion activities ceased 10/1/20
Verbal plugging (Y/N) N Date permission granted _____ Granted by _____

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 1760' 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 - 04757 Farm name FISHER, FREDDIE ET AL Well number 117

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"	507'	New	LS	64'	Existing
Coal							
Intermediate 1							
Intermediate 2							
Intermediate 3							
Production	6 1/4"	4 1/2"	2531'	New	J-55		Existing
Tubing		2 3/8"	2308'	New	J-55		
Packer type and depth set							

Comment Details Circulated Est. 50 sks to surface on 7" surface cement job. Circulated Est. 50 sks to surface on 4 1/2" cement job. *Existing Cement/casing program*

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	154	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	46'	Existing
Tubing							

Drillers TD (ft) 2600' Loggers TD (ft) 2554'
 Deepest formation penetrated Big Injun Plug back to (ft) N/A
 Plug back procedure N/A

Kick off depth (ft) 600'

Check all wireline logs run caliper density deviated/directional induction neutron resistivity gamma ray temperature

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" *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 _____

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<u>PRODUCING FORMATION(S)</u>	<u>DEPTHS</u>	
<u>Big Injun</u>	<u>2112'- 2132'</u> TVD	<u>2390'- 2421'</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, H₂S, ETC)</u>
Sand/Shale	0	1570	0	1618	
Sand	1570	1589	1618	1640	
Shale	1589	1618	1640	1674	
Sand	1618	1820	1674	1949	
Shale	1820	1837	1949	1974	
Sand	1837	1912	1974	2096	
Little Lime	1912	1950	2096	2154	
Pencil Cave	1950	1960	2154	2168	
Big Lime	1960	2086	2168	2350	
Keener	2086	2112	2350	2390	
Big Injun	2112	2132	2390	2421	
Shale	2132	2257	2421	2600	Drilled directional S 38° W a distance of 822' Office of Oil and Gas
TD	2257		2600		

Please insert additional pages as applicable.

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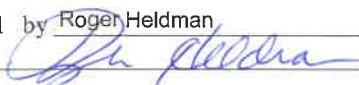
Drilling Contractor Decker Drilling
Address 11565 State Route 676 City Vincent State OH Zip 45784

Logging Company Weatherford International
Address 777 North River Avenue City Weston State WV Zip 26452

Cementing Company Universal Services
Address 14 Sewer Plant 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 11/2/20

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
 10/1/2020
 Well: J. H. Starr 117
 Roane County, WV

Casing

OD: 4.5"
 ID: N/A
 Weight: 10.5 lb.
 TD: 2600 ft.

OD: N/A
 Weight: N/A
 From: N/A
 To: N/A

Tubing

Size: N/A
 Depth: N/A

Packers

Upper Make: N/A
 Upper Depth: 2308 ft.
 Lower Make: N/A
 Lower Depth: N/A

Pressures

PSI Test: N/A
 Breakdown: N/A
 Max: 1346 psi
 Average: 1143 psi
 Displacement: 1275 psi

Volumes:

Pad N/A
 Treatment: 60 BBL
 #VALUE! 2500 Gal
 Total: 70 BBL
 Flush: 10 BBL

Open Hole

Size: N/A
 From: N/A

Perforations

of Shots: N/A
 Top Perf: 2403 ft.
 Bottom Perf: 2410 ft.

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Rates

Average: 1.5 bbl/min
 Max: 2 bbl/min

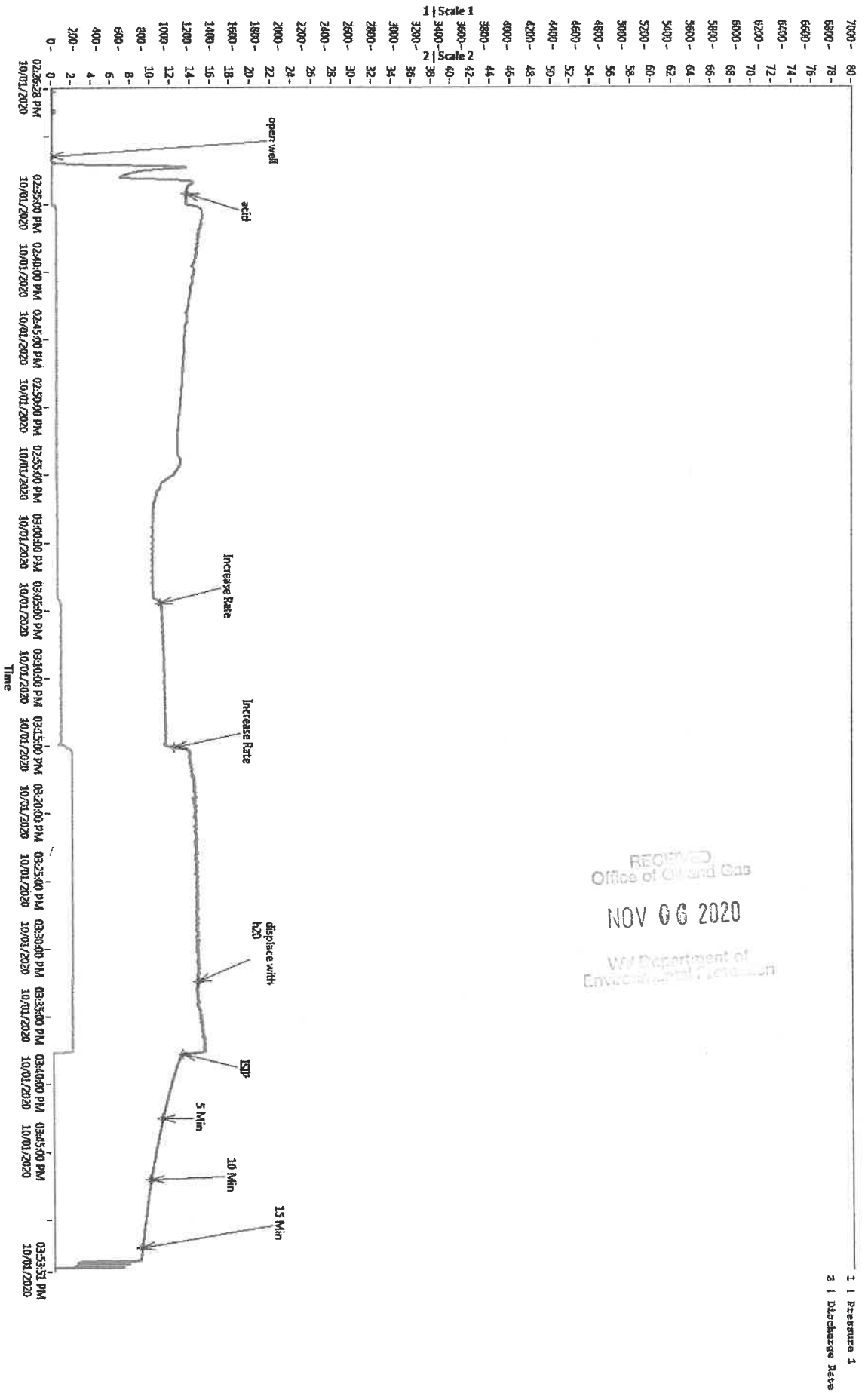
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Notes:

Invoice #: 23835



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1 | Pressure 1
2 | Discharge Rate

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Timestamp	Annotation	Pressure 1	Discharge Rate	Stage Total (gal)	Grand Total (gal)	Stage Total (bbl)	Grand Total (bbl)
10/1/2020 2:26:39 PM	open well	-0.05	0.00	0.00	0.00	0.00	0.00
10/1/2020 2:31:26 PM	open well	2.78	0.00	0.00	0.00	0.00	0.00
10/1/2020 2:34:13 PM	acid	1194.64	0.00	0.84	0.84	0.02	0.02
10/1/2020 3:04:30 PM	Increase Rate	962.14	0.88	654.29	654.29	15.58	15.58
10/1/2020 3:15:06 PM	Increase Rate	1086.45	1.48	1051.62	1051.62	25.04	25.04
10/1/2020 3:32:26 PM	displace with h2o	1284.82	1.98	2504.99	2504.99	59.64	59.64
10/1/2020 3:37:46 PM	ISIP	1148.96	0.00	2939.45	2939.45	69.99	69.99
10/1/2020 3:42:33 PM	5 Min	964.42	0.00	2939.45	2939.45	69.99	69.99
10/1/2020 3:47:04 PM	10 Min	859.58	0.00	2939.45	2939.45	69.99	69.99
10/1/2020 3:52:05 PM	15 Min	780.61	0.00	2939.45	2939.45	69.99	69.99

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