

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

API 47 - 043 - 03489 County LINCOLN District DUVAL
Quad GRIFFITHSVILLE 7.5' Pad Name MAY, EDNA Field/Pool Name GRIFFITHSVILLE
Farm name JOHNSON, J. , LOVEJOY Well Number 230
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 4,232,295 M Easting 416,140 M
Landing Point of Curve Northing _____ Easting _____
Bottom Hole Northing _____ Easting _____

Elevation (ft) 970' 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

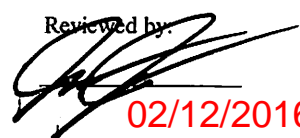
Drilling Media Surface hole Air Mud Fresh Water Intermediate hole Air Mud Fresh Water Brine
Production hole Air Mud Fresh Water Brine
Mud Type(s) and Additive(s)
N/A

Date permit issued 6/29/15 Date drilling commenced 11/12/15 Date drilling ceased 11/16/15
Date completion activities began 12/2/15 Date completion activities ceased 12/4/15
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 _____
Salt water depth(s) ft 1150' Void(s) encountered (Y/N) depths _____
Coal depth(s) ft 587'- 592' Cavern(s) encountered (Y/N) depths _____
Is coal being mined in area (Y/N) N

RECEIVED
Office of Oil and Gas
DEC 10 2015
WV Department of
Environmental Protection

Reviewed by: 
02/12/2016

API 47-043 - 03489 Farm name JOHNSON, J. , LOVEJOY Well number 230

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		Sand In
Surface	8 3/4"	7"	633'	New	LS	64'	Y
Coal							
Intermediate 1							
Intermediate 2							
Intermediate 3							
Production	6 1/4"	4 1/2"	2582.65'	Used	J-55		Y
Tubing							
Packer type and depth set							

Comment Details Circulated Est. 75 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	160	15.6	1.18	189	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	100'	8
Tubing							

Drillers TD (ft) 2630' Loggers TD (ft) 2634'
 Deepest formation penetrated Berea Plug back to (ft) N/A
 Plug back procedure N/A

Kick off depth (ft) _____

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 _____

6 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 _____

RECEIVED
Office of Oil and Gas
DEC 10 2015
WV Department of
Environmental Protection

API 47- 043 - 03489

Farm name JOHNSON, J. , LOVEJOY

Well number 230

PERFORATION RECORD

Stage No.	Perforation date	Perforated from MD ft.	Perforated to MD ft.	Number of Perforations	Formation(s)
1	12/2/15	2464'	2473'	36	Berea

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	12/4/15	4	891	2026	951	1,000	151	

Please insert additional pages as applicable.

API 47- 043 - 03489 Farm name JOHNSON, J., LOVEJOY Well number 230

PRODUCING FORMATION(S)	DEPTHS
Berea	2459'- 2480' TVD _____ 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	587	0		
Pittsburgh Coal	587	592			
Sand/Shale	592	1742			
Big Lime	1742	1946			
Big Injun	1946	2038			
Shale	2038	2439			
Coffee Shale	2439	2459			
Berea	2459	2480			
Shale	2480	2630			
TD	2630				

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 11000 Performance PL City Youngstown State OH Zip 44502

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 *Roger Heldman* Title Operations Manager Date 12/7/15

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

RECEIVED
Office of Oil and Gas
DEC 10 2015
WV Department of Environmental Protection

02/12/2016

Prepared for:
H G Energy

Dustin Hendershot
304-481-7342



Prepared by:
Producers Service Corp
Daniel L. Graham
109 S. Graham St.
Zanesville, OH 43702
740-454-6253

INVOICE #:	19421
WELL NAME:	E J May #230
COUNTY/STATE:	Lincoln WV
TOWNSHIP/FIELD:	Griffithsville
DATE of SERVICE:	12/4/2015
CUSTOMER PO#:	

Description	Notes	Amount	Units	Unit Cost	Total Cost
FLUID PUMP CHARGE 0-3000 PSI MIN CHARGE 4 HRS		1	EA		
BLENDER CHARGE 0-10 BPM		1	EA		
MILEAGE CHARGE PER UNIT ONE WAY	2 Units @200 Miles		MI		
IC ACID 15%		250	GAL		
PRO HIB II		0.5	GAL		
ACID DELIVERY		4	HR		
PRO CLA FIRM LP		6	GAL		
PRO NE-21		6	GAL		
PRO GEL 4			LB		
BUFFER I		50	LB		
DATA VAN		1	STAGE		
BIO CLEAR 750		1	LB		
IRONTRON		50	LB		
SAND 20/40 OTTAWA		10	CWT		
SAND DELIVERY / TON MILES		100	TMILE		

Customer Approval: _____

RECEIVED
 Office of Oil and Gas
 DEC 10 2015
 WV Department of
 Environmental Protection
 02/12/2016