

PM

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

API 47-087-04769 County ROANE District SMITHFIELD  
Quad LOONEYVILLE 7.5' Pad Name SMITH, ELKANAH Field/Pool Name CLOVER  
Farm name CHADWELL, RONALD & BRENDA Well Number 212  
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 4,284,296 4M Easting 474,944 M  
Landing Point of Curve Northing \_\_\_\_\_ Easting \_\_\_\_\_  
Bottom Hole Northing 4,284,477 M Easting 475,012 M

Elevation (ft) 1,148' 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 4/17/15 Date drilling commenced 8/5/15 Date drilling ceased 8/7/15  
Date completion activities began 8/11/15 Date completion activities ceased 8/13/15  
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 None  
Salt water depth(s) ft 1850' 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

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Reviewed by:  
Jh  
10/23/2015

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CASING STRINGS	Hole Size	Casing Size	Depth	New or Used	Grade w/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"	550'	New	LS	64'	Y
Coal							
Intermediate 1							
Intermediate 2							
Intermediate 3							
Production	6 1/4"	4 1/2"	2516.9'	New	J-55		Y
Tubing							
Packer type and depth set							

Comment Details Circulated Est. 50 sks to surface on 7" surface cement job. Circulated Est. 35 sks to surface on 4 1/2" cement job.

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	140	15.6	1.18	165	Surface	8
Coal							
Intermediate 1							
Intermediate 2							
Intermediate 3							
Production	50:50 Pozmix	100/125	13.2/14.2	1.64/1.27	164/186	154'	8
Tubing							

Drillers TD (ft) 2572      Loggers TD (ft) 2561  
 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 \_\_\_\_\_

20 Centralizers every 68 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 \_\_\_\_\_

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PERFORATION RECORD

Stage No.	Perforation date	Perforated from MD ft.	Perforated to MD ft.	Number of Perforations	Formation(s)
1	8/11/15	2374'	2382'	32	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	8/13/15	5	458	824	269	2,500	169	

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Please insert additional pages as applicable.

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<u>PRODUCING FORMATION(S)</u>	<u>DEPTHS</u>	
<u>Big Injun</u>	<u>2186'- 2203'</u> TVD	<u>2364'- 2386'</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

LITHOLOGY/ FORMATION	TOP	BOTTOM	TOP	BOTTOM	DESCRIBE ROCK TYPE AND RECORD QUANTITY AND TYPE OF FLUID (FRESHWATER, BRINE, OIL, GAS, H <sub>2</sub> S, ETC)
	DEPTH IN FT NAME TVD	DEPTH IN FT TVD	DEPTH IN FT MD	DEPTH IN FT MD	
Sand/Shale	0	1692	0	1780	
Sand	1692	1838	1780	1956	
Shale	1838	1850	1956	1970	
Sand	1850	1886	1970	2013	
Shale	1886	1900	2013	2030	
Sand	1900	1986	2030	2130	
Little Lime	1986	2024	2130	2176	
Pencil Cave	2024	2032	2176	2187	
Big Lime	2032	2154	2187	2328	
Keener	2154	2186	2328	2364	
Big Injun	2186	2203	2364	2386	Drilled directional N 22.9° E a distance of 716'
Shale	2203	2367	2386	2572	
TD	2367		2572		

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 8/20/15

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

87-04769

Prepared for:  
H G Energy



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

INVOICE #: 18841

WELL NAME:

STATE & COUNTY: Roane Co. WV

TOWNSHIP/FIELD: Clover

DATE of SERVICE: 8/13/2015

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 @ 150 Miles	100	MI		
IC ACID 15%		250	GAL		
PRO HIB II		0.5	GAL		
ACID DELIVERY		2	HR		
PRO CLA LOK (KCL SUBSTITUTE)		15	GAL		
PRO NE-21		5	GAL		
PRO GEL 4		150	LB		
BUFFER I		50	LB		
BUFFER II		50	LB		
PRO CLA LOK (KCL SUBSTITUTE)		15	GAL		
AP BREAKER		15	LB		
BXL-A		10	GAL		
BXL-10C		10	GAL		
SAND 20/40 OTTAWA		25	CWT		
SAND DELIVERY / TON MILES		100	TMILE		
BIO CLEAR 750		1	LB		
DATA VAN		1	STAGE		

Customer Approval: \_\_\_\_\_

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