

API 47-087 - 04777

Farm name KING, WILLIE

Well number 207

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"	507'	New	LS	64'	Y
Coal							
Intermediate 1							
Intermediate 2							
Intermediate 3							
Production	6 1/4"	4 1/2"	2319.25'	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 ³ /sks)	Volume (ft ³)	Cement Top (MD)	WOC (hrs)
Conductor							
Surface	Reg Neat	130	15.6	1.18	153	Surface	8
Coal							
Intermediate 1							
Intermediate 2							
Intermediate 3							
Production	50:50 Pozmix	90/125	13.2/14.2	1.64/1.27	148/186	78'	8
Tubing							

Drillers TD (ft) 2350' Loggers TD (ft) 2348'
 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 sonic

Well cored Yes No Conventional Sidewall Were cuttings collected Yes No

DESCRIBE THE CENTRALIZER PLACEMENT USED FOR EACH CASING STRING _____
20 Centralizers every 83 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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Office of Oil and Gas
AUG 20 2015
WV Department of
Environmental Protection

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<u>PRODUCING FORMATION(S)</u>	<u>DEPTHS</u>	
	<u>2069'- 2098'</u>	<u>TVD</u> <u>2158'- 2190'</u> <u>MD</u>
<u>Big Injun</u>		
_____	_____	_____
_____	_____	_____
_____	_____	_____

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	1258	0	1276	
Sand	1258	1310	1276	1332	
Shale	1310	1408	1332	1434	
Sand	1408	1437	1434	1467	
Shale	1437	1600	1467	1643	
Sand	1600	1908	1643	1980	
Little Lime	1908	1920	1980	1994	
Pencil Cave	1920	1926	1994	2000	
Big Lime	1926	2046	2000	2132	
Keener	2046	2069	2132	2158	
Big Injun	2069	2098	2158	2190	Drilled directional S 84° W a distance of 488'
Shale	2098	2245	2190	2350	
TD	2245		2350		

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 304-420-1197
Signature *Roger Heldman* Title Operations Manager Date 8/19/15

Submittal of Hydraulic Fracturing Chemical Disclosure Information

Attach copy of FRACFOCUS Registry

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Office of Oil and Gas
AUG 20 2015
Department of Environmental Protection

10/23/2015

87.04777

HG Energy, LLC
Roane County, West Virginia
C. McGraw #207
C. McGraw #207

Wellbore #1

Design: Wellbore #1

Survey Report - Geographic

16 June, 2015

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The DIRECTIONAL DRILLING COMPANY
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10/23/2015