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

API 47 - 033 - 05757 County HARRISON District TEN MILE
Quad SALEM 7.5' Pad Name WF WILLIAMS 136 Field/Pool Name WOLF SUMMIT
Farm name WILLIAMS, CLYDE ET AL. Well Number 136
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 4,347,017 M Easting 543,083 M
Landing Point of Curve Northing _____ Easting _____
Bottom Hole Northing 4,347,144 M Easting 543,018 M

Elevation (ft) 1,155' 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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07/07/2014

Date permit issued 7/3/13 Date drilling commenced 8/5/14 Date drilling ceased 8/7/14
Date completion activities began 8/21/14 Date completion activities ceased 9/4/14
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 580 Open mine(s) (Y/N) depths N
Salt water depth(s) ft NA Void(s) encountered (Y/N) depths N
Coal depth(s) ft 448'-455' Cavern(s) encountered (Y/N) depths N
Is coal being mined in area (Y/N) N

Reviewed by:

10/31/2014

API 47-033 - 05757

Farm name WILLIAMS, CLYDE ET AL.

Well number 136

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"	548'	New	LS	64'	Y
Coal							
Intermediate 1							
Intermediate 2							
Intermediate 3							
Production	6 1/2"	4 1/2"	2978.9'	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 ³ /sks)	Volume (ft ³)	Cement Top (MD)	WOC (hrs)
Conductor							
Surface	Reg Neat	135	15.6	1.18	115	Surface	8
Coal							
Intermediate 1							
Intermediate 2							
Intermediate 3							
Production	50:50 Pozmix	150/135	14.2/11.8	1.27/1.64	191/221	Surface	8
Tubing							

Drillers TD (ft) 3047

Loggers TD (ft) 3050

Deepest formation penetrated Fifth Sand

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"

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WAS WELL COMPLETED AS SHOT HOLE Yes No

DETAILS

OCT 07 2014

WAS WELL COMPLETED OPEN HOLE? Yes No

DETAILS

WV Department of
Environmental Protection

WERE TRACERS USED Yes No

TYPE OF TRACER(S) USED

API 47- 033 - 05757 Farm name WILLIAMS, CLYDE ET AL. Well number 136

<u>PRODUCING FORMATION(S)</u>	<u>DEPTHS</u>
<u>Fifth Sand</u>	<u>2842'-2844'</u> MD
<u>Fourth Sand</u>	<u>2552'-2656'</u>
<u>Fifty ft</u>	<u>2422'-2426'</u>
<u>Big Injun</u>	<u>1942'-1946'</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

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	448	0	448	
Pittsburgh Coal	448	455	448	455	
Sand/Shale	455	1808	455	1842	
Big Lime	1808	1894	1842	1930	
Big Injun	1894	1948	1930	1986	
Shale	1948	2365	1986	2416	
Fifty Foot	2365	2398	2416	2452	
Shale	2398	2457	2452	2514	
Fourth Sand	2457	2616	2514	2666	
Shale	2616	2776	2666	2842	
Fifth Sand	2776	2778	2842	2844	Drilled directional N 18° W a distance of 507'
Shale	2778	2979	2844	3047	
TD	2979		3047		

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 *Roger Heldman* Title Operations Manager Date 9/28/14

RECEIVED
Office of Oil and Gas
WV Department of Environmental Protection
Date 9/28/14

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