

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

API 47-103-02936 County Wetzel District Center
Quad Pine Grove, WV 7.5' Pad Name Shuman Haynes Field/Pool Name Wileyville
Farm name Haynes, Shuman Well Number Shuman Haynes 1H
Operator (as registered with the OOG) D.A.C. Energy, LLC.
Address P.O. Box 99 City Alma State WV Zip 26320

As Drilled location NAD 83/UTM Attach an as-drilled plat, profile view, and deviation survey
Top hole Northing 4385905.65 Easting 529713.75
Landing Point of Curve Northing 4386086.051 Easting 529575.733
Bottom Hole Northing 4387567.433 Easting 528214.031

Elevation (ft) 842 GL Type of Well New Existing Type of Report Interim Final *Permit Expired*
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)
Synthetic Oil Based Mud: Carbo-Gel II, Carbo-Tec, Mil-Lime, Mil-Bar 410, Calcium Chloride, Next-Mul HT,
Next Drill, Next Base, Next-FLC

Date permit issued 11/15/2013 Date drilling commenced 9/30/15 Date drilling ceased 9/9/16
Date completion activities began N/A Date completion activities ceased N/A
Verbal plugging (Y/N) N Date permission granted N/A Granted by N/A

Please note: Operator is required to submit a plugging application within 5 days of verbal permission to plug

Freshwater depth(s) ft 105' (Hole Damp) Open mine(s) (Y/N) depths N
Salt water depth(s) ft 1730' (Hole Damp) Void(s) encountered (Y/N) depths N
Coal depth(s) ft 687' Cavern(s) encountered (Y/N) depths N

Is coal being mined in area (Y/N) N

APPROVED

NAME: Jackie Shuman
DATE: 12/15/16

Reviewed by: _____

02/03/2017

PERMIT TO DRILL
Office of Oil and Gas
DEC 02 2016
N/A
N/A
WV Department of Environmental Protection

API 47-103 - 02936 Farm name Haynes, Shuman Well number Shuman Haynes 1H

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	30"	26"	40'	New	85 lb./ft.	none	Y
Surface	20"	16"	300'	New	52.50 lb./ft.	84	Y (5 bbls)
Coal	15"	11 3/4"	1,167'	New	42 lb./ft.	84	Y (1-2 bbls)
Intermediate 1	10 5/8"	8 5/8"	2,242'	New	32 lb./ft.	84	Y (8 bbls)
Intermediate 2							N
Intermediate 3							
Production	7 7/8"	5 1/2"	13,931'	New	23 lb./ft. & 20 lb./ft.	none	1742' (500' inside intern.)
Tubing							
Packer type and depth set							

Comment Details *On the production string all the full joints are 23 lb./ft. P-110 casing. There is 2-10' pup joints in the string (one at toe/one at top of curve), both of them are 20 lb./ft. P-110

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	Type 1			1.18		Cemented to Surface	Over a month
Surface	Type 1	312	15.6	1.20	374.4	Cemented to Surface	8
Coal	Type 1	553	15.6	1.19	658.1	Cemented to Surface	8
Intermediate 1	Type 1	571	15.7	1.19	727.6	Cemented to Surface	8
Intermediate 2							
Intermediate 3							
Production	Class H	Lead: 585/Tail: 804	13.50/15.20	1.62/1.83	712/1103.2	1742' (500' inside intern.)	12
Tubing							

Drillers TD (ft) TVD: 7007' TMD: 13,995.08 Loggers TD (ft) TVD: 7002' TMD: 13,995.08

Deepest formation penetrated Onondaga Plug back to (ft) 5657' (pumped 2 balanced plugs)

Plug back procedure Tripped into bottom with open ended drill pipe. Pumped 2 balanced plugs totaling 1350'. Estimated TOC Cement kick plug was 5,657'. Drilled cement and kicked off vertical hole section at 5,913'.

Kick off depth (ft) 5913'

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

Conductor:	No Centralizers Were Used		
Surface:	Every 3rd Jt and top 2 Jts		
Intermediate #1:	Every 3rd Jt and top 2 Jts		
Intermediate #2:	Every 3rd Jt and top 2 Jts	Production: Lateral & Curve- EconoGlide Centralizers on Every other Jt	Vertical Hole Section- Bow Spring Centralizers on Every other Jt

WAS WELL COMPLETED AS SHOT HOLE Yes No DETAILS Well has not yet been completed

WAS WELL COMPLETED OPEN HOLE? Yes No DETAILS Well has not yet been completed

WERE TRACERS USED Yes No TYPE OF TRACER(S) USED Well has not yet been completed

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Office of Oil and Gas
DEC 02 2016
WV Department of Environmental Protection

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PERFORATION RECORD

Stage No.	Perforation date	Perforated from MD ft.	Perforated to MD ft.	Number of Perforations	Formation(s)

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)

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Environment, Planning & Natural Resources
02/03/2017

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PRODUCING FORMATION(S)	DEPTHS	
	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	BOTTOM	TOP	BOTTOM	DESCRIBE ROCK TYPE AND RECORD QUANTITY AND TYPE OF FLUID (FRESHWATER, BRINE, OIL, GAS, H ₂ S, ETC)
	DEPTH IN FT NAME TVD	DEPTH IN FT TVD	DEPTH IN FT MD	DEPTH IN FT MD	
	0		0		
Freshwater	105				Hole Damp
Coal	687'				Formation Top
Saltwater	1730'				Hole Damp
Gordon	2780'				Formation Top
Bayard	2950'				Formation Top
Sonya	6357'				Formation Top
Genessee	6553'				Formation Top
Genesseo	6655'				Formation Top
Tully	6695'				Formation Top
Hamilton	6705'				Formation Top
Marcellus	6857'				Formation Top
Onondaga	6907'				Formation Top

Please insert additional pages as applicable.

Drilling Contractor see attached sheets
 Address _____ City _____ State _____ Zip _____

Logging Company Baker Hughes
 Address 2226 Philippi Pike City Clarksburg State WV Zip 26301

Cementing Company see attached sheets
 Address _____ City _____ State _____ Zip _____

Stimulating Company has not yet been stimulated
 Address _____ City _____ State _____ Zip _____

Please insert additional pages as applicable.

Completed by Lance M. Hickman Telephone 304-758-4638 Office of Oil and Gas
 Signature [Signature] Title Petroleum Engineer Date 11/28/2016 **DEC 02 2016**

Submittal of Hydraulic Fracturing Chemical Disclosure Information Attach copy of FRACFOCUS Registry
 WV Department of Environmental Protection **02/03/2017**

Drilling Contractor(s):

Hall Drilling, LLC.

1137 E. Washington Ave

Ellenboro, WV

26346

Nomac Drilling, LLC.

P.O. Box 650840

Dallas, TX

75265-0840

Cementing Contractors(s):

Universal Well Services

P.O. Box 200969

Dallas, TX 75320-0969

C & J Spec-Rent Services, Inc.

3990 Rogerdale

Houston, TX 77042