

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

47-039-06375

API 4701C 039 06375 County Kanawha District Spring Hill Corp  
Quad 06375 Pad Name Harmon Field/Pool Name N/A  
Farm name Markery Arcie Well Number Harmon #1  
Operator (as registered with the OOG) Reserve Oil and Gas Inc  
Address 929 6th Street Road City Spencer State WV Zip 25276

As Drilled location NAD 83/UTM Attach an as-drilled plat, profile view, and deviation survey  
Top hole Northing 492,055 NAD83 Easting 1,764,923 NAD83  
Landing Point of Curve Northing 4244794 UTM NAD83 Easting 0437969 UTM NAD83  
Bottom Hole Northing \_\_\_\_\_ Easting \_\_\_\_\_

Elevation (ft) 614 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)  
\_\_\_\_\_

Date permit issued 11/09/2015 Date drilling commenced 12/8/15 Date drilling ceased 12/17/15  
Date completion activities began 1/15/2016 Date completion activities ceased 1/15/2016  
Verbal plugging (Y/N) N/A 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 300' Open mine(s) (Y/N) depths N/A  
Salt water depth(s) ft 1035' Void(s) encountered (Y/N) depths N/A  
Coal depth(s) ft N/A Cavern(s) encountered (Y/N) depths N/A  
Is coal being mined in area (Y/N) N.

**APPROVED**  
NAME: [Signature]  
DATE: 5-28-16

Reviewed by: \_\_\_\_\_  
AX 09/22/2016

API 47-39 - 06375 Farm name Marker, Garcia Well number Harmon H 1

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	17 1/2"	13 3/8"	25'	NEW		None	No - top down
Surface	12 3/8"	10 3/4"	336'	used	43	None	YES - 6.3 BBLs
Coal							
Intermediate 1	8 7/8"	7"	1740'	used			Yes, fell back, grouted w 3 BB
Intermediate 2							
Intermediate 3							
Production	6 1/4"	4 1/2"	4455'	used		2561'	YES
Tubing							
Packer type and depth set							

Comment Details \_\_\_\_\_

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	Type I	8					8+
Surface	Type I	100	15.6	1.18		356' to surface	
Coal							
Intermediate 1	Type I	290	14.2	1.48		1737' to surface	
Intermediate 2							
Intermediate 3							
Production	Supercid 260	130	11.80	2.63		2450' to surface	
Tubing							

Drillers TD (ft) 4465' Loggers TD (ft) 4460'  
 Deepest formation penetrated \_\_\_\_\_ Plug back to (ft) N/A  
 Plug back procedure \_\_\_\_\_

Kick off depth (ft) N/A

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  
Centralizer & basket - 2561'  
Baffle & centralizer - 3994'

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 \_\_\_\_\_



WR-35  
Rev. 8/23/13

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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 230 psi Bottom Hole \_\_\_\_\_ psi DURATION OF TEST 24 hrs

Initial OPEN FLOW Gas 112 mcfpd Oil \_\_\_\_\_ bpd NGL \_\_\_\_\_ bpd Water \_\_\_\_\_ bpd

GAS MEASURED BY  Estimated  Orifice  Pilot  U-tube manometer

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	
	0		0		
See attached					

Please insert additional pages as applicable.

Drilling Contractor Conserv  
Address 929 Charleston Road City Spencer State WV Zip 25276

Logging Company Conserv  
Address 929 Charleston Road City Spencer State WV Zip 25276

Cementing Company Conserv - Surface/intermediate 4 1/2 - C+J Energy Services  
Address 3990 Rogerdale City Houston State TX Zip 77042

Stimulating Company C+J Energy Services  
Address 3990 Rogerdale City Houston State TX Zip 77042

Please insert additional pages as applicable.

Completed by Doug Douglas Telephone 304-483-8340  
Signature Day Dayton Title Land Manager Date 4/7/16

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



