

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

API 47 - 059 - 1875 County MINGO District MAGNOLIA  
Quad MATEWAN Pad Name \_\_\_\_\_ Field/Pool Name \_\_\_\_\_  
Farm name JUSTICE, PAUL & DEBORAH Well Number 1734  
Operator (as registered with the OOG) QUALITY NATURAL GAS, LLC  
Address P.O. BOX 480 City ALLEN State KY Zip 41601

As Drilled location NAD 83/UTM Attach an as-drilled plat, profile view, and deviation survey  
Top hole Northing \_\_\_\_\_ Easting \_\_\_\_\_  
Landing Point of Curve Northing \_\_\_\_\_ Easting \_\_\_\_\_  
Bottom Hole Northing \_\_\_\_\_ Easting \_\_\_\_\_

Elevation (ft) 972.7 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 10/24/2007 Date drilling commenced 9/17/2009 Date drilling ceased 9/27/2009  
Date completion activities began 6/26/2015 Date completion activities ceased 7/01/2015  
Verbal plugging (Y/N) N/A 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 N Open mine(s) (Y/N) depths N  
Salt water depth(s) ft 610' Void(s) encountered (Y/N) depths N  
Coal depth(s) ft N Cavern(s) encountered (Y/N) depths N  
Is coal being mined in area (Y/N) N

Reviewed by:  
JK 08/24/2015

API 47-059 - 1875 Farm name JUSTICE, PAUL & DEBORAH Well number 1734

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"	119'	New	LS		
Surface	12 1/4"	9 5/8"	386'	New	LS	322', 64'	YES, 2BBL
Coal							
Intermediate 1	8 7/8"	7"	2206'	New	LS	NONE	YES 4 1/2 BBL
Intermediate 2							
Intermediate 3							
Production	6 3/8"	4 1/2"	4811'	New	L-65	NONE	500' UP IN 7"
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	Class A						
Surface	Class A	200	15.5	1.18	236	Surface	8
Coal							
Intermediate 1	Class A	100, 200	15.6, 12.3	1.18, 1.84	118, 368	Surface	8
Intermediate 2							
Intermediate 3							
Production	Class A	165	13.6	1.90	313.5	500' up in 7"	8
Tubing							

Drillers TD (ft) 4840' Loggers TD (ft) 4848'  
 Deepest formation penetrated HARRELL SHALE Plug back to (ft) \_\_\_\_\_  
 Plug back procedure \_\_\_\_\_

Kick off depth (ft) \_\_\_\_\_

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  
For drilling purposes only.

DESCRIBE THE CENTRALIZER PLACEMENT USED FOR EACH CASING STRING 4 1/2" ONLY - 4641.4, 4471.8  
4302.2, 4132.60, 3963, 3793.4, 3623.80, 3454.2, 3284.6 and 3115

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	6/26/15	4640	4722	21	SHALE
2	6/29/15	3153	3160	8	BEREA

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	6/29/15	98	3827	2949	2148	NONE	NONE	804,000/12 BBL Acid
2	6/29/15	95	3967	3760	1230	NONE	NONE	798,000/12BBL Acid

Please insert additional pages as applicable.

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<u>PRODUCING FORMATION(S)</u>	<u>DEPTHS</u>	
<u>BEREA</u>	<u>3153-3160'</u>	<u>TVD</u> _____ <u>MD</u> _____
<u>DEVONIAN SHALE (BROWN)</u>	<u>4640-4722'</u>	_____
_____	_____	_____
_____	_____	_____

Please insert additional pages as applicable.

GAS TEST  Build up  Drawdown  Open Flow OIL TEST  Flow  Pump

SHUT-IN PRESSURE Surface 660 psi Bottom Hole \_\_\_\_\_ psi DURATION OF TEST 120 hrs

OPEN FLOW Gas 490 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 <sub>2</sub> S, ETC)
	<u>0</u>		<u>0</u>		
SEE ATTACHED					

Please insert additional pages as applicable.

Drilling Contractor MOUNTAIN RIDGE  
Address 72 OLD 25 E City BARBOURVILLE State KY Zip 40906

Logging Company WEATHERFORD  
Address \_\_\_\_\_ City LONDON State KY Zip 40741

Cementing Company C & J ENERGY SERVICES  
Address 580 HAWTHORN DR City NORTON State VA Zip 24273

Stimulating Company C & J ENERGY SERVICES  
Address 580 HAWTHORN DR City NORTON State VA Zip 24273

Please insert additional pages as applicable.

Completed by Darrell Fluaharty Telephone 606-874-8041 Cell 606-548-1915  
Signature DF Title Field Supervisor Date 7-23-2015

WELL #1734

API#47-5901875

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, H2S, ETC)
SURFACE	0	126			
SLATE	126	207			
SAND/SLATE	207	271			
SLATE	271	329			
SAND	329	610			
SAND/SLATE	610	620			
SAND	620	777			
SAND/SLATE	777	823			
SALT SAND	823	1060			
BROKEN SAND	1060	1248			
SALT SAND	1248	1500			
BROKEN SAND	1500	1580			
SAND/SLATE	1580	1612			
RED ROCK/SAND/SLATE	1612	1660			
SAND/SLATE	1660	1700			
RED ROCK	1700	1742			
SAND/SLATE	1742	1764			
RED ROCK/SLATE	1764	1795			
RED ROCK	1795	1829			
RED ROCK/SLATE	1829	1853			
SLATE	1853	1909			
SAND/SLATE	1909	1937			
SAND	1937	2006			
SAND/SLATE	2006	2040			
SAND	2040	2064			
SAND/SLATE	2064	2154			
SLATE	2154	2170			
SAND	2170	2186			
SAND/LIME	2186	2200			
DARK LIME	2200	2270			
BIG LIME	2270	2490			

08/21/2015

WELL #1734

API#47-5901875

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, H2S, ETC)
INJUN	2490	2494			
BIG LIME	2494	2520			
INJUN	2520	2550			
WEIR	2550	2776			
SLATE	2776	3078			
COFFEE SHALE	3078	3140			
BEREA	3140	3294			
GREY SHALE	3294	3616			
BROWN SHALE	3616	3740			
WHITE SHALE	3740	3890			
BROWN SHALE	3890	4070			
WHITE SHALE	4070	4110			
LIME	4110	4140			
WHITE SHALE	4140	4150			
BROWN SHALE	4150	4190			
LIME	4190	4224			
BROWN SHALE	4224	4360			
WHITE SHALE	4360	4540			
BROWN SHALE	4540	4706			
WHITE SHALE	4706	4730			
BROWN SHALE	4730	4828			
HARRELL SHALE	4828	4840			

08/21/2015