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

API <u>47</u> - <u>059</u> - <u>01894</u>	County MINGO	Dist	trict <u>MAGNO</u>	LIA		
Quad MATEWAN	Fiel	Field/Pool Name				
Farm name QUALITY NATURAL GA	S PROPERTIES LT	D We	ell Number <u>18</u>	317		
Operator (as registered with the OOG)	QUALITY NATURA	L GAS, LLC				
Address P.O. BOX 480	City ALL	EN	State KY	Zip _	41601	
Landing Point of Curve Nor	Attach an as-drilled p thing thing thing	Easting	viation survey			
Elevation (ft) 753 GL	Type of Well N	ew 🗆 Existing	Type of Repo	rt Interim	≣Final	
Permit Type Deviated Horiz	ontal Horizontal	6A 🚪 Vertical	Depth Type	□ Deep	■ Shallow	
Type of Operation □ Convert □ Deep	en □ Drill □ Plo	ıg Back □ Redrilling	g 🗆 Rework	■ Stimula	nte	
Well Type □ Brine Disposal □ CBM	Gas Oil Second	lary Recovery	ion Mining 🗆 S	Storage 🗆 O	Other	
Type of Completion □ Single ■ Multiple Drilled with □ Cable ■ Rotary Drilling Media Surface hole ■ Air □ Production hole ■ Air □ Mud □ Fre Mud Type(s) and Additive(s) N/A	⊔ Mud □Fresh Water					
Date permit issued1/04/2008 Date completion activities began Verbal plugging (Y/N)N Date		Date completion activities	es ceased	9/01/2015	11/10/2009	
Please note: Operator is required to subm	it a plugging applicatio	n within 5 days of verba	al permission to	Plug ECEIVE		
Freshwater depth(s) ft 7	5' o	pen mine(s) (Y/N) deptl	hs Onice	of Oil and	d Gas	
Salt water depth(s) ft None Enco	ountered V	oid(s) encountered (Y/N	I) depths M	AR 0 9 201	6	
Coal depth(s) ft 70-73', 220)-224' C	avern(s) encountered (Y	/N) depths	N	1 7 1 1	
Is coal being mined in area (Y/N)	AP		Environm	repartmer nental Repa	nt of Nection	

CASING	Hala	Carina		Now on	Grade	ь	anlest	Didaaa	nant aimulata (V/N	
STRINGS	Hole Size	Casing Size	Depth	New or Used	wt/ft		asket epth(s)		nent circulate (Y/ N ide details below*	
Conductor	17 1/2"	13 3/8"	103'	New		LS				
Surface	12 1/4"	9 5/8"	319'	New		LS	318', 64'		Y - 2bbl	
Coal										
Intermediate I	8 7/8"	7"	1988'	New		LS	None		Y - 7bbl	
Intermediate 2								<u> </u>		
Intermediate 3							<u>.</u>			
Production	6 3/8"	4 1/2"	4557'	New	L-65		None		No - 500' up in 7"	
Tubing										
Packer type and de	epth set									
Comment Details					-					
CEMENT	Class/Type				Yield	Volume (ft.2)	Ceme Top (N		WOC (hrs)	
DATA Conductor	of Cement Class A	of Sack	s wt (p	γ <u>γ</u> β) (1	(ft 3/sks) (ft 3		<u> </u>		(ma)	
Surface	Class A	200	15	.5	1.18	236	6 Surfa		8	
Coal										
Intermediate I	Class A	150, 1	35 15.6,	12.3 1.18	3, 1.84	177, 248.4	48.4 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 Deepest forma Plug back pro-	tion penetrated	HARRELL SHALE		Loggers T Plug back	· / —	02				
Kick off depth	(ft)									
Check all wire	line logs run	■ caliper■ neutron	-		ted/directi a ray		duction mperature	≜ son	ic	
Well cored						ere cuttings	F	or drilling p	□ No urposes only.	
	HE CENTRAL 3554, 3387, 3220, 3053, 26	JIZER PLACEM 886 and 2719	ENT USED F	OR EACH C	ASING S	TRING 41//	2" Only - 4557, 4.	389,		
WAS WELL O	COMPLETED	AS SHOT HOLI	E 🗆 Yes 📱	No D	ETAILS					

API 47- <u>059</u> - <u>01894</u>

Farm name QUALITY NATURAL GAS PROPERTIES LTD Well number 1817

PERFORATION RECORD

Stage No.	Perforation date	Perforated from MD ft.	Perforated to MD ft.	Number of Perforations	Formation(s)
1	8/31/2015	3850	4211	21	SHALE
2	9/1/2015	2935	2954	32	BEREA
					
<u></u>					

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	9/1/15	104	3765	3911	2373	NONE	NONE	800mscf N2/ 12bbl HCl
2	9/1/15	100	2656	2690	1123	NONE	NONE	800mscf N2/ 12bbl HCl
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Please insert additional pages as applicable.

WV Department of Environmental Protection 15/2016

WR-35

Page 4 of 4

WELL #1817

API# 47-5901894

AAETT #191\			API# 47-33010	094	
					DESCRIBE ROCK TYPE AND RECORD
	TOP	воттом	TOP	воттом	QUANTITY AND TYPE OF FLUID
LITUOLOGY/FORMATION	DEPTH IN FT	DEPTH IN FT	DEPTH IN FT	DEPTH IN FT	(FRESHWATER, BRINE, OIL, GAS, H2S,
LITHOLOGY/ FORMATION	NAME TVD	TVD	MD	MD	ETC)
SUB BASE	0	8		<u> </u>	
SANDSTONE	8	30			
SAND/SHALE	30	70			
COAL	70	73			
SAND/SHALE	73	220			
COAL	220	224			
SAND/SHALE	224	1923			
SHALE	1923	1978			
LITTLE LIME	1978	2030			
BIG LIME	2030	2265			
INJUN	2265	2373			
WEIR	2373	2397			
SAND/SHALE	2397	2560			
SHALE	2560	2917	i		
BEREA	2917	2970			
SHALE	2970	4593			
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