

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

API 47-059-02255 County MINGO District MAGNOLIA
Quad MATEWAN Pad Name _____ Field/Pool Name _____
Farm name LOGAN COAL & TIMBER CORP. Well Number 2364
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) 1266.6 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 09/23/2014 Date drilling commenced 6/10/2015 Date drilling ceased 6/24/2015
Date completion activities began 8/13/2015 Date completion activities ceased 8/17/2015
Verbal plugging (Y/N) N Date permission granted _____ Granted by REC 8/17/2015
Office of Oil and Gas

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

Freshwater depth(s) ft NONE Open mine(s) (Y/N) depths _____
Salt water depth(s) ft 2180' Void(s) encountered (Y/N) depths N
Coal depth(s) ft NONE Cavern(s) encountered (Y/N) depths N
Is coal being mined in area (Y/N) N

Reviewed by: DR 10/30/2015

OCT 06 2015
WV Department of
Environmental Protection

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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"	42'	New	LS		
Surface	12 1/4"	9 5/8"	846'	New	LS		Yes, 8 bbls
Coal							
Intermediate 1	8 7/8"	7"	2542'	New	LS	NONE	Yes, 6 bbls
Intermediate 2							
Intermediate 3							
Production	6 3/8"	4 1/2"	4720'	New	L-65		No - 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 ³ /sks)	Volume (ft ³)	Cement Top (MD)	WOC (hrs)
Conductor	Class A						
Surface	Class A	260	15.5	1.18	306.80	Surface	8
Coal							
Intermediate 1	Class A	100, 210	15.6, 12.3	1.18, 1.84	118, 386.4	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) 4740 Loggers TD (ft) 4743
 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 - 4678.25, 4511.25
4344.25, 4177.25, 4010.25, 3843.25, 3676.25, 3509.25, 3242.25 and 3075.25

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 _____

WELL #2364

API#47-5902255

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)
FILL	0	10			
SAND	10	90			
SAND/SHALE	90	120			
SAND	120	210			
SAND/SHALE	210	300			
SAND	300	360			
SAND/SHALE	360	630			
SAND	630	690			
SAND/SHALE	690	990			
SAND	990	1055			
SAND/SHALE	1055	1352			
SAND	1352	1525			
SAND/SHALE	1525	1545			
SAND	1545	1710			
SAND/SHALE	1710	1770			
SAND	1770	1938			
SAND/SHALE	1938	1985			
SAND/SHALE/RED ROCK	1985	2190			
SAND/SHALE	2190	2265			
SAND	2265	2315			
SAND/SHALE	2315	2385			
SAND/SHALE/RR/L.LIME	2385	2430			
SHALE/SLATE	2430	2462			
LITTLE LIME	2462	2510			
BIG LIME	2510	2789			RECEIVED
INJUN	2789	2852			Office of Oil and Gas
WEIR	2852	3395			OCT 06 2015
COFFEE SHALE	3395	3445			
BEREA	3445	3500			WV Department of Environmental Protection
BROWN SHALE	3500	4630			
HARRELL SHALE	4630	4743			

10/30/2015