

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

API 47 - 590 - 2253 County MINGO District MAGNOLIA  
Quad MATEWAN Pad Name \_\_\_\_\_ Field/Pool Name \_\_\_\_\_  
Farm name LOGAN COAL & TIMBER CORP Well Number 2362  
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) 797.0' 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 9/30/2014 Date drilling commenced 5/26/2015 Date drilling ceased 6/02/2015  
Date completion activities began 6/09/2015 Date completion activities ceased 6/10/2015  
Verbal plugging (Y/N) N 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 1790' 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

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by: JK/24/2015

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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"	365'	New	LS	323', 84'	YES, 3bbls
Coal							
Intermediate 1	8 7/8"	7"	2121'	New	LS	NONE	YES, 6 bbls
Intermediate 2							
Intermediate 3							
Production	6 3/8"	4 1/2"	4256'	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	130	15.5	1.18	153	Surface	8
Coal							
Intermediate 1	Class A	130, 120	15.6, 12.3	1.18, 1.84	153, 221	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) 4260 Loggers TD (ft) 4266  
 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 4109', 3942', 3775', 3608',  
 3441', 3274', 3107', 2940', 2773' and 2606'

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 #2362

API#47-5902253

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	3			
SAND	3	60			
SAND/SHALE	60	120			
SAND	120	180			
SAND/SHALE	180	240			
SAND	240	390			
SAND/SHALE	390	450			
SAND	450	510			
SAND/SHALE	510	660			
SHALE	660	720			
SAND/SHALE	720	750			
SAND	750	1170			
SAND/SHALE	1170	1320			
SAND	1320	1410			
SAND/SHALE	1410	1470			
SAND/SHALE/RED ROCK	1470	1605			
SAND	1605	1650			
SAND/SHALE	1650	1740			
SAND	1740	1830			
SAND/SHALE	1830	1912			
RED ROCK	1912	1950			
SAND/SHALE	1950	1995			
LITTLE LIME	1995	2098			
BIG LIME	2098	2330			
INJUN	2330	2398			
WEIR	2398	2895			
COFFEE SHALE	2895	2950			
BEREA	2950	3095			
BROWN SHALE	3095	4138			
HARRELL SHALE	4138	4266			

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JUL 28 2015

07/24/2015