

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

API 47 - 590 - 2247 County MINGO District MAGNOLIA
Quad MAJESTIC Pad Name _____ Field/Pool Name _____
Farm name LOGAN COAL & TIMBER CORP ET AL Well Number 2354
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) 794.2 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 1-05-2015 Date drilling ceased 1-13-2015
Date completion activities began 6-02-2015 Date completion activities ceased 6-03-2015
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 N 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:
J 08/21/2015

API 47-590 - 2247 Farm name LOGAN COAL & TIMBER CORP ET AL Well number 2354

| 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" | 425' | New | LS | 84', 341' | YES, 5 BBLS |
| Coal | | | | | | | |
| Intermediate 1 | 8 7/8" | 7" | 2077' | New | LS | NONE | YES, 7 BBLS |
| Intermediate 2 | | | | | | | |
| Intermediate 3 | | | | | | | |
| Production | 6 3/8" | 4 1/2" | 4305' | New | L-65 | NONE | 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 | 155 | 15.5 | 1.18 | 182.9 | Surface | 8 |
| Coal | | | | | | | |
| Intermediate 1 | Class A | 100, 170 | 15.6, 12.3 | 1.18, 1.84 | 118, 313 | Surface | 8 |
| Intermediate 2 | | | | | | | |
| Intermediate 3 | | | | | | | |
| Production | Class A | 180 | 13.6 | 1.90 | 342 | 500' up in 7" | 8 |
| Tubing | | | | | | | |

Drillers TD (ft) 4320' Loggers TD (ft) 4326'
 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 4136.60, 3968.20, 3799.80, 3631.40,
 3463, 3294.60, 3126.20, 2957.80, 2789.40 and 2621.

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 #2354

API# 47-5902247

| 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 | 12 | | | |
| SAND | 12 | 120 | | | |
| SAND/SHALE | 120 | 365 | | | |
| SAND | 365 | 480 | | | |
| SAND/SHALE | 480 | 570 | | | |
| SAND | 570 | 660 | | | |
| SHALE | 660 | 750 | | | |
| SAND/SHALE | 750 | 930 | | | |
| SAND | 930 | 980 | | | |
| SAND/SHALE | 980 | 1150 | | | |
| SAND | 1150 | 1230 | | | |
| SAND/SHALE | 1230 | 1325 | | | |
| SAND | 1325 | 1440 | | | |
| RED ROCK | 1440 | 1500 | | | |
| SAND/SHALE/RED ROCK | 1500 | 1710 | | | |
| SAND/SHALE | 1710 | 1818 | | | |
| SAND | 1818 | 1890 | | | |
| SAND/SHALE/LIME/RR | 1890 | 1980 | | | |
| SAND/SHALE | 1980 | 2008 | | | |
| LITTLE LIME | 2008 | 2068 | | | |
| BIG LIME | 2068 | 2355 | | | |
| INJUN | 2355 | 2432 | | | |
| WEIR | 2432 | 2935 | | | |
| COFFEE SHALE | 2935 | 2973 | | | |
| BEREA | 2973 | 3100 | | | |
| BROWN SHALE | 3100 | 4190 | | | |
| HARRELL SHALE | 4190 | 4326 | | | |
| | | | | | |
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08/21/2015