

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

API 47-051-01764 County Marshall District Franklin  
Quad Powhatan Point Pad Name MND 99 V Field/Pool Name Marcellus/Burkett  
Farm name Consolidation Coal Well Number MND 99 V  
Operator (as registered with the OOG) Noble Energy, Inc.  
Address 1000 Noble Energy Drive City Canonsburg State PA Zip 15317

As Drilled location NAD 83/UTM Attach an as-drilled plat, profile view, and deviation survey  
Top hole Northing 4410361.28 Easting 518299.66  
Landing Point of Curve Northing vertical well Easting                       
Bottom Hole Northing vertical well Easting                     

Elevation (ft) 1112.00 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 Observation Well  
Type of Completion  Single  Multiple Fluids Produced  Brine  Gas  NGL  Oil  Other observation well  
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)

**APPROVED**

NAME: Jacquelin Thornton  
DATE: 6/1/2016

Date permit issued 06/05/2014 Date drilling commenced 9/04/2014 Date drilling ceased 9/21/2014  
Date completion activities began N/A - Observation well Date completion activities ceased N/A - Observation well  
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 518', 655' Open mine(s) (Y/N) depths                       
Salt water depth(s) ft none Void(s) encountered (Y/N) depths                       
Coal depth(s) ft 606-616 Pittsburgh Coal Cavern(s) encountered (Y/N) depths                       
Is coal being mined in area (Y/N) Yes

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Reviewed by: M 07/01/2016  
AX 07/01/16

**APPROVED**

**NAME:**

**DATE:**

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07/01/2016

API 47-051 - 01764 Farm name Consolidation Coal Well number MND 99 V

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		20"	40'	New	H-40 / 94.00		N/a
Surface		9 5/8"	1108.6'	New	K-55 / 36.00		**No
Coal	See Surface						
Intermediate 1		4 1/2"	6458'	New	P-110HC / 11.60		Yes
Intermediate 2							
Intermediate 3							
Production							
Tubing		2 3/8"	6327'	New	J-55 4.60		
Packer type and depth set		6259.3' - 3.6" 4.6 Wt Grade N-80					

Comment Details retrievable bridge plug set top 6285' btm 6287' - top 6270' btm 6272' - packer set top 6257.3' btm 6265.6

\*\*Surface Casing stuck at 1112', perforated at 800' and cemented from there.

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							
Surface	A	437		1.18	92		8
Coal							
Intermediate 1	A	1850	14.8#	1.0	406	630	8
Intermediate 2							
Intermediate 3							
Production							
Tubing							

Drillers TD (ft) 6467.8 Loggers TD (ft) 6397.7

Deepest formation penetrated Marcellus Plug back to (ft)

Plug back procedure

Kick off depth (ft) N/a

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

DESCRIBE THE CENTRALIZER PLACEMENT USED FOR EACH CASING STRING 9 Centralizers placed in the Surface String. 80 Centralizers placed in the Intermediate String.

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WAS WELL COMPLETED AS SHOT HOLE  Yes  No DETAILS DEC 17 2015

WAS WELL COMPLETED OPEN HOLE?  Yes  No DETAILS WV Department of Environmental Protection

WERE TRACERS USED  Yes  No TYPE OF TRACER(S) USED 07/01/2016





Formation	Top	Base
Shale and Sandstone	0	606
Pittsburgh Coal	606	616
Shale and Sandstone	616	1069
Dunkard Sand	1069	1090
Shale	1090	1239
Gas Sand	1239	1310
Shale	1310	1379
1st Salt Sand	1379	1395
Shale	1395	1502
2nd Salt Sand	1502	1531
Shale and Sandstone	1531	1661
Maxton Sand	1661	1708
Shale	1708	1726
Big Lime	1726	1798
Big Injun	1798	2068
Price	2068	2166
Murrysville	2166	2273
Shale and Sandstone	2273	2811
Gordon	2811	2841
Shale and Sandstone	2841	3362
Fifth Sand	3362	3415
Shale and Sandstone	3415	4217
Warren Sand	4217	4226
Shale	4226	4943
Java Shale	4943	5027
Pipe Creek Shale	5027	5102
Angola Shale	5102	5686
Rhinestreet	5686	6005
Cashaqua	6005	6077
Middlesex	6077	6100
West River	6100	6161
Burkett	6161	6185
Tully Limestone	6185	6211
Hamilton	6211	6246
Marcellus	6246	6299
Onondaga	6299	6305
Huntersville	6305	

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