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

API 47 - 085 - 10109 County Ritchie District Ellenboro
Quad Pennsboro Pad Name PEN 20 Field/Pool Name N/A
Farm name Lawrence & Angela Cokeley Well Number PEN 20BHS
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 as drilled plat to be submitted by CNX Easting
Landing Point of Curve Northing upon completion of the well. Easting
Bottom Hole Northing Easting

Elevation (ft) 1081 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)
Synthetic Oil Based

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Date permit issued 08/05/2014 Date drilling commenced 10/147/2014 Date drilling ceased 11/29/2014
Date completion activities began Not completed Date completion activities ceased na
Verbal plugging (Y/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 398' Open mine(s) (Y/N) depths N
Salt water depth(s) ft none noted for offsets Void(s) encountered (Y/N) depths N
Coal depth(s) ft NA Cavern(s) encountered (Y/N) depths N
Is coal being mined in area (Y/N) No

APPROVED
NAME: Michael Hoff
DATE: 1/30/2017

4K RBDMS
2/2/17

Reviewed by:
02/03/2017

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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	26"	20"	40'	New	DH-36		
Surface	17.5"	13 3/8"	575'	New	J-55		
Coal							Y
Intermediate 1	12.38"	9 5/8"	5446'	New	HCK-55		Y
Intermediate 2							
Intermediate 3							
Production	8-3/4" & 8-1/2"	5 1/2"	15,240'	New	P-110		N
Tubing							
Packer type and depth set							

Comment Details *approved cement variance of 2% accelerator (S001) 0.2% Antifoam (D046) 0.125 lb/sk Polyester Flake (D130)

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							
Surface	Type 1 / Class A		15.6	1.20		0	8
Coal							
Intermediate 1	Type 1 / Class A	stage (1) 980 stage (2) 300	15.6	Stage (1) 1.92 Stage (2) 1.19	total 2238.6	458	8
Intermediate 2							
Intermediate 3							
Production	Type 1 / Class A	lead 669 tail 1864	14.8	Lead 1.63 tail 1.38	total 3662.79	1044	8
Tubing							

Drillers TD (ft) 15256' Loggers TD (ft) 15231'

Deepest formation penetrated Marcellus Plug back to (ft) ___

Plug back procedure ___

Kick off depth (ft) 5353'

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 No centralizers used in fresh water zone

5 Centralizers on Surface Casing 68 Centralizers on Intermediate String (Bow string centralizers on first two joints then every third joint to 100' from surface).

252 Centralizers on Production String (rigid bow string every joint to KOP, rigid bow spring every third joint from KOP to top of cement).

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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 ___

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PERFORATION RECORD

Stage No.	Perforation date	Perforated from MD ft.	Perforated to MD ft.	Number of Perforations	Formation(s)
	well not complete				

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)

Please insert additional pages as applicable.

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PRODUCING FORMATION(S)	DEPTHS	
	TVD	MD

Please insert additional pages as applicable.

GAS TEST □ Build up □ Drawdown □ Open Flow OIL TEST □ Flow □ Pump

SHUT-IN PRESSURE Surface _____ psi Bottom Hole _____ psi DURATION OF TEST _____ hrs

OPEN FLOW Gas _____ mcfpd Oil _____ bpd NGL _____ bpd Water _____ bpd GAS MEASURED BY □ Estimated □ Orifice □ Pilot

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, H_2S, ETC)
	0		0		

Please insert additional pages as applicable.

Drilling Contractor Nomac 78 Drilling
Address 171 Locust Ave. Ext. City Mt. Morris State PA Zip 15349

Logging Company Baker Hughes
Address 400 Technology Drive City Canonsburg State PA Zip 15317

Cementing Company Schlumberger
Address 4600 J. Barry Ct., Suite 200 City Canonsburg State PA Zip 15317

Stimulating Company _____
Address _____ City _____ State _____ Zip _____
Please insert additional pages as applicable.

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Completed by Dee Swiger Telephone 724-820-3061
Signature Dee Swiger Title Regulatory Analyst, III Date 01/09/2017

Submittal of Hydraulic Fracturing Chemical Disclosure Information Attach copy of FRACFOCUS Registry

02/03/2017

Pen 20 Wells

Formations	Top	Base
Shale and Sandstone	0	1222
Sandstone	1222	1346
Shale and Sandstone	1336	1506
Sandstone	1506	1548
Shale and Sandstone	1548	1650
Maxton Sand	1650	1733
Shale and Sandstone	1733	1856
Big Lime	1856	1911
Big Injun	1911	2046
Price	2046	2318
Weir	2318	2357
Shale	2357	2637
Gordon	2637	2654
Shale and Sandstone	2654	2834
5th Sand	2834	2846
Shale	2846	2989
Sandstone	2989	3003
Shale	3003	3411
Warren	3411	3473
Shale	3473	3807
Sandstone	3807	3844
Shale and Sandstone	3844	4838
Benson	4838	4900
Shale	4900	5060
Alexander	5060	5128
Shale	5128	5638
Rheinstreet	5638	5964
Cashaqua	5964	6056
Middlesex	6056	6085
West River	6085	6129
Burkett	6129	6172
Tully Limestone	6172	6173
Hamilton	6173	6174
Marcellus	6174	6233
Onondaga	6233	

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