

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

API 47-061-01722 County Monongalia District Clay
Quad Blacksville, WV Pad Name Campbell Field/Pool Name _____
Farm name Ellen F. Campbell Well Number 3H
Operator (as registered with the OOG) Northeast Natural Energy LLC
Address 707 Virginia Street East, Suite 1200 City Charleston State WV Zip 25301

As Drilled location NAD 83/UTM Attach an as-drilled plat, profile view, and deviation survey
Top hole Northing 4394775.1 Easting 569973.9
Landing Point of Curve Northing 4394785.3 Easting 569985.5
Bottom Hole Northing 4396888.4 Easting 568664.5

Elevation (ft) 1,293.6' 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)
Synthetic Based Mud - Horizontal Section: BIO-BASE 365, CALCIUM CHLORIDE POWDER, G-SEAL PLUS, HRP, LIME, M-I WATE (BARITE), M-I-X II MEDIUM,
MEGADRIL P SYSTEM, MEGADRIL P SYSTEM RENTAL, MEGAMUL, SAFE-CARB 250, VERSATHIN HF, VERSAWET, VG-PLUS, VINSEAL MEDIUM, WALNUT NUT PLUG MEDIUM

Date permit issued 8/26/2015 Date drilling commenced 8/28/2015 Date drilling ceased 2/7/2016
Date completion activities began 12/9/2016 Date completion activities ceased 1/8/2017
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 1,190' Open mine(s) (Y/N) depths _____
Salt water depth(s) ft 2,000' Void(s) encountered (Y/N) depths _____
Coal depth(s) ft 200' ; 940' Cavern(s) encountered (Y/N) depths _____

Is coal being mined in area (Y/N) N

APPROVED

NAME: Samuel K...
DATE: 4/27/2017

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API 47-061 - 01722 Farm name Ellen F. Campbell Well number 3H

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	30	24	50'	N	N/A	N/A	Y to surface
Surface	17.5	13 3/8	1,267'	N	54.5	N/A	Y 12 bbl return
Coal							
Intermediate 1	12.25	9 5/8	2,434'	N	40	N/A	Y 13 bbl return
Intermediate 2							
Intermediate 3							
Production	8.5	5.5	16,399'	N	20	N/A	Estimated top 2000'
Tubing	N/A	2-3/8	8,372'	N	4.7	N/A	N/A
Packer type and depth set		N/A					

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	4,500 psi ready mix	36.4		.75	27.27	CTS	48
Surface	Class A	1,054	15.2	1.27	1,271	CTS	8
Coal							
Intermediate 1	Class A	889	15.2	1.26	1,074	CTS	8
Intermediate 2							
Intermediate 3							
Production	50/50 Premium NE-1.3% R-3.3% MPA 170	3,160	14.5	1.17	2,661	CTS	48
Tubing							

Drillers TD (ft) 16,418' Loggers TD (ft) 16,393'

Deepest formation penetrated Marcellus Plug back to (ft) N/A

Plug back procedure _____

Kick off depth (ft) 6,604'

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 _____

Surface: bow spring centralizers every 3rd joint or aprox 120'

Intermediate: bow spring centralizers every 3rd joint or aprox 120'

Production: Hard bodied spiral centralizers every other joint or aprox 80' from TD to KOP then bow spring from KOP to 9 5/8" every forth joint or aprox 140'

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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<u>PRODUCING FORMATION(S)</u>	<u>DEPTHS</u>		
Marcellus	8111.77'	TVD	16,418' MD
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

Please insert additional pages as applicable.

GAS TEST Build up Drawdown Open Flow OIL TEST Flow Pump

SHUT-IN PRESSURE Surface 3945 psi Bottom Hole _____ psi DURATION OF TEST 48 hrs

OPEN FLOW Gas 5160 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 ₂ S, ETC)
	0		0		Please See Attachment

Please insert additional pages as applicable.

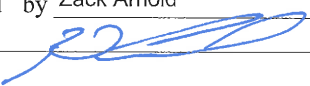
Drilling Contractor Nabors
Address CO Rd 7 City Jane Lew State WV Zip 26378

Logging Company KLX Energy Services
Address 6072 W. Veterans Memorial Highway City Bridgeport State WV Zip 26330

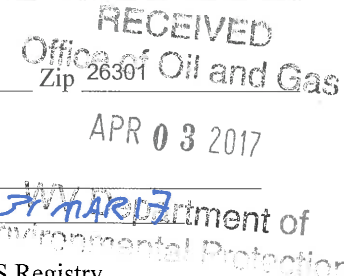
Cementing Company Schlumberger
Address 1080 US 33 City Weston State WV Zip 26452

Stimulating Company Baker Hughes
Address 837 Philippi Pike City Clarksburg State WV Zip 26301

Please insert additional pages as applicable.

Completed by Zack Arnold Telephone 304-203-8059
Signature  Title General Manager - Operations Date APR 17 2017

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



05/26/2017