

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

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Environmental Protection

API 47-061-01794 County Monongalia District Clay
Quad Blacksville Pad Name Kassay Field/Pool Name _____
Farm name Patty Kassay Well Number 2H
Operator (as registered with the OOG) Northeast Natural Energy LLC
Address 707 Virginia St. E., 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 4390146.1 Easting 569098.6
Landing Point of Curve Northing _____ Easting _____
Bottom Hole Northing 4390146.2 Easting 569092.7

Elevation (ft) 1534' 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)
NA

Date permit issued 03/28/2018 Date drilling commenced 08/04/2018 Date drilling ceased 08/21/2018
Date completion activities began NA Date completion activities ceased NA
Verbal plugging (Y/N) Y Date permission granted 8/14/18 Granted by Inspector, Gayne Knitowski

Please note: Operator is required to submit a plugging application within 5 days of verbal permission to plug

Freshwater depth(s) ft 906' Open mine(s) (Y/N) depths N
Salt water depth(s) ft 2320' Void(s) encountered (Y/N) depths N
Coal depth(s) ft 79', 116', 630', 1210' Cavern(s) encountered (Y/N) depths N
Is coal being mined in area (Y/N) N

Reviewed by: _____

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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	30'	24"	40'	N	NA	N/A	Y
Surface	17-1/2"	13-3/8"	1,211'	N	J-55	793	Y
Coal							
Intermediate 1							
Intermediate 2							
Intermediate 3							
Production							
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	4,500 psi grout	36.4		.75	27.27	CTS	8+
Surface	Class A	1,030	15.60	1.19	1,232	CTS	8+
Coal							
Intermediate 1							
Intermediate 2							
Intermediate 3							
Production							
Tubing							

Drillers TD (ft) 2668' Loggers TD (ft) 2584' RECEIVED
 Deepest formation penetrated Big Injun Plug back to (ft) to surface Office of Oil and Gas
 Plug back procedure TIH blow hole drill, air drop class A cement every 400' OCT 01 2018

Kick off depth (ft) ^{NA} _____

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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 casing - Bow spring centralizers every 3rd joint or approx 120', canvas basket set at 793, metal basket set at 753'

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)
	N/A				

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)
	N/A							

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Please insert additional pages as applicable.

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<u>PRODUCING FORMATION(S)</u>	<u>DEPTHS</u>	
N/A	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	BOTTOM	TOP	BOTTOM	DESCRIBE ROCK TYPE AND RECORD QUANTITY AND TYPE OF FLUID (FRESHWATER, BRINE, OIL, GAS, H ₂ S, ETC)
	DEPTH IN FT NAME TVD	DEPTH IN FT TVD	DEPTH IN FT MD	DEPTH IN FT MD	
see attached	0		0		

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Drilling Contractor Highlands Drilling
Address 900 Virginia St. E. City Charleston State WV Zip 25301

Logging Company _____
Address _____ City _____ State _____ Zip _____

Cementing Company BJ Services
Address 2228 Phillppi Pike City Clarksburg State WV Zip 26301

Stimulating Company _____
Address _____ City _____ State _____ Zip _____

Please insert additional pages as applicable.

Completed by Hollie Medley Telephone 304-212-0445
Signature *Hollie Medley* Title Regulatory Manager Date 9/28/18

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

Kassay 2H Lithology

Lithology/Formation	Top Depth in FT Name TVD	Bottom Depth in FT TVD	Describe rock type and record quantity and type of fluid (freshwater, brine, oil, gas, H2S, etc)
Shale/Sandstone	0	158	Shale/Sandstone
Coal	79	84	Coal
sand/shale	84	116	sand/shale
Coal	116	120	Coal
Sandstone/shale/coal	120	520	Sandstone/shale/coal
coal	630	634	coal
sand/shale	634	690	sand/shale
siltstone	690	745	siltstone
sand/shale/coal	745	1210	sandstone/shale/coal - water @ 906'
Coal	1210	1214	Coal
sand/shale	1214	1390	sand/shale
red rock	1390	1417	red rock
sand/shale	1417	1900	sand/shale
sand	1900	2000	sand
Sandstone/shale/lime	2000	2297	Sandstone/shale/lime
red rock	2297	2305	red rock
sand/shale	2305	2320	sand/shale
siltstone	2320	2337	siltstone
red rock	2337	2340	red rock
Big Injun	2340	2565	Big Injun
Sandstone/shale	2565	3346	Sandstone/shale

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