

west virginia department of environmental protection

Office of Oil and Gas 601 57th Street, S.E. Charleston, WV 25304 (304) 926-0450 fax: (304) 926-0452 Jim Justice, Governor Austin Caperton, Cabinet Secretary www.dep.wv.gov

PERMIT MODIFICATION APPROVAL Horizontal 6A / Horizontal 6A Well - 1

NORTHEAST NATURAL ENERGY LLC 707 VIRGINIA STREET EAST STE 1200 CHARLESTON, WV 25301

Re: Permit Modification Approval for JENKINS 2H

47-061-01741-00-00

Adjusted and lengthened the horizontal well bore

NORTHEAST NATURAL ENERGY LLC

The Office of Oil and Gas has reviewed the attached permit modification for the above referenced permit. The attached modification has been approved and well work may begin. Please be reminded that the oil and gas inspector is to be notified twenty-four (24) hours before permitted well work is commenced.

If there are any questions, please feel free to contact me at (304) 926-0450.

James A. Martin

Chie

Operator's Well Number: JENKINS 2H

Farm Name: LOIS A. JENKINS IRREVOCABLE TRUST

U.S. WELL NUMBER: 47-061-01741-00-00

Horizontal 6A / Horizontal 6A Well - 1

Date Issued: 5/18/2017

Promoting a healthy environment.

API NO. 47-061	_ 01741	MOD	
OPERATOR W	VELL NO.	Jenkins 2H	
Well Pad Na	me: Jenkin	s	

STATE OF WEST VIRGINIA DEPARTMENT OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS WELL WORK PERMIT APPLICATION

1) Well Operator: Northeast Na	atural Energy LLC	494498281	Monongalia	Clay	Blacksville
		Operator ID	County	District	Quadrangle
2) Operator's Well Number: Jo	enkins 2H	Well Pa	d Name: Jenki	ns	
3) Farm Name/Surface Owner:	Lois A. Jenkins Irrevoca	Public Ro	ad Access: Mas	on Dixon Hi	ighway (State Route 7
4) Elevation, current ground:	1128' E	levation, proposed	post-constructi	on: 1113.	77'
5) Well Type (a) Gas X	Oil	Und	lerground Storag	ge	
Other					
()	allow X	Deep	-		
	orizontal X		MAN	5/11/2	017
6) Existing Pad: Yes or No No					111
 Proposed Target Formation(Marcellus, 7,921', 103', 3,600 		cipated Thickness	and Expected P	ressure(s):	
8) Proposed Total Vertical Dep	oth: 7,921'				
9) Formation at Total Vertical		S			
10) Proposed Total Measured I	Depth: 17,975.4	0'			
11) Proposed Horizontal Leg L	ength: 9,522'				
12) Approximate Fresh Water	Strata Depths:	50'; 1,034'			
13) Method to Determine Fresh	n Water Depths:	Driller's Log from	Offset Wells		
14) Approximate Saltwater De	pths: 1,340'; 2,18	32'			
15) Approximate Coal Seam D	epths: 830; 1,03	2'			
16) Approximate Depth to Pos	sible Void (coal m	nine, karst, other):	NA		
17) Does Proposed well location directly overlying or adjacent t			No	X	
(a) If Yes, provide Mine Info	: Name:				
	Depth:				
V	Seam:				
Office of Oil and Ga	Owner:				

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MOD

OPERATOR WELL NO. Jenkins 2H

Well Pad Name: Jenkins

18)

CASING AND TUBING PROGRAM

TYPE	Size (in)	New or Used	Grade	Weight per ft. (lb/ft)	FOOTAGE: For Drilling (ft)	INTERVALS: Left in Well (ft)	CEMENT: Fill-up (Cu. Ft.)/CTS
Conductor	24"	New	NA	94.71	40'	40'	GTS
Fresh Water	13-3/8"	New	J-55	54.5	1100'	1090'	CTS
Coal							
Intermediate	9-5/8"	New	J-55	40	2280'	2250'	CTS
Production	5-1/2"	New	P-110	20	17,975.40'	17,945.40'	4,267 Cu. Ft.
Tubing	2-7/8"	New	N-80	6.5	NA	8,500'	NA
Liners							

MJK 5/11/2017

ТҮРЕ	Size (in)	Wellbore Diameter (in)	Wall Thickness (in)	Burst Pressure (psi)	Anticipated Max. Internal Pressure (psi)	Cement Type	Cement Yield (cu. ft./k)
Conductor	24"	30"	.375	415		4,500 psi Grout	NA
Fresh Water	13-3/8"	17 1/2"	.38"	2,760	2,000	Class A	1.23
Coal							
Intermediate	9-5/8"	12 1/4"	.395"	3,950	3,000	Class A	1.3
Production	5-1/2"	8 3/4"	.361"	12,530	9,700	50:50 Poz	1.21
Tubing	2-7/8"	NA	.217"	10,570	3,600	NZ	NA
Liners							

PACKERS

Kind:		
Sizes:		
Depths Set:		

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WW-6B
(10/14)

API NO. 47- 061 - 01741 **MOD**OPERATOR WELL NO. Jenkins 2H

Well Pad Name: Jenkins

19)	Describe	proposed	well '	work,	including	the drilling	g and p	lugging	back of	f any pi	ilot ho	ole:
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Drilling and completion of a horizontal Marcellus well. The well will be drilled on air to an approximate depth of 5980.44' TVD/MD. The well will then be horizontally drilled on synthetic based mud from the KOP to approximately 7,921' TVD / 17,975.40' MD along a 149 degree azimuth.

20) Describe fracturing/stimulating methods in detail, including anticipated max pressure and max rate:

Multi-stage / high-rate slickwater fracture treatment using various size sands as proppant. First stage will be initiated via pressurization against a burst disc ran in the production casing string or perforated with coiled tubing. Subsequent stages will be perforated with pumped down guns ran on wireline. Individual stages will be isolated with composite frac plugs. Maximum pump rate during any stage will be 110 BPM with a maximum allowable surface pressure of 9,500 PSI. Composite bridge plugs will be set at the end of the last stage to isolate the treated formation.

- 21) Total Area to be disturbed, including roads, stockpile area, pits, etc., (acres): 18.2
- 22) Area to be disturbed for well pad only, less access road (acres): 9.7
- 23) Describe centralizer placement for each casing string:

Surface and intermediate casing strings will have bow spring centralizers placed every third joint (~120') from the shoe joint to surface. Production casing will have rigid body centralizers placed at a minimum of every fourth joint (~160') from TD to surface.

24) Describe all cement additives associated with each cement type:

Surface string cement will be a Class A + Max 3% bwoc Calcium Chloride Fresh Water blend. Intermediate string cement will be a Class A Cement + Max 3% bwoc Calcium Chloride + Fresh Water. Production string cement will be (50:50) Poz (Fly Ash):Type I Cement with a gas migration additive.

25) Proposed borehole conditioning procedures:

Surface string will use a 25.0 bbls Gel Pill + LCM + 25 lbs Cello Flake + 20 lbs/bbl Bentonite @ 8.4 ppg & 10 bbls fresh water spacer prior to cement. Intermediate string will use a 25.0 bbls Gel Pill + LCM + 25 lbs Cello Flake + 20 lbs/bbl Bentonite @ 8.4 ppg & 10 bbls fresh water spacer prior to cement. Production string will use a 50.0 bbls SealBond 25 + 1 gal/bbl US-40 + 275 lbs/bbl Barite + 1 gal/bbl SS-2 Spacer @ 13.5 ppg prior to cement.

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*Note: Attach additional sheets as needed.

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NORTHEAST NATURAL ENERGY, LLC BAKER HUGHES Location: Monongalia County, WV Field: Monongalia Well: Jenkins 2H Wellbore: Jenkins 2H PWB Facility: Jenkins Pad Location Information Grid North (US ft) Facility Name Grid East (US ft) Latituda Longitude Jenkins Pad 1788480 777 441085 186 39°42'33 300"N 80°08'23 600'W Easting (ft) Local N (ft) Local E (ft) Grid Fast (US ft) Grid North (US ft) Latitude Longitude Seals 1 lock = 2000 Slot #02 -2 90 -2 02 1788478 760 441083 290 39°42'33 271"N 80°08'23 626'W -1000 1000 2000 3000 4000 -750 F Comment Jenkins 2H Ground Level (GL) to Mud line (At Slot: Slot #02) Oft Mean Sea Level to Mud line (At Slot: Slot #02) -1114ft 1114ft Ground Level (GL) to Mean Sea Level Tie On: 0.00° Inc, 0.00ft MD, -0.00ft TVD, 0.00ft VS 24in Conductor: 0.00° Inc. 40.00ft MD, 40.00ft TVD, 0.00ft VS Slot #02 # Tie On : -0.00ft TVD, 0.00ft N, 0.00ft E KOP 1 : 5980.44ft TVD, 0.00ft N, 0.00ft E End of Build : 5240.56ft TVD, 8.00ft S, 61.93ft W Curve KOP : 7310.38ft TVD, 77.87ft S, 602.54ft W Landing Pt.: 7921.00ft TVD, 77.67tt 3, 602.34tt W Jenkins 2H LP Rev-2 750 13.375in Casina Surface : 0.00° Inc. 1090.00ft MD, 1090.00ft TVD, 0.00ft VS GL Depth Hole Size Casing Size Grade Environmental Protection Office of Oil and (Csg) 1500 28" 74" 40' Conductor MA WV Department of Surface 17-1/2 13-3/8* 1-55 1090 RECEINE 54 5 MAY 1 2 2017 Intermediate 12-1/4" 9-5/8" J-55 40 2250 9.625in Casing Intermediate : 0.00° Inc, 2250.00ft MD, 2250.00ft TVD, 0.00ft VS 2250 Formation Depth (KBTVD) 3000 7633 Geneseo Vertical Depth (ft) Tully 7685 Gas 3750 Hamilton 7749' Upper Marcellus 7856 Frue 4500 Cherry Valley 7897 Lower Marcellus 7901 5250 Onondaga 7959' KOP 1: 0.00° Inc, 5980.44ft MD, 5980.44ft TVD. 0.00ft VS 6000 BGGM (1900 0 to 2018 0) Dio: 66 79° Field: 52163 3 nT 10.00°/100ft End of Build: 27.00° Inc, 6250.44ft MD, 6240.56ft TVD, -24.38ft VS Magnetic North is 9.10 degrees West of True North (at 30/Mar/2017) Grid North is 0.41 degrees West of True North To correct azimuth from True to Grid add 0.41 degrees To correct azimuth from Magnetic to Grid subtract 8.69 degrees 6750 BHL: 7921.00ft TVD, 8927.70ft S, 4244.35ft E Jenkins 2H BHL Rev-2 Curve KOP: 27.00° Inc, 7451.12ft MD, 7310.38ft TVD, -237.16ft VS 7500 Jenkins 2H BHL Rev-2 Landing Pt.: 90.00° Inc, 8453.18ft MD, 7921.00ft TVD, 326.71ft VS Jenkins 2H LP Rev-2 BHL: 90.00° Inc, 17975.40ft MD, 7921.00ft TVD, 9848.93ft VS 5.5in Casing Production: 90.00° Inc, 17975.40ft MD, 7921.00ft TVD, 9848.93ft VS 8250 2250 3000 4500 5250 6000 6750 7500 8250 9000 9750 10500

Vertical Section (ft)

Azimuth 149.66° with reference 0.00 N, 0.00 E

5000

1000

0

-1000

-2000

-3000

-4000

-5000 (ft)

-6000

-7000

-8000

-9000

-10000

Scale 1 inch = 1500



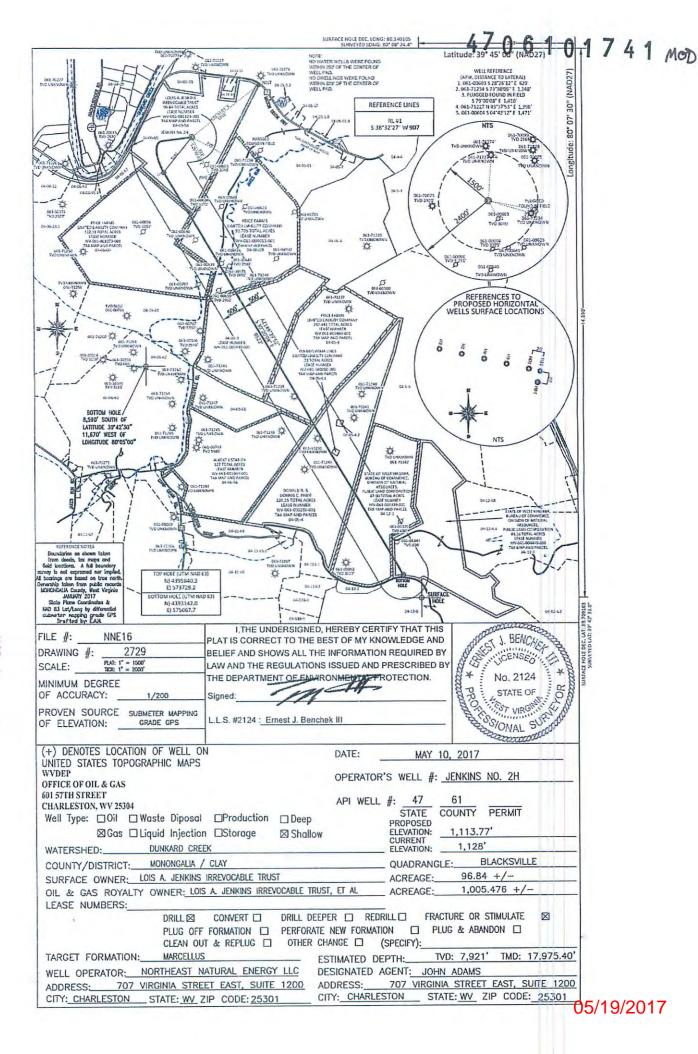
Jenkins 2H SITE SAFETY PLAN

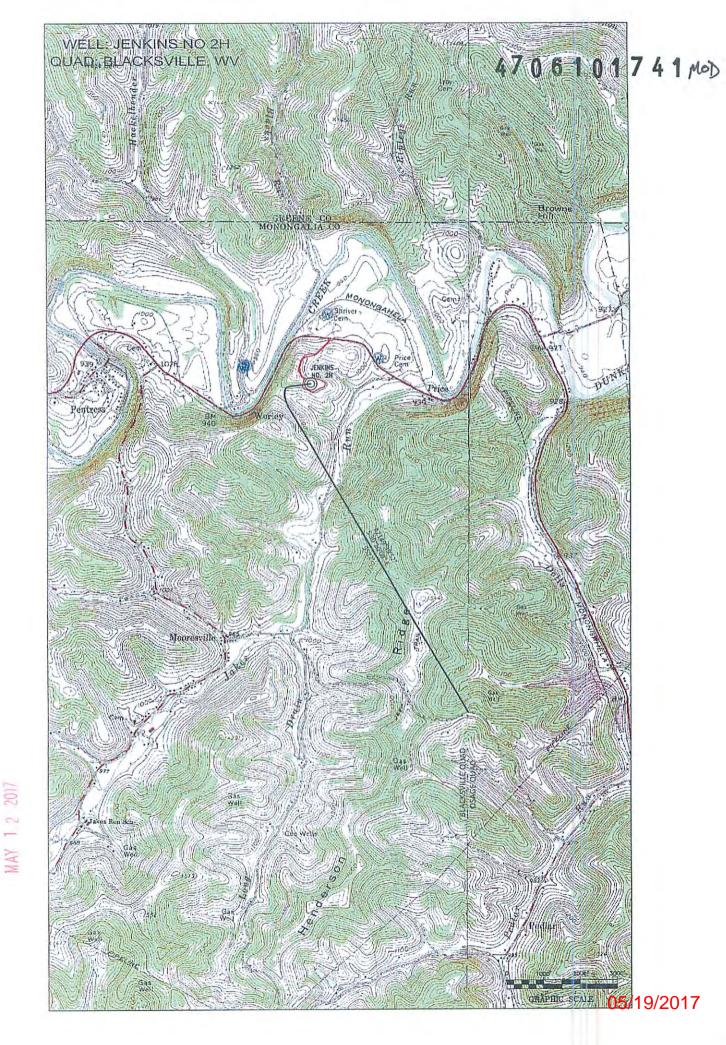
May 2, 2017

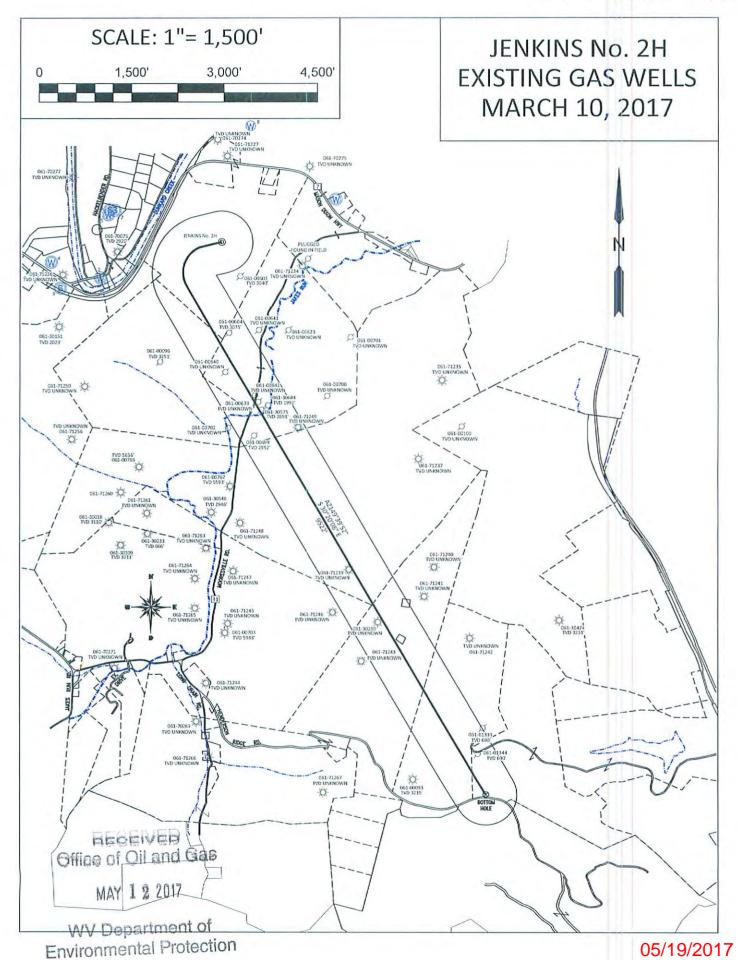
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Jenkins 2H Area of Review

API Number	Well Name	Well Number	Operator	Latitude (NAD 27)	Longitude (NAD 27)	TMP	TVD	Producing Formation
47-061-00640	A B Price	2	Consolidation Coal Co.	39.703483	-80.139621	4-06-59	1,500'	Plugged 1/30/1982
47-061-00702	A B Price	NA	Consolidation Coal Co.	39.701017	-80.139433	4-06-60	1,078'	Plugged 8/29/1982
47-061-00699	AB & JO Price	1	Consolidation Coal Co.	39.700582	-80.137931	4-06-59	2,952'	Plugged 8/17/1982
47-061-71239	Wm Price	NA	Hope Natural Gas Company	39.694770	-80.132485	4-05-03	NA	Pre 1929 Well
47-061-30230	A I Tennant	4007	Hope Natural Gas Company	39.692462	-80.130797	4-05-04	NA	Pre 1929 Well Platted in 1940
47-061-01344	WV DNR Public Land Corporation	3-9	Noumenon Corp, a WV Corp	39.686637	-80.125059	4-12-03	690'	Plugged 9/24/2015
47-061-01339	WV DNR Public Land Division	NA	Noumenon Corp, a WV Corp	39.687798	-80.124788	4-12-01	690'	Plugged 9/28/2015
47-061-71249	A B & J O Price	NA	UNKNOWN	39.701011	-80.135301	4-06-59	NA	Pre 1929 Well
47-061-30575	Price Heirs	5 or 8	Dunn-Mar Oil & Gas Co.	39.702518	-80.138125	4-06-59	2,891'	Pre 1929 Well
47-061-30644	CM Toothman	1 & 3	South Penn Oil (S. Penn Nat. Gas)	39.611935	-80.248204	4-06-59	1,922'	Pre 1929 Well
47-061-00639	A B Price	1	Consolidation Coal Co.	39.702177	-80.137743	4-06-59	NA	Plat Dated 11/12/1981 Marked "RePlug"
47-061-00642	A B Price	6	Consolidation Coal Co.	39.702468	-80.137931	4-06-59	1,142'	Plugged 1/14/1982
47-061-00604	L R Shriver	4	Consolidation Coal Co.	39.705223	-80.139433	4-06-59	3,075'	Plugged 1/22/1981

Operator's Well No. Jenkins 2H

WW-6A1 (5/13)

INFORMATION SUPPLIED UNDER WEST VIRGINIA CODE Chapter 22, Article 6A, Section 5(a)(5) IN LIEU OF FILING LEASE(S) AND OTHER CONTINUING CONTRACT(S)

Under the oath required to make the verification on page 1 of this Notice and Application, I depose and say that I am the person who signed the Notice and Application for the Applicant, and that –

- (1) the tract of land is the same tract described in this Application, partly or wholly depicted in the accompanying plat, and described in the Construction and Reclamation Plan;
- (2) the parties and recordation data (if recorded) for lease(s) or other continuing contract(s) by which the Applicant claims the right to extract, produce or market the oil or gas are as follows:

Lease Name or Number	Grantor, Lessor, etc.	Grantee, Lessee, etc.	Royalty	Book/Page
See Attachment	See Attachment	See Attachment	See Attachment	See Attachment

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WV Department of Environmental Protection

Acknowledgement of Possible Permitting/Approval In Addition to the Office of Oil and Gas

The permit applicant for the proposed well work addressed in this application hereby acknowledges the possibility of the need for permits and/or approvals from local, state, or federal entities in addition to the DEP, Office of Oil and Gas, including but not limited to the following:

- WV Division of Water and Waste Management
- WV Division of Natural Resources WV Division of Highways
- U.S. Army Corps of Engineers
- U.S. Fish and Wildlife Service
- County Floodplain Coordinator

The applicant further acknowledges that any Office of Oil and Gas permit in no way overrides, replaces, or nullifies the need for other permits/approvals that may be necessary and further affirms that all needed permits/approvals should be acquired from the appropriate authority before the affected activity is initiated.

Well Operator: Northeast Natural Energy LLC

By: Hollie M. Medley

Its: Regulatory Coordinator

	WW-6A1		Operator's Well No.	lenkins 2H
NNE Lease No.	Grantor, Lessor, etc.	Grantee, Lessee, etc.	Royalty	Book/Page
WV-061-001124-001	JUNIOR JENKINS AND LOIS JENKINS	*CHESAPEAKE APPALACHIA LLC		1359/668
WV-061-003782-001	THE LOIS A JENKINS IRREVOCABLE TRUST	NORTHEAST NATURAL ENERGY LLC	SURFACE	1551/395
- WV-061-001073-001	PRICE FARMS LLC	NORTHEAST NATURAL ENERGY LLC	0.125 OR GREATER	1489/523
WV-061-001073-002	GROVES, JOHN T. AND ANDREA	NORTHEAST NATURAL ENERGY LLC	0.125 OR GREATER	1491/416
WV-061-001073-003	GROVES, EDGAR W. AND JEANETTE	NORTHEAST NATURAL ENERGY LLC	0.125 OR GREATER	1491/412
WV-061-001073-004	HENNING, VICTORIA R. AND JAMES L.	NORTHEAST NATURAL ENERGY LLC	0.125 OR GREATER	1491/410
WV-061-001073-005	RUCKER, HELEN J. AND BERT E.	NORTHEAST NATURAL ENERGY LLC	0.125 OR GREATER	1491/414
WV-061-001073-006	GROVES, LESTER R. AND DEBRA	NORTHEAST NATURAL ENERGY LLC		1492/233
WV-061-001073-007	GROVES, ALLEN W. AND MOLINDA	NORTHEAST NATURAL ENERGY LLC		1492/236
	REID, JULIE A. AND KURT L.	NORTHEAST NATURAL ENERGY LLC	0.125 OR GREATER	1492/217
WV-061-001073-009	CLARK, WILLIAM J. AND VANIA L.	NORTHEAST NATURAL ENERGY LLC		1492/219
	HART, DEBORAH ANN AND TIMOTHY LEE	NORTHEAST NATURAL ENERGY LLC	0.125 OR GREATER	1492/223
	CLARK, JR., THOMAS	NORTHEAST NATURAL ENERGY LLC	0.125 OR GREATER	1492/215
	BURTON, SHERYL T.	NORTHEAST NATURAL ENERGY LLC	0.125 OR GREATER	1493/874
	TAYLOR, SANDRA J. AND H. MEADE CADOT TAYLOR, IV, J. PRESTON AND DIANE F.	NORTHEAST NATURAL ENERGY LLC NORTHEAST NATURAL ENERGY LLC	0.125 OR GREATER 0.125 OR GREATER	1510/078 1493/886
	HASSETT, DIANE LEE	NORTHEAST NATURAL ENERGY LLC	0.125 OR GREATER	1493/889
	SARMANTO, JOANNA L. AND RAYMOND	NORTHEAST NATURAL ENERGY LLC	0.125 OR GREATER	1493/882
WV-061-001073-017		NORTHEAST NATURAL ENERGY LLC	0.125 OR GREATER	1496/005
	THISTLETHWAITE, ALETA Y.	NORTHEAST NATURAL ENERGY LLC	0.125 OR GREATER	1496/019
	THISTLETHWAITE, JAMES E. AND DAWNA LISA	NORTHEAST NATURAL ENERGY LLC		1496/021
	THISTLETHWAITE, BRENDA L.	NORTHEAST NATURAL ENERGY LLC		1498/681
	THISTLETHWAITE, RICHARD AND JODI	NORTHEAST NATURAL ENERGY LLC		1500/397
	THISTLETHWAITE, SHELLY	NORTHEAST NATURAL ENERGY LLC	0.125 OR GREATER	1500/169
<u> </u>	THISTLETHWAITE, ROBERT JAVIER AND DAWN ROSE	NORTHEAST NATURAL ENERGY LLC		1501/504
WV-061-001073-024	GWYNNE, JOHN T.	NORTHEAST NATURAL ENERGY LLC	0.125 OR GREATER	1505/456
WV-061-001073-025	GWYNNE, JAMES RICHARD	NORTHEAST NATURAL ENERGY LLC	0.125 OR GREATER	1505/458
WV-061-001073-026	GWYNNE, JOHN ROBERT	NORTHEAST NATURAL ENERGY LLC	0.125 OR GREATER	1505/468
WV-061-001073-027	HASSETT, DIANE LEE	NORTHEAST NATURAL ENERGY LLC	DEED	1529/496
	PRICE, JOHN E., ET AL	*JOSEPH H. MCDERMOTT	0.125 OR GREATER	137/21
	PRICE FARMS LLC	NORTHEAST NATURAL ENERGY LLC	0.125 OR GREATER	1512/733
	PRICE FARMS LLC	NORTHEAST NATURAL ENERGY LLC	0.125 OR GREATER	1514/083
	PRICE FARMS LLC	NORTHEAST NATURAL ENERGY LLC	0.125 OR GREATER	1513/301
- WV-061-003480-001	RUCKER, HELEN JOANNE AND BERT E.	NORTHEAST NATURAL ENERGY LLC	0.125 OR GREATER	1516/0781
	GROVES, JOHN T. AND ANDREA	NORTHEAST NATURAL ENERGY LLC		1521/123
	CLARK, WILLIAM J. AND VANIA L.	NORTHEAST NATURAL ENERGY LLC	0.125 OR GREATER	1520/156
	HASSETT, DIANE LEE CLARK, JR., THOMAS	NORTHEAST NATURAL ENERGY LLC NORTHEAST NATURAL ENERGY LLC	0.125 OR GREATER	1521/194
	GROVES, ALLEN W. AND MOLINDA	NORTHEAST NATURAL ENERGY LLC	0.125 OR GREATER 0.125 OR GREATER	1519/824 1516/0779
	GROVES, EDGAR W. AND JEANETTE	NORTHEAST NATURAL ENERGY LLC	-	1517/336
	HENNING, VICTORIA R. AND JAMES L.	NORTHEAST NATURAL ENERGY LLC		1517/0385
	TAYLOR, IV, JOSIAH PRESTON AND DIANE FERGUSON	NORTHEAST NATURAL ENERGY LLC	0.125 OR GREATER	1516/0775
	BURTON, SHERYL T.	NORTHEAST NATURAL ENERGY LLC	0.125 OR GREATER	1517/0403
	GROVES, LESTER R. AND DEBRA			1516/5
WV-061-003480-012	TAYLOR, SANDRA J.	NORTHEAST NATURAL ENERGY LLC	0.125 OR GREATER	1520/94
	REID, JULIE A. AND KURT L.	NORTHEAST NATURAL ENERGY LLC	0.125 OR GREATER	1516/158
WV-061-003480-014	HART, DEBORAH ANN AND TIMOTHY LEE	NORTHEAST NATURAL ENERGY LLC	0.125 OR GREATER	1517/0401
WV-061-003480-015	SARMANTO, JOANNA L. AND RAYMOND	NORTHEAST NATURAL ENERGY LLC	0.125 OR GREATER	1518/35
	THISTLETHWAITE, RICHARD AND JODI	NORTHEAST NATURAL ENERGY LLC	0.125 OR GREATER	1524/359
WV-061-003480-017	HARRIS, ROBERT L		0.125 OR GREATER	1524/791
	THISTLETHWAITE, JAMES E. AND DAWNA LISA	NORTHEAST NATURAL ENERGY LLC	0.125 OR GREATER	1523/797
WV-061-003480-019	THISTLETHWAITE, BRENDA L.	NORTHEAST NATURAL ENERGY LLC	0.125 OR GREATER	1524/786
	THISTLETHWAITE, ALETA Y.	NORTHEAST NATURAL ENERGY LLC	0.125 OR GREATER	1524/338
WV-061-003480-021	THISTLETHWAITE, ROBERT JAVIER AND DAWN ROSE	NORTHEAST NATURAL ENERGY LLC	0.125 OR GREATER	1524/242
	THISTLETHWAITE, SHELLY GWYNNE, JOHN ROBERT	NORTHEAST NATURAL ENERGY LLC NORTHEAST NATURAL ENERGY LLC	0.125 OR GREATER	1524/709
WV-061-003587-001	GWYNNE, JOHN T.	NORTHEAST NATURAL ENERGY LLC	0.125 OR GREATER	1532/140
	GWYNNE, JAMES RICHARD	NORTHEAST NATURAL ENERGY LLC	0.125 OR GREATER 0.125 OR GREATER	1529/57 1532/142
	RUCKER, HELEN JOANNE AND BERT E.	NORTHEAST NATURAL ENERGY LLC	0.125 OR GREATER	1516/781
	GROVES, JOHN T. AND ANDREA	NORTHEAST NATURAL ENERGY LLC	0.125 OR GREATER	1521/123
	CLARK, WILLIAM J. AND VANIA L.	NORTHEAST NATURAL ENERGY LLC	0.125 OR GREATER	1520/156
WV-061-003480-004	HASSETT, DIANE LEE	NORTHEAST NATURAL ENERGY LLC	0.125 OR GREATER	1521/194
WV-061-003480-005	CLARK, THOMAS J. JR.	NORTHEAST NATURAL ENERGY LLC	0.125 OR GREATER	1519/824
WV-061-003480-006	GROVES, ALLEN W. AND MOLINDA	NORTHEAST NATURAL ENERGY LLC	0.125 OR GREATER	1516/779
WV-061-003480-007	GROVES, EDGAR W. AND JEANETTE	NORTHEAST NATURAL ENERGY LLC	0.125 OR GREATER	1517/336
	HENNING, VICTORIA R. AND JAMES L	NORTHEAST NATURAL ENERGY LLC	0.125 OR GREATER	1517/385
WV-061-003480-009	TAYLOR, JOSIAH PRESTON AND DIANE FERGUSON	NORTHEAST NATURAL ENERGY LLC	0.125 OR GREATER	1516/775
	BURTON, SHERYL T.	NORTHEAST NATURAL ENERGY LLC		1517/403
WV-061-003480-011	GROVES, LESTER R. AND DEBRA	NORTHEAST NATURAL ENERGY LLC	0.125 OR GREATER	1516/5

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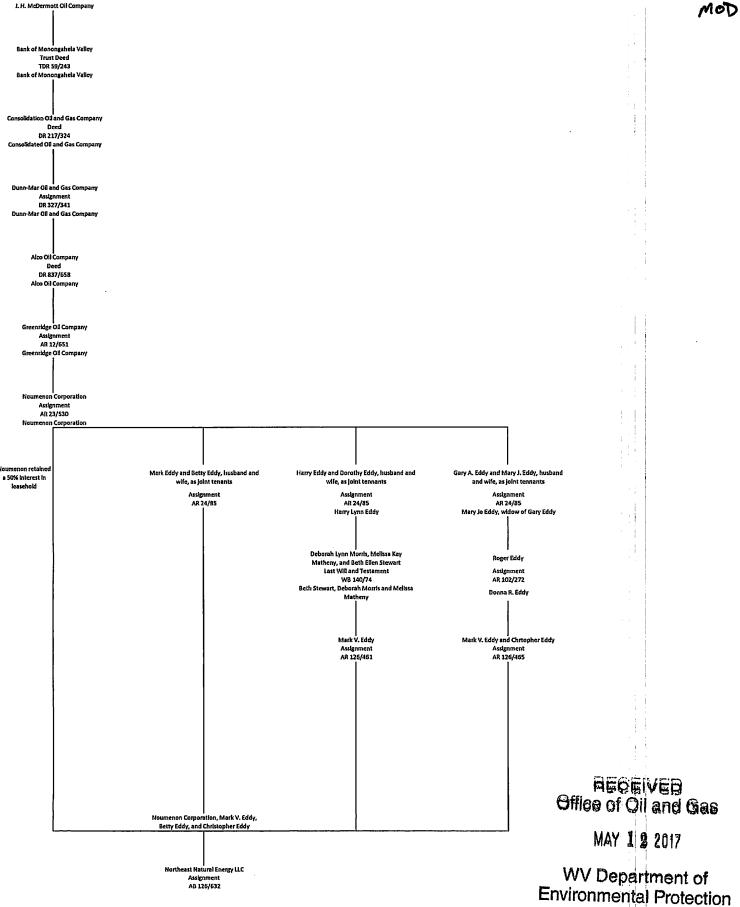
	WW-6A1		Operator's Well No.	Jenkins 2H
NNE Lease No.	Grantor, Lessor, etc.	Grantee, Lessee, etc.	Royalty	Book/Page
WV-061-003480-012	TAYLOR, SANDRA J.	NORTHEAST NATURAL ENERGY LLC	0.125 OR GREATER	1520/94
WV-061-003480-013	REID, JULIE A. AND KURT L	NORTHEAST NATURAL ENERGY LLC	0.125 OR GREATER	1516/158
WV-061-003480-014	HART, DEBORAH ANN AND TIMOTHY LEE	NORTHEAST NATURAL ENERGY LLC	0.125 OR GREATER	1517/401
WV-061-003480-015	SARMANTO, JOANNA L. AND RAYMOND	NORTHEAST NATURAL ENERGY LLC	0.125 OR GREATER	1518/35
WV-061-003480-016	THISTLETHWAITE, RICHARD AND JODI	NORTHEAST NATURAL ENERGY LLC	0.125 OR GREATER	1524/359
WV-061-003480-017	HARRIS, ROBERT L.	NORTHEAST NATURAL ENERGY LLC	0.125 OR GREATER	1524/791
WV-061-003480-018	THISTLETHWAITE, JAMES E. AND DAWNA LISA	NORTHEAST NATURAL ENERGY LLC	0.125 OR GREATER	1523/797
WV-061-003480-019	THISTLETHWAITE, BRENDA L.	NORTHEAST NATURAL ENERGY LLC	0.125 OR GREATER	1524/786
WV-061-003480-020	THISTLETHWAITE, ALETA Y.	NORTHEAST NATURAL ENERGY LLC	0.125 OR GREATER	1524/338
WV-061-003480-021	THISTLETHWAITE, ROBERT JAVIER AND DAWN ROSE	NORTHEAST NATURAL ENERGY LLC	0.125 OR GREATER	1524/242
WV-061-003480-022	THISTLETHWAITE, SHELLY	NORTHEAST NATURAL ENERGY LLC	0.125 OR GREATER	1521/123
WV-061-003587-001	GWYNNE, JOHN ROBERT	NORTHEAST NATURAL ENERGY LLC	0.125 OR GREATER	1532/140
WV-061-003587-002	GWYNNE, JOHN T.	NORTHEAST NATURAL ENERGY LLC	0.125 OR GREATER	1529/57
WV-061-003587-003	GWYNNE, JAMES RICHARD	NORTHEAST NATURAL ENERGY LLC	0.125 OR GREATER	1532/142
WV-061-001064-001	RADTKA, RYAN C. AND SUSAN R.	NORTHEAST NATURAL ENERGY LLC	0.125 OR GREATER	1486/406
WV-061-001064-002	SCOTT, TIMOTHY D.	NORTHEAST NATURAL ENERGY LLC	0.125 OR GREATER	1493/187
WV-061-001064-003	VOGT, KATHLEEN KELLEY	NORTHEAST NATURAL ENERGY LLC	0.125 OR GREATER	1495/27
WV-061-001064-004	KELLEY, BEVERLY STEPHEN	NORTHEAST NATURAL ENERGY LLC	0.125 OR GREATER	1495/23
WV-061-001064-005	POLLACK, RUTH MARY	NORTHEAST NATURAL ENERGY LLC	0.125 OR GREATER	1493/277
WV-061-001064-006	SHISLER, PATRICIA KELLEY	NORTHEAST NATURAL ENERGY LLC	0.125 OR GREATER	1495/25
WV-061-001064-007	CATANESE, REBECCA KELLEY	NORTHEAST NATURAL ENERGY LLC	0.125 OR GREATER	1495/180
WV-061-001064-008	SCOTT, CHRISTOPER S.	NORTHEAST NATURAL ENERGY LLC	0.125 OR GREATER	1493/283
WV-061-001064-009	SEALE, ANN R.	NORTHEAST NATURAL ENERGY LLC	0.125 OR GREATER	1495/80
WV-061-001064-010	SCOTT, PETER S.	NORTHEAST NATURAL ENERGY LLC	0.125 OR GREATER	1495/87
WV-061-001064-011	SCOTT, MICHAEL J.	NORTHEAST NATURAL ENERGY LLC	0.125 OR GREATER	1495/84
WV-061-001064-012	OKLAHOMA MEDICAL RESEARCH FOUNDATION	NORTHEAST NATURAL ENERGY LLC	0.125 OR GREATER	1496/365
WV-061-001064-013	METHODIST CHILDREN'S HOME	NORTHEAST NATURAL ENERGY LLC	0.125 OR GREATER	1496/369
WV-061-001064-014	METHODIST HOME OF CLINTON INC	NORTHEAST NATURAL ENERGY LLC	0.125 OR GREATER	1496/371
WV-061-001064-015	THE OKLAHOMA UNITED METHODIST FOUNDATION INC	NORTHEAST NATURAL ENERGY LLC	0.125 OR GREATER	1496/367
WV-061-001064-016	RADTKA, RYAN C. AND SUSAN R.	NORTHEAST NATURAL ENERGY LLC	0.125 OR GREATER	1501/510
WV-061-001064-017	KELLEY, BEVERLY STEPHEN	NORTHEAST NATURAL ENERGY LLC	DEED	1516/532
WV-061-001064-018	OKAHOMA MEDICAL RESEARCH FOUNDATION	NORTHEAST NATURAL ENERGY LLC	0.125 OR GREATER	1496/365
WV-061-001064-019	METHODIST CHILDREN'S HOME	NORTHEAST NATURAL ENERGY LLC	0.125 OR GREATER	1496/369
WV-061-001064-020	METHODIST HOME OF CLINTON INC	NORTHEAST NATURAL ENERGY LLC	0.125 OR GREATER	1496/371
WV-061-001064-021	THE OKLAHOMA UNITED METHODIST FOUNDATION INC	NORTHEAST NATURAL ENERGY LLC	0.125 OR GREATER	1496/367
WV-061-001072-001	WETHERELL, DIANA V.	NORTHEAST NATURAL ENERGY LLC	0.125 OR GREATER	1488/888
WV-061-003484-001	SEALE, ANN R.	NORTHEAST NATURAL ENERGY LLC	DEED	1524/221
WV-061-003284-001	PINEY HOLDING INC	NORTHEAST NATURAL ENERGY LLC	0.125 OR GREATER	1496/373
WV-061-003280-001	CHESAPEAKE APPALACHIA, LLC.	*CHESAPEAKE APPALACHIA LLC	0.125 OR GREATER	1487/282
WV-061-003280-002	STATOIL USA ONSHORE PROPERTIES INC	*STATOIL USA ONSHORE PROPERTIES INC	0.125 OR GREATER	1488/756
WV-061-004339-001	WEST VIRGINIA DIVISION OF NATURAL RESOURCES	NORTHEAST NATURAL ENERGY LLC	MODIFICATION	1586/642
WV-061-004449-000	WEST VIRGINIA DIVISION OF NATURAL RESOURCES	NORTHEAST NATURAL ENERGY LLC	0.125 OR GREATER	1586/640
	*See Attachment			

^{*}See Attachment

HEREIVER Gas

MAY 1 2 2017

05/19/2017



Chesapeake Appalachia, LLC. And Statoil USA Onshore Properties Inc.

> Northeast Natural Energy Assignment BK 120/769

> > HESEIVER Office of Oil and Gas

> > > MAY 1 2 2017

WW-60 (7-01)

DATE: April 26th, 20 17
OPERATOR'S
WELL NO. JENKINS 2H

API NO: 47-

State County Permit No.

STATE OF WEST VIRGINIA
OFFICE OF OIL AND GAS
DEPARTMENT OF ENVIRONMENTAL PROTECTION

AFFIDAVIT

State of West Sirginiae
County of Monongalia

I, Name Moran Common (the designated owner or operator, or authorized representative thereof), after being duly sworn, do declare that the undersigned is authorized by the owner of the working interest in the well permit application to which this affidavit is attached to state that (he, she, or it) shall tender to the owner of the oil and gas in place not less than one-eighth of the total amount paid to or received by or allowed to the owner of the working interest at the wellhead for the oil or gas so extracted, produced, or marketed before deducting the amount to be paid or set aside for the owner of the oil or gas in place, or all such oil or gas to be extracted, produced, or marketed from the well. West Virginia Code 22-6-8(e).

Signed: Samuellorga John

Taken, subscribed and sworn to before me this 26th day of april . 20 17

Brenda Malone - Pence

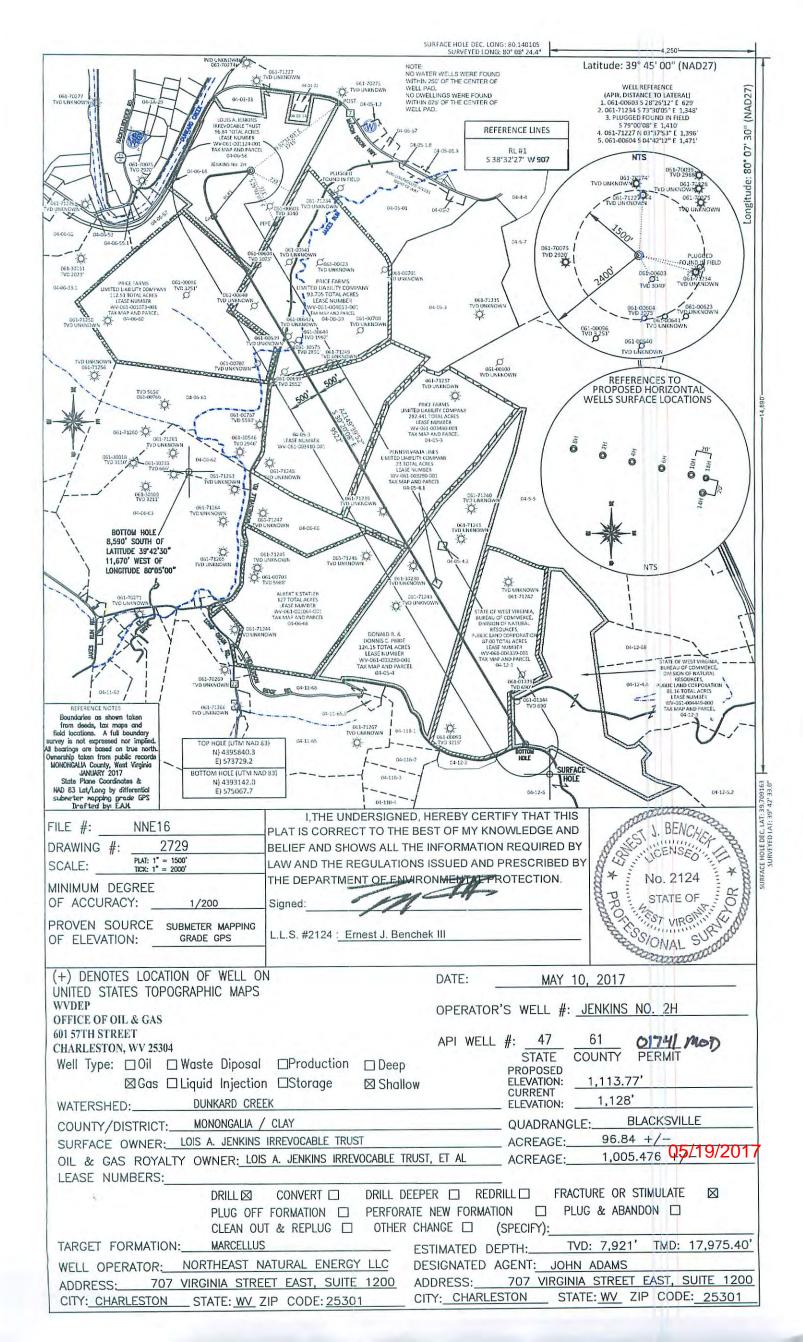
My Commission expires: 09 06 2017

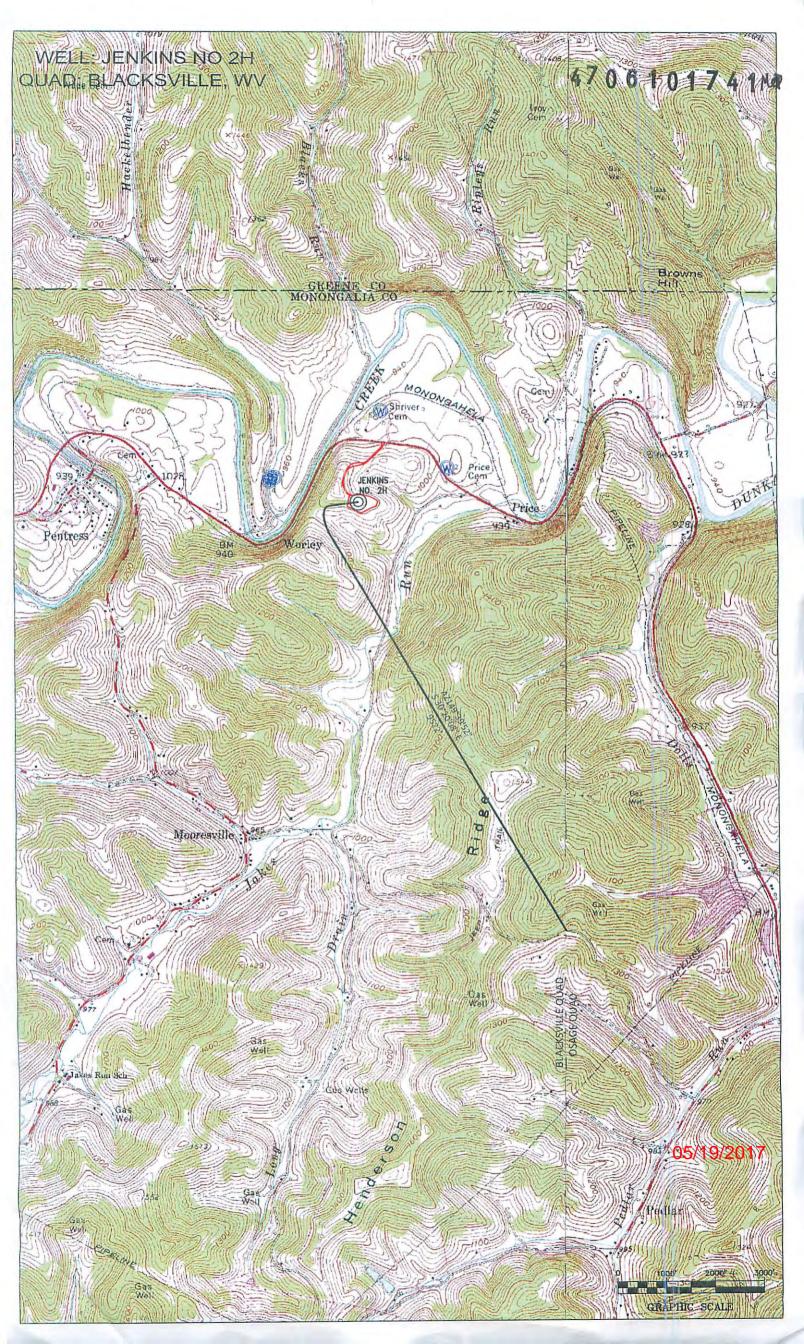
RECEIVED
Office of Oil and Gas

MAY 1 2 2017

WV Department of Environmental Protection Official Seal
Notary Public, State of West Virginia
Brenda Malone-Pence
1007 24th Street
Parkersburg, WV 26101
My Commission Expires September 6, 2017









May 11, 2017

WV Department of Environmental Protection Office of Oil and Gas 601 57th Street SE Charleston, WV 25304

Re: Jenkins 2H, 4H, 6H, 8H, 10H, 14H and 18H Permit Modifications API # 061-01741, 061-01742, 061-01743, 061-01720, 061-01725

Dear Permit Reviewer,

Northeast Natural Energy LLC ("NNE") would like to request modifications to its existing Jenkins 2H, 4H, 6H, 8H, and 10H Permits (061-01741, 061-01742, 061-01743, 061-01720, 061-01725). Additionally, NNE has submitted to the Office for review two applications for its proposed Jenkins 14H and 18H wells. NNE has adjusted and lengthened the horizontal well bores to allow for more efficient development of the permitted Jenkins Pad.

Please find enclosed with this request revised WW-6B Forms, WW-6A1 Forms and Attachments, Site Safety Plans, Well Bore Schematics, Area of Review Maps and Spreadsheets, and Mylar Plats for all seven wells.

Should you have any questions please contact me at 304.212.0422 or by email at hmedley@nne-llc.com.

Sincerely,

Hollie M. Medley

Regulatory Coordinator

+ telling realy

BEFEIVER Office of Oil and Gas

MAY 1 2 2017