



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 10H
47-061-01725-00-00

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
Chief

Operator's Well Number: JENKINS 10H
Farm Name: JENKINS, LOIS A.
U.S. WELL NUMBER: 47-061-01725-00-00
Horizontal 6A / Horizontal 6A Well - 1
Date Issued: 5/18/2017

Promoting a healthy environment.

05/19/2017

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

1) Well Operator: Northeast Natural Energy LLC 494498281 Monongalia Clay Blacksville
Operator ID County District Quadrangle

2) Operator's Well Number: Jenkins 10H Well Pad Name: Jenkins

3) Farm Name/Surface Owner: Lois A. Jenkins Irrevocable Trust Public Road Access: Mason Dixon Highway (State Route 7)

4) Elevation, current ground: 1128' Elevation, proposed post-construction: 1113.7'

5) Well Type (a) Gas Oil Underground Storage

Other _____

(b) If Gas Shallow _____ Deep

Horizontal

6) Existing Pad: Yes or No No *MDK 5/11/2017*

7) Proposed Target Formation(s), Depth(s), Anticipated Thickness and Expected Pressure(s):
Pilot: Helderburg, 8,400'; Horizontal: Marcellus, 7,921', 103', 3,600 psi

8) Proposed Total Vertical Depth: Pilot: 8,400' ; Horizontal: 7,921'

9) Formation at Total Vertical Depth: Pilot: Helderburg; Horizontal: Marcellus

10) Proposed Total Measured Depth: 18,863.47'

11) Proposed Horizontal Leg Length: 10,315'

12) Approximate Fresh Water Strata Depths: 50'; 1,034'

13) Method to Determine Fresh Water Depths: Driller's Log from Offset Wells

14) Approximate Saltwater Depths: 1,340'; 2,182'

15) Approximate Coal Seam Depths: 830; 1,032'

16) Approximate Depth to Possible Void (coal mine, karst, other): NA

17) Does Proposed well location contain coal seams directly overlying or adjacent to an active mine? Yes _____ No

(a) If Yes, provide Mine Info: Name: _____
Depth: _____
Seam: _____
Owner: _____

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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	18,863.47'	18,833.47'	4,499' Cu. Ft.
Tubing	2-7/8"	New	N-80	6.5	NA	8,500'	NA
Liners							

MJK 5/11/2017

TYPE	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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19) Describe proposed well work, including the drilling and plugging back of any pilot hole:

Drilling and completion of a horizontal Marcellus well. The well will be drilled on air to an approximate depth of 6207.17' TVD/MD. A pilot hole will then be drilled on synthetic based mud to an approximate depth of 8,400' and plugged back with solid cement to the KOP at approximately 6207.17' TVD. The well will then be horizontally drilled on synthetic based mud from the KOP to approximately 7,921' TVD / 18,863.47' 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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4706101725 MoD

Scale 1 inch = 1500 ft



NORTHEAST NATURAL ENERGY, LLC

Location: Monongalia County, WV
 Field: Monongalia
 Facility: Jenkins Pad

Slot: Slot #10
 Well: Jenkins 10H
 Wellbore: Jenkins 10H PWB



Location Information						
Facility Name	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude		
Jenkins Pad	1788480.777	441086.186	39°42'33.300"N	80°08'23.600"W		
Slot	Local N (ft)	Local E (ft)	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude
Slot #10	-29.23	114.83	1788595.600	441056.960	39°42'33.019"N	80°08'22.128"W
Comment: Jenkins 10H						
Ground Level (GL) to Mud line (At Slot: Slot #10)			0ft			
Mean Sea Level to Mud line (At Slot: Slot #10)			-1114ft			
Ground Level (GL) to Mean Sea Level			1114ft			

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

13.375in Casing Surface : 0.00° Inc, 1090.00ft MD, 1090.00ft TVD, 0.00ft VS

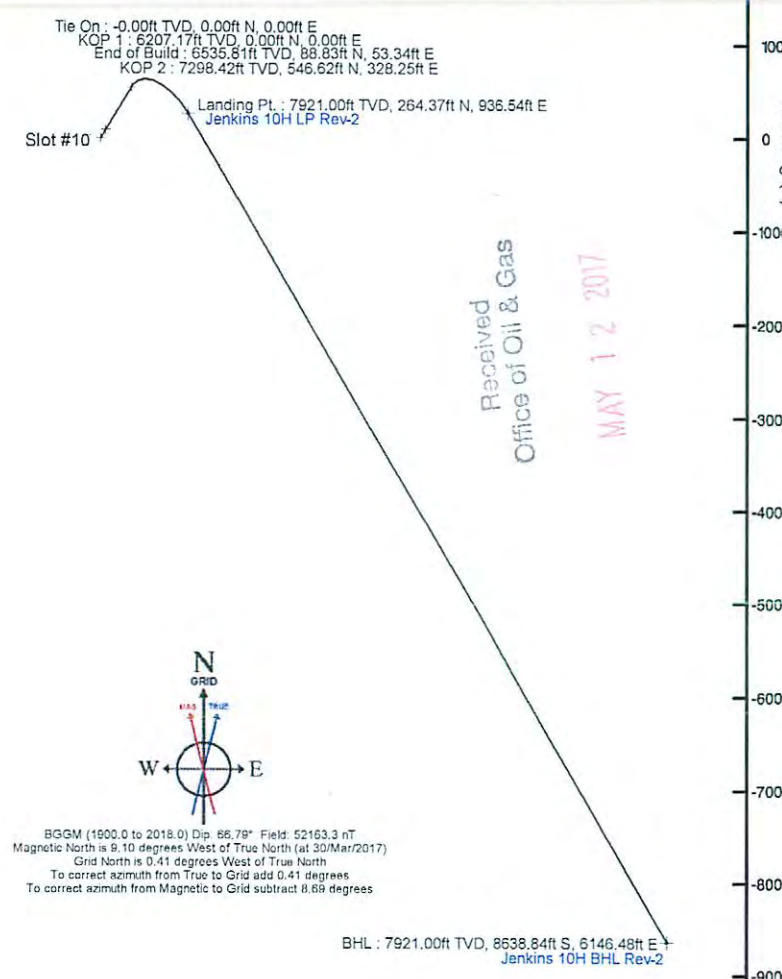
Type	Hole Size	Casing Size	Grade	GL Depth (Csg)
Conductor	28"	24"	NA	40'
Surface	17-1/2"	13-3/8"	J-55	54.5
Intermediate	12-1/4"	9-5/8"	J-55	40

9.625in Casing Intermediate : 0.00° Inc, 2250.00ft MD, 2250.00ft TVD, 0.00ft VS

Formation	Depth (KBTVD)
Geneseo	7633'
Tully	7685'
Hamilton	7749'
Upper Marcellus	7856'
Cherry Valley	7897'
Lower Marcellus	7901'
Onondaga	7959'

True Vertical Depth (ft)

Scale 1 inch = 2000
 Easting (ft)



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BGGM (1900.0 to 2018.0) Dip: 66.78° Field: 52163.3 nT
 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

KOP 1 : 0.00° Inc, 6207.17ft MD, 6207.17ft TVD, 0.00ft VS
 End of Build : 35.00° Inc, 6557.17ft MD, 6535.81ft TVD, -49.72ft VS
 KOP 2 : 35.00° Inc, 7488.15ft MD, 7298.42ft TVD, -305.94ft VS
 Landing Pt. : 90.00° Inc, 8547.92ft MD, 7921.00ft TVD, 244.91ft VS
 Jenkins 10H LP Rev-2
 Pilot BHL : 0.00° Inc, 8400.00ft MD, 8400.00ft TVD, 0.00ft VS

BHL : 90.00° Inc, 18863.47ft MD, 7921.00ft TVD, 10560.46ft VS
 5.5in Casing Production : 90.00° Inc, 18863.37ft MD, 7921.00ft TVD, 10560.36ft VS

Azimuth 149.66° with reference 0.00 N, 0.00 E

Scale 1 inch = 1500

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northeast
NATURAL ENERGY

Jenkins 10H
SITE SAFETY PLAN

May 2, 2017

MJK
5/11/2017

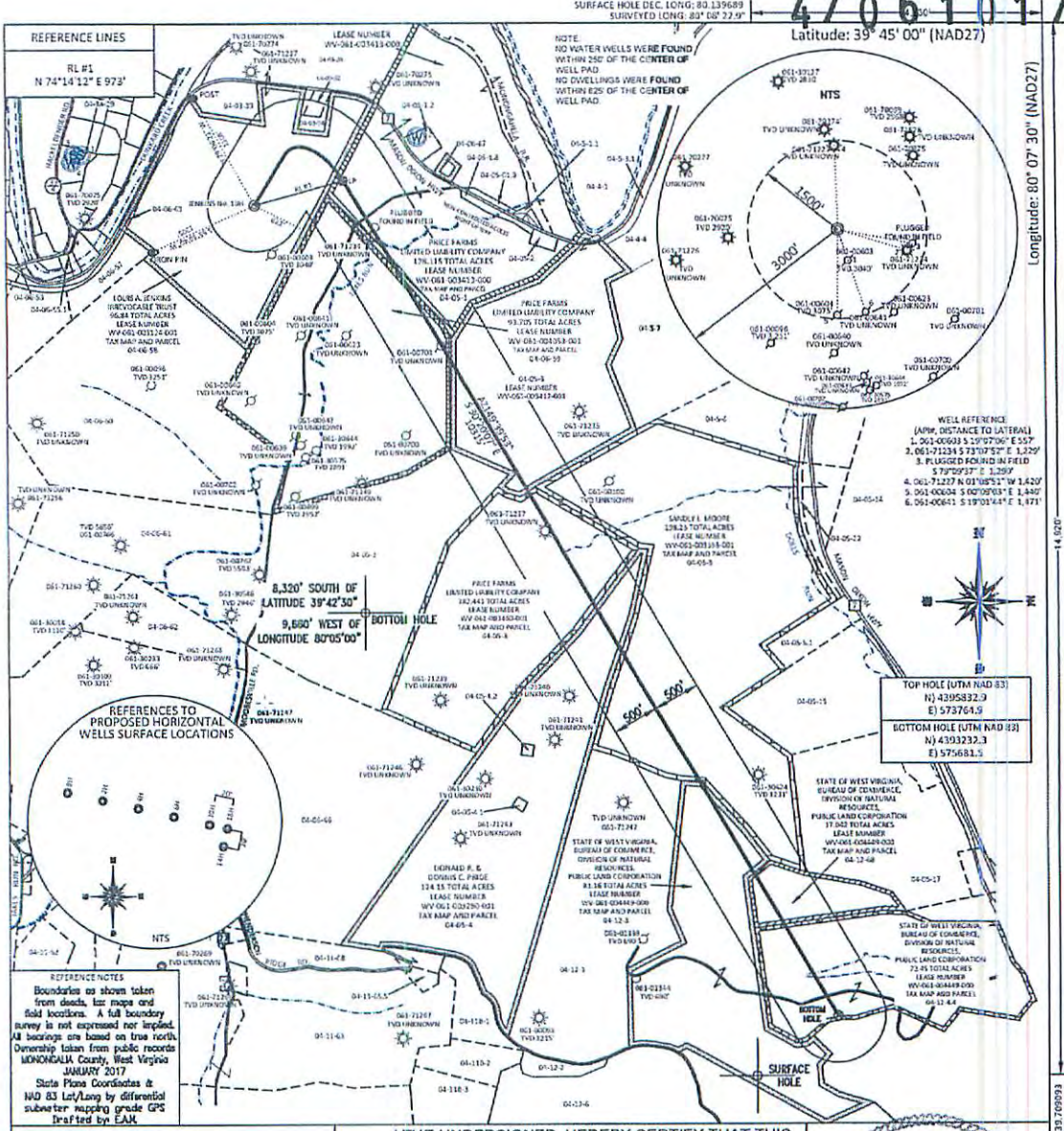
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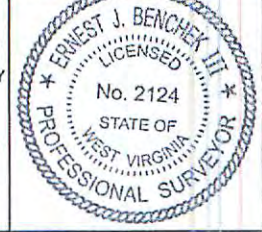
05/19/2017

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FILE #: NNE16
 DRAWING #: 2735
 SCALE: PLAT: 1" = 1500'
TICK: 1" = 2000'
 MINIMUM DEGREE OF ACCURACY: 1/200
 PROVEN SOURCE OF ELEVATION: SUBMETER MAPPING GRADE GPS

I, THE UNDERSIGNED, HEREBY CERTIFY THAT THIS PLAT IS CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF AND SHOWS ALL THE INFORMATION REQUIRED BY LAW AND THE REGULATIONS ISSUED AND PRESCRIBED BY THE DEPARTMENT OF ENVIRONMENTAL PROTECTION.
 Signed: [Signature]
 L.L.S. #2124 : Ernest J. Benchek III



(+) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS WYDEP
 OFFICE OF OIL & GAS
 601 57TH STREET
 CHARLESTON, WV 25304

Well Type: Oil Waste Diposal Production Deep Shallow
 Gas Liquid Injection Storage

WATERSHED: DUNKARD CREEK
 COUNTY/DISTRICT: MONONGALIA / CLAY
 SURFACE OWNER: LOIS A. JENKINS IRREVOCABLE TRUST
 OIL & GAS ROYALTY OWNER: LOIS A. JENKINS IRREVOCABLE TRUST, ET AL
 LEASE NUMBERS: _____

DATE: MAY 10, 2017
 OPERATOR'S WELL #: JENKINS NO. 10H
 API WELL #: 47 61
 STATE COUNTY PERMIT
 PROPOSED ELEVATION: 1,113.77'
 CURRENT ELEVATION: 1,128'
 QUADRANGLE: BLACKSVILLE
 ACREAGE: 96.84 +/-
 ACREAGE: 1099.153 +/-

DRILL CONVERT DRILL DEEPER REDRILL FRACTURE OR STIMULATE
 PLUG OFF FORMATION PERFORATE NEW FORMATION PLUG & ABANDON
 CLEAN OUT & REPLUG OTHER CHANGE (SPECIFY): _____

TARGET FORMATION: PILOT FORMATION HELDERBURG
 ESTIMATED DEPTH: TVD PILOT: 8,400' TVD HORIZONTAL: 7,921' TWD: 18,853.47'
 WELL OPERATOR: NORTHEAST NATURAL ENERGY LLC DESIGNATED AGENT: JOHN ADAMS
 ADDRESS: 707 VIRGINIA STREET EAST, SUITE 1200 ADDRESS: 707 VIRGINIA STREET EAST, SUITE 1200
 CITY: CHARLESTON STATE: WV ZIP CODE: 25301 CITY: CHARLESTON STATE: WV ZIP CODE: 25301

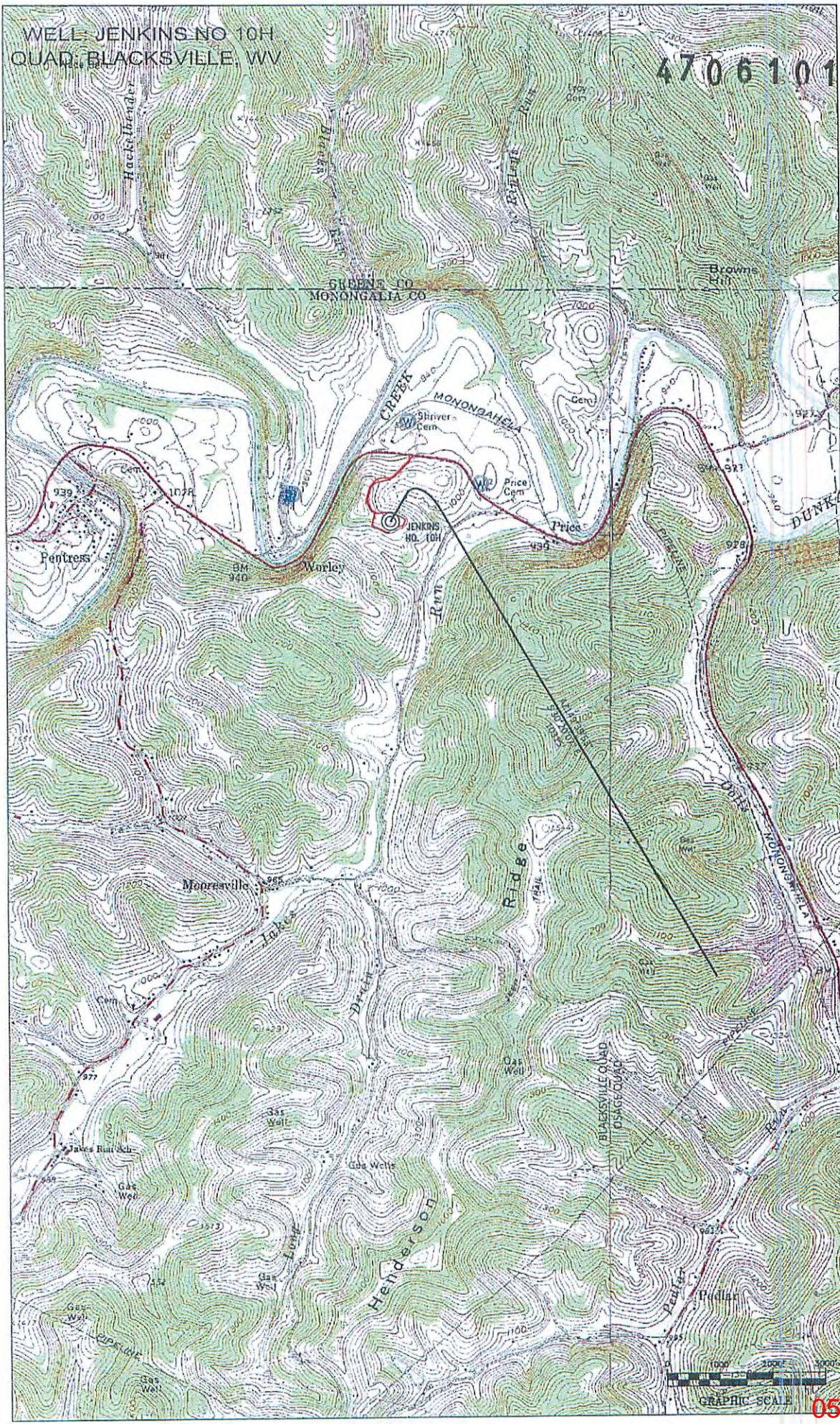
SURFACE HOLE DEC. LONG: 80 139689 SURVEYED LONG: 80° 00' 22.9" Longitude: 80° 07' 30" (NAD27) Latitude: 39° 45' 00" (NAD27)

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WELL JENKINS NO 10H
QUAD BLACKSVILLE, WV

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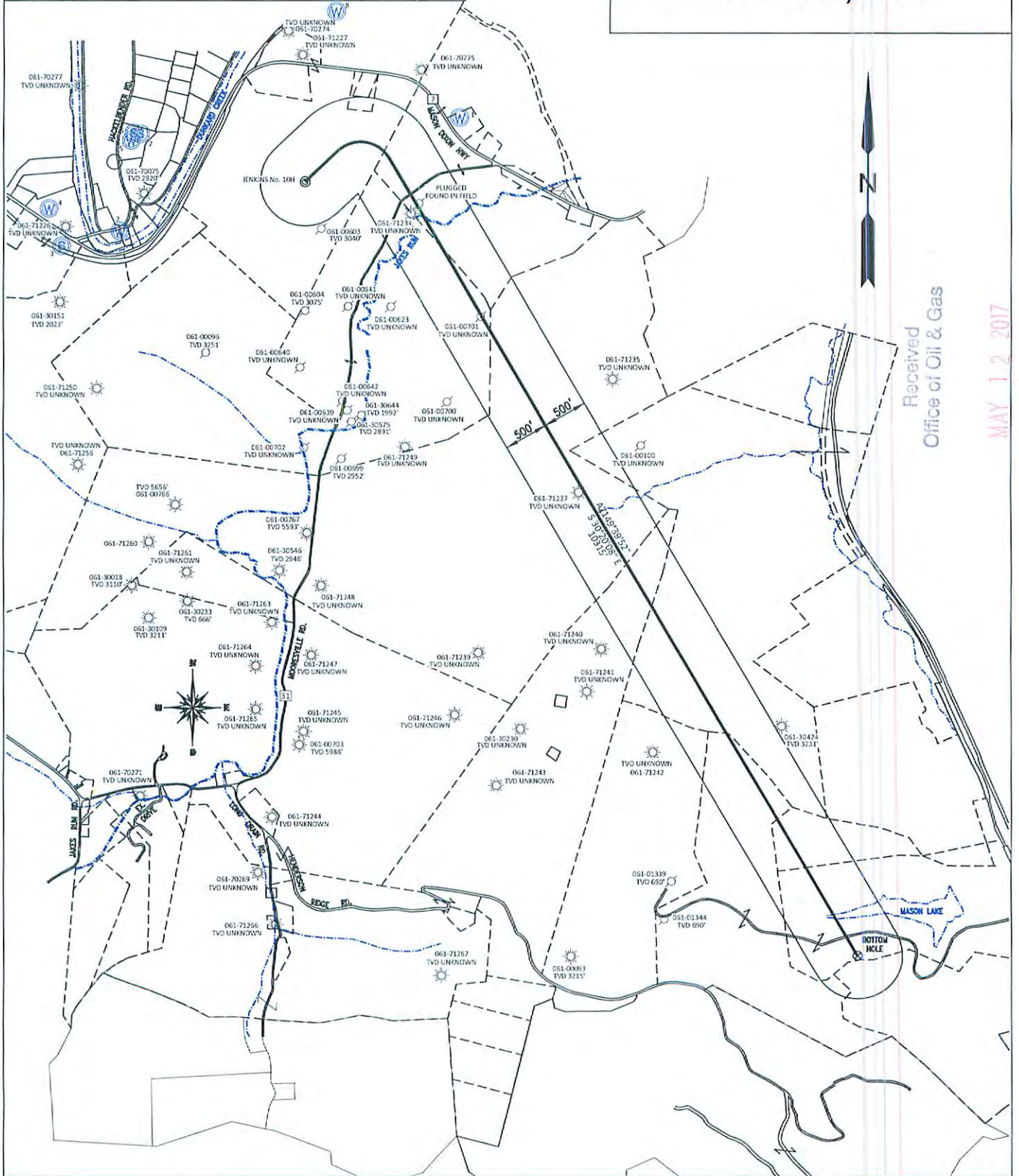


05/19/2017

SCALE: 1" = 1,500'



JENKINS No. 10H
EXISTING GAS WELLS
MARCH 16, 2017



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Jenkins 10H Area of Review

API Number	Well Name	Well Number	Operator	Latitude (NAD 27)	Longitude (NAD 27)	TMP	TVD	Producing Formation
47-061-71234	J O Price	4	UNKNOWN	39.708122	-80.135300	4-06-59	NA	Pre 1929 Well
47-061-00701	A B Price	NA	Consolidation Coal Co.	39.705078	-80.132487	4-06-59	1,508'	Plugged 9/14/1982
47-061-71237	Wm Price	NA	Hope Natural Gas Company	39.699704	-80.128544	4-05-03	NA	Pre 1929 Well

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WW-6A1
(5/13)

Operator's Well No. Jenkins 10H

**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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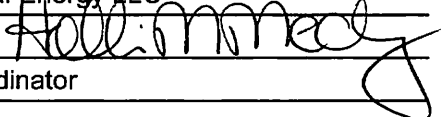
WV Department of
Environmental Protection

**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. Jenkins 10H	
NNE Lease No.	Grantor, Lessor, etc.	Grantee, Lessee, etc.	Royalty	Book/Page
WV-061-001124-001	JUNIOR JENKINS AND LOIS JENKINS	*CHESAPEAKE APPALACHIA LLC	0.125 OR GREATER	1359/668
WV-061-003413-000	PRICE FARMS LLC	NORTHEAST NATURAL ENERGY LLC	0.125 OR GREATER	1214/037
WV-061-004053-001	PRICE, JOHN E., ET AL	*JOSEPH J. MCDERMOTT	0.125 OR GREATER	137/21
WV-061-003412-001	PRICE FARMS LLC	NORTHEAST NATURAL ENERGY LLC	0.125 OR GREATER	1513/301
WV-061-003598-001	MOORE, SANDY	NORTHEAST NATURAL ENERGY LLC	0.125 OR GREATER	1524/30
WV-061-003480-001	RUCKER, HELEN JOANNE AND BERT E.	NORTHEAST NATURAL ENERGY LLC	0.125 OR GREATER	1516/781
WV-061-003480-002	GROVES, JOHN T. AND ANDREA	NORTHEAST NATURAL ENERGY LLC	0.125 OR GREATER	1521/123
WV-061-003480-003	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
WV-061-003480-008	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
WV-061-003480-010	BURTON, SHERYL T.	NORTHEAST NATURAL ENERGY LLC	0.125 OR GREATER	1517/403
WV-061-003480-011	GROVES, LESTER R. AND DEBRA	NORTHEAST NATURAL ENERGY LLC	0.125 OR GREATER	1516/5
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-061-003280-001	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-061-004449-000	WEST VIRGINIA DIVISION OF NATURAL RESOURCES	NORTHEAST NATURAL ENERGY LLC	0.125 OR GREATER	1586/640
WV-061-004449-000	WEST VIRGINIA DIVISION OF NATURAL RESOURCES	NORTHEAST NATURAL ENERGY LLC	0.125 OR GREATER	1586/640
WV-061-004449-000	WEST VIRGINIA DIVISION OF NATURAL RESOURCES	NORTHEAST NATURAL ENERGY LLC	0.125 OR GREATER	1586/640

*See Attachment

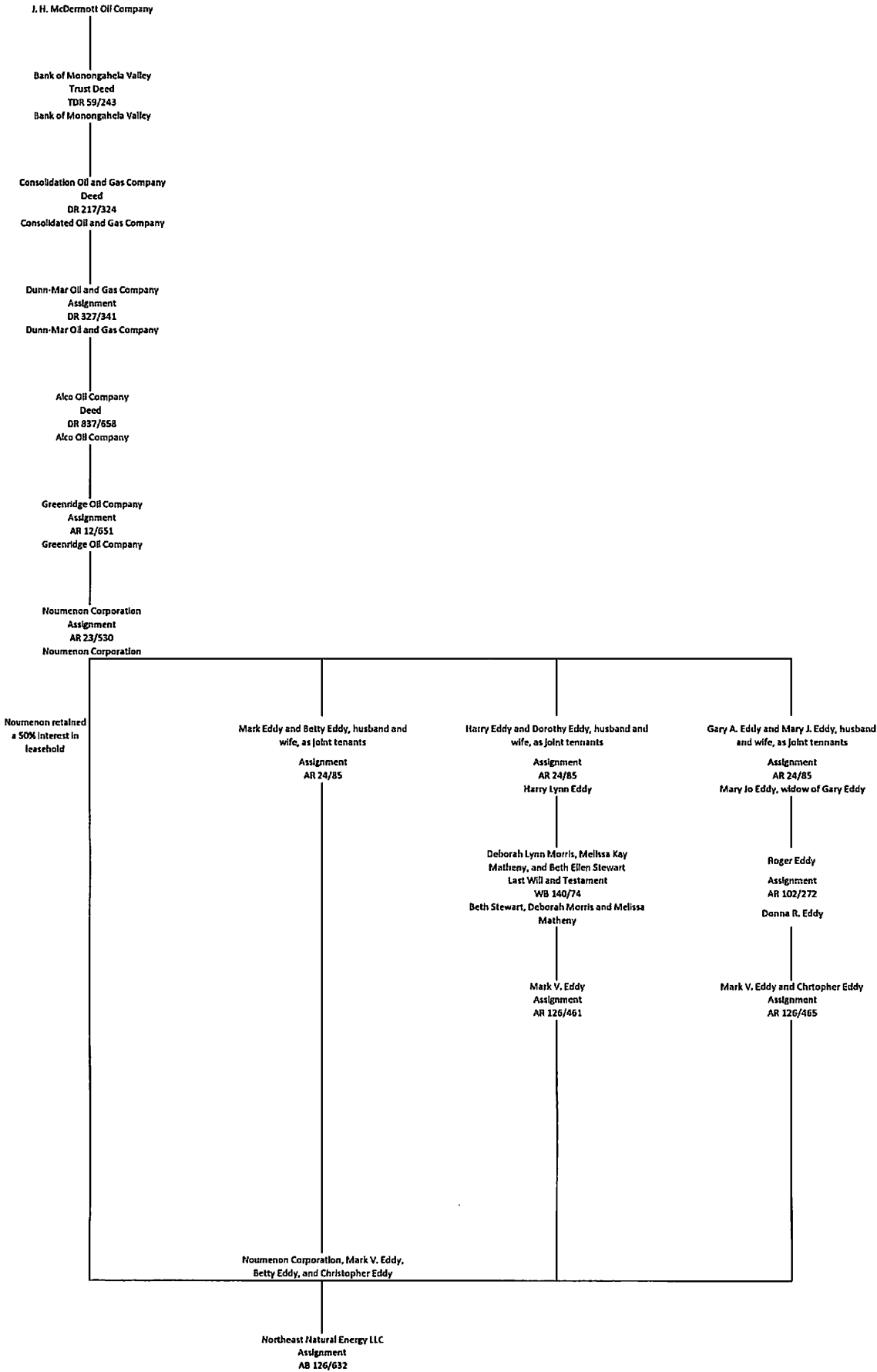
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Chesapeake Appalachia, LLC.
Statoil USA Onshore Properties, Inc

Northeast Natural Energy
Assignment
BK 120/769

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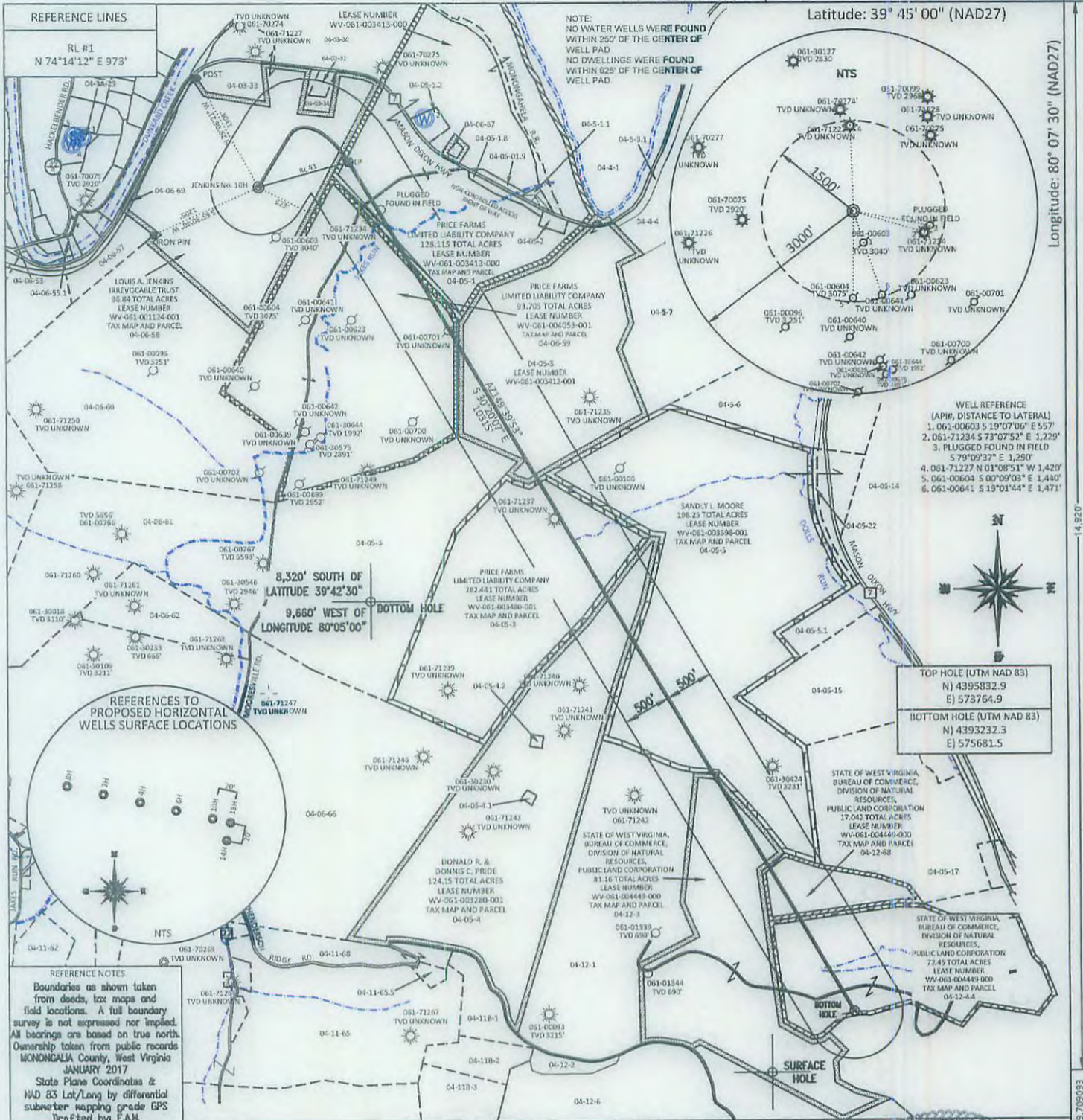
WV Department of
Environmental Protection

05/19/2017

SURFACE HOLE DEC. LONG: 80.139689
 SURVEYED LONG: 80° 08' 22.9"

Latitude: 39° 45' 00" (NAD27)

Longitude: 80° 07' 30" (NAD27)



REFERENCE LINES

RL #1
 N 74° 14' 12" E 973'

NOTE:
 NO WATER WELLS WERE FOUND
 WITHIN 250' OF THE CENTER OF
 WELL PAD
 NO DWELLINGS WERE FOUND
 WITHIN 625' OF THE CENTER OF
 WELL PAD

NTS

8,320' SOUTH OF
 LATITUDE 39° 42' 30"
 9,660' WEST OF
 LONGITUDE 80° 05' 00"

REFERENCES TO
 PROPOSED HORIZONTAL
 WELLS SURFACE LOCATIONS

REFERENCE NOTES
 Boundaries as shown taken
 from deeds, tax maps and
 field locations. A full boundary
 survey is not expressed nor implied.
 All bearings are based on true north.
 Ownership taken from public records
 MONONGALIA County, West Virginia
 JANUARY 2017
 State Plane Coordinates &
 NAD 83 Lat/Long by differential
 submeter mapping grade GPS
 Drafted by EAM

I, THE UNDERSIGNED, HEREBY CERTIFY THAT THIS
 PLAT IS CORRECT TO THE BEST OF MY KNOWLEDGE AND
 BELIEF AND SHOWS ALL THE INFORMATION REQUIRED BY
 LAW AND THE REGULATIONS ISSUED AND PRESCRIBED BY
 THE DEPARTMENT OF ENVIRONMENTAL PROTECTION.

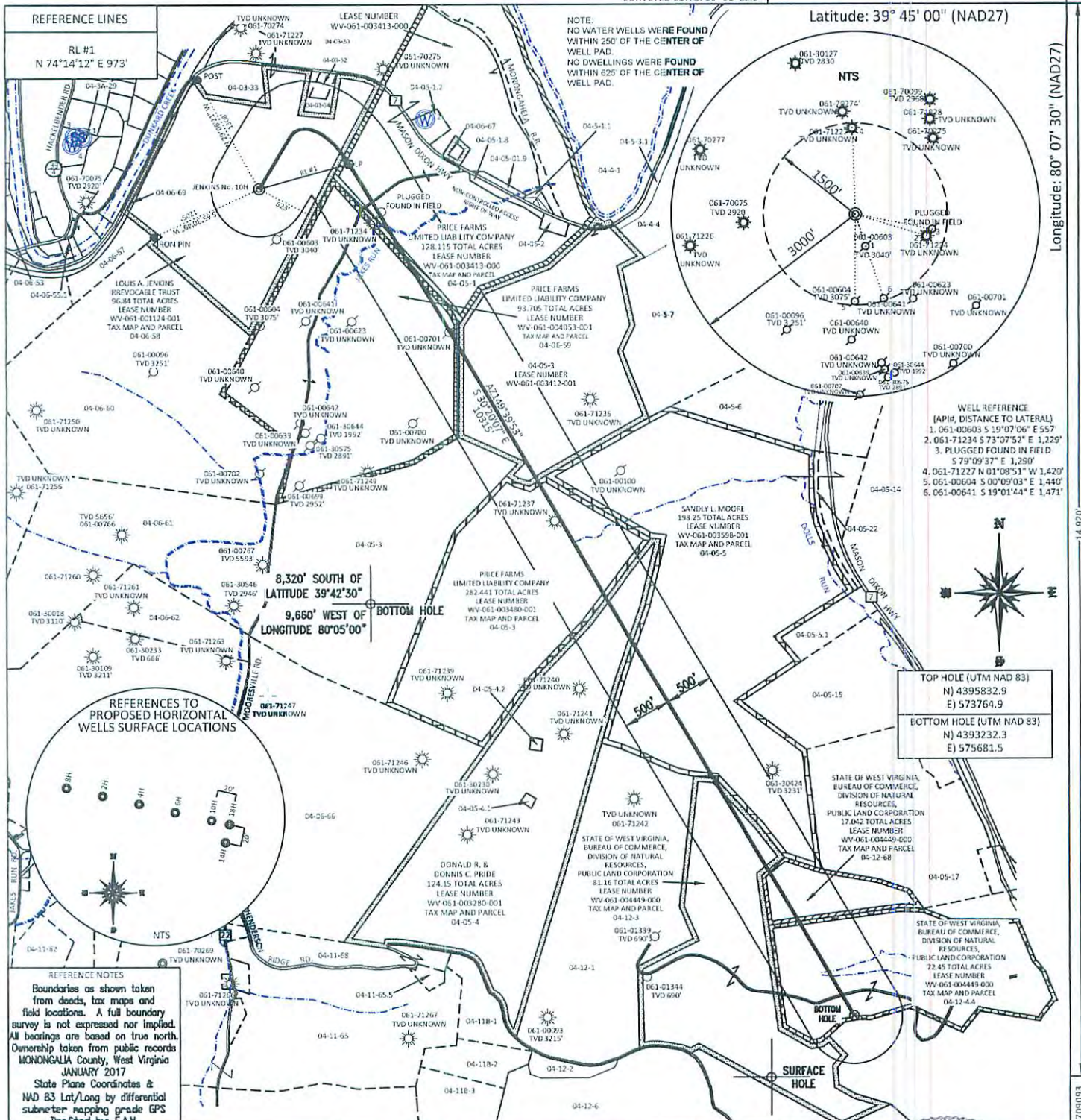
Signed: *[Signature]*
 L.L.S. #2124 : Ernest J. Benchek III



FILE #: NNE16
 DRAWING #: 2735
 SCALE: PLAT: 1" = 1500'
 TICK: 1" = 2000'
 MINIMUM DEGREE OF ACCURACY: 1/200
 PROVEN SOURCE OF ELEVATION: SUBMETER MAPPING GRADE GPS

(+) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS WVDEP
 OFFICE OF OIL & GAS
 601 57TH STREET
 CHARLESTON, WV 25304
 Well Type: Oil Waste Disposal Production Deep
 Gas Liquid Injection Storage Shallow
 WATERSHED: DUNKARD CREEK
 COUNTY/DISTRICT: MONONGALIA / CLAY
 SURFACE OWNER: LOIS A. JENKINS IRREVOCABLE TRUST
 OIL & GAS ROYALTY OWNER: LOIS A. JENKINS IRREVOCABLE TRUST, ET AL
 LEASE NUMBERS: _____
 DRILL CONVERT DRILL DEEPER REDRILL FRACTURE OR STIMULATE
 PLUG OFF FORMATION PERFORATE NEW FORMATION PLUG & ABANDON
 CLEAN OUT & REPLUG OTHER CHANGE (SPECIFY): _____
 TARGET FORMATION: PILOT FORMATION HELDERBURG
 WELL OPERATOR: NORTHEAST NATURAL ENERGY LLC
 ADDRESS: 707 VIRGINIA STREET EAST, SUITE 1200
 CITY: CHARLESTON STATE: WV ZIP CODE: 25301
 DATE: MAY 10, 2017
 OPERATOR'S WELL #: JENKINS NO. 10H
 API WELL #: 47 61 01725 MOD
 STATE COUNTY PERMIT
 PROPOSED ELEVATION: 1,113.77'
 CURRENT ELEVATION: 1,128'
 QUADRANGLE: BLACKSVILLE
 ACREAGE: 96.84 +/-
 ACREAGE: 1099.153
 ESTIMATED DEPTH: TVD PILOT: 8,400'
 TVD HORIZONTAL: 7,921' TMD: 18,863.47'
 DESIGNATED AGENT: JOHN ADAMS
 ADDRESS: 707 VIRGINIA STREET EAST, SUITE 1200
 CITY: CHARLESTON STATE: WV ZIP CODE: 25301

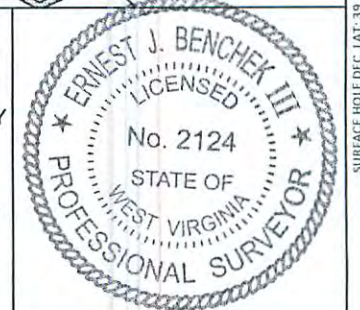
SURFACE HOLE DEC. LAT: 39° 42' 32.7" LONGITUDE: 80° 07' 30"



FILE #: NNE16
DRAWING #: 2735
SCALE: PLAT: 1" = 1500'
 TICK: 1" = 2000'
MINIMUM DEGREE OF ACCURACY: 1/200
PROVEN SOURCE OF ELEVATION: SUBMETER MAPPING GRADE GPS

I, THE UNDERSIGNED, HEREBY CERTIFY THAT THIS PLAT IS CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF AND SHOWS ALL THE INFORMATION REQUIRED BY LAW AND THE REGULATIONS ISSUED AND PRESCRIBED BY THE DEPARTMENT OF ENVIRONMENTAL PROTECTION.

Signed: *[Signature]*
 L.L.S. #2124 : Ernest J. Benchek III



(+) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS WVDEP

OFFICE OF OIL & GAS
 601 57TH STREET
 CHARLESTON, WV 25304

Well Type: Oil Waste Diposal Production Deep
 Gas Liquid Injection Storage Shallow

WATERSHED: DUNKARD CREEK
 COUNTY/DISTRICT: MONONGALIA / CLAY
 SURFACE OWNER: LOIS A. JENKINS IRREVOCABLE TRUST
 OIL & GAS ROYALTY OWNER: LOIS A. JENKINS IRREVOCABLE TRUST, ET AL
 LEASE NUMBERS:

DATE: MAY 10, 2017
 OPERATOR'S WELL #: JENKINS NO. 10H
 API WELL #: 47 61 01725 MOD
 STATE COUNTY PERMIT
 PROPOSED ELEVATION: 1,113.77'
 CURRENT ELEVATION: 1,128'

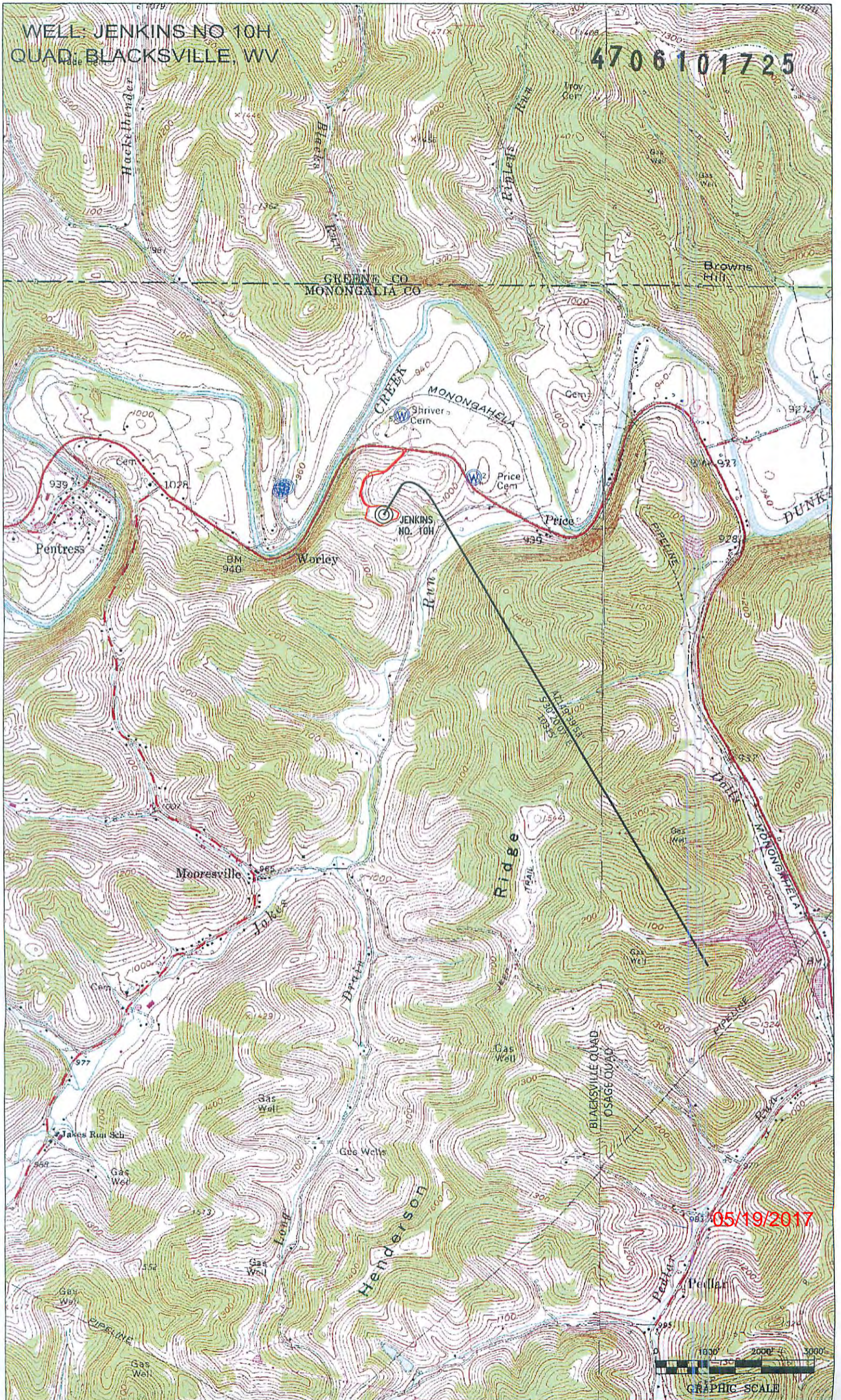
QUADRANGLE: BLACKSVILLE
 ACREAGE: 96.84 +/-
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TARGET FORMATION: PILOT FORMATION HELDERBURG
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DESIGNATED AGENT: JOHN ADAMS
 ADDRESS: 707 VIRGINIA STREET EAST, SUITE 1200
 CITY: CHARLESTON STATE: WV ZIP CODE: 25301

WELL: JENKINS NO 10H
QUAD: BLACKSVILLE, WV

4706101725





northeast
NATURAL ENERGY

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

BEHEIMER
Office of Oil and Gas

MAY 12 2017

WV Department of
Environmental Protection