



west virginia department of environmental protection

Office of Oil and Gas
601 57th Street SE
Charleston, WV 25304
(304) 926-0450
(304) 926-0452 fax

Earl Ray Tomblin, Governor
Randy C. Huffman, Cabinet Secretary
www.dep.wv.gov

PERMIT MODIFICATION APPROVAL

November 23, 2015

NORTHEAST NATURAL ENERGY LLC
707 VIRGINIA STREET EAST
CHARLESTO, WV 25301

Re: Permit Modification Approval for API Number 6101704, Well #: KASSAY 3H

Modified Lateral Direction and Casing.

Oil and Gas Operator:

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.

Please call James Martin at 304-926-0499, extension 1654 if you have any questions.

Sincerely,

Gene Smith
Assistant Chief of Permitting
Office of Oil and Gas

Promoting a healthy environment.

11/27/2015

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: Kassay 3H Well Pad Name: Kassay

3) Farm Name/Surface Owner: Nehemiah and Patty A. Kassay Public Road Access: County Route 25/3 (Yank Hollow Road)

4) Elevation, current ground: 1,560' Elevation, proposed post-construction: 1534'

5) Well Type (a) Gas Oil Underground Storage

Other _____

(b) If Gas Shallow Deep

Horizontal

6) Existing Pad: Yes or No No *Mgic 11/3/2015*

7) Proposed Target Formation(s), Depth(s), Anticipated Thickness and Expected Pressure(s):
Marcellus, 8,289' , 103' , 3,600 psi

8) Proposed Total Vertical Depth: 8,289'

9) Formation at Total Vertical Depth: Marcellus

10) Proposed Total Measured Depth: 19,450.33'

11) Proposed Horizontal Leg Length: 10,746'

12) Approximate Fresh Water Strata Depths: 50' , 1,248'

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

14) Approximate Saltwater Depths: 1,946' , 2,696'

15) Approximate Coal Seam Depths: 316' , 1,246'

16) Approximate Depth to Possible Void (coal mine, karst, other): N/A

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: _____

RECEIVED
Office of Oil and Gas
NOV 09 2015
WV Department of
Environmental Protection

18)

CASING AND TUBING PROGRAM

<u>TYPE</u>	<u>Size (in)</u>	<u>New or Used</u>	<u>Grade</u>	<u>Weight per ft. (lb/ft)</u>	<u>FOOTAGE: For Drilling (ft)</u>	<u>INTERVALS: Left in Well (ft)</u>	<u>CEMENT: Fill-up (Cu. Ft.)/CTS</u>
Conductor	24"	New	NA	94.71	40'	40'	GTS
Fresh Water	13-3/8"	New	J-55	54.5	1,330'	1,300'	CTS
Coal							
Intermediate	9-5/8"	New	J-55	40	2,780'	2,750'	CTS
Production	5-1/2"	New	P-110	20	19,450'	19,420'	4,479 Cu. Ft.
Tubing	2-7/8"	New	N-80	6.5	NA	8,500'	NA
Liners							

Mgic 11/3/2015

<u>TYPE</u>	<u>Size (in)</u>	<u>Wellbore Diameter (in)</u>	<u>Wall Thickness (in)</u>	<u>Burst Pressure (psi)</u>	<u>Anticipated Max. Internal Pressure (psi)</u>	<u>Cement Type</u>	<u>Cement Yield (cu. ft./k)</u>
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	NA	NA
Liners							

PACKERS

Kind:				
Sizes:				
Depths Set:				

RECEIVED
 Office of Oil and Gas
 NOV 09 2015

WV Department of
 Environmental Protection

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 6,631' TVD/MD. The well will then be horizontally drilled on synthetic based mud from the KOP to approximately 8,289' TVD / 19,450.33' MD along a 323 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): 15.85

22) Area to be disturbed for well pad only, less access road (acres): 13.00

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.

WV Department of
Environmental Protection

*Note: Attach additional sheets as needed.

61-01704



northeast
NATURAL ENERGY

Kassay 3H
SITE SAFETY PLAN

November 3, 2015

MSJK
11/3/2015

RECEIVED
Office of Oil and Gas

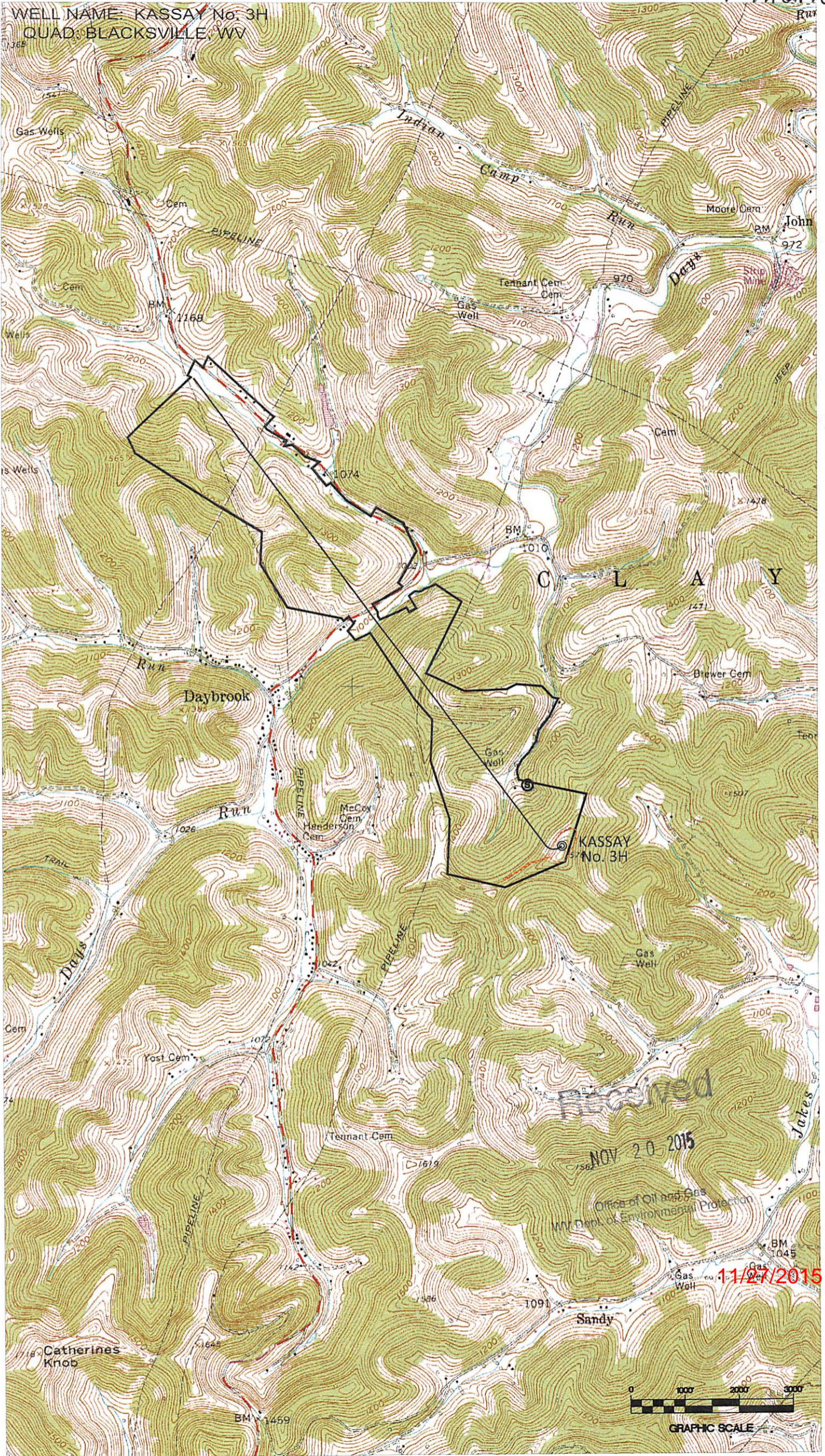
NOV 09 2015

WV Department of
Environmental Protection

11/27/2015

61-01704 H&A UOP

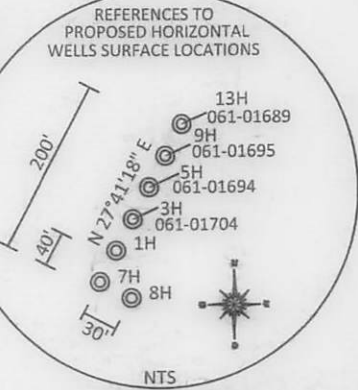
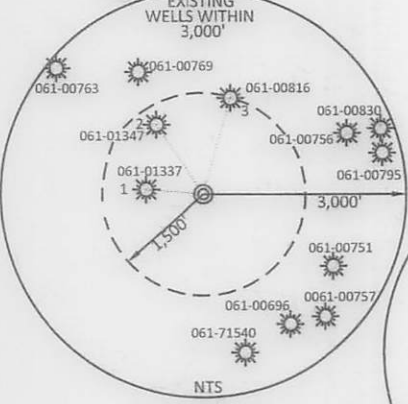
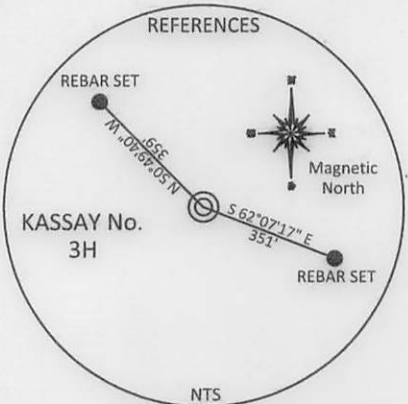
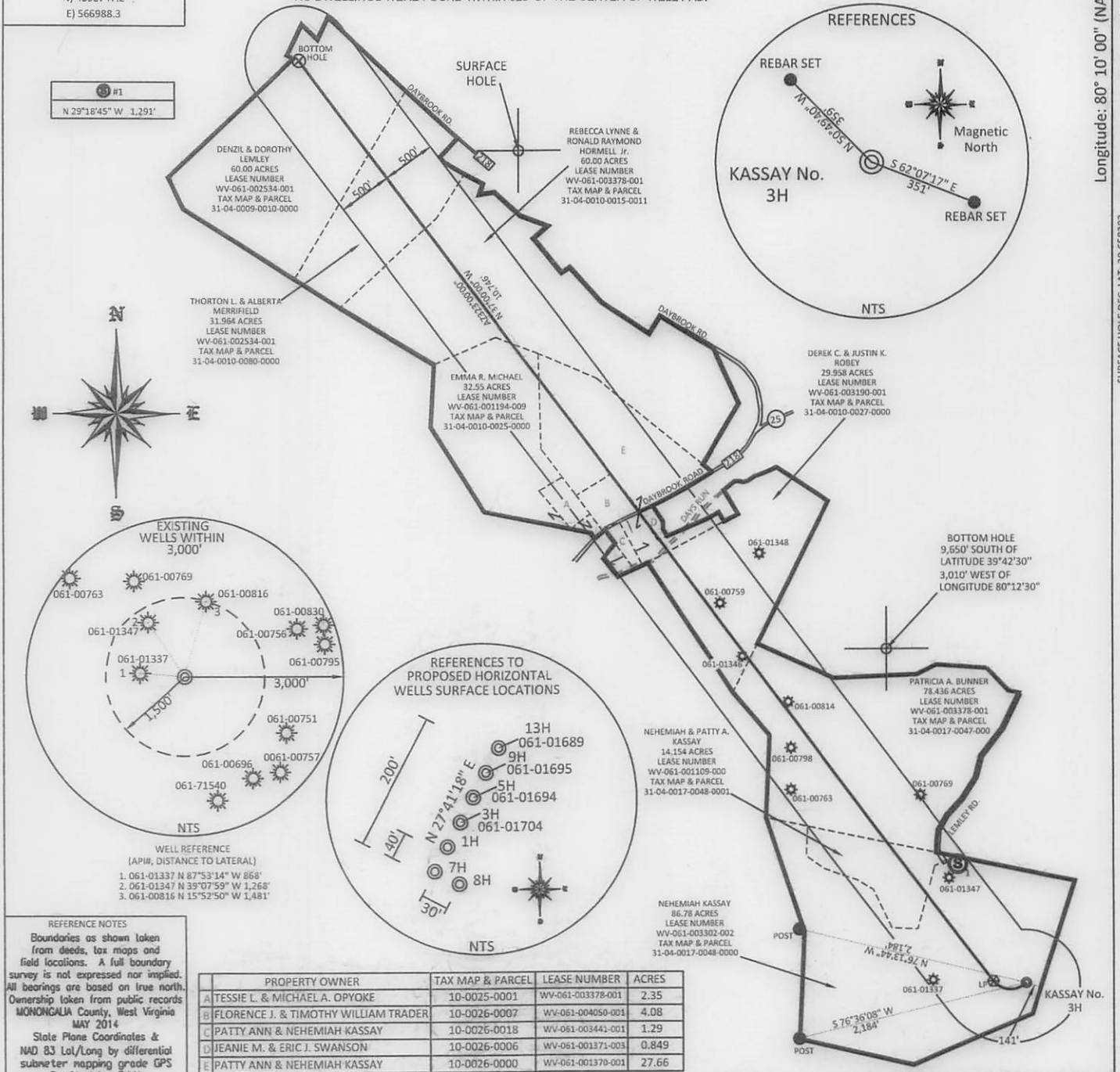
WELL NAME: KASSAY No. 3H
QUAD: BLACKSVILLE, WV



TOP HOLE (UTM NAD 83)
N) 4390161.1
E) 569095.9
BOTTOM HOLE (UTM NAD 83)
N) 4392747.2
E) 566988.3

#1
N 29°18'45" W 1,291'

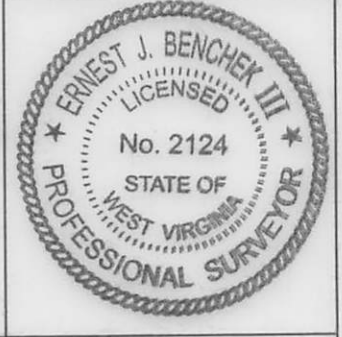
NOTE:
NO WATER WELLS WERE FOUND WITHIN 250' OF THE CENTER OF WELL PAD.
NO DWELLINGS WERE FOUND WITHIN 625' OF THE CENTER OF WELL PAD.



PROPERTY OWNER	TAX MAP & PARCEL	LEASE NUMBER	ACRES
A TESSIE L. & MICHAEL A. OPYOKE	10-0025-0001	WV-061-003378-001	2.35
B FLORENCE J. & TIMOTHY WILLIAM TRADER	10-0026-0007	WV-061-004050-001	4.08
C PATTY ANN & NEHEMIAH KASSAY	10-0026-0018	WV-061-003441-001	1.29
D JEANIE M. & ERIC J. SWANSON	10-0026-0006	WV-061-001371-003	0.849
E PATTY ANN & NEHEMIAH KASSAY	10-0026-0000	WV-061-001370-001	27.66

FILE #: NNE15
DRAWING #: 2532
SCALE: PLAT: 1" = 1400'
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: NEHEMIAH KASSAY
OIL & GAS ROYALTY OWNER: _____
LEASE NUMBERS: _____

DATE: NOVEMBER 19, 2015
OPERATOR'S WELL #: KASSAY NO. 3H
API WELL #: 47 61 01704 H6A
STATE COUNTY PERMIT MOD.

PROPOSED ELEVATION: 1,534'
CURRENT ELEVATION: 1,560'
QUADRANGLE: BLACKSVILLE
ACREAGE: 86.78 +/-
ACREAGE: 430.071 + 11/27/2015

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

TARGET FORMATION: MARCELLUS
ESTIMATED DEPTH: TVD: 8,289' TMD: 19,450.33'
WELL OPERATOR: NORTHEAST NATURAL ENERGY LLC
DESIGNATED AGENT: JOHN ADAMS
ADDRESS: 707 VIRGINIA STREET EAST, SUITE 1200
CITY: CHARLESTON STATE: WV ZIP CODE: 25301

61-01704

WW-6A1
(5/13)

Operator's Well No. Kassay 3H

**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

**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 Medley *Hollie Medley*
 Its: Regulatory Coordinator

61-01704 MOD

WW-6A1

Operator's Well No.

Kassay 3H

NNE Lease No.	Grantor, Lessor, etc.	Grantee, Lessee, etc.	Royalty	Book/Page	Tax Map & Parcel
WV-061-003302-002	KASSAY, NEHEMIAH AND PATTY A.	Northeast Natural Energy LLC	.125 or greater	1506/143	17-48 ✓
WV-061-001109-000	SHUMAN, INC.	*Chesapeake Appalachia, LLC	.125 or greater	1439/243	17-48,48.1 ✓
WV-061-001403-006	MICHAEL, EMMA REGINA	*Chesapeake Appalachia, LLC	.125 or greater	1485/769	17-47 ✓
WV-061-001403-008	MOORE, L. GAYLE	*Chesapeake Appalachia, LLC	.125 or greater	1487/391	17-47 ✓
WV-061-002873-002	BAILES, SEYMOUR S.	Northeast Natural Energy LLC	.125 or greater	1529/833	17-47 ✓
WV-061-003378-001	STRICKLER, PAUL T. AND SHARON	Northeast Natural Energy LLC	.125 or greater	1530/128	17-47; 10-15.11,25.1 ✓
WV-061-003378-003	BUTLER, MARY ROSE	Northeast Natural Energy LLC	.125 or greater	1530/132	17-47; 10-15.11,25.1 ✓
WV-061-003378-004	STRICKLER, WILBUR RANDOLPH AND DEBORAH	Northeast Natural Energy LLC	.125 or greater	1530/140	17-47; 10-15.11,25.1 ✓
WV-061-003378-005	STRICKLER, DORSEY NEIL AND NANCY E.	Northeast Natural Energy LLC	.125 or greater	1530/136	17-47; 10-15.11,25.1 ✓
WV-061-003190-001	CURFMAN, CECIL	*Chesapeake Appalachia, LLC	.125 or greater	1447/274	10-27 ✓
WV-061-003190-002	CURFMAN, KENNETH LAVERNE	*Chesapeake Appalachia, LLC	.125 or greater	1447/270	10-27 ✓
WV-061-003190-003	CURFMAN, HAROLD EUGENE	*Chesapeake Appalachia, LLC	.125 or greater	1449/359	10-27 ✓
WV-061-003190-004	HUMMEL, DEBORAH S. AND RICHARD P.	*Chesapeake Appalachia, LLC	.125 or greater	1449/142	10-27 ✓
WV-061-003190-005	TEDROW, CINDY L.	*Chesapeake Appalachia, LLC	.125 or greater	1449/138	10-27 ✓
WV-061-003190-006	TEDROW, BRUCE A.	*Chesapeake Appalachia, LLC	.125 or greater	1449/134	10-27 ✓
WV-061-003190-007	MUTSCHLER, BRENDA D. AND RONALD	*Chesapeake Appalachia, LLC	.125 or greater	1449/130	10-27 ✓
WV-061-003190-008	LUTZ, LINDA D. AND TERRY	*Chesapeake Appalachia, LLC	.125 or greater	1449/126	10-27 ✓
WV-061-003190-009	TEDROW, RALPH R. AND GEORGEANN	*Chesapeake Appalachia, LLC	.125 or greater	1449/432	10-27 ✓
WV-061-003190-010	COSTELLO, HELEN E.	*Chesapeake Appalachia, LLC	.125 or greater	1453/592	10-27 ✓
WV-061-003190-011	EDGELL, ALYSHA A.	*Chesapeake Appalachia, LLC	.125 or greater	1454/767	10-27 ✓
WV-061-003190-012	STUCKEY, MARY A.	Northeast Natural Energy LLC	.125 or greater	1517/847	10-27 ✓
WV-061-003190-013	SNYDER, DONNA J.	Northeast Natural Energy LLC	.125 or greater	1520/680	10-27 ✓
WV-061-003190-014	TENNANT, RONNIE E.	Northeast Natural Energy LLC	.125 or greater	1521/690	10-27 ✓
WV-061-003190-015	WHIPKEY, FAYE K.	Northeast Natural Energy LLC	.125 or greater	1521/718	10-27 ✓
WV-061-003190-016	TENNANT, DAVE	Northeast Natural Energy LLC	.125 or greater	1521/600	10-27 ✓
WV-061-003190-017	EVANOFF, BONNIE	Northeast Natural Energy LLC	.125 or greater	1521/720	10-27 ✓
WV-061-003190-018	ROE, KIMBERLY K. AND FREDERICK W.	Northeast Natural Energy LLC	.125 or greater	1524/355	10-27 ✓
WV-061-003190-019	FOX, DAVID A. AND BONNIE L.	Northeast Natural Energy LLC	.125 or greater	1524/285	10-27 ✓
WV-061-003190-020	WILLIAMS, REBECCA L. AND EDWARD W.	Northeast Natural Energy LLC	.125 or greater	1524/244	10-27 ✓
WV-061-003190-021	PHILLIPS, KEVIN G. AND LYNN M.	Northeast Natural Energy LLC	.125 or greater	1526/86	10-27 ✓
WV-061-003190-022	JERNIGAN, CAROL S. AND TEDDY D.	Northeast Natural Energy LLC	.125 or greater	1526/120	10-27 ✓
WV-061-003190-023	WILLIS, SANDRA S. AND IRVIN S.	Northeast Natural Energy LLC	.125 or greater	1526/78	10-27 ✓
WV-061-003190-024	BOSWELL, DONNA J.	Northeast Natural Energy LLC	.125 or greater	1525/252	10-27 ✓
WV-061-003190-025	CURFMAN, LINDA C.	Northeast Natural Energy LLC	.125 or greater	1525/232	10-27 ✓
WV-061-003190-026	HILLBERRY, JR., ALPHEUS BERL AND DONNA Z.	Northeast Natural Energy LLC	.125 or greater	1526/64	10-27 ✓
WV-061-003190-027	HOWELL, BRYAN SEAN	Northeast Natural Energy LLC	.125 or greater	1526/88	10-27 ✓
WV-061-003190-028	HILLBERRY, LARRY LEE AND LINDA	Northeast Natural Energy LLC	.125 or greater	1526/122	10-27 ✓
WV-061-003190-029	TEDROW, GARY L.	Northeast Natural Energy LLC	.125 or greater	1528/145	10-27 ✓
WV-061-003190-030	RIGGLE, MICHAEL A. AND MILA JEAN	Northeast Natural Energy LLC	.125 or greater	1528/155	10-27 ✓
WV-061-003190-031	DYER, TAMMY L. AND DANIEL K.	Northeast Natural Energy LLC	.125 or greater	1526/112	10-27 ✓
WV-061-003190-032	WAYT, KATHY C.	Northeast Natural Energy LLC	.125 or greater	1528/11	10-27 ✓
WV-061-003190-033	JOHN, CHARLES D.	Northeast Natural Energy LLC	.125 or greater	1528/48	10-27 ✓
WV-061-003190-034	JOHN, JR., ALTON A. AND PEGGY M.	Northeast Natural Energy LLC	.125 or greater	1532/728	10-27 ✓

11/27/2015

61-01704 MOD

WW-6A1

Operator's Well No. Kassay 3H

NNE Lease No.	Grantor, Lessor, etc.	Grantee, Lessee, etc.	Royalty	Book/Page	Tax Map & Parcel
WV-061-003190-035	KEYS, BARBARA JO	Northeast Natural Energy LLC	.125 or greater	1528/3	10-27
WV-061-003190-036	LIPSCOMB, KAYDA AND MICHAEL LEE	Northeast Natural Energy LLC	.125 or greater	1527/848	10-27
WV-061-003190-037	CRADDOCK, MEGAN S. AND EDWARD M.	Northeast Natural Energy LLC	.125 or greater	1528/7	10-27
WV-061-003190-038	TENNANT, FRED W.	Northeast Natural Energy LLC	.125 or greater	1529/22	10-27
WV-061-003190-039	YAWORSKI, BARBARA J.	Northeast Natural Energy LLC	.125 or greater	1527/844	10-27
WV-061-003190-040	BRLETICH, KIMBEERLY A. AND MARK P.	Northeast Natural Energy LLC	.125 or greater	1528/68	10-27
WV-061-003190-041	BROWN, MARY E. AND JAMES E.	Northeast Natural Energy LLC	.125 or greater	1528/060	10-27
WV-061-003190-042	TENNANT, DOROTHY	Northeast Natural Energy LLC	.125 or greater	1528/40	10-27
WV-061-003190-043	JOHN, CHEYENNE NICOLE	Northeast Natural Energy LLC	.125 or greater	1528/38	10-27
WV-061-003190-044	TENNANT, BETTY	Northeast Natural Energy LLC	.125 or greater	1528/66	10-27
WV-061-003190-045	JOHN, ASHLEY MARIE	Northeast Natural Energy LLC	.125 or greater	1528/9	10-27
WV-061-003190-046	RUSH, VELMA L.	Northeast Natural Energy LLC	.125 or greater	1529/104	10-27
WV-061-003190-047	JOHN, JUSTINA JOY	Northeast Natural Energy LLC	.125 or greater	1528/34	10-27
WV-061-003190-048	BENSON, DANA RENEE	Northeast Natural Energy LLC	.125 or greater	1528/151	10-27
WV-061-003190-049	HULL, RUTH MAE	Northeast Natural Energy LLC	.125 or greater	1530/168	10-27
WV-061-003190-050	MICHAELS, HELEN D.	Northeast Natural Energy LLC	.125 or greater	1529/91	10-27
WV-061-003190-051	HULL, KENNETH E.	Northeast Natural Energy LLC	.125 or greater	1530/185	10-27
WV-061-003190-052	HULL, DWIGHT W. AND CRISTINA RICO	Northeast Natural Energy LLC	.125 or greater	1529/20	10-27
WV-061-003190-053	COLE, EUGENE E. AND CORA L.	Northeast Natural Energy LLC	.125 or greater	1530/770	10-27
WV-061-003190-054	WALTERS, JR., FRED S.	Northeast Natural Energy LLC	.125 or greater	1529/116	10-27
WV-061-003190-055	JOHN, DAVID D.	Northeast Natural Energy LLC	.125 or greater	1529/550	10-27
WV-061-003190-056	HARDESTY, SANDRA S. AND MARC E.	Northeast Natural Energy LLC	.125 or greater	1529/554	10-27
WV-061-003190-057	MORRIS, APRIL AND JOSHUA	Northeast Natural Energy LLC	.125 or greater	1529/574	10-27
WV-061-003190-058	SENSKY, KORY M. AND ELIZABETH H.	Northeast Natural Energy LLC	.125 or greater	1529/61	10-27
WV-061-003190-059	DIBIASE, LORETTA AND STEVE A.	Northeast Natural Energy LLC	.125 or greater	1529/540	10-27
WV-061-003190-060	HILLBERRY, JAMES JOSEPH	Northeast Natural Energy LLC	.125 or greater	1530/222	10-27
WV-061-003190-061	HILLBERRY, JOHN EDGAR AND RUTH	Northeast Natural Energy LLC	.125 or greater	1530/363	10-27
WV-061-003190-062	HILLBERY, RICHARD ALLEN	Northeast Natural Energy LLC	.125 or greater	1530/144	10-27
WV-061-003190-063	HILLBERY, MICHAEL EDGAR	Northeast Natural Energy LLC	.125 or greater	1529/841	10-27
WV-061-003190-064	HILLBERY, KENNETH LEE AND ARRISSA	Northeast Natural Energy LLC	.125 or greater	1530/228	10-27
WV-061-003190-065	BOWMAN, DARCENE LYNN	Northeast Natural Energy LLC	.125 or greater	1530/365	10-27
WV-061-003190-066	HILLBERY, RONALD KEITH	Northeast Natural Energy LLC	.125 or greater	1530/361	10-27
WV-061-003190-067	MELTON, LAURA	Northeast Natural Energy LLC	.125 or greater	1529/76	10-27
WV-061-003190-068	LOGSDON, VICKIE	Northeast Natural Energy LLC	.125 or greater	1530/11	10-27
WV-061-003190-069	SEVERS, EILEEN	Northeast Natural Energy LLC	.125 or greater	1529/584	10-27
WV-061-003190-070	HOWELL, STEVEN MICHAEL AND LISA	Northeast Natural Energy LLC	.125 or greater	1530/292	10-27
WV-061-003190-071	MCCLOSKEY, THOMAS AND CHRISTINE	Northeast Natural Energy LLC	.125 or greater	1530/294	10-27
WV-061-003190-072	HOUGHTON, TERRI KATHERINE AND JACK	Northeast Natural Energy LLC	.125 or greater	1529/151	10-27
WV-061-003190-073	NOLA, LINDA AND MICHAEL	Northeast Natural Energy LLC	.125 or greater	1529/157	10-27
WV-061-003190-074	MCCLOSKEY, WILLIAM PERRY	Northeast Natural Energy LLC	.125 or greater	1529/155	10-27
WV-061-003190-075	MCCANDLESS, PATRICIA	Northeast Natural Energy LLC	.125 or greater	1529/546	10-27
WV-061-003190-076	CUNNINGHAM, DENISE	Northeast Natural Energy LLC	.125 or greater	1529/548	10-27
WV-061-003190-077	HILLBERRY,HAZEL	Northeast Natural Energy LLC	.125 or greater	1530/3	10-27

11/27/2015

61-01704 mod

WW-6A1

Operator's Well No. Kassay 3H

NNE Lease No.	Grantor, Lessor, etc.	Grantee, Lessee, etc.	Royalty	Book/Page	Tax Map & Parcel
WV-061-003190-078	TIDERMAN, ROSE	Northeast Natural Energy LLC	.125 or greater	1532/56	10-27
WV-061-003190-079	KERNAICH, JAN	Northeast Natural Energy LLC	.125 or greater	1532/54	10-27
WV-061-003190-080	HAMMETT, ROBERT EUGENE AND CAROLYN	Northeast Natural Energy LLC	.125 or greater	1530/359	10-27
WV-061-003190-081	CARROLL, RANDY L.	Northeast Natural Energy LLC	.125 or greater	1532/98	10-27
WV-061-003190-083	HAMMETT, TIMOTHY J.	Northeast Natural Energy LLC	.125 or greater	1531/21	10-27
WV-061-003190-084	HUPP, SUSAN RENEA	Northeast Natural Energy LLC	.125 or greater	1531/61	10-27
WV-061-003190-085	KNIZNER, JOYCE AND JOHN F.	Northeast Natural Energy LLC	.125 or greater	1531/25	10-27
WV-061-003190-086	ALOIA, LINDA D.	Northeast Natural Energy LLC	.125 or greater	1531/17	10-27
WV-061-003190-087	THORNTON, LEANN MARIE	Northeast Natural Energy LLC	.125 or greater	1531/19	10-27
WV-061-003190-088	FOUTZ, CAROLYN JUNE	Northeast Natural Energy LLC	.125 or greater	1531/23	10-27
WV-061-003190-089	MCCLOSKEY, WILLIAM RONALD AND LAURE	Northeast Natural Energy LLC	.125 or greater	1532/48	10-27
WV-061-003190-090	KEEP, DONNA JEAN	Northeast Natural Energy LLC	.125 or greater	1532/119	10-27
WV-061-003190-091	WHEAT, CHERYL H. AND DAVID HENRY	Northeast Natural Energy LLC	.125 or greater	1533/107	10-27
WV-061-003190-092	CUNNINGHAM, ROBERT LANE AND JANET	Northeast Natural Energy LLC	.125 or greater	1532/74	10-27
WV-061-003190-094	HEWITT, DIANA L.	Northeast Natural Energy LLC	.125 or greater	1532/726	10-27
WV-061-003190-095	OLIVERA, VAUNDA KAY	Northeast Natural Energy LLC	.125 or greater	1534/76	10-27
WV-061-003190-096	BLOUIR, RICHARD L.	Northeast Natural Energy LLC	.125 or greater	1532/70	10-27
WV-061-003190-097	WISE, BARBARA A. AND ALBERT JACK	Northeast Natural Energy LLC	.125 or greater	532/84	10-27
WV-061-003190-099	KELLER, NAOMIA	Northeast Natural Energy LLC	.125 or greater	1532/570	10-27
WV-061-003190-100	BRAUN, DORIS JEAN	Northeast Natural Energy LLC	.125 or greater	1531/84	10-27
WV-061-003190-101	KELLER, JAMES PAUL	Northeast Natural Energy LLC	.125 or greater	1532/720	10-27
WV-061-003190-102	RIDER, RUBY	Northeast Natural Energy LLC	.125 or greater	1532/618	10-27
WV-061-003190-103	KELLER, RONALD	Northeast Natural Energy LLC	.125 or greater	1534/82	10-27
WV-061-003190-104	ROGERS, PATRICIA AND DAVID	Northeast Natural Energy LLC	.125 or greater	1532/62	10-27
WV-061-003190-106	KELLER, RICHARD AND LINDA	Northeast Natural Energy LLC	.125 or greater	1532/82	10-27
WV-061-003190-108	KELLER, JR., ROBERT EARL AND CONNIE	Northeast Natural Energy LLC	.125 or greater	1532/117	10-27
WV-061-003190-109	PHILLIPS, CLEO AND DONALD W.	Northeast Natural Energy LLC	.125 or greater	1533/219	10-27
WV-061-003190-110	HILLBERY, JR., WILLIAM LAYFAYETTE AND GALE	Northeast Natural Energy LLC	.125 or greater	1533/191	10-27
WV-061-003190-111	BARTHOLOMEW, FRANCES SUSAN AND RICHARD SCOTT	Northeast Natural Energy LLC	.125 or greater	1532/78	10-27
WV-061-003190-112	WRIGHT, SANDY & TERRY L.	Northeast Natural Energy LLC	.125 or greater	1532/76	10-27
WV-061-003190-113	MOLINARO, PETE A.	Northeast Natural Energy LLC	.125 or greater	1532/586	10-27
WV-061-003190-114	KELLER, DONALD & KAREN	Northeast Natural Energy LLC	.125 or greater	1531/828	10-27
WV-061-003190-115	WILSON, ANN YVONNE & JAMES	Northeast Natural Energy LLC	.125 or greater	1532/588	10-27
WV-061-003190-116	KELLER, WILLIAM AND BARBARA JEAN	Northeast Natural Energy LLC	.125 or greater	1532/580	10-27
WV-061-003190-117	BLOOM, ELIZABETH DEBRA	Northeast Natural Energy LLC	.125 or greater	1532/80	10-27
WV-061-003190-118	HILLBERY, JOHN MATTHEW AND ROBIN R.	Northeast Natural Energy LLC	.125 or greater	1533/308	10-27
WV-061-003190-124	CARPENTER, ALMA JOANN	Northeast Natural Energy LLC	.125 or greater	1534/90	10-27
WV-061-001370-001	KASSAY, NEHEMIAH & PATTY ANN	*Chesapeake Appalachia, LLC	.125 or greater	1374/202	10-26
WV-061-001234-001	MOORE, L. GAYLE	*Chesapeake Appalachia, LLC	.125 or greater	1370/508	10-15.11
WV-061-001334-005	HORMELL, RONALD RAYMOND & LYNNE	Northeast Natural Energy LLC	.125 or greater	1492/425	10-15.11
WV-061-001334-001	THOMAS, CHARLES L.	*Chesapeake Appalachia, LLC	.125 or greater	1378/404	10-15.11
WV-061-003212-001	STRICKLER DORSEY N. AND NANCY	*Chesapeake Appalachia, LLC	.125 or greater	1445/154	10-15.11

11/27/2015

61-01704 mod

WW-6A1

Operator's Well No. Kassay 3H

NNE Lease No.	Grantor, Lessor, etc.	Grantee, Lessee, etc.	Royalty	Book/Page	Tax Map & Parcel
WV-061-003212-002	BUTLER, MARY ROSE	*Chesapeake Appalachia, LLC	.125 or greater	1445/150	10-15.11
WV-061-003212-003	STRICKLER, PAUL T. AND SHARON	*Chesapeake Appalachia, LLC	.125 or greater	1445/146	10-15.11
WV-061-003212-004	JOHN, LOIS M. AND ERNEST	*Chesapeake Appalachia, LLC	.125 or greater	1445/142	10-15.11
WV-061-003212-005	STRICKLER, WILBUR RANDOLPH	*Chesapeake Appalachia, LLC	.125 or greater	1530/140	10-15.11
WV-061-001372-001	JOHN, LOIS MARIE	*Chesapeake Appalachia, LLC	.125 or greater	1375/898	10-15.11
WV-061-001372-002	STRICKLER, DORSEY NEIL	*Chesapeake Appalachia, LLC	.125 or greater	1375/868	10-15.11
WV-061-001372-003	BUTLER, MARY ROSE	*Chesapeake Appalachia, LLC	.125 or greater	1376/19	10-15.11
WV-061-001372-004	STRICKLER, PAUL T.	*Chesapeake Appalachia, LLC	.125 or greater	1376/43	10-15.11
WV-061-001372-005	STRICKLER, WILBUR RANDOLPH	*Chesapeake Appalachia, LLC	.125 or greater	1375/838	10-15.11
WV-061-003219-001	MICHAEL, EMMA REGINA	*Chesapeake Appalachia, LLC	.125 or greater	1445/121	10-15.11
WV-061-003507-001	THE CHARLES LEE THOMAS TRUST	Northeast Natural Energy LLC	.125 or greater	1521/734	10-15.11
WV-061-000256-001	PALMER, BARBARA P.	*Chesapeake Appalachia, LLC	.125 or greater	1428/518	9-10; 10-80
WV-061-002534-001	SHUMAN, INC.	*Chesapeake Appalachia, LLC	.125 or greater	1429/366	9-10; 10-80
WV-061-002577-001	SHUMAN, JAMES W. AND JANE H.	*Chesapeake Appalachia, LLC	.125 or greater	1428/519	9-10; 10-80
WV-061-002577-002	SHUMAN, DAVID AND REBECCA L.	*Chesapeake Appalachia, LLC	.125 or greater	1428/519	9-10; 10-80
WV-061-002577-003	SHUMAN, JR., CHESTER A. AND EVELYN H.	*Chesapeake Appalachia, LLC	.125 or greater	1428/514	9-10; 10-80
WV-061-003439-001	MOORE, LORETTA GAYLE	Northeast Natural Energy LLC	.125 or greater	1526/62	10-25.1
WV-061-003439-002	OPYOKE, TESSIE L. AND MICHAEL A.	Northeast Natural Energy LLC	.125 or greater	1529/536	10-25.1
WV-061-001194-003	MOORE, L. GAYLE	*Chesapeake Appalachia, LLC	.125 or greater	1370/490	10-25
WV-061-001194-004	STRICKLER, DORSEY NEIL	*Chesapeake Appalachia, LLC	.125 or greater	1375/874	10-25
WV-061-001194-005	STRICKLER, WILBUR RANDOLPH	*Chesapeake Appalachia, LLC	.125 or greater	1375/832	10-25
WV-061-001194-006	STRICKLER, PAUL T.	*Chesapeake Appalachia, LLC	.125 or greater	1376/049	10-25
WV-061-001194-007	BUTLER, MARY ROSE	*Chesapeake Appalachia, LLC	.125 or greater	1376/025	10-25
WV-061-001194-008	JOHN, LOIS MARIE	*Chesapeake Appalachia, LLC	.125 or greater	1376/001	10-25
WV-061-001194-009	MICHAEL, EMMA	*Chesapeake Appalachia, LLC	.125 or greater	1485/664	10-25
WV-061-004050-001	TRADER, FLORENCE J. & TIMOTHY WILLIAM	*EQT Production Company	.125 or greater	1515/29	10-26.07
WV-061-003441-001	KASSAY, NEHEMIAH & PATTY ANN	Northeast Natural Energy LLC	.125 or greater	1517/109	10-26.18
WV-061-001371-003	WV MINERALS, INC	Northeast Natural Energy LLC	.125 or greater	1509/773	10-26.18, 26.06
WV-061-003246-001	KASSAY, PATTY ANN AND NEHEMIAH	*Chesapeake Appalachia, LLC	.125 or greater	14518/091	10-26.06

*See Attachment

11/27/2015

61-01704 mod

Chesapeake Appalachia, LLC.



Northeast Natural Energy
Assignment
BK 120/769

11/27/2015

61-01704 MOD

EQT Production Company
Lease
DR 1515/29
EQT Production Company

Northeast Natural Energy
Assignment
AR 126/403