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 19, 2015

NORTHEAST NATURAL ENERGY LLC
707 VIRGINIA STREET EAST
CHARLESTO, W\ 25301

Re: Permit Modification Approval for API Number 6101694, Well #: KASSAY 5H

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,

Laura L. Adkins

Gene Smith
Assistant Chief of Permitting
Office of Oil and Gas

WW-6B
(04/15)

API NO. 47- 61 - 01694 MOD
OPERATOR WELL NO. Kassay 5H
Well Pad Name: Kassay

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 5H 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 X Oil _____ Underground Storage _____
Other _____
(b)If Gas Shallow X Deep _____
Horizontal X

6) Existing Pad: Yes or No No MJK 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: 18,720.76'

11) Proposed Horizontal Leg Length: 10,000' /

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 X

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

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WW-6B
(04/15)

API NO. 47- 61 - 01694 MOD
OPERATOR WELL NO. Kassay 5H
Well Pad Name: Kassay

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	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	18,720'	18,690'	4,295 Cu. Ft.
Tubing	2-7/8"	New	N-80	6.5	NA	8,500'	NA
Liners							

MJK 11/3/2015

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	NA	NA
Liners							

PACKERS

Kind:				
Sizes:				
Depths Set:				

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API NO. 47- 61 - 01694/MOD
OPERATOR WELL NO. Kassay 5H
Well Pad Name: Kassay

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 6,913' TVD/MD. The well will then be horizontally drilled on synthetic based mud from the KOP to approximately 8,289' TVD / 18,720.76' 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.

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*Note: Attach additional sheets as needed.

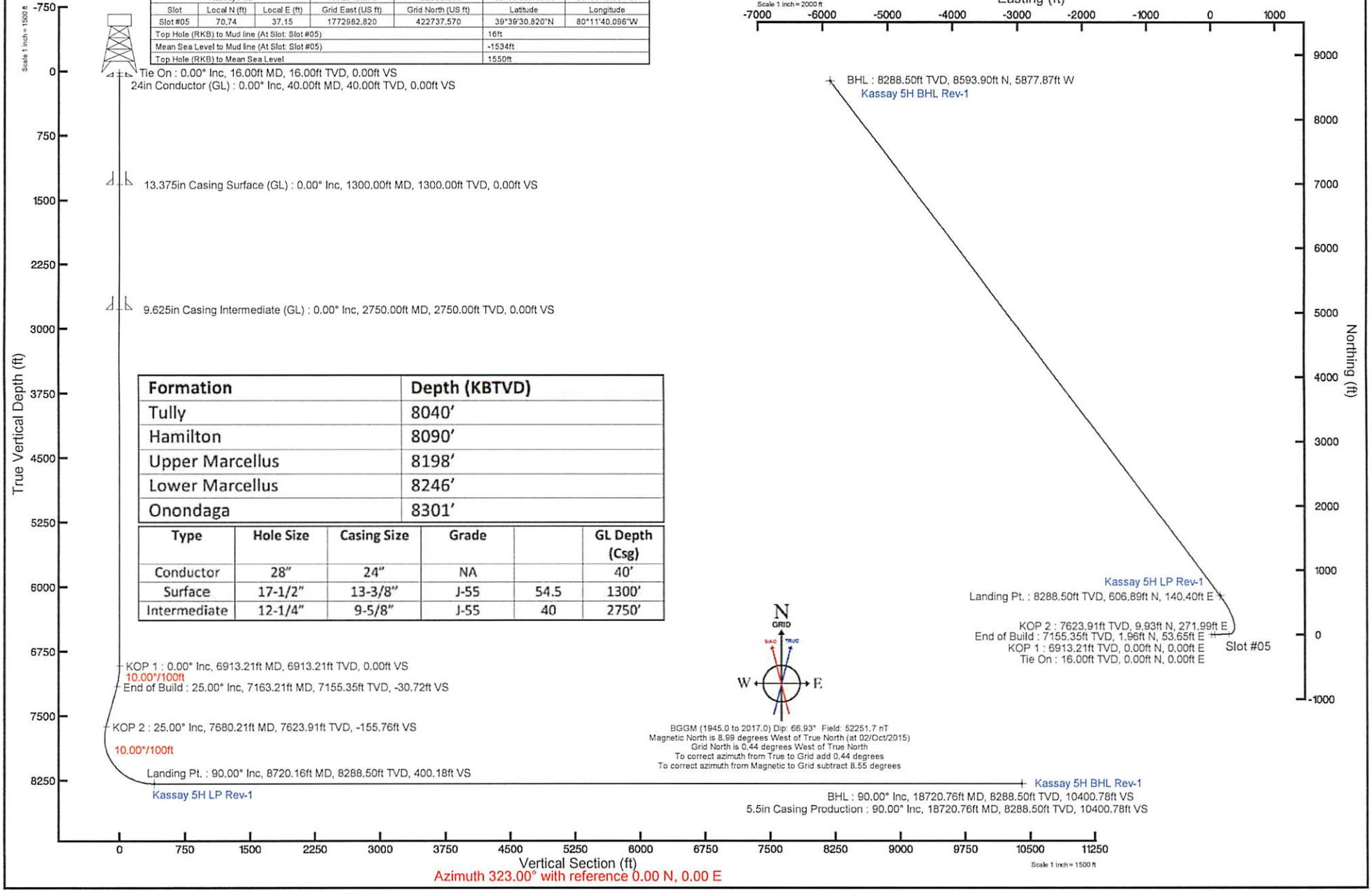
61-01694(MOD)

NORTHEAST NATURAL ENERGY, LLC

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

Slot: Slot #05
Well: Kassay 5H
Wellbore: Kassay 5H PWB

Location Information						
Facility Name			Grid East (US ft)	Grid North (US ft)	Latitude	Longitude
Kassay Pad			1772945.670	422666.830	39°39'30.118"N	80°11'40.564"W
Slot	Local N (ft)	Local E (ft)	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude
Slot #05	70.74	37.15	1772982.820	422737.570	39°39'30.820"N	80°11'40.096"W
Top Hole (RKB) to Mud line (At Slot: Slot #05)					16ft	
Mean Sea Level to Mud line (At Slot: Slot #05)					-1534ft	
Top Hole (RKB) to Mean Sea Level					1550ft	

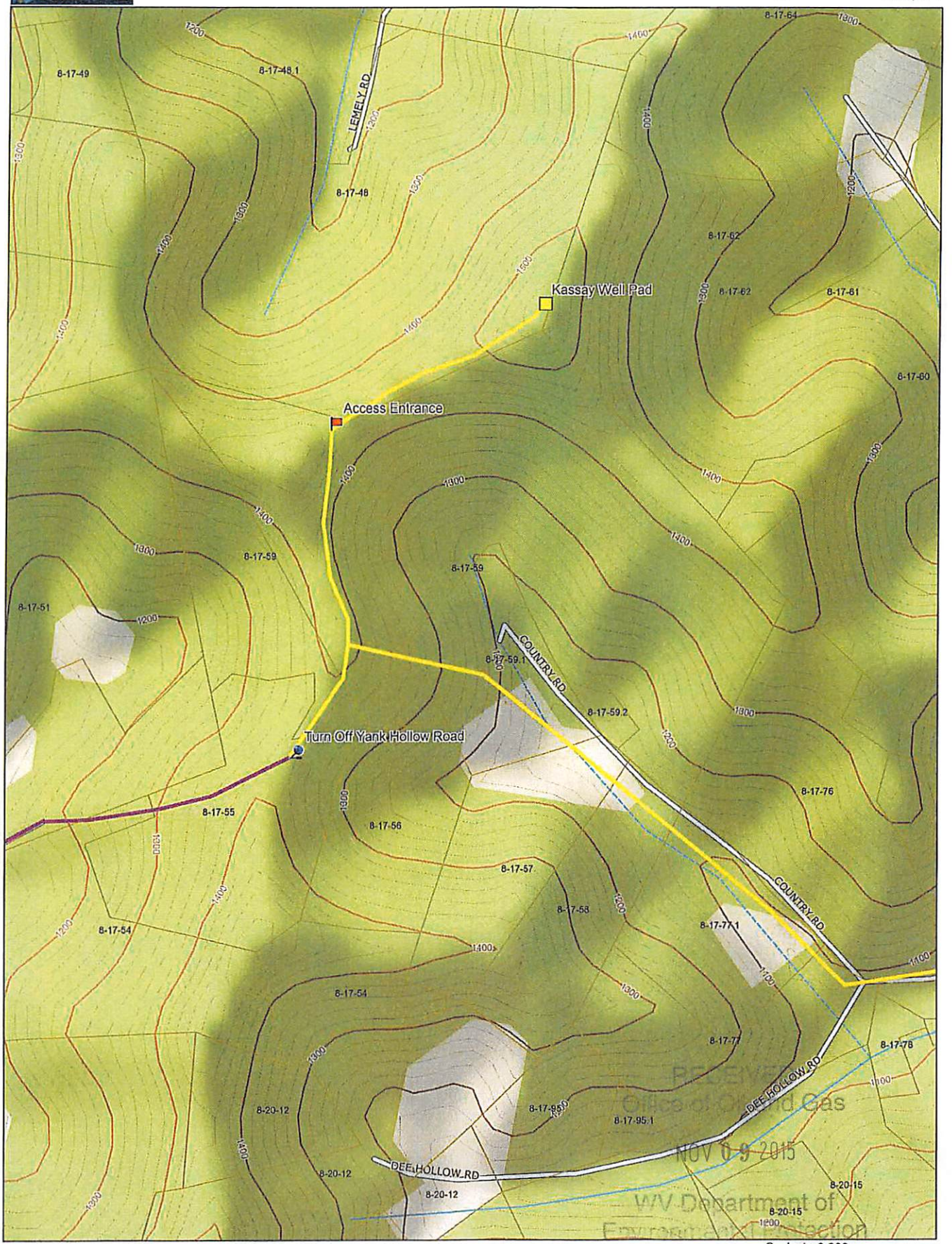


Formation	Depth (KBTVD)
Tully	8040'
Hamilton	8090'
Upper Marcellus	8198'
Lower Marcellus	8246'
Onondaga	8301'

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	1300'
Intermediate	12-1/4"	9-5/8"	J-55	40	2750'

61-01694MOD

DELORME XMap® 7



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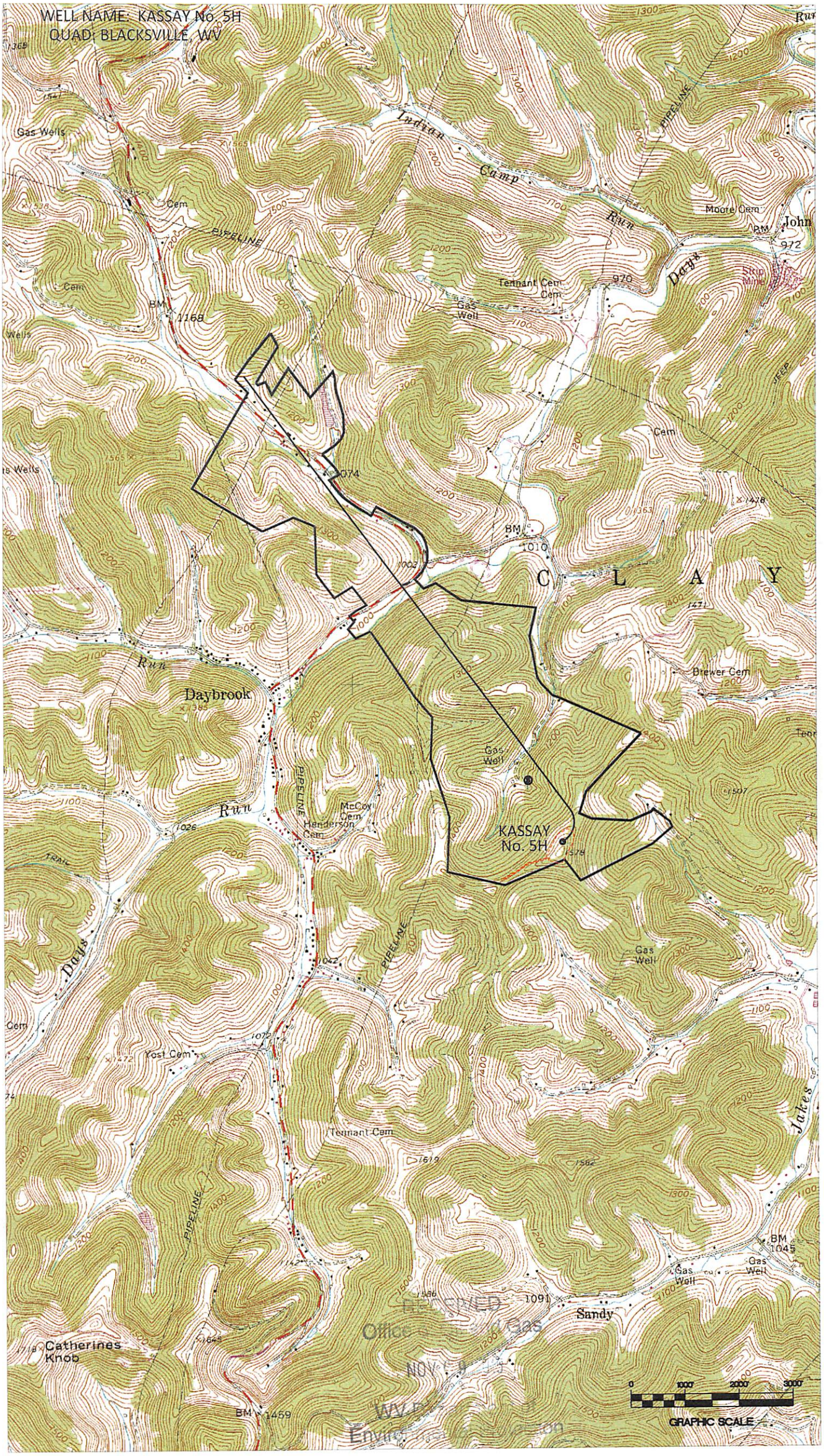
www.delorme.com

TN
MN (8.5°W)

Scale 1 : 8,000
0 200 400 600 800 1000 ft
0 60 120 180 240 300 m
1" = 666.7 ft Data Zoom 14-6



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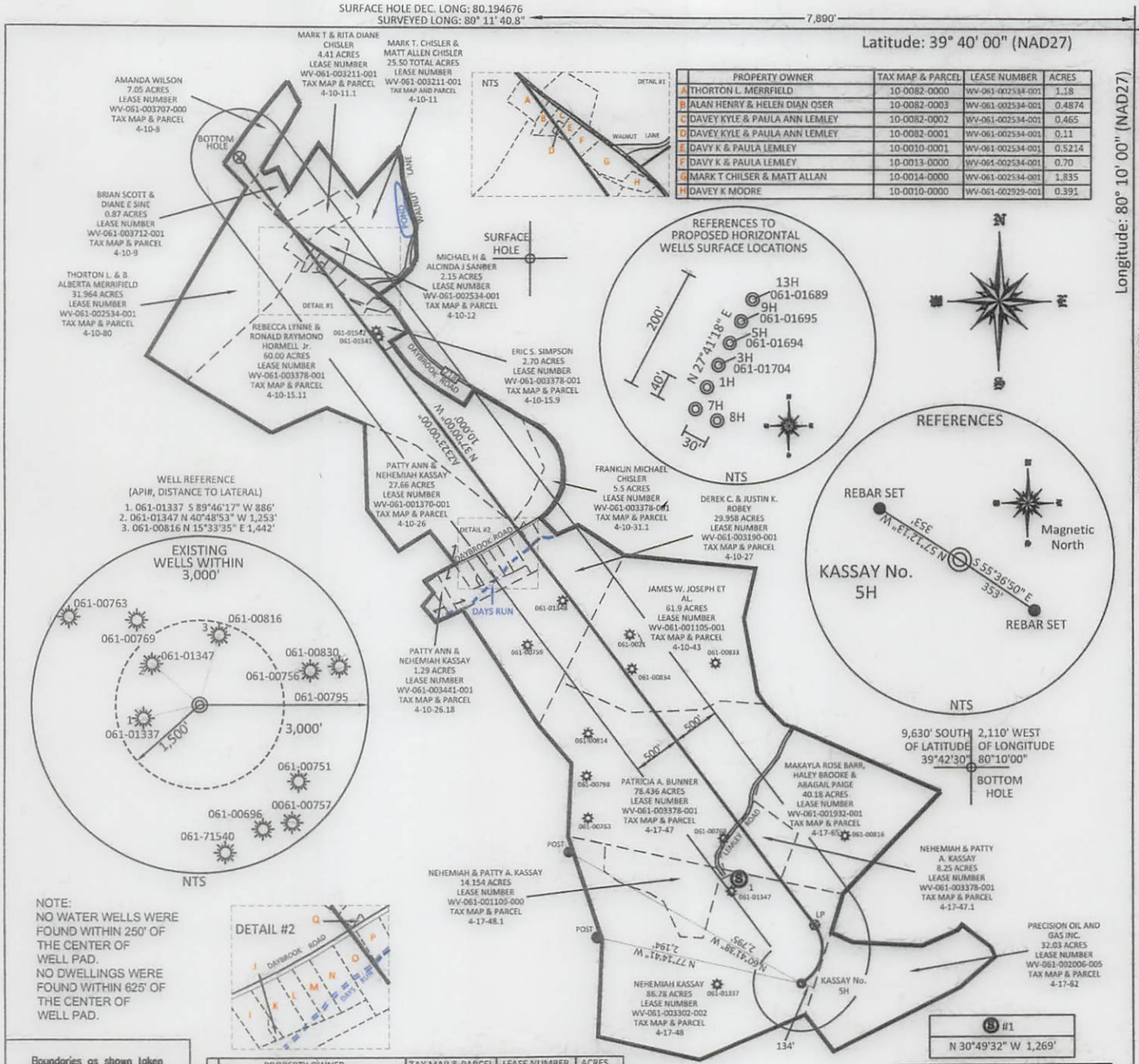

	PROPERTY OWNER	TAX MAP & PARCEL	LEASE NUMBER	ACRES
A	THORTON L. MERRFIELD	10-0082-0000	WV-061-002534-001	1.18
B	ALAN HENRY & HELEN DIAN OSER	10-0082-0003	WV-061-002534-001	0.4874
C	DAVEY KYLE & PAULA ANN LEMLEY	10-0082-0002	WV-061-002534-001	0.465
D	DAVEY KYLE & PAULA ANN LEMLEY	10-0082-0001	WV-061-002534-001	0.11
E	DAVY K & PAULA LEMLEY	10-0010-0001	WV-061-002534-001	0.5214
F	DAVY K & PAULA LEMLEY	10-0013-0000	WV-061-002534-001	0.70
G	MARK T CHILSER & MATT ALLAN	10-0014-0000	WV-061-002534-001	1.835
H	DAVEY K MOORE	10-0010-0000	WV-061-002929-001	0.391

	PROPERTY OWNER	TAX MAP & PARCEL	LEASE NUMBER	ACRES
I	JEANIE M. & ERIC J. SWANSON	10-0026-0006	WV-061-001371-001	0.849
J	NOLA D. BARR	10-0026-0019	WV-061-001371-003	0.098
K	NOLA D. & JAMES N. BARR	10-0026-0012	WV-061-003463-001	0.96
L	ROBERT M. & KATHLEEN A. TENNANT	10-0026-0005	WV-061-001371-003	0.68
M	ROBERT M. & KATHLEEN A. TENNANT	10-0026-0004	WV-061-001471-003	0.68
N	DOROTHY & EVERETT BARR	10-0026-0003	WV-061-003717-001	0.96
O	DOROTHY R. & EVERETT BARR	10-0026-0002	WV-061-003235-001	0.96
P	EVERETT R. & DOROTHY BARR	10-0027-0004	WV-061-003193-001	0.54
Q	FRANKLIN MICHAEL CHISLER	10-0027-0002	WV-061-003190-001	0.012

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 MAY 2014
State Plane Coordinates & NAD 83 Lat/Long by differential submeter mapping grade GPS
Drafted by: E.A.M.

FILE #: NNE15
DRAWING #: 2535
SCALE: PLAT: 1" = 1600' 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: _____

L.L.S. #2124 : Ernest J. Benchek III

ERNEST J. BENCHEK III LICENSED No. 2124 STATE OF WEST VIRGINIA PROFESSIONAL SURVEYOR

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

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

DATE: NOVEMBER 3, 2015
OPERATOR'S WELL #: KASSAY NO. 5H
API WELL #: 47 (STATE) 61 (COUNTY) 01694 H6A NOD (PERMIT)

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

PROPOSED ELEVATION: 1,534'
CURRENT ELEVATION: 1,560'
WATERSHED: DUNKARD CREEK
QUADRANGLE: BLACKSVILLE
COUNTY/DISTRICT: MONONGALIA / CLAY
ACREAGE: 86.78 +/-
SURFACE OWNER: NEHEMIAH KASSAY
ACREAGE: 532.2108 +/-
OIL & GAS ROYALTY OWNER: NEHEMIAH & PATTY A. KASSAY
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: MARCELLUS
ESTIMATED DEPTH: TVD: 8,289' TMD: 18,720.76'
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

61-01694

WW-6A1
(5/13)

Operator's Well No. Kassay 5H

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
Its: Regulatory Coordinator

61-01694 MOD

WW-6A1 Operator's Well No. Kassay 5H

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-061-002006-005	TENNANT, RAYMER	*Chesapeake Appalachia, LLC	.125 or greater	1396/635	17-62
WV-061-002006-006	WILLIAMS, FREDDY W.	*Chesapeake Appalachia, LLC	.125 or greater	1398/282	17-62
WV-061-002006-007	SINE, JR., EVERETT A	*Chesapeake Appalachia, LLC	.125 or greater	1398/285	17-62
WV-061-002006-008	SINE, LYALL A.	*Chesapeake Appalachia, LLC	.125 or greater	1399/599	17-62
WV-061-002006-009	WILLIAMS, NOLA M.	*Chesapeake Appalachia, LLC	.125 or greater	1399/602	17-62
WV-061-002006-010	GALLAGHER, CHERYL LISABETH	*Chesapeake Appalachia, LLC	.125 or greater	1398/519	17-62
WV-061-002006-011	WILLIAMS, W. RICHARD	*Chesapeake Appalachia, LLC	.125 or greater	1398/522	17-62
WV-061-002006-012	SINE, BETTY L.	*Chesapeake Appalachia, LLC	.125 or greater	1399/605	17-62
WV-061-002006-013	BRUMMAGE, KIMBERLY SUE	*Chesapeake Appalachia, LLC	.125 or greater	1399/608	17-62
WV-061-002006-014	SINE, DORIS L.	*Chesapeake Appalachia, LLC	.125 or greater	1404/286	17-62
WV-061-002006-015	MCAFEE, MABEL L.	*Chesapeake Appalachia, LLC	.125 or greater	1399/611	17-62
WV-061-002006-016	VAN TASSELL, PATRICIA	*Chesapeake Appalachia, LLC	.125 or greater	1418/729	17-62
WV-061-002006-017	FRICKLETON, CELESTE M.	*Chesapeake Appalachia, LLC	.125 or greater	1399/614	17-62
WV-061-002006-018	MOORE, VARNER L.	*Chesapeake Appalachia, LLC	.125 or greater	1401/082	17-62
WV-061-002006-019	TANNER, RITA J.	*Chesapeake Appalachia, LLC	.125 or greater	1404/289	17-62
WV-061-002006-020	WILSON, DELILAH M.	*Chesapeake Appalachia, LLC	.125 or greater	1404/292	17-62
WV-061-002006-021	WOODRUFF, ELLEN J.	*Chesapeake Appalachia, LLC	.125 or greater	1404/295	17-62
WV-061-002006-022	CHURCH, GAIL	*Chesapeake Appalachia, LLC	.125 or greater	1401/085	17-62
WV-061-002006-023	SINE, LARRY K.	*Chesapeake Appalachia, LLC	.125 or greater	1404/298	17-62
WV-061-002006-024	STRICKLAND, SUE ANN	*Chesapeake Appalachia, LLC	.125 or greater	1404/301	17-62
WV-061-002006-025	WILLIAMS, DONALD REX	*Chesapeake Appalachia, LLC	.125 or greater	1401/090	17-62
WV-061-002006-026	WISE, CAROL I.	*Chesapeake Appalachia, LLC	.125 or greater	1403/127	17-62
WV-061-002006-027	MOORE, LEONARD D.	*Chesapeake Appalachia, LLC	.125 or greater	1403/130	17-62
WV-061-002006-028	WILSON, SANDRA FAYE	*Chesapeake Appalachia, LLC	.125 or greater	1405/232	17-62
WV-061-002006-029	HOSTUTLER, PATRICIA ANN	*Chesapeake Appalachia, LLC	.125 or greater	1404/304	17-62
WV-061-002006-030	HALL, PAMELA RENA	*Chesapeake Appalachia, LLC	.125 or greater	1405/877	17-62
WV-061-002006-031	TENNANT, LEONARD L.	*Chesapeake Appalachia, LLC	.125 or greater	1405/880	17-62
WV-061-002006-032	SINE, DONALD R.	*Chesapeake Appalachia, LLC	.125 or greater	1410/572	17-62
WV-061-002038-001	MORRIS, PEGGY A.	*Chesapeake Appalachia, LLC	.125 or greater	1410/569	17-62
WV-061-002371-001	MCCULLOUGH, MARY R.	*Chesapeake Appalachia, LLC	.125 or greater	1421/402	17-62
WV-061-002371-002	LIMING, MARY	*Chesapeake Appalachia, LLC	.125 or greater	1421/373	17-62
WV-061-002371-003	BUCHANAN, RICKEY JANE	*Chesapeake Appalachia, LLC	.125 or greater	1425/367	17-62
WV-061-002371-004	VEDIS, KRISTIE VIRGIE	*Chesapeake Appalachia, LLC	.125 or greater	1425/327	17-62
WV-061-002371-005	CAIN, KAREN M.	*Chesapeake Appalachia, LLC	.125 or greater	1425/283	17-62
WV-061-002371-006	CHASE, DONNA LYNN	*Chesapeake Appalachia, LLC	.125 or greater	1425/200	17-62
WV-061-002371-007	TENNANT, RICHARD	*Chesapeake Appalachia, LLC	.125 or greater	1425/462	17-62
WV-061-002371-008	TENNANT, LARRY	*Chesapeake Appalachia, LLC	.125 or greater	1425/432	17-62
WV-061-002371-009	FLUHARTY, LORETTA	*Chesapeake Appalachia, LLC	.125 or greater	1425/408	17-62
WV-061-002371-010	PARSONS, EMZA M.	*Chesapeake Appalachia, LLC	.125 or greater	1426/130	17-62
WV-061-002371-011	YURISKO, PAMELA J.	*Chesapeake Appalachia, LLC	.125 or greater	1427/121	17-62
WV-061-002371-012	SINE, MYRTLE L.	*Chesapeake Appalachia, LLC	.125 or greater	1426/122	17-62
WV-061-002371-013	COOK, JR., WALDEN J.	*Chesapeake Appalachia, LLC	.125 or greater	1427/591	17-62
WV-061-002371-014	WISE, ALICE	*Chesapeake Appalachia, LLC	.125 or greater	1427/171	17-62
WV-061-002371-015	HINDS SNOPPS, TWYLA	*Chesapeake Appalachia, LLC	.125 or greater	1428/185	17-62
WV-061-002371-016	FOLEY, REBECCA GAIL	*Chesapeake Appalachia, LLC	.125 or greater	1427/186	17-62
WV-061-002371-017	SINE, C.W.	*Chesapeake Appalachia, LLC	.125 or greater	1427/369	17-62
WV-061-002371-018	WILSON, SANDRA FAYE AND WILSON L.	*Chesapeake Appalachia, LLC	.125 or greater	1428/740	17-62

NNE Lease No.	Grantor, Lessor, etc.	Grantee, Lessee, etc.	Royalty	Book/Page	Tax Map & Parcel
WV-061-002371-019	ESTLE, GINGER K.	*Chesapeake Appalachia, LLC	.125 or greater	1438/661	17-62
WV-061-002371-020	FLUHARTY, TINA L. AND RICHARD A.	*Chesapeake Appalachia, LLC	.125 or greater	1438/627	17-62
WV-061-002371-021	TROUTMAN, LYDIA L.	*Chesapeake Appalachia, LLC	.125 or greater	1438/643	17-62
WV-061-002371-022	JOHNSON, MICHELLE DAWN AND ERIC B.	*Chesapeake Appalachia, LLC	.125 or greater	1439/180	17-62
WV-061-002371-023	SINE, DONALD R. AND IRMA	*Chesapeake Appalachia, LLC	.125 or greater	1438/671	17-62
WV-061-002371-024	THOMAS, DIANE BETH AND CURTIS L.	*Chesapeake Appalachia, LLC	.125 or greater	1442/573	17-62
WV-061-002371-025	TENNANT, TROY L. AND ANNA L.	*Chesapeake Appalachia, LLC	.125 or greater	1442/541	17-62
WV-061-002371-026	EDDY, DARLENE S.	*Chesapeake Appalachia, LLC	.125 or greater	1445/158	17-62
WV-061-002371-027	VARNER, PAUL	*Chesapeake Appalachia, LLC	.125 or greater	1454/100	17-62
WV-061-002371-028	VARNER, SR., STEVE AND TINA	*Chesapeake Appalachia, LLC	.125 or greater	1454/285	17-62
WV-061-002371-029	VARNER, LOUISE	*Chesapeake Appalachia, LLC	.125 or greater	1454/095	17-62
WV-061-002371-030	VARNER, MARK	*Chesapeake Appalachia, LLC	.125 or greater	1454/090	17-62
WV-061-002371-031	BARBER, ALMEADA J.	*Chesapeake Appalachia, LLC	.125 or greater	1454/085	17-62
WV-061-002371-032	VARNER, JODY L.	*Chesapeake Appalachia, LLC	.125 or greater	1454/338	17-62
WV-061-002371-033	VAN FOSSEN, RUBY E.	*Chesapeake Appalachia, LLC	.125 or greater	1454/080	17-62
WV-061-002371-034	BROWN, PAMELA AND CARL	*Chesapeake Appalachia, LLC	.125 or greater	1454/075	17-62
WV-061-002371-035	SIMERAL, TAMELA R. AND JERRY	*Chesapeake Appalachia, LLC	.125 or greater	1454/070	17-62
WV-061-002371-036	WILLIAMS, JAROD TYLER	*Chesapeake Appalachia, LLC	.125 or greater	1454/066	17-62
WV-061-002371-037	SUDDUTH, DEBORA AND SAMUEL	*Chesapeake Appalachia, LLC	.125 or greater	1454/343	17-62
WV-061-002371-038	VARNER, JAMES	*Chesapeake Appalachia, LLC	.125 or greater	1454/370	17-62
WV-061-002371-039	VARNER, JANET	*Chesapeake Appalachia, LLC	.125 or greater	1454/365	17-62
WV-061-002371-040	VARNER, CONNIE	*Chesapeake Appalachia, LLC	.125 or greater	1454/784	17-62
WV-061-002371-041	VARNER, ROBERT	*Chesapeake Appalachia, LLC	.125 or greater	1454/779	17-62
WV-061-002371-042	MCCAMMON, LISA AND WILLIAM	*Chesapeake Appalachia, LLC	.125 or greater	1454/821	17-62
WV-061-002371-043	LYONS, BETTY C.	*Chesapeake Appalachia, LLC	.125 or greater	1462/541	17-62
WV-061-002371-044	EDDY, TOMMY J. AND CAROL A.	Northeast Natural Energy LLC	.125 or greater	1517/96	17-62
WV-061-002371-045	YURISKO, PAMELA J.	Northeast Natural Energy LLC	.125 or greater	1521/732	17-62
WV-061-002371-046	TENNANT, RICHARD DEE AND ONEIDA P.	Northeast Natural Energy LLC	.125 or greater	1524/265	17-62
WV-061-002371-047	LARRY BLAINE TENNANT ESTATE	Northeast Natural Energy LLC	.125 or greater	1524/774	17-62
WV-061-002371-048	FLUHARTY, LORETTA	Northeast Natural Energy LLC	.125 or greater	1524/780	17-62
WV-061-002371-049	BUCHANAN, RICKEY JANE	Northeast Natural Energy LLC	.125 or greater	1526/132	17-62
WV-061-002371-050	WISE, ALICE	Northeast Natural Energy LLC	.125 or greater	1526/134	17-62
WV-061-002371-051	PARSONS, EMZA	Northeast Natural Energy LLC	.125 or greater	1530/21	17-62
WV-061-002389-001	JOSEPH, ALMA M.	*Chesapeake Appalachia, LLC	.125 or greater	1435/165	17-62; 10-43
WV-061-002392-001	CLEVENGER, ARDELLA J.	*Chesapeake Appalachia, LLC	.125 or greater	1435/178	17-62
WV-061-002392-002	CUMMINGS, HELEN	*Chesapeake Appalachia, LLC	.125 or greater	1435/156	17-62
WV-061-002401-001	PEMBERTON, MARY J.	*Chesapeake Appalachia, LLC	.125 or greater	1441/724	17-62
WV-061-002401-003	STRAHLER, REBECCA LYNNE	*Chesapeake Appalachia, LLC	.125 or greater	1441/008	17-62
WV-061-002401-004	WILLIAMS, JAMES EVERETT AND LISA	*Chesapeake Appalachia, LLC	.125 or greater	1441/020	17-62
WV-061-002401-005	TAYLOR, KAREN J	*Chesapeake Appalachia, LLC	.125 or greater	1440/691	17-62
WV-061-002401-006	BERGA, JOYCE ANN AND RONAL	*Chesapeake Appalachia, LLC	.125 or greater	1440/686	17-62
WV-061-002401-007	WILLIAMS, DENNIS KEITH	*Chesapeake Appalachia, LLC	.125 or greater	1443/436	17-62
WV-061-002401-008	MICHAEL, SUSAN L. AND CHESTER L.	*Chesapeake Appalachia, LLC	.125 or greater	1440/680	17-62
WV-061-003542-001	MOORE, VELDA E.	Northeast Natural Energy LLC	.125 or greater	1526/104	17-62
WV-061-003542-002	BAILEY, REBECCA H.	Northeast Natural Energy LLC	.125 or greater	1523/694	17-62
WV-061-003542-003	ROBERTSON, LOIS R. AND KENNETH A.	Northeast Natural Energy LLC	.125 or greater	1530/224	17-62
WV-061-003542-004	EARL, SHARON G. AND MICHAEL P.	Northeast Natural Energy LLC	.125 or greater	1530/756	17-62
WV-061-003378-001	STRICKLER, PAUL T. AND SHARON	Northeast Natural Energy LLC	.125 or greater	1530/128	17-47,47.1; 10-31.1,15.9,15, 15.11

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WW-6A1 Operator's Well No. Kassay 5H

NNE Lease No.	Grantor, Lessor, etc.	Grantee, Lessee, etc.	Royalty	Book/Page	Tax Map & Parcel
WV-061-003378-002	JOHN, LOIS MARIE AND ERNEST	Northeast Natural Energy LLC	.125 or greater	1487/383	17-47,47.1; 10-31.1,15.9,15, 15.11
WV-061-003378-003	BUTLER, MARY ROSE	Northeast Natural Energy LLC	.125 or greater	1530/132	17-47,47.1; 10-31.1,15.9,15, 15.11
WV-061-003378-004	STRICKLER, WILBUR RANDOLPH AND DEBORAH	Northeast Natural Energy LLC	.125 or greater	1530/140	17-47,47.1; 10-31.1,15.9,15, 15.11
WV-061-003378-005	STRICKLER, DORSEY NEIL AND NANCY E.	Northeast Natural Energy LLC	.125 or greater	1530/136	17-47,47.1; 10-31.1,15.9,15, 15.11
WV-061-001403-001	JOHN, LOIS MARIE	*Chesapeake Appalachia, LLC	.125 or greater	1484/396	17-47.1,47
WV-061-001403-002	STRICKLER, DORSEY NEIL	*Chesapeake Appalachia, LLC	.125 or greater	1530/136	17-47.1,47
WV-061-001403-003	BUTLER, MARY ROSE	*Chesapeake Appalachia, LLC	.125 or greater	1530/132	17-47.1,47
WV-061-001403-004	STRICKLER, PAUL T.	*Chesapeake Appalachia, LLC	.125 or greater	1530/128	17-47.1,47
WV-061-001403-005	STRICKLER, WILBUR RANDOLPH	*Chesapeake Appalachia, LLC	.125 or greater	1530/140	17-47.1,47
WV-061-001403-006	MICHAEL, EMMA REGINA	*Chesapeake Appalachia, LLC	.125 or greater	1485/769	17-47.1,47
WV-061-001403-008	MOORE, L. GAYLE	*Chesapeake Appalachia, LLC	.125 or greater	1487/391	17-47.1,47
WV-061-002873-002	BAILES, SEYMOUR S.	Northeast Natural Energy LLC	.125 or greater	1529/833	17-47.1,47
WV-061-001932-001	EDDY-BARR, BARBARA	*Chesapeake Appalachia, LLC	.125 or greater	1393/729	17-65
WV-061-001105-001	LEMLEY, LAURA E.	*Chesapeake Appalachia, LLC	.125 or greater	1382/818	10-43
WV-061-001105-002	MCCORD, KENNETH JAS	*Chesapeake Appalachia, LLC	.125 or greater	1379/162	10-43
WV-061-001105-003	MINOR, JUNE LEMLEY	*Chesapeake Appalachia, LLC	.125 or greater	1379/159	10-43
WV-061-001105-004	SANDERS, BETTY JANE	Northeast Natural Energy LLC	.125 or greater	1490/751	10-43
WV-061-001105-005	HOWARD, WILLA R. & DAVID N.	Northeast Natural Energy LLC	.125 or greater	1524/250	10-43
WV-061-001105-006	MCCORD, RONNIE L. & SHARON	Northeast Natural Energy LLC	.125 or greater	1524/293	10-43
WV-061-001105-007	MCCORD, LAWERANCE L. & JANET	Northeast Natural Energy LLC	.125 or greater	1523/494	10-43
WV-061-001105-008	FLUHARTY, TINA L. AND RICHARD A.	Northeast Natural Energy LLC	.125 or greater	1524/267	10-43
WV-061-001105-009	ESTLE, GINGER K.	Northeast Natural Energy LLC	.125 or greater	1524/236	10-43
WV-061-001105-010	TENNANT, RICHARD DEE AND ONEIDA P.	Northeast Natural Energy LLC	.125 or greater	1524/273	10-43
WV-061-001105-012	LARRY BLAINE TENNANT ESTATE	Northeast Natural Energy LLC	.125 or greater	1524/772	10-43
WV-061-001105-013	BONNELL, DIANA LYNN AND ORVAL	Northeast Natural Energy LLC	.125 or greater	1530/752	10-43
WV-061-001105-014	BRUMMAGE, E. JACK AND JANET D.	Northeast Natural Energy LLC	.125 or greater	1533/681	10-43
WV-061-001105-015	BRUMMAGE, TIMOTHY L.	Northeast Natural Energy LLC	.125 or greater	1533/677	10-43
WV-061-001105-016	SILVA, MARY A.	Northeast Natural Energy LLC	.125 or greater	1530/178	10-43
WV-061-001105-017	MOORE, BONNIE JEAN	Northeast Natural Energy LLC	.125 or greater	1531/63	10-43
WV-061-001105-019	BROOKOVER, SR., CARMEL G.	Northeast Natural Energy LLC	.125 or greater	1530/230	10-43
WV-061-001105-022	ROGERS, ALBERT LEE AND KRISTEN	Northeast Natural Energy LLC	.125 or greater	1531/47	10-43
WV-061-001105-023	ALLEN, APRIL	Northeast Natural Energy LLC	.125 or greater	1529/849	10-43
WV-061-001105-025	ROGERS, ALAN J. AND MELISSA	Northeast Natural Energy LLC	.125 or greater	1531/45	10-43
WV-061-001105-026	NICHOLS, PATRICIA AND BILLY F.	Northeast Natural Energy LLC	.125 or greater	1532/86	10-43
WV-061-001105-027	JOHNSON, GLENDORA F.	Northeast Natural Energy LLC	.125 or greater	1530/355	10-43
WV-061-001105-028	ASKEW, CELIA P. AND ROBERT L.	Northeast Natural Energy LLC	.125 or greater	1532/52	10-43
WV-061-001105-029	PRICE, SR., GARY MICHAEL	Northeast Natural Energy LLC	.125 or greater	1530/146	10-43
WV-061-001105-030	BRUMMAGE, JAMIE A.	Northeast Natural Energy LLC	.125 or greater	1532/96	10-43
WV-061-001105-031	RUSH, RUBY AND RONALD	Northeast Natural Energy LLC	.125 or greater	1532/68	10-43
WV-061-001105-032	TENNANT, BRENDA K. AND BILLY RAY	Northeast Natural Energy LLC	.125 or greater	1530/148	10-43
WV-061-001105-033	MILLIRON, ETTA L.	Northeast Natural Energy LLC	.125 or greater	1530/353	10-43
WV-061-001105-034	LEWIS, PEARL G. AND CLYDE H.	Northeast Natural Energy LLC	.125 or greater	1530/357	10-43
WV-061-001105-035	TENNANT, JUDY	Northeast Natural Energy LLC	.125 or greater	1533/105	10-43
WV-061-001105-036	BRUMMAGE, BRITTANY M.	Northeast Natural Energy LLC	.125 or greater	1533/195	10-43
WV-061-001105-040	CHILTON, J. MICHELLE AND CHARLES J.	Northeast Natural Energy LLC	.125 or greater	1534/80	10-43
WV-061-001458-002	SIMPSON, VERNON L.	*Chesapeake Appalachia, LLC	.125 or greater	1379/168	10-43

WW-6A1 Operator's Well No. Kassay 5H

NNE Lease No.	Grantor, Lessor, etc.	Grantee, Lessee, etc.	Royalty	Book/Page	Tax Map & Parcel
WV-061-001458-003	SIMPSON, DAVID C.	*Chesapeake Appalachia, LLC	.125 or greater	1379/171	10-43
WV-061-001458-004	SIMPSON, ALLEN L.	*Chesapeake Appalachia, LLC	.125 or greater	1383/491	10-43
WV-061-001458-005	SIMPSON,JR. IRA J.	*Chesapeake Appalachia, LLC	.125 or greater	1383/494	10-43
WV-061-001458-006	TENNANT, TROY	*Chesapeake Appalachia, LLC	.125 or greater	1407/201	10-43
WV-061-002800-001	WHARTON, JOSEPH THOMAS	*Chesapeake Appalachia, LLC	.125 or greater	1434/228	10-43
WV-061-002800-002	LEMLEY, KYLE AND PAULA	*Chesapeake Appalachia, LLC	.125 or greater	1431/436	10-43
WV-061-002800-003	CALVERT, CHARLES W.	*Chesapeake Appalachia, LLC	.125 or greater	1431/800	10-43
WV-061-002840-001	VEDIS, KRISTIE VIRGIE	*Chesapeake Appalachia, LLC	.125 or greater	1425/359	10-43
WV-061-002840-002	CAIN, KAREN	*Chesapeake Appalachia, LLC	.125 or greater	1425/215	10-43
WV-061-002840-005	LEMLEY, DENZIL	*Chesapeake Appalachia, LLC	.125 or greater	1425/399	10-43
WV-061-002840-007	CHASE, DONNA LYNN	*Chesapeake Appalachia, LLC	.125 or greater	1425/303	10-43
WV-061-002840-011	TROUTMAN, LYDIA L.	*Chesapeake Appalachia, LLC	.125 or greater	1437/071	10-43
WV-061-002840-012	SNOPPS, TWYLA HINDS	*Chesapeake Appalachia, LLC	.125 or greater	1427/587	10-43
WV-061-002840-013	GEE, PAULINE	*Chesapeake Appalachia, LLC	.125 or greater	1426/126	10-43
WV-061-002840-014	MERRIFIELD, ALBERTA	*Chesapeake Appalachia, LLC	.125 or greater	1427/625	10-43
WV-061-002840-015	FLUHARTY, LORETTA	Northeast Natural Energy LLC	.125 or greater	1524/295	10-43
WV-061-003190-001	CURFMAN, CECIL	*Chesapeake Appalachia, LLC	.125 or greater	1447/274	10-27,27.4,27.2
WV-061-003190-002	CURFMAN, KENNETH LAVERNE	*Chesapeake Appalachia, LLC	.125 or greater	1447/270	10-27,27.4,27.2
WV-061-003190-003	CURFMAN, HAROLD EUGENE	*Chesapeake Appalachia, LLC	.125 or greater	1449/359	10-27,27.4,27.2
WV-061-003190-004	HUMMEL, DEBORAH S. AND RICHARD P.	*Chesapeake Appalachia, LLC	.125 or greater	1449/142	10-27,27.4,27.2
WV-061-003190-005	TEDROW, CINDY L.	*Chesapeake Appalachia, LLC	.125 or greater	1449/138	10-27,27.4,27.2
WV-061-003190-006	TEDROW, BRUCE A.	*Chesapeake Appalachia, LLC	.125 or greater	1449/134	10-27,27.4,27.2
WV-061-003190-007	MUTSCHLER, BRENDA D. AND RONALD	*Chesapeake Appalachia, LLC	.125 or greater	1449/130	10-27,27.4,27.2
WV-061-003190-008	LUTZ, LINDA D. AND TERRY	*Chesapeake Appalachia, LLC	.125 or greater	1449/126	10-27,27.4,27.2
WV-061-003190-009	TEDROW, RALPH R. AND GEORGEANN	*Chesapeake Appalachia, LLC	.125 or greater	1449/432	10-27,27.4,27.2
WV-061-003190-010	COSTELLO, HELEN E.	*Chesapeake Appalachia, LLC	.125 or greater	1453/592	10-27,27.4,27.2
WV-061-003190-011	EDGELL, ALYSHA A.	*Chesapeake Appalachia, LLC	.125 or greater	1454/767	10-27,27.4,27.2
WV-061-003190-012	STUCKEY, MARY A.	Northeast Natural Energy LLC	.125 or greater	1517/847	10-27,27.4,27.2
WV-061-003190-013	SNYDER, DONNA J.	Northeast Natural Energy LLC	.125 or greater	1520/680	10-27,27.4,27.2
WV-061-003190-014	TENNANT, RONNIE E.	Northeast Natural Energy LLC	.125 or greater	1521/690	10-27,27.4,27.2
WV-061-003190-015	WHIPKEY, FAYE K.	Northeast Natural Energy LLC	.125 or greater	1521/718	10-27,27.4,27.2
WV-061-003190-016	TENNANT, DAVE	Northeast Natural Energy LLC	.125 or greater	1521/600	10-27,27.4,27.2
WV-061-003190-017	EVANOFF, BONNIE	Northeast Natural Energy LLC	.125 or greater	1521/720	10-27,27.4,27.2
WV-061-003190-018	ROE, KIMBERLY K. AND FREDERICK W.	Northeast Natural Energy LLC	.125 or greater	1524/355	10-27,27.4,27.2
WV-061-003190-019	FOX, DAVID A. AND BONNIE L.	Northeast Natural Energy LLC	.125 or greater	1524/285	10-27,27.4,27.2
WV-061-003190-020	WILLIAMS, REBECCA L. AND EDWARD W.	Northeast Natural Energy LLC	.125 or greater	1524/244	10-27,27.4,27.2
WV-061-003190-021	PHILLIPS, KEVIN G. AND LYNN M.	Northeast Natural Energy LLC	.125 or greater	1526/86	10-27,27.4,27.2
WV-061-003190-022	JERNIGAN, CAROL S. AND TEDDY D.	Northeast Natural Energy LLC	.125 or greater	1526/120	10-27,27.4,27.2
WV-061-003190-023	WILLIS, SANDRA S. AND IRVIN S.	Northeast Natural Energy LLC	.125 or greater	1526/78	10-27,27.4,27.2
WV-061-003190-024	BOSWELL, DONNA J.	Northeast Natural Energy LLC	.125 or greater	1525/252	10-27,27.4,27.2
WV-061-003190-025	CURFMAN, LINDA C.	Northeast Natural Energy LLC	.125 or greater	1525/232	10-27,27.4,27.2
WV-061-003190-026	HILLBERRY, JR., ALPHEUS BERL AND DONNA Z.	Northeast Natural Energy LLC	.125 or greater	1526/64	10-27,27.4,27.2
WV-061-003190-027	HOWELL, BRYAN SEAN	Northeast Natural Energy LLC	.125 or greater	1526/88	10-27,27.4,27.2
WV-061-003190-028	HILLBERRY, LARRY LEE AND LINDA	Northeast Natural Energy LLC	.125 or greater	1526/122	10-27,27.4,27.2
WV-061-003190-029	TEDROW, GARY L.	Northeast Natural Energy LLC	.125 or greater	1528/145	10-27,27.4,27.2

WW-6A1 Operator's Well No. Kassay 5H

NNE Lease No.	Grantor, Lessor, etc.	Grantee, Lessee, etc.	Royalty	Book/Page	Tax Map & Parcel
WV-061-003190-030	RIGGLE, MICHAEL A. AND MILA JEAN	Northeast Natural Energy LLC	.125 or greater	1528/155	10-27,27.4,27.2
WV-061-003190-031	DYER, TAMMY L. AND DANIEL K.	Northeast Natural Energy LLC	.125 or greater	1526/112	10-27,27.4,27.2
WV-061-003190-032	WAYT, KATHY C.	Northeast Natural Energy LLC	.125 or greater	1528/11	10-27,27.4,27.2
WV-061-003190-033	JOHN, CHARLES D.	Northeast Natural Energy LLC	.125 or greater	1528/48	10-27,27.4,27.2
WV-061-003190-034	JOHN, JR., ALTON A. AND PEGGY M.	Northeast Natural Energy LLC	.125 or greater	1532/728	10-27,27.4,27.2
WV-061-003190-035	KEYS, BARBARA JO	Northeast Natural Energy LLC	.125 or greater	1528/3	10-27,27.4,27.2
WV-061-003190-036	LIPSCOMB, KAYDA AND MICHAEL LEE	Northeast Natural Energy LLC	.125 or greater	1527/848	10-27,27.4,27.2
WV-061-003190-037	CRADDOCK, MEGAN S. AND EDWARD M.	Northeast Natural Energy LLC	.125 or greater	1528/7	10-27,27.4,27.2
WV-061-003190-038	TENNANT, FRED W.	Northeast Natural Energy LLC	.125 or greater	1529/22	10-27,27.4,27.2
WV-061-003190-039	YAWORSKI, BARBARA J.	Northeast Natural Energy LLC	.125 or greater	1527/844	10-27,27.4,27.2
WV-061-003190-040	BRLETICH, KIMBEERLY A. AND MARK P.	Northeast Natural Energy LLC	.125 or greater	1528/68	10-27,27.4,27.2
WV-061-003190-041	BROWN, MARY E. AND JAMES E.	Northeast Natural Energy LLC	.125 or greater	1528/060	10-27,27.4,27.2
WV-061-003190-042	TENNANT, DOROTHY	Northeast Natural Energy LLC	.125 or greater	1528/40	10-27,27.4,27.2
WV-061-003190-043	JOHN, CHEYENNE NICOLE	Northeast Natural Energy LLC	.125 or greater	1528/38	10-27,27.4,27.2
WV-061-003190-044	TENNANT, BETTY	Northeast Natural Energy LLC	.125 or greater	1528/66	10-27,27.4,27.2
WV-061-003190-045	JOHN, ASHLEY MARIE	Northeast Natural Energy LLC	.125 or greater	1528/9	10-27,27.4,27.2
WV-061-003190-046	RUSH, VELMA L.	Northeast Natural Energy LLC	.125 or greater	1529/104	10-27,27.4,27.2
WV-061-003190-047	JOHN, JUSTINA JOY	Northeast Natural Energy LLC	.125 or greater	1528/34	10-27,27.4,27.2
WV-061-003190-048	BENSON, DANA RENEE	Northeast Natural Energy LLC	.125 or greater	1528/151	10-27,27.4,27.2
WV-061-003190-049	HULL, RUTH MAE	Northeast Natural Energy LLC	.125 or greater	1530/168	10-27,27.4,27.2
WV-061-003190-050	MICHAELS, HELEN D.	Northeast Natural Energy LLC	.125 or greater	1529/91	10-27,27.4,27.2
WV-061-003190-051	HULL, KENNETH E.	Northeast Natural Energy LLC	.125 or greater	1530/185	10-27,27.4,27.2
WV-061-003190-052	HULL, DWIGHT W. AND CRISTINA RICO	Northeast Natural Energy LLC	.125 or greater	1529/20	10-27,27.4,27.2
WV-061-003190-053	COLE, EUGENE E. AND CORA L.	Northeast Natural Energy LLC	.125 or greater	1530/770	10-27,27.4,27.2
WV-061-003190-054	WALTERS, JR., FRED S.	Northeast Natural Energy LLC	.125 or greater	1529/116	10-27,27.4,27.2
WV-061-003190-055	JOHN, DAVID D.	Northeast Natural Energy LLC	.125 or greater	1529/550	10-27,27.4,27.2
WV-061-003190-056	HARDESTY, SANDRA S. AND MARC E.	Northeast Natural Energy LLC	.125 or greater	1529/554	10-27,27.4,27.2
WV-061-003190-057	MORRIS, APRIL AND JOSHUA	Northeast Natural Energy LLC	.125 or greater	1529/574	10-27,27.4,27.2
WV-061-003190-058	SENSKY, KORY M. AND ELIZABETH H.	Northeast Natural Energy LLC	.125 or greater	1529/61	10-27,27.4,27.2
WV-061-003190-059	DIBIASE, LORETTA AND STEVE A.	Northeast Natural Energy LLC	.125 or greater	1529/540	10-27,27.4,27.2
WV-061-003190-060	HILLBERRY, JAMES JOSEPH	Northeast Natural Energy LLC	.125 or greater	1530/222	10-27,27.4,27.2
WV-061-003190-061	HILLBERRY, JOHN EDGAR AND RUTH	Northeast Natural Energy LLC	.125 or greater	1530/363	10-27,27.4,27.2
WV-061-003190-062	HILLBERY, RICHARD ALLEN	Northeast Natural Energy LLC	.125 or greater	1530/144	10-27,27.4,27.2
WV-061-003190-063	HILLBERY, MICHAEL EDGAR	Northeast Natural Energy LLC	.125 or greater	1529/841	10-27,27.4,27.2
WV-061-003190-064	HILLBERY, KENNETH LEE AND ARRISSA	Northeast Natural Energy LLC	.125 or greater	1530/228	10-27,27.4,27.2
WV-061-003190-065	BOWMAN, DARCENE LYNN	Northeast Natural Energy LLC	.125 or greater	1530/365	10-27,27.4,27.2
WV-061-003190-066	HILLBERY, RONALD KEITH	Northeast Natural Energy LLC	.125 or greater	1530/361	10-27,27.4,27.2
WV-061-003190-067	MELTON, LAURA	Northeast Natural Energy LLC	.125 or greater	1529/76	10-27,27.4,27.2
WV-061-003190-068	LOGSDON, VICKIE	Northeast Natural Energy LLC	.125 or greater	1530/11	10-27,27.4,27.2
WV-061-003190-069	SEVERS, EILEEN	Northeast Natural Energy LLC	.125 or greater	1529/584	10-27,27.4,27.2
WV-061-003190-070	HOWELL, STEVEN MICHAEL AND LISA	Northeast Natural Energy LLC	.125 or greater	1530/292	10-27,27.4,27.2
WV-061-003190-071	MCCLOSKEY, THOMAS AND CHRISTINE	Northeast Natural Energy LLC	.125 or greater	1530/294	10-27,27.4,27.2
WV-061-003190-072	HOUGHTON, TERRI KATHERINE AND JACK	Northeast Natural Energy LLC	.125 or greater	1529/151	10-27,27.4,27.2

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WW-6A1 Operator's Well No. Kassay 5H

NNE Lease No.	Grantor, Lessor, etc.	Grantee, Lessee, etc.	Royalty	Book/Page	Tax Map & Parcel
WV-061-003190-073	NOLA, LINDA AND MICHAEL	Northeast Natural Energy LLC	.125 or greater	1529/157	10-27,27.4,27.2
WV-061-003190-074	MCCLOSKEY, WILLIAM PERRY	Northeast Natural Energy LLC	.125 or greater	1529/155	10-27,27.4,27.2
WV-061-003190-075	MCCANDLESS, PATRICIA	Northeast Natural Energy LLC	.125 or greater	1529/546	10-27,27.4,27.2
WV-061-003190-076	CUNNINGHAM, DENISE	Northeast Natural Energy LLC	.125 or greater	1529/548	10-27,27.4,27.2
WV-061-003190-077	HILLBERRY,HAZEL	Northeast Natural Energy LLC	.125 or greater	1530/3	10-27,27.4,27.2
WV-061-003190-078	TIDERMAN, ROSE	Northeast Natural Energy LLC	.125 or greater	1532/56	10-27,27.4,27.2
WV-061-003190-079	KERNAICH, JAN	Northeast Natural Energy LLC	.125 or greater	1532/54	10-27,27.4,27.2
WV-061-003190-080	HAMMETT, ROBERT EUGENE AND CAROLYN	Northeast Natural Energy LLC	.125 or greater	1530/359	10-27,27.4,27.2
WV-061-003190-081	CARROLL, RANDY L.	Northeast Natural Energy LLC	.125 or greater	1532/98	10-27,27.4,27.2
WV-061-003190-083	HAMMETT, TIMOTHY J.	Northeast Natural Energy LLC	.125 or greater	1531/21	10-27,27.4,27.2
WV-061-003190-084	HUPP, SUSAN RENEA	Northeast Natural Energy LLC	.125 or greater	1531/61	10-27,27.4,27.2
WV-061-003190-085	KNIZNER, JOYCE AND JOHN F.	Northeast Natural Energy LLC	.125 or greater	1531/25	10-27,27.4,27.2
WV-061-003190-086	ALOIA, LINDA D.	Northeast Natural Energy LLC	.125 or greater	1531/17	10-27,27.4,27.2
WV-061-003190-087	THORNTON, LEANN MARIE	Northeast Natural Energy LLC	.125 or greater	1531/19	10-27,27.4,27.2
WV-061-003190-088	FOUTZ, CAROLYN JUNE	Northeast Natural Energy LLC	.125 or greater	1531/23	10-27,27.4,27.2
WV-061-003190-089	MCCLOSKEY, WILLIAM RONALD AND LAURE	Northeast Natural Energy LLC	.125 or greater	1532/48	10-27,27.4,27.2
WV-061-003190-090	KEEP, DONNA JEAN	Northeast Natural Energy LLC	.125 or greater	1532/119	10-27,27.4,27.2
WV-061-003190-091	WHEAT, CHERYL H. AND DAVID HENRY	Northeast Natural Energy LLC	.125 or greater	1533/107	10-27,27.4,27.2
WV-061-003190-092	CUNNINGHAM, ROBERT LANE AND JANET	Northeast Natural Energy LLC	.125 or greater	1532/74	10-27,27.4,27.2
WV-061-003190-094	HEWITT, DIANA L.	Northeast Natural Energy LLC	.125 or greater	1532/726	10-27,27.4,27.2
WV-061-003190-095	OLIVERA, VAUNDA KAY	Northeast Natural Energy LLC	.125 or greater	1534/76	10-27,27.4,27.2
WV-061-003190-096	BLOUIR, RICHARD L.	Northeast Natural Energy LLC	.125 or greater	1532/70	10-27,27.4,27.2
WV-061-003190-097	WISE, BARBARA A. AND ALBERT JACK	Northeast Natural Energy LLC	.125 or greater	1532/84	10-27,27.4,27.2
WV-061-003190-099	KELLER, NAOMIA	Northeast Natural Energy LLC	.125 or greater	1532/570	10-27,27.4,27.2
WV-061-003190-100	BRAUN, DORIS JEAN	Northeast Natural Energy LLC	.125 or greater	1531/84	10-27,27.4,27.2
WV-061-003190-101	KELLER, JAMES PAUL	Northeast Natural Energy LLC	.125 or greater	1532/720	10-27,27.4,27.2
WV-061-003190-102	RIDER, RUBY	Northeast Natural Energy LLC	.125 or greater	1532/618	10-27,27.4,27.2
WV-061-003190-103	KELLER, RONALD	Northeast Natural Energy LLC	.125 or greater	1534/82	10-27,27.4,27.2
WV-061-003190-104	ROGERS, PATRICIA AND DAVID	Northeast Natural Energy LLC	.125 or greater	1532/62	10-27,27.4,27.2
WV-061-003190-106	KELLER, RICHARD AND LINDA	Northeast Natural Energy LLC	.125 or greater	1532/82	10-27,27.4,27.2
WV-061-003190-108	KELLER,JR.,ROBERT EARL AND CONNIE	Northeast Natural Energy LLC	.125 or greater	1532/117	10-27,27.4,27.2
WV-061-003190-109	PHILLIPS, CLEO AND DONALD W.	Northeast Natural Energy LLC	.125 or greater	1533/219	10-27,27.4,27.2
WV-061-003190-110	HILLBERY, JR., WILLIAM LAYFAYETTE AND GALE	Northeast Natural Energy LLC	.125 or greater	1533/191	10-27,27.4,27.2
WV-061-003190-111	BARTHOLOMEW, FRANCES SUSAN AND RICHARD SCOTT	Northeast Natural Energy LLC	.125 or greater	1532/78	10-27,27.4,27.2
WV-061-003190-112	WRIGHT, SANDY & TERRY L.	Northeast Natural Energy LLC	.125 or greater	1532/76	10-27,27.4,27.2
WV-061-003190-113	MOLINARO, PETE A.	Northeast Natural Energy LLC	.125 or greater	1532/586	10-27,27.4,27.2
WV-061-003190-114	KELLER, DONALD & KAREN	Northeast Natural Energy LLC	.125 or greater	1531/828	10-27,27.4,27.2
WV-061-003190-115	WILSON, ANN YVONNE & JAMES	Northeast Natural Energy LLC	.125 or greater	1532/588	10-27,27.4,27.2
WV-061-003190-116	KELLER, WILLIAM AND BARBARA JEAN	Northeast Natural Energy LLC	.125 or greater	1532/580	10-27,27.4,27.2
WV-061-003190-117	BLOOM, ELIZABETH DEBRA	Northeast Natural Energy LLC	.125 or greater	1532/80	10-27,27.4,27.2
WV-061-003190-118	HILLBERY, JOHN MATTHEW AND ROBIN R.	Northeast Natural Energy LLC	.125 or greater	1533/308	10-27,27.4,27.2
WV-061-003190-124	CARPENTER, ALMA JOANN	Northeast Natural Energy LLC	.125 or greater	1534/90	10-27,27.4,27.2
WV-061-001232-001	JOHN,LOIS MARIE	*Chesapeake Appalachia, LLC	.125 or greater	1375/895	10-31.1

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WW-6A1 Operator's Well No. Kassay 5H

NNE Lease No.	Grantor, Lessor, etc.	Grantee, Lessee, etc.	Royalty	Book/Page	Tax Map & Parcel
WV-061-001232-004	STRICKLER, DORSEY NEIL	*Chesapeake Appalachia, LLC	.125 or greater	1375/853	10-31.1
WV-061-001232-006	STRICKLER, PAUL T.	*Chesapeake Appalachia, LLC	.125 or greater	1376/046	10-31.1
WV-061-001232-007	STRICKLER, WILBUR RANDOLPH	*Chesapeake Appalachia, LLC	.125 or greater	1375/835	10-31.1
WV-061-001232-008	BUTLER, MARY ROSE	*Chesapeake Appalachia, LLC	.125 or greater	1376/22	10-31.1
WV-061-001232-009	MICHAEL, EMMA REGINA	Northeast Natural Energy LLC	.125 or greater	1526/66	10-31.1
WV-061-003396-001	RAYMOND, RONALD AND REBECCA HORMELL	Northeast Natural Energy LLC	.125 or greater	1506/270	10-15.9
WV-061-000256-001	PALMER, BARBARA P.	*Chesapeake Appalachia, LLC	.125 or greater	1428/518	10-8, 82.3,82.2,82.1, 10.1,13,14,12,80
WV-061-002534-001	SHUMAN, INC.	*Chesapeake Appalachia, LLC	.125 or greater	1429/366	10-82, 82.3,82.2,82.1, 10.1,13,14,12,80
WV-061-002577-001	SHUMAN, JAMES W. AND JANE H.	*Chesapeake Appalachia, LLC	.125 or greater	1428/519	10-82, 82.3,82.2,82.1, 10.1,13,14,12,80
WV-061-002577-002	SHUMAN, DAVID AND REBECCA L.	*Chesapeake Appalachia, LLC	.125 or greater	1428/516	10-82, 82.3,82.2,82.1, 10.1,13,14,12,80
WV-061-002577-003	SHUMAN, JR., CHESTER A. & EVELYN H.	*Chesapeake Appalachia, LLC	.125 or greater	1428/514	10-82, 82.3,82.2,82.1, 10.1,13,14,12,80
WV-061-003627-001	SHUMAN, JR., CHESTER A.	Northeast Natural Energy LLC	.125 or greater	1532/592	10-82, 82.3,82.2,82.1, 10.1,13,14,12,80
WV-061-003627-002	SHUMAN, JAMES W.	Northeast Natural Energy LLC	.125 or greater	1532/594	10-82, 82.3,82.2,82.1, 10.1,13,14,12,80
WV-061-003627-003	SHUMAN, DAVID L.	Northeast Natural Energy LLC	.125 or greater	1533/78	10-82, 82.3,82.2,82.1, 10.1,13,14,12,80
WV-061-002929-001	WILSON, AMANDA L.	*Chesapeake Appalachia, LLC	.125 or greater	1529/552	10-10
WV-061-003211-001	THE CHARLES LEE THOMAS TRUST	*Chesapeake Appalachia, LLC	.125 or greater	1451/82	10-11,11.1
WV-061-003210-001	THOMAS, JAMES H.	*Chesapeake Appalachia, LLC	.125 or greater	1449/354	10-11.1,11
WV-061-003204-001	CHISLER, MATT ALLAN	*Chesapeake Appalachia, LLC	.125 or greater	1445/207	10-11
WV-061-003204-002	CHISLER, MARK T.	*Chesapeake Appalachia, LLC	.125 or greater	1445/197	10-11
WV-061-003209-001	CHISLER, MARK T. AND RITA DIANE	*Chesapeake Appalachia, LLC	.125 or greater	1445/193	10-11.1
WV-061-003707-000	SHUMAN, INC.	Northeast Natural Energy LLC	.125 or greater	1534/330	10-8
WV-061-003712-001	PYLES, HARRIET K.	Northeast Natural Energy LLC	.125 or greater	1536/338	10-9
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
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-061-001370-001	KASSAY, NEHEMIAH & PATTY A.	*Chesapeake Appalachia, LLC	.125 or greater	1374/202	10-26
WV-061-003246-001	KASSAY, PATTY A. & NEHEMIAH	*Chesapeake Appalachia, LLC	.125 or greater	1451/091	10-26.6,26.19
WV-061-001371-003	WV MINERALS, INC.	Northeast Natural Energy LLC	.125 or greater	1509/773	10-26.6, 26.19,26.5,26.4, 26.18
WV-061-003463-001	BARR, JAMES AND NOLA	Northeast Natural Energy LLC	.125 or greater	1517/415	10-26.12
WV-061-003514-001	TENNANT, ROBERT M. AND KATHLEEN A.	Northeast Natural Energy LLC	.125 or greater	1523/379	10-26.5,26.4

61-01694H01

WW-6A1 Operator's Well No. Kassay 5H

NNE Lease No.	Grantor, Lessor, etc.	Grantee, Lessee, etc.	Royalty	Book/Page	Tax Map & Parcel
WV-061-003237-001	BARR'S EXCAVATION, INC.	*Chesapeake Appalachia, LLC	.125 or greater	1450/536	10-26.3
WV-061-003235-001	BARR, EVERETT R. AND DOROTHY L.	*Chesapeake Appalachia, LLC	.125 or greater	1449/436	10-26.2
WV-061-003193-001	BARR, EVERETT R. AND DOROTHY L.	*Chesapeake Appalachia, LLC	.125 or greater	1449/371	10-27.4
WV-061-003441-001	KASSAY, NEHEMIAH AND PATTY A.	Northeast Natural Energy LLC	.125 or greater	1517/109	10-26.18

*See Attachment

61-01694409

Chesapeake Appalachia, LLC.

|

Northeast Natural Energy
Assignment
BK 120/769

61-01694 MDD

northeast
NATURAL ENERGY

November 6, 2015

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

Re: Kassay 3H, 5H, 9H and 13H Permit Modifications
API # 061-01740, 061-01694, 061-01695, 061-01689

Dear Permit Reviewer,

Northeast Natural Energy LLC ("NNE") would like to request modifications to its existing Kassay 3H, 5H, 9H and 13H Permits (061-01740, 061-01694, 061-01695, 061-01689). NNE has adjusted and lengthened the horizontal well bores to allow for more efficient development of the permitted Kassay Well Pad.

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

Should you have any questions please contact me at 304.241.5752 Ext. 7108 or by email at hmedley@nne-llc.com.

Sincerely,

Hollie M. Medley

Hollie M. Medley
Regulatory Coordinator

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