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 6101689, Well #: KASSAY 13H

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

for Gene Smith
Assistant Chief of Permitting
Office of Oil and Gas

WW-6B
(04/15)

API NO. 47- 61 - 01689 MOD
OPERATOR WELL NO. Kassay 13H
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 (Operator ID) | Monongalia (County) | Clay (District) | Blacksville (Quadrangle)

2) Operator's Well Number: Kassay 13H 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: 19,471.32'

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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API NO. 47- 61 - 01689 MOD
OPERATOR WELL NO. Kassay 13H
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	19,471'	19,441'	4,484 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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WW-6B
(10/14)

API NO. 47- 61 - 01689MOD
OPERATOR WELL NO. Kassay 13H
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 6,420' TVD/MD. The well will then be horizontally drilled on synthetic based mud from the KOP to approximately 8,289' TVD / 19,471.32' 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.

WV Department of
Environmental Protection

NORTHEAST NATURAL ENERGY, LLC

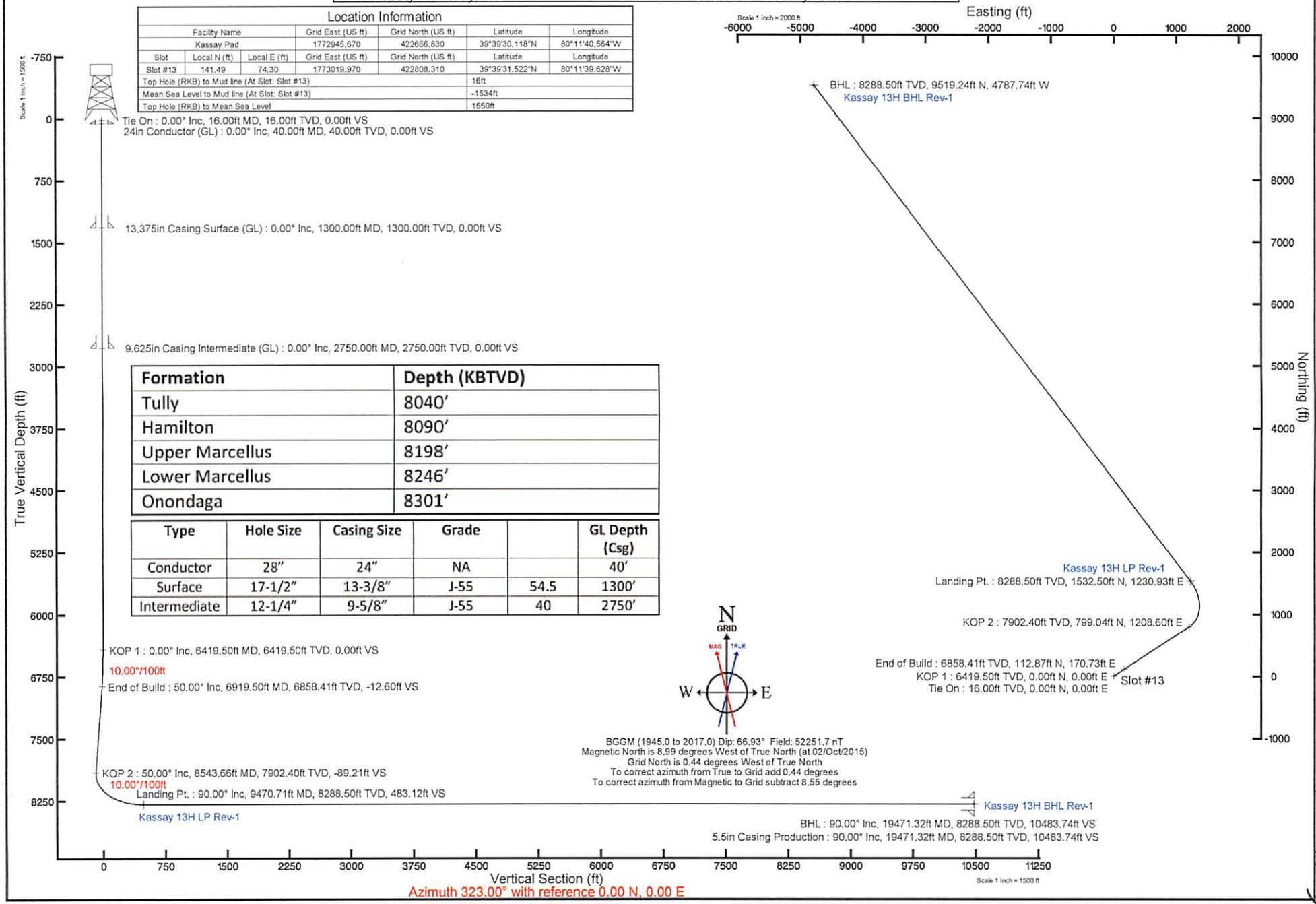
Location: Monongalia County, WV
Field: Monongalia
Facility: Kassay Pad

Slot: Slot #13
Well: Kassay 13H
Wellbore: Kassay 13H PWB

northeast NATURAL ENERGY

BAKER HUGHES

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 #13	141.49	74.30	1773019.970	422808.310	39°39'31.522"N	80°11'39.628"W
Top Hole (RKB) to Mud line (At Slot: Slot #13)					16ft	
Mean Sea Level to Mud line (At Slot: Slot #13)					-1534ft	
Top Hole (RKB) to Mean Sea Level					1550ft	



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

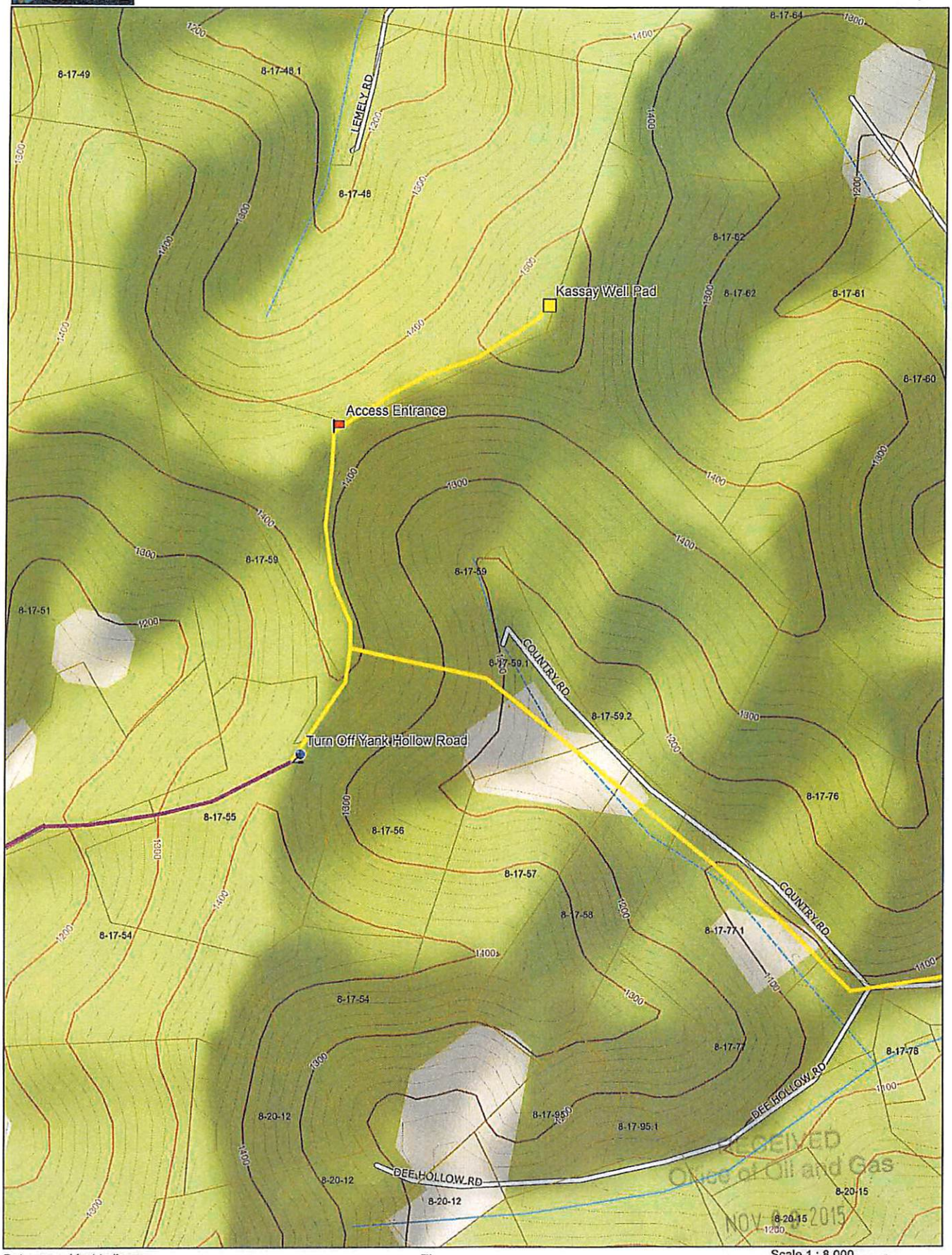
Type	Hole Size	Casing Size	Grade		GL Depth (Csg)
Conductor	28"	24"	NA		40'
Surface	17-1/2"	13-3/8"	J-55	54.5	1300'
Intermediate	12-1/4"	9-5/8"	J-55	40	2750'

61-01689 MOD

61-01689 MOD

DELORME

XMap® 7



Data use subject to license.

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TN

MN (8.9°W)

Scale 1 : 8,000

1" = 666.7 ft

Data Zoom 14-6

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NOV 2015
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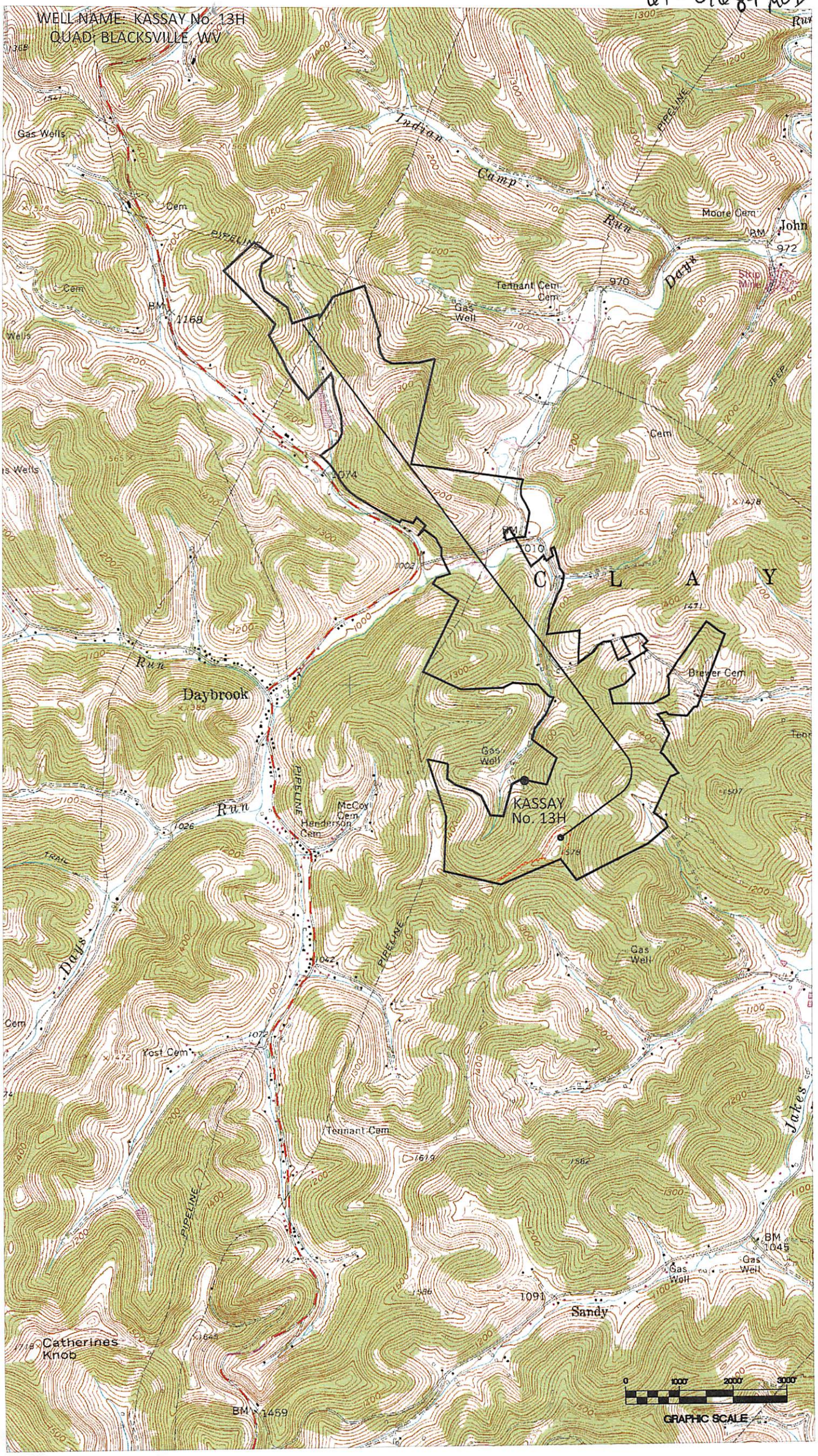
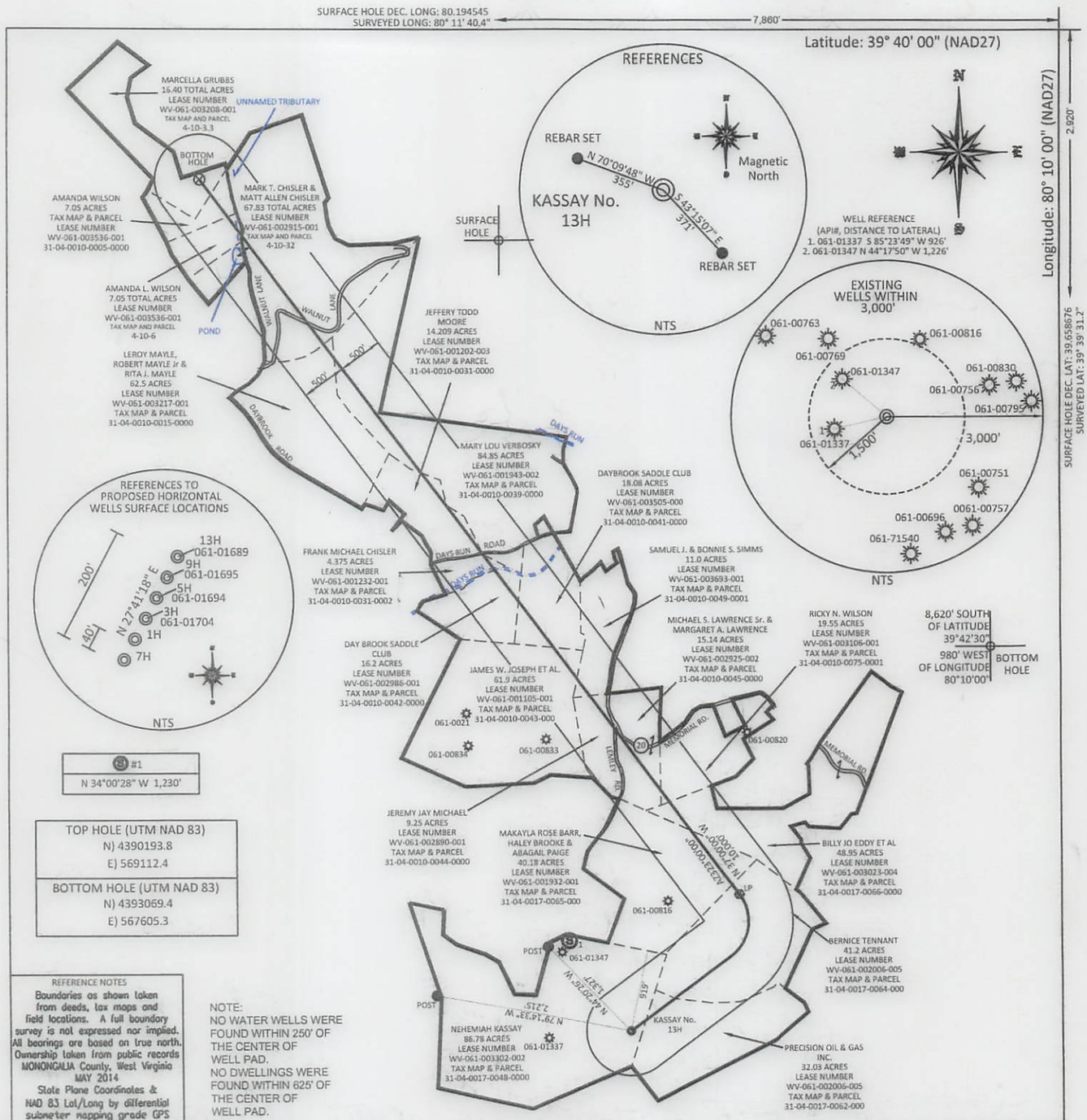
Environmental Protection

61-01689 MOD

WELL NAME: KASSAY No. 13H
QUAD: BLACKSVILLE, WV





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

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.

FILE #: NNE15
DRAWING #: 2538
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: OCTOBER 30, 2015

OPERATOR'S WELL #: KASSAY NO. 13H

API WELL #: 47 (STATE) 61 (COUNTY) 01689 HGA MOD (PERMIT)

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

PROPOSED ELEVATION: 1,534'
CURRENT ELEVATION: 1,560'

WATERSHED: DUNKARD CREEK
COUNTY/DISTRICT: MONONGALIA / CLAY
QUADRANGLE: BLACKSVILLE
SURFACE OWNER: NEHEMIAH KASSAY
ACREAGE: 86.78 +/-
OIL & GAS ROYALTY OWNER:
ACREAGE: 664.524 +/-
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: 19,471.320'

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

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WW-6A1
(5/13)

Operator's Well No. Kassay 13H

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

61-01689 MOD

WW-6A1 Operator's Well No. Kassay 13H

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
WV-061-002006-005	TENNANT, RAYMER	*Chesapeake Appalachia, LLC	.125 or greater	1396/635	17-62,64
WV-061-002006-006	WILLIAMS, FREDDY W.	*Chesapeake Appalachia, LLC	.125 or greater	1398/282	17-62,64
WV-061-002006-007	SINE, JR., EVERETT A	*Chesapeake Appalachia, LLC	.125 or greater	1398/285	17-62,64
WV-061-002006-008	SINE, LYALL A.	*Chesapeake Appalachia, LLC	.125 or greater	1399/599	17-62,64
WV-061-002006-009	WILLIAMS, NOLA M.	*Chesapeake Appalachia, LLC	.125 or greater	1399/602	17-62,64
WV-061-002006-010	GALLAGHER, CHERYL LISABETH	*Chesapeake Appalachia, LLC	.125 or greater	1398/519	17-62,64
WV-061-002006-011	WILLIAMS, W. RICHARD	*Chesapeake Appalachia, LLC	.125 or greater	1398/522	17-62,64
WV-061-002006-012	SINE, BETTY L.	*Chesapeake Appalachia, LLC	.125 or greater	1399/605	17-62,64
WV-061-002006-013	BRUMMAGE, KIMBERLY SUE	*Chesapeake Appalachia, LLC	.125 or greater	1399/608	17-62,64
WV-061-002006-014	SINE, DORIS L.	*Chesapeake Appalachia, LLC	.125 or greater	1404/286	17-62,64
WV-061-002006-015	MCAFEE, MABEL L.	*Chesapeake Appalachia, LLC	.125 or greater	1399/611	17-62,64
WV-061-002006-016	VAN TASSELL, PATRICIA	*Chesapeake Appalachia, LLC	.125 or greater	1418/729	17-62,64
WV-061-002006-017	FRICKLETON, CELESTE M.	*Chesapeake Appalachia, LLC	.125 or greater	1399/614	17-62,64
WV-061-002006-018	MOORE, VARNER L.	*Chesapeake Appalachia, LLC	.125 or greater	1401/082	17-62,64
WV-061-002006-019	TANNER, RITA J.	*Chesapeake Appalachia, LLC	.125 or greater	1404/289	17-62,64
WV-061-002006-020	WILSON, DELILAH M.	*Chesapeake Appalachia, LLC	.125 or greater	1404/292	17-62,64
WV-061-002006-021	WOODRUFF, ELLEN J.	*Chesapeake Appalachia, LLC	.125 or greater	1404/295	17-62,64
WV-061-002006-022	CHURCH, GAIL	*Chesapeake Appalachia, LLC	.125 or greater	1401/085	17-62,64
WV-061-002006-023	SINE, LARRY K.	*Chesapeake Appalachia, LLC	.125 or greater	1404/298	17-62,64
WV-061-002006-024	STRICKLAND, SUE ANN	*Chesapeake Appalachia, LLC	.125 or greater	1404/301	17-62,64
WV-061-002006-025	WILLIAMS, DONALD REX	*Chesapeake Appalachia, LLC	.125 or greater	1401/090	17-62,64
WV-061-002006-026	WISE, CAROL I.	*Chesapeake Appalachia, LLC	.125 or greater	1403/127	17-62,64
WV-061-002006-027	MOORE, LEONARD D.	*Chesapeake Appalachia, LLC	.125 or greater	1403/130	17-62,64
WV-061-002006-028	WILSON, SANDRA FAYE	*Chesapeake Appalachia, LLC	.125 or greater	1405/232	17-62,64
WV-061-002006-029	HOSTUTLER, PATRICIA ANN	*Chesapeake Appalachia, LLC	.125 or greater	1404/304	17-62,64
WV-061-002006-030	HALL, PAMELA RENA	*Chesapeake Appalachia, LLC	.125 or greater	1405/877	17-62,64
WV-061-002006-031	TENNANT, LEONARD L.	*Chesapeake Appalachia, LLC	.125 or greater	1405/880	17-62,64
WV-061-002006-032	SINE, DONALD R.	*Chesapeake Appalachia, LLC	.125 or greater	1410/572	17-62,64
WV-061-002038-001	MORRIS, PEGGY A.	*Chesapeake Appalachia, LLC	.125 or greater	1410/569	17-62,64
WV-061-002371-001	MCCULLOUGH, MARY R.	*Chesapeake Appalachia, LLC	.125 or greater	1421/402	17-62,64
WV-061-002371-002	LIMING, MARY	*Chesapeake Appalachia, LLC	.125 or greater	1421/373	17-62,64
WV-061-002371-003	BUCHANAN, RICKEY JANE	*Chesapeake Appalachia, LLC	.125 or greater	1425/367	17-62,64
WV-061-002371-004	VEDIS, KRISTIE VIRGIE	*Chesapeake Appalachia, LLC	.125 or greater	1425/327	17-62,64
WV-061-002371-005	CAIN, KAREN M.	*Chesapeake Appalachia, LLC	.125 or greater	1425/283	17-62,64
WV-061-002371-006	CHASE, DONNA LYNN	*Chesapeake Appalachia, LLC	.125 or greater	1425/200	17-62,64
WV-061-002371-007	TENNANT, RICHARD	*Chesapeake Appalachia, LLC	.125 or greater	1425/462	17-62,64
WV-061-002371-008	TENNANT, LARRY	*Chesapeake Appalachia, LLC	.125 or greater	1425/432	17-62,64
WV-061-002371-009	FLUHARTY, LORETTA	*Chesapeake Appalachia, LLC	.125 or greater	1425/408	17-62,64
WV-061-002371-010	PARSONS, EMZA M.	*Chesapeake Appalachia, LLC	.125 or greater	1426/130	17-62,64
WV-061-002371-011	YURISKO, PAMELA J.	*Chesapeake Appalachia, LLC	.125 or greater	1427/121	17-62,64
WV-061-002371-012	SINE, MYRTLE L.	*Chesapeake Appalachia, LLC	.125 or greater	1426/122	17-62,64
WV-061-002371-013	COOK, JR., WALDEN J.	*Chesapeake Appalachia, LLC	.125 or greater	1427/591	17-62,64
WV-061-002371-014	WISE, ALICE	*Chesapeake Appalachia, LLC	.125 or greater	1427/171	17-62,64
WV-061-002371-015	HINDS SNOPPS, TWYLA	*Chesapeake Appalachia, LLC	.125 or greater	1428/185	17-62,64
WV-061-002371-016	FOLEY, REBECCA GAIL	*Chesapeake Appalachia, LLC	.125 or greater	1427/186	17-62,64

61-01689 MOD.

WW-6A1 Operator's Well No. Kassay 13H

NNE Lease No.	Grantor, Lessor, etc.	Grantee, Lessee, etc.	Royalty	Book/Page	Tax Map & Parcel
WV-061-002371-017	SINE, C.W.	*Chesapeake Appalachia, LLC	.125 or greater	1427/369	17-62,64
WV-061-002371-018	WILSON, SANDRA FAYE AND WILSON L.	*Chesapeake Appalachia, LLC	.125 or greater	1428/740	17-62,64
WV-061-002371-019	ESTLE, GINGER K.	*Chesapeake Appalachia, LLC	.125 or greater	1438/661	17-62,64
WV-061-002371-020	FLUHARTY, TINA L. AND RICHARD A.	*Chesapeake Appalachia, LLC	.125 or greater	1438/627	17-62,64
WV-061-002371-021	TROUTMAN, LYDIA L.	*Chesapeake Appalachia, LLC	.125 or greater	1438/643	17-62,64
WV-061-002371-022	JOHNSON, MICHELLE DAWN AND ERIC B.	*Chesapeake Appalachia, LLC	.125 or greater	1439/180	17-62,64
WV-061-002371-023	SINE, DONALD R. AND IRMA	*Chesapeake Appalachia, LLC	.125 or greater	1438/671	17-62,64
WV-061-002371-024	THOMAS, DIANE BETH AND CURTIS L.	*Chesapeake Appalachia, LLC	.125 or greater	1442/573	17-62,64
WV-061-002371-025	TENNANT, TROY L. AND ANNA L.	*Chesapeake Appalachia, LLC	.125 or greater	1442/541	17-62,64
WV-061-002371-026	EDDY, DARLENE S.	*Chesapeake Appalachia, LLC	.125 or greater	1445/158	17-62,64
WV-061-002371-027	VARNER, PAUL	*Chesapeake Appalachia, LLC	.125 or greater	1454/100	17-62,64
WV-061-002371-028	VARNER, SR., STEVE AND TINA	*Chesapeake Appalachia, LLC	.125 or greater	1454/285	17-62,64
WV-061-002371-029	VARNER, LOUISE	*Chesapeake Appalachia, LLC	.125 or greater	1454/095	17-62,64
WV-061-002371-030	VARNER, MARK	*Chesapeake Appalachia, LLC	.125 or greater	1454/090	17-62,64
WV-061-002371-031	BARBER, ALMEADA J.	*Chesapeake Appalachia, LLC	.125 or greater	1454/085	17-62,64
WV-061-002371-032	VARNER, JODY L.	*Chesapeake Appalachia, LLC	.125 or greater	1454/338	17-62,64
WV-061-002371-033	VAN FOSSEN, RUBY E.	*Chesapeake Appalachia, LLC	.125 or greater	1454/080	17-62,64
WV-061-002371-034	BROWN, PAMELA AND CARL	*Chesapeake Appalachia, LLC	.125 or greater	1454/075	17-62,64
WV-061-002371-035	SIMERAL, TAMELA R. AND JERRY	*Chesapeake Appalachia, LLC	.125 or greater	1454/070	17-62,64
WV-061-002371-036	WILLIAMS, JAROD TYLER	*Chesapeake Appalachia, LLC	.125 or greater	1454/066	17-62,64
WV-061-002371-037	SUDDUTH, DEBORA AND SAMUEL	*Chesapeake Appalachia, LLC	.125 or greater	1454/343	17-62,64
WV-061-002371-038	VARNER, JAMES	*Chesapeake Appalachia, LLC	.125 or greater	1454/370	17-62,64
WV-061-002371-039	VARNER, JANET	*Chesapeake Appalachia, LLC	.125 or greater	1454/365	17-62,64
WV-061-002371-040	VARNER, CONNIE	*Chesapeake Appalachia, LLC	.125 or greater	1454/784	17-62,64
WV-061-002371-041	VARNER, ROBERT	*Chesapeake Appalachia, LLC	.125 or greater	1454/779	17-62,64
WV-061-002371-042	MCCAMMON, LISA AND WILLIAM	*Chesapeake Appalachia, LLC	.125 or greater	1454/821	17-62,64
WV-061-002371-043	LYONS, BETTY C.	*Chesapeake Appalachia, LLC	.125 or greater	1462/541	17-62,64
WV-061-002371-044	EDDY, TOMMY J. AND CAROL A.	Northeast Natural Energy LLC	.125 or greater	1517/96	17-62,64
WV-061-002371-045	YURISKO, PAMELA J.	Northeast Natural Energy LLC	.125 or greater	1521/732	17-62,64
WV-061-002371-046	TENNANT, RICHARD DEE AND ONEIDA P.	Northeast Natural Energy LLC	.125 or greater	1524/265	17-62,64
WV-061-002371-047	LARRY BLAINE TENNANT ESTATE	Northeast Natural Energy LLC	.125 or greater	1524/774	17-62,64
WV-061-002371-048	FLUHARTY, LORETTA	Northeast Natural Energy LLC	.125 or greater	1524/780	17-62,64
WV-061-002371-049	BUCHANAN, RICKEY JANE	Northeast Natural Energy LLC	.125 or greater	1526/132	17-62,64
WV-061-002371-050	WISE, ALICE	Northeast Natural Energy LLC	.125 or greater	1526/134	17-62,64
WV-061-002371-051	PARSONS, EMZA	Northeast Natural Energy LLC	.125 or greater	1530/21	17-62,64
WV-061-002389-001	JOSEPH, ALMA M.	*Chesapeake Appalachia, LLC	.125 or greater	1435/165	17-62,64; 10-43,44
WV-061-002392-001	CLEVENGER, ARDELLA J.	*Chesapeake Appalachia, LLC	.125 or greater	1435/178	17-62,64; 10-44
WV-061-002392-002	CUMMINGS, HELEN	*Chesapeake Appalachia, LLC	.125 or greater	1435/156	17-62,64; 10-44
WV-061-002401-001	PEMBERTON, MARY J.	*Chesapeake Appalachia, LLC	.125 or greater	1441/724	17-62,64
WV-061-002401-003	STRAHLER, REBECCA LYNNE	*Chesapeake Appalachia, LLC	.125 or greater	1441/008	17-62,64
WV-061-002401-004	WILLIAMS, JAMES EVERETT AND LISA	*Chesapeake Appalachia, LLC	.125 or greater	1441/020	17-62,64
WV-061-002401-005	TAYLOR, KAREN J	*Chesapeake Appalachia, LLC	.125 or greater	1440/691	17-62,64
WV-061-002401-006	BERGA, JOYCE ANN AND RONAL	*Chesapeake Appalachia, LLC	.125 or greater	1440/686	17-62,64
WV-061-002401-007	WILLIAMS, DENNIS KEITH	*Chesapeake Appalachia, LLC	.125 or greater	1443/436	17-62,64
WV-061-002401-008	MICHAEL, SUSAN L. AND CHESTER L.	*Chesapeake Appalachia, LLC	.125 or greater	1440/680	17-62,64
WV-061-003542-001	MOORE, VELDA E.	Northeast Natural Energy LLC	.125 or greater	1526/104	17-62,64

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NNE Lease No.	Grantor, Lessor, etc.	Grantee, Lessee, etc.	Royalty	Book/Page	Tax Map & Parcel
WV-061-003542-002	BAILEY, REBECCA H.	Northeast Natural Energy LLC	.125 or greater	1523/694	17-62,64
WV-061-003542-003	ROBERTSON, LOIS R. AND KENNETH A.	Northeast Natural Energy LLC	.125 or greater	1530/224	17-62,64
WV-061-003542-004	EARL, SHARON G. AND MICHAEL P.	Northeast Natural Energy LLC	.125 or greater	1530/756	17-62,64
WV-061-003023-001	EDDY, ORA C.	*Chesapeake Appalachia, LLC	.125 or greater	1427/622	17-66
WV-061-003023-002	ROUPE, LARRY L.	*Chesapeake Appalachia, LLC	.125 or greater	1428/895	17-66
WV-061-003023-003	WOOD, NINA J.	*Chesapeake Appalachia, LLC	.125 or greater	1431/415	17-66
WV-061-003023-004	EDDY, BILLY JOE AND JANET	*Chesapeake Appalachia, LLC	.125 or greater	1428/845	17-66
WV-061-003023-005	EDDY, DENZIL FAYE AND ROSE MARY	*Chesapeake Appalachia, LLC	.125 or greater	1429/323	17-66
WV-061-003023-006	HARRIS, JULIA MARCIA	*Chesapeake Appalachia, LLC	.125 or greater	1430/357	17-66
WV-061-003023-007	PHILLIPS, REBECCA AND ED	*Chesapeake Appalachia, LLC	.125 or greater	1430/321	17-66
WV-061-003023-008	POLANSKY, EMELIA B.	*Chesapeake Appalachia, LLC	.125 or greater	1430/337	17-66
WV-061-003023-009	WHITE, TERRY D. AND SHIRLEY	*Chesapeake Appalachia, LLC	.125 or greater	1430/367	17-66
WV-061-003023-010	WRIGHT, LENA ANN	*Chesapeake Appalachia, LLC	.125 or greater	1434/133	17-66
WV-061-003023-011	EDDY, MELVIN LUTHER AND VADA DAY	*Chesapeake Appalachia, LLC	.125 or greater	1436/446	17-66
WV-061-003023-012	LIPSCOMB, JUDY AND LARRY	*Chesapeake Appalachia, LLC	.125 or greater	1431/267	17-66
WV-061-003023-013	LEMMON, DONNA EILEEN AND WILLIAM	*Chesapeake Appalachia, LLC	.125 or greater	1439/316	17-66
WV-061-003023-014	EDDY, BILLY JOE AND JANET	Northeast Natural Energy LLC	.125 or greater	1518/25	17-66
WV-061-003023-015	EDDY, DENZIL FAYE AND ROSE MARY	Northeast Natural Energy LLC	.125 or greater	1517/374	17-66
WV-061-003023-016	EDDY, ORA C. AND VANESSA	Northeast Natural Energy LLC	.125 or greater	1517/0387	17-66
WV-061-003023-017	WRIGHT, LENA ANN	Northeast Natural Energy LLC	.125 or greater	1521/728	17-66
WV-061-003023-018	POLANSKY, EMELIA B.	Northeast Natural Energy LLC	.125 or greater	1521/692	17-66
WV-061-003023-019	EDDY, MELVIN LUTHER AND KAY	Northeast Natural Energy LLC	.125 or greater	1534/118	17-66
WV-061-003106-001	FLYNN, GERALDINE ANNE ENGLER & PHILLIP DAVID	*Chesapeake Appalachia, LLC	.125 or greater	1437/025	10-75.1
WV-061-003106-002	GRIFFIETH, CATHERINE E.	*Chesapeake Appalachia, LLC	.125 or greater	1438/647	10-75.1
WV-061-003106-003	WILDMAN, WINIFRED H.	*Chesapeake Appalachia, LLC	.125 or greater	1443/442	10-75.1
WV-061-002925-002	MICHAEL, JR., LAWRENCE C.	Northeast Natural Energy LLC	.125 or greater	1535/845	10-45
WV-061-003693-001	BROOKOVER, CARMEL G.	Northeast Natural Energy LLC	.125 or greater	1535/847	10-49.1
WV-061-003505-000	THE DAYBROOK SADDLE CLUB	Northeast Natural Energy LLC	.125 or greater	1523/492	10-41
WV-061-001943-002	WILLARD, CLARENCE AND ANTOINETTE	Northeast Natural Energy LLC	.125 or greater	1523/712	10-39
WV-061-001943-003	CORLEY, BONNIE N.	Northeast Natural Energy LLC	.125 or greater	1529/59	10-39
WV-061-003211-001	THE CHARLES LEE THOMAS TRUST	*Chesapeake Appalachia, LLC	.125 or greater	1451/82	10-32
WV-061-002915-001	CHISLER, MARK T. AND RITA	*West Augusta Resources, LLC	.125 or greater	1506/414	10-32
WV-061-003247-001	THOMAS, JAMES H.	*Chesapeake Appalachia, LLC	.125 or greater	1451/087	10-32
WV-061-003247-005	HAWKINS, DONALD L. AND BONNIE K.	Northeast Natural Energy LLC	.125 or greater	1532/612	10-32
WV-061-003208-001	KUNKLE, CHARLES	*Chesapeake Appalachia, LLC	.125 or greater	1445/202	10-3.3
WV-061-003577-001	TENNANT, JACOB W. AND ELIZABETH B.	Northeast Natural Energy LLC	.125 or greater	1533/826	10-3.3
WV-061-003707-000	SHUMAN, INC.	Northeast Natural Energy LLC	.125 or greater	1534/330	10-5
WV-061-003536-001	THE CHARLES LEE THOMAS TRUST	Northeast Natural Energy LLC	.125 or greater	1524/457	10-6,5
WV-061-003537-001	THE CHARLES LEE THOMAS TRUST	Northeast Natural Energy LLC	.125 or greater	1524/246	10-6
WV-061-003558-001	KNISELY, JAMES G.	Northeast Natural Energy LLC	.125 or greater	1525/236	10-6
WV-061-003558-002	SWIGER, JAMES DWIGHT	Northeast Natural Energy LLC	.125 or greater	1528/109	10-6
WV-061-003558-003	SWIGER, JOHN AVERIL	Northeast Natural Energy LLC	.125 or greater	1529/560	10-6
WV-061-003558-004	SUMMERS, JANET K.	Northeast Natural Energy LLC	.125 or greater	1529/118	10-6
WV-061-003558-005	MULLENAX, PRISCILLA R.	Northeast Natural Energy LLC	.125 or greater	1532/561	10-6
WV-061-003378-001	STRICKLER, PAUL T. AND SHARON	Northeast Natural Energy LLC	.125 or greater	1530/128	10-15,31.2
WV-061-003378-002	JOHN, LOIS MARIE AND ERNEST	Northeast Natural Energy LLC	.125 or greater	1487/383	10-15,31.2

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WV-061-003378-003	BUTLER, MARY ROSE	Northeast Natural Energy LLC	.125 or greater	1530/132	10-15,31.2
WV-061-003378-004	STRICKLER, WILBUR RANDOLPH AND DEBORAH	Northeast Natural Energy LLC	.125 or greater	1530/140	10-15,31.2
WV-061-003378-005	STRICKLER, DORSEY NEIL AND NANCY E.	Northeast Natural Energy LLC	.125 or greater	1530/136	10-15,31.2
WV-061-001334-001	THOMAS, CHARLES L.	*Chesapeake Appalachia, LLC	.125 or greater	1378/404	10-15
WV-061-001372-001	JOHN, LOIS MARIE	*Chesapeake Appalachia, LLC	.125 or greater	1375/898	10-15
WV-061-001372-002	STRICKLER, DORSEY NEIL	*Chesapeake Appalachia, LLC	.125 or greater	1375/868	10-15
WV-061-001372-003	BUTLER, MARY ROSE	*Chesapeake Appalachia, LLC	.125 or greater	1376/19	10-15
WV-061-001372-004	STRICKLER, PAUL T.	*Chesapeake Appalachia, LLC	.125 or greater	1376/43	10-15
WV-061-001372-005	STRICKLER, WILBUR RANDOLPH	*Chesapeake Appalachia, LLC	.125 or greater	1375/838	10-15
WV-061-003219-001	MICHAEL, EMMA REGINA	*Chesapeake Appalachia, LLC	.125 or greater	1445/121	10-15
WV-061-003217-001	MAYLE, JR., LEROY ROBERT AND RITA J.	*Chesapeake Appalachia, LLC	.125 or greater	1447/702	10-15
WV-061-003510-001	THE CHARLES LEE THOMAS TRUST	Northeast Natural Energy LLC	.125 or greater	1525/222	10-15
WV-061-001202-003	MOORE, L. GAYLE	*Chesapeake Appalachia, LLC	.125 or greater	1370/493	10-31
WV-061-001202-004	JOHN, LOIS MARIE	*Chesapeake Appalachia, LLC	.125 or greater	1376/007	10-31
WV-061-001202-007	STRICKLER, PAUL T.	*Chesapeake Appalachia, LLC	.125 or greater	1376/055	10-31
WV-061-001202-009	MICHAEL, EMMA	*Chesapeake Appalachia, LLC	.125 or greater	1485/672	10-31
WV-061-001232-001	JOHN,LOIS MARIE	*Chesapeake Appalachia, LLC	.125 or greater	1375/895	10-31.2
WV-061-001232-006	STRICKLER, PAUL T.	*Chesapeake Appalachia, LLC	.125 or greater	1376/046	10-31.2
WV-061-001232-009	MICHAEL, EMMA REGINA	Northeast Natural Energy LLC	.125 or greater	1526/66	10-31.2
WV-061-001333-001	MOORE, L. GAYLE	*Chesapeake Appalachia, LLC	.125 or greater	1370/544	10-31.2
WV-061-002621-001	REVOCABLE TRUST OF ROBERT M. SPRAGG	*Chesapeake Appalachia, LLC	.125 or greater	1441/411	10-42
WV-061-002986-001	THE DAYBROOK SADDLE CLUB	*Chesapeake Appalachia, LLC	.125 or greater	1429/504	10-42
WV-061-002986-002	DAWSON, MARY ANN SPRAGG	*Chesapeake Appalachia, LLC	.125 or greater	1433/564	10-42
WV-061-002986-003	TENNANT, TERESA LEIGH	*Chesapeake Appalachia, LLC	.125 or greater	1454/375	10-42
WV-061-002986-004	TENNANT, NELLIE G.	*Chesapeake Appalachia, LLC	.125 or greater	1454/826	10-42
WV-061-002986-005	TENNANT, KENT S.	Northeast Natural Energy LLC	.125 or greater	1514/081	10-42
WV-061-002986-006	SIMS, DANIEL T.	Northeast Natural Energy LLC	.125 or greater	1515/835	10-42
WV-061-002986-008	SIMS, JERRY E. AND JOYCE	Northeast Natural Energy LLC	.125 or greater	1516/0625	10-42
WV-061-002986-009	BOHM, JEAN-CLARE BOHM	Northeast Natural Energy LLC	.125 or greater	1515/837	10-42
WV-061-002986-010	TENNANT, D. RAY AND BARBARA	Northeast Natural Energy LLC	.125 or greater	1516/0627	10-42
WV-061-002986-011	WATKINS, JO ANN	Northeast Natural Energy LLC	.125 or greater	1515/843	10-42
WV-061-002986-012	WATKINS, DOUG D. AND JEAN	Northeast Natural Energy LLC	.125 or greater	1514/061	10-42
WV-061-002986-013	WILSON, JUDY E. AND ROBERT	Northeast Natural Energy LLC	.125 or greater	1514/088	10-42
WV-061-002986-014	WATKINS, DAVID	Northeast Natural Energy LLC	.125 or greater	1515/849	10-42
WV-061-002986-015	WATKINS, MACK	Northeast Natural Energy LLC	.125 or greater	1514/075	10-42
WV-061-002986-016	FRITZ, KIM DAVID AND NANCY	Northeast Natural Energy LLC	.125 or greater	1515/839	10-42
WV-061-002986-017	GEISSINGER, CONNIE AND WAYNE	Northeast Natural Energy LLC	.125 or greater	1514/063	10-42
WV-061-002986-018	WATKINS, ROBERT D. AND JANICE	Northeast Natural Energy LLC	.125 or greater	1516/0623	10-42
WV-061-002986-019	WATKINS, TOMMY D.	Northeast Natural Energy LLC	.125 or greater	1516/223	10-42
WV-061-002986-020	ELLIS, EVA L. AND ROBERT	Northeast Natural Energy LLC	.125 or greater	1516/1	10-42
WV-061-002986-021	SELL, JOYCE	Northeast Natural Energy LLC	.125 or greater	1514/071	10-42
WV-061-002986-022	LARRY, RUTH ELLEN	Northeast Natural Energy LLC	.125 or greater	1513/846	10-42
WV-061-002986-023	TENNANT, STEPHEN A. AND MARCIA	Northeast Natural Energy LLC	.125 or greater	1514/079	10-42
WV-061-002986-024	COLEMAN, JANET	Northeast Natural Energy LLC	.125 or greater	1514/073	10-42
WV-061-002986-026	TENNANT, JOE S. AND KAREN	Northeast Natural Energy LLC	.125 or greater	1516/0548	10-42
WV-061-002986-030	LUCKEY, CAROL A. AND DAVID M.	Northeast Natural Energy LLC	.125 or greater	1518/21	10-42

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WV-061-002986-035	TENNANT, JR., JOSEPH B.	Northeast Natural Energy LLC	.125 or greater	1518/5	10-42
WV-061-002986-036	HARRISON, SHERRY L.	Northeast Natural Energy LLC	.125 or greater	1521/574	10-42
WV-061-002986-037	HALBROOK, JACQUELYN M. AND DONALD R.	Northeast Natural Energy LLC	.125 or greater	1520/686	10-42
WV-061-002986-039	THE DAYBROOK SADDLE CLUB	Northeast Natural Energy LLC	.125 or greater	1521/647	10-42
WV-061-002986-040	MAIN, DONLEY CARR	Northeast Natural Energy LLC	.125 or greater	1524/271	10-42
WV-061-002986-041	TENNANT, SUE	Northeast Natural Energy LLC	.125 or greater	1524/349	10-42
WV-061-002986-042	TENNANT, MARION LAVERN AND GINGER J.	Northeast Natural Energy LLC	.125 or greater	1521/180	10-42
WV-061-002986-043	KRIDER, SANDRA K. AND WILLIAM S.	Northeast Natural Energy LLC	.125 or greater	1524/784	10-42
WV-061-002986-044	WILSON, JANET AND BRIAN	Northeast Natural Energy LLC	.125 or greater	1528/148	10-42
WV-061-002986-045	SWARTZ, CARL E. AND CHEVELLE L.	Northeast Natural Energy LLC	.125 or greater	1524/342	10-42
WV-061-002986-047	CARROLL, CHANNING CARROLL	Northeast Natural Energy LLC	.125 or greater	1529/53	10-42
WV-061-002986-048	LAW, MARY JOYCE	Northeast Natural Energy LLC	.125 or greater	1526/116	10-42
WV-061-002986-049	GRAVES, LORA ANN	Northeast Natural Energy LLC	.125 or greater	1529/24	10-42
WV-061-002986-050	MOORE, JUANITA	Northeast Natural Energy LLC	.125 or greater	1530/754	10-42
WV-061-003271-001	CHESAPEAKE APPALACHIA, LLC.	*Chesapeake Appalachia, LLC	.125 or greater	1491/334	10-42
WV-061-003492-001	TENNANT, JAN L. AND RICHARD COOPER	Northeast Natural Energy LLC	.125 or greater	1522/337	10-42
WV-061-003503-001	MOORE, LORETTA GAYLE	Northeast Natural Energy LLC	.125 or greater	1525/220	10-42
WV-061-003535-001	WATKINS, ROBERT D. AND JANICE	Northeast Natural Energy LLC	.125 or greater	1532/384	10-42
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

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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
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-061-002890-001	HOSTUTLER, PATRICIA ANN	*Chesapeake Appalachia, LLC	.125 or greater	1425/246	10-44
WV-061-002890-002	WILSON, SANDRA FAYE	*Chesapeake Appalachia, LLC	.125 or greater	1425/346	10-44
WV-061-002890-003	TENNANT, LEONARD L.	*Chesapeake Appalachia, LLC	.125 or greater	1425/254	10-44
WV-061-002890-004	HALL, PAMELA RENA	*Chesapeake Appalachia, LLC	.125 or greater	1425/258	10-44
WV-061-002890-005	TENNANT, RAYMER F.	*Chesapeake Appalachia, LLC	.125 or greater	1434/125	10-44
WV-061-002890-006	WISE, ALICE	*Chesapeake Appalachia, LLC	.125 or greater	1433/557	10-44
WV-061-002890-007	TENNANT, HAZEL MARIE	*Chesapeake Appalachia, LLC	.125 or greater	1433/530	10-44
WV-061-002890-008	PIERCEFIELD, TERRY LYNN	*Chesapeake Appalachia, LLC	.125 or greater	1443/205	10-44
WV-061-002890-009	PIERCEFIELD, GENE LEE AND LANA L.	*Chesapeake Appalachia, LLC	.125 or greater	1443/197	10-44
WV-061-002890-010	CLARK, JANICE A. AND JOHN R.	*Chesapeake Appalachia, LLC	.125 or greater	1443/193	10-44
WV-061-002890-011	PRATT, JIM ARVIN AND BRENDA SUE	*Chesapeake Appalachia, LLC	.125 or greater	1443/201	10-44
WV-061-002890-012	BRUTTO, DONNA M. AND ANTHONY	*Chesapeake Appalachia, LLC	.125 or greater	1443/180	10-44
WV-061-002890-013	MONTGOMERY, MELVIN DOUG AND PATRICIA MAY	*Chesapeake Appalachia, LLC	.125 or greater	1444/284	10-44
WV-061-002890-014	FERGUSON, TAMMY LYNN	*Chesapeake Appalachia, LLC	.125 or greater	1444/276	10-44
WV-061-002890-015	SMITH, CYNTHIA K. AND PHILLIP W.	*Chesapeake Appalachia, LLC	.125 or greater	1444/355	10-44
WV-061-002890-016	MONTGOMERY, LEROY THOMAS AND VIOLET RACHEL	*Chesapeake Appalachia, LLC	.125 or greater	1445/459	10-44
WV-061-002890-017	PRATT, CHRISTOPHER AND AMANDA	*Chesapeake Appalachia, LLC	.125 or greater	1446/247	10-44
WV-061-002890-018	AHLHEIM, RONALD WILLIAM	*Chesapeake Appalachia, LLC	.125 or greater	1446/251	10-44
WV-061-002890-019	PRATT, BRANDY NICOLE	*Chesapeake Appalachia, LLC	.125 or greater	1446/646	10-44
WV-061-002890-020	HERRING, BETTY LOU STILES	*Chesapeake Appalachia, LLC	.125 or greater	1447/791	10-44
WV-061-002890-021	STILES, KIMBERLY	*Chesapeake Appalachia, LLC	.125 or greater	1449/363	10-44
WV-061-002890-022	STILES, TEDDY AND GLORIA	*Chesapeake Appalachia, LLC	.125 or greater	1451/462	10-44
WV-061-002890-023	STILES, ALLEN	*Chesapeake Appalachia, LLC	.125 or greater	1453/568	10-44
WV-061-002890-024	STILES, KATINA LIMING	*Chesapeake Appalachia, LLC	.125 or greater	1453/580	10-44
WV-061-002890-025	STILES, DUSTIN	*Chesapeake Appalachia, LLC	.125 or greater	1453/633	10-44
WV-061-002890-026	DAVIS, SONYA & MIKE	Northeast Natural Energy LLC	.125 or greater	1524/279	10-44
WV-061-002890-027	FLUHARTY, LORETTA	Northeast Natural Energy LLC	.125 or greater	1524/281	10-44

61-01689 MOD

WW-6A1 Operator's Well No. Kassay 13H

NNE Lease No.	Grantor, Lessor, etc.	Grantee, Lessee, etc.	Royalty	Book/Page	Tax Map & Parcel
WV-061-002890-028	VEDIS, KRISTIE VIRGIE	Northeast Natural Energy LLC	.125 or greater	1524/789	10-44
WV-061-002890-029	TENNANT, TROY & ANA	Northeast Natural Energy LLC	.125 or greater	1524/776	10-44
WV-061-002890-030	FLUHARTY, TINA L. AND RICHARD A.	Northeast Natural Energy LLC	.125 or greater	1524/311	10-44
WV-061-002890-031	LARRY BLAINE TENNANT ESTATE	Northeast Natural Energy LLC	.125 or greater	1524/778	10-44
WV-061-002890-032	TENNANT, RICHARD AND ONEIDA P.	Northeast Natural Energy LLC	.125 or greater	1524/287	10-44
WV-061-002890-033	ESTLE, GINGER K.	Northeast Natural Energy LLC	.125 or greater	1523/816	10-44
WV-061-002890-034	ROBINSON, LYDIA	Northeast Natural Energy LLC	.125 or greater	1528/157	10-44
WV-061-002890-035	CAIN, KAREN MARIE AND RICHARD L.	Northeast Natural Energy LLC	.125 or greater	1524/453	10-44
WV-061-002890-036	CHASE, DONNA LYNN AND BRIAN D.	Northeast Natural Energy LLC	.125 or greater	1532/72	10-44
WV-061-002389-001	JOSEPH, ALMA M.	*Chesapeake Appalachia, LLC	.125 or greater	1435/165	10-44
WV-061-001932-001	EDDY-BARR, BARBARA	*Chesapeake Appalachia, LLC	.125 or greater	1393/729	17-65

*See Attachment

61- 01689 MOD

Chesapeake Appalachia, LLC.

Northeast Natural Energy
Assignment
BK 120/769

61-01689MOD

West Augusta Resources LLC

Chesapeake Appalachia, LLC.
Assignment
BK 113/PG 134

Northeast Natural Energy
Assignment
BK 120/PG 769

61-01689 MOD

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

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
3H 5H 9H 13H

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Sincerely,

Hollie M. Medley

Hollie M. Medley
Regulatory Coordinator

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