



west virginia department of environmental protection

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

Austin Caperton, Cabinet Secretary
www.dep.wv.gov

Wednesday, April 1, 2020
PERMIT MODIFICATION APPROVAL
Horizontal 6A / New Drill

ANTERO RESOURCES CORPORATION
1615 WYNKOOP STREET

DENVER, CO 80202

Re: Permit Modification Approval for LANCASTER UNIT 3H
47-095-02676-00-00

Modified to lengthen lateral to 16,900' TMD with no additional wells within 500'

ANTERO RESOURCES CORPORATION

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

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

James A. Martin
Chief

A blue ink signature of James A. Martin, written in a cursive style, is placed over the printed name and title.

Operator's Well Number: LANCASTER UNIT 3H
Farm Name: MICHAEL J. & MELINDA R. HOGUE
U.S. WELL NUMBER: 47-095-02676-00-00
Horizontal 6A New Drill
Date Modification Issued: April 1, 2020

Promoting a healthy environment.

MAD

WW-6B
(04/15)

API NO. 47-095 - 02676
 OPERATOR WELL NO. Lancaster Unit 3H
 Well Pad Name: Hogue Pad

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

1) Well Operator: Antero Resources Corporation 494507062 095 - Tyler Ellsworth Middlebourne 7.5'
 Operator ID County District Quadrangle

2) Operator's Well Number: Lancaster Unit 3H Well Pad Name: Hogue Pad

3) Farm Name/Surface Owner: Michael J. & Melinda R. Hogue Public Road Access: Klondike Acres Road

4) Elevation, current ground: 1033' Elevation, proposed post-construction: ~1014.5

5) Well Type (a) Gas Oil Underground Storage
 Other

(b) If Gas Shallow Deep
 Horizontal

6) Existing Pad: Yes or No No

7) Proposed Target Formation(s), Depth(s), Anticipated Thickness and Expected Pressure(s):
Marcellus Shale: 6900' TVD, Anticipated Thickness- 55 feet, Associated Pressure- 2850#

*JEB
3/12/2020*

8) Proposed Total Vertical Depth: 6900' TVD

9) Formation at Total Vertical Depth: Marcellus

10) Proposed Total Measured Depth: 16900' MD

11) Proposed Horizontal Leg Length: 7759'

12) Approximate Fresh Water Strata Depths: 456'

13) Method to Determine Fresh Water Depths: 47-095-00704

14) Approximate Saltwater Depths: 1581'

15) Approximate Coal Seam Depths: 740'

16) Approximate Depth to Possible Void (coal mine, karst, other): None Anticipated

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

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

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MAR 16 2020

WW-6B
(04/15)

API NO. 47- 095 - 02676
OPERATOR WELL NO. Lancaster Unit 3H
Well Pad Name: Hogue Pad

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	16"	New	H-40	94#	80	80	CTS, 63 Cu. Ft.
Fresh Water	10 3/4"	New	J-55	40.5#	506 *see # 19	506 *see # 19	CTS, 368 Cu. Ft.
Coal	7-5/8"	New	K-55	26.4#	2500	2500	CTS, 698 Cu. Ft.
Intermediate							
Production	5"	New	P-110	18#	16900	16900	4240 Cu. Ft
Tubing	2-3/8"	New	N-80	4.7#			
Liners							

JCB
3/12/2020

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	16"	20"	0.438"	2630	50	Class A	~1.2
Fresh Water	10 3/4"	13-1/2"	0.35"	2730	1000	Class A	~1.2
Coal	7-5/8"	9 7/8"	0.328"	4140	1500	Class A	~1.2
Intermediate							
Production	5"	6 3/4"	0.362"	15840	2500	Class H	~1.26
Tubing	2-3/8"	4.778"	0.19"	11,200			
Liners							

PACKERS

Kind:	N/A			
Sizes:	N/A			
Depths Set:	N/A			

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WV Department of
Environmental Protection

WW-6B
(10/14)

API NO. 47-095-02676
 OPERATOR WELL NO. Lancaster Unit 3H
 Well Pad Name: Hogue Pad

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

Drill, perforate, fracture a new horizontal shallow well and complete Marcellus Shale.

*Antero will be air drilling the fresh water string which makes it difficult to determine when fresh water is encountered. Therefore, we have built in a buffer for the casing setting depth which helps to ensure that all fresh water zones are covered.

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

Antero plans to pump Slickwater into the Marcellus Shale formation in order to ready the well for production. The fluid will be comprised of approximately 99 percent water and sand, with less than 1 percent special-purpose additives as shown in the attached "List of Anticipated Additives Used for Fracturing or Stimulating Well."

Anticipated Max Pressure - 9300 lbs
 Anticipated Max Rate - 80 bpm

JCB
3/12/2020

21) Total Area to be disturbed, including roads, stockpile area, pits, etc., (acres): 28.10 acres

22) Area to be disturbed for well pad only, less access road (acres): 12.79 acres

23) Describe centralizer placement for each casing string:

Conductor: no centralizers

Surface Casing: one centralizer 10' above the float shoe, one on the insert float collar and one every 4th joint spaced up the hole to surface.

Intermediate Casing: one centralizer above float joint, one centralizer 5' above float collar and one every 4th collar to surface.

Production Casing: one centralizer at shoe joint and one every 3 joints to top of cement in intermediate casing.

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

Conductor: no additives, Class A cement.

Surface: Class A cement with 2-3% calcium chloride and 1/4 lb of flake

Intermediate: Class A cement with 1/4 lb of flake, 5 gallons of clay treat

Production: Lead cement- 50/50 Class H/Poz + 1.5% salt + 1% C-45 + 0.5% C-16a + 0.2% C-12 + 0.45% C-20 + 0.05% C-51

Production: Tail cement- Class H + 45 PPS Calcium Carbonate + 1.0% FL-160 + 0.2% ACGB-47 + 0.05% ACSA-51 + 0.2% ACR-20

25) Proposed borehole conditioning procedures:

Conductor: blowhole clean with air, run casing, 10 bbls fresh water.

Surface: blowhole clean with air, trip to conductor shoe, trip to bottom, blowhole clean with air, trip out, run casing, circulate pipe capacity + 40 bbls fresh water followed by 25 bbls bentonite mud, 10 bbls fresh water spacer.

Intermediate: blowhole clean with air, trip to surface casing shoe, trip to bottom, blowhole clean with air, trip out, run casing, circulate 40 bbls brine water followed by 10 bbls fresh water and 25 bbls bentonite mud, pump 10 bbls fresh water.

Production: circulate with 14 lb/gal NaCl mud, trip to middle of lateral, circulate, pump high viscosity sweep, trip to base of curve, pump high viscosity sweep, trip to top of curve, trip to bottom, circulate, pump high viscosity sweep, trip out, run casing, circulate 10 bbls fresh water, pump 48 bbls barite pill, pump 10 bbls fresh water followed by 48 bbls mud flush and 10 bbls water.

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*Note: Attach additional sheets as needed.

MAR 16 2020

Page 3 of 3

not



47095008630000

Lancaster Unit 3H



Antero Resources Corporation

Lancaster Unit 3H - AOR



WELL SYMBOLS
Dry Hole

October 30, 2019

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WV Department of
Environmental Protection

JCB
3/12/2020

47-95-02674 M&P

UWI (API Num) 47095008630000	Well Name BAKER W M & J S	Well Number J-361	Operator J & J ENTERPRISES	Hist Oper J & J ENTERPRISES	TD 5,759	Perforated Interval (shallowest, deepest) N/A	Perforated Formation(s) N/A	Produced Formation(s) not perf'd N/A
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WV Department of
Environmental Protection

WW-6A1

Operator's Well Number

Lancaster Unit 3H

47-09562674

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)

MOR

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:

Grantor, lessor, etc.	Grantee, lessee, etc.	Royalty	Book/Page
<u>Michael J. & Melinda R. Hogue Lease</u>			
Michael J. & Melinda R. Hogue	Statoil USA Onshore Properties Inc.	1/8	0449/0283
Statoil USA Onshore Properties Inc.	EQT Production Company	Assignment	0539/0239
EQT Production Company	Antero Resources Corporation	Assignment	0663/0001
<u>Ridgetop Capital LP Lease</u>			
Ridgetop Capital LP	Antero Resources Corporation	1/8+	0634/0345
<u>James F. Doan et ux Lease (TM 26 PCL 46.1)</u>			
James F. Doan et ux	Chesapeake Appalachia	1/8	0376/0345
Chesapeake Appalachia	SWN Production Company LLC	Assignment	0465/0463
SWN Production Company	Antero Exchange Properties	Assignment	0544/0242
Antero Exchange Properties	Antero Resources Corporation	Merger	0552/0315
<u>James F. Doan et ux Lease (TM 26 PCL 46.2)</u>			
James F. Doan et ux	Chesapeake Appalachia	1/8	0376/0345
Chesapeake Appalachia	SWN Production Company LLC	Assignment	0465/0463
SWN Production Company	Antero Exchange Properties	Assignment	0544/0242
Antero Exchange Properties	Antero Resources Corporation	Merger	0552/0315
<u>Michael J. & Melinda R. Hogue Lease</u>			
Michael J. & Melinda R. Hogue	Statoil USA Onshore Properties Inc.	1/8	0449/0283
Statoil USA Onshore Properties Inc.	EQT Production Company	Assignment	0539/0239
EQT Production Company	Antero Resources Corporation	Assignment	0663/0001
<u>WV Division of Natural Resources Lease</u>			
WV Division of Natural Resources	Antero Resources Corporation	1/8+	0648/0563
<u>Barbara J. Davis Lease</u>			
Barbara J. Davis	Antero Resources Corporation	1/8+	0633/0481
<u>William M. Baker et ux Lease (TM 20 PCL 54)</u>			
William M. Baker et ux	Antero Resources Corporation	1/8+	0654/0526
<u>William M. Baker et ux Lease (TM 20 PCL 67)</u>			
William M. Baker et ux	Antero Resources Corporation	1/8+	0654/0526
<u>WV Department of Highways Lease</u>			
WV Department of Highways	Antero Resources Corporation	1/8	0015/0049

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*Partial Assignments to Antero Resources Corporation include 100% rights to extract, produce and market the oil and gas from the Marcellus and any other formations completed with this well.

MON

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)

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- (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:

Grantor, lessor, etc.	Grantee, lessee, etc.	Royalty	Book/Page
<u>Bradley Baker Lease</u> Bradley Baker	Antero Resources Corporation	1/8+	0643/0141
<u>Clara Jane Glover Lease</u> Clara Jane Glover	Antero Resources Corporation	1/8+	0605/0813
<u>Brian D. Carpenter et ux Lease</u> Brian D. Carepenter et ux	Antero Resources Corporation	1/8+	0563/0459
<u>John F. Stender et ux Lease</u> John F. Stender et ux	Antero Resources Corporation	1/8+	0517/0651
<u>Richard A. Fonner et ux Lease</u> Richard A. Fonner et ux	Antero Resources Corporation	1/8+	0634/0341

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 Environmental Protection

WW-6A1
(5/13)

Operator's Well No. Lancaster Unit 3H

MWD

**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)**

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Lease Name or Number	Grantor, Lessor, etc.	Grantee, Lessee, etc.	Royalty	Book/Page
<u>Michael A. Lenz et ux Lease</u>	Michael A. Lenz et ux	Antero Resources Corporation	1/8+	0601/0828

*Partial Assignments to Antero Resources Corporation include 100% rights to extract, produce and market the oil and gas from the Marcellus and any other formations completed with this well.

**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: Antero Resources Corporation
 By: Tim Rady *[Signature]*
 Its: VP of Land

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Environmental Protection

Antero Resources
Well No. Lancaster Unit 3H
BHL MOD
Antero Resources Corporation



Legend

- ⊙ Proposed gas well
- ⊙ Monument, as noted
- ⊙ Existing Well, as noted
- ⊙ Existing Well, as noted
- Creek or Drain
- Existing Road
- Surface boundary (approx.)
- Interior surface tracts (approx.)

Page 1 of 4

7,348' to Bottom Hole

6,660' to Top Hole

LATITUDE 39 - 30 - 00

LONGITUDE 80 - 52 - 30

3,118' to Bottom Hole
 10,245' to Top Hole

Notes:
 West Virginia Coordinate System of 1927, North Zone based upon Differential GPS Measurements.
 Well No. Lancaster Unit 3H Top Hole coordinates are
 N: 356,945.16' Latitude: 39°28'17.74"
 E: 1,605,347.59' Longitude: 80°53'52.93"
 Bottom Hole coordinates are
 N: 364,072.12' Latitude: 39°29'28.07"
 E: 1,604,660.23' Longitude: 80°54'03.11"
 UTM Zone 17, NAD 1983
 Top Hole Coordinates Bottom Hole Coordinates
 N: 4,369,125.602m N: 4,371,293.358m
 E: 508,785.085m E: 508,539.429m
 Plat orientation and corner and well references are based upon the grid north meridian.
 Well location references are based upon the magnetic meridian.

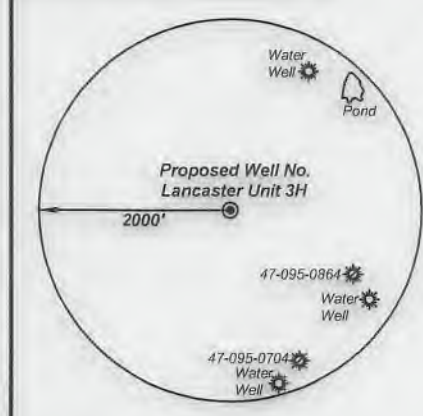
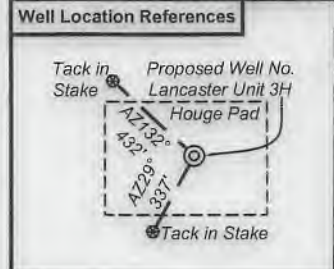
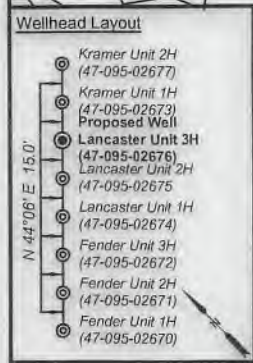
Notes:
 Well No. Lancaster Unit 3H
 UTM Zone 17, NAD 1927
 Top Hole Coordinates
 N: 14,333,658.81'
 E: 1,669,191.63'
 Point of Entry Coordinates
 N: 14,333,441.47'
 E: 1,670,922.06'
 Bottom Hole Coordinates
 N: 14,340,770.87'
 E: 1,668,385.67'

Leases

A	Michael J. & Melinda R. Hogue
B	Ridgetop Capital LP
C	James F. Doan, et ux
D	James F. Doan, et ux
E	Ryan L. Walton, et ux
F	David L. Lancaster, et ux
G	David L. Lancaster, et ux
H	Terry Lee Fiber
I	Joe & Shirley Varese
J	Eugene F. Howell, et ux
K	Leeman W. & Susan L. Mason
L	Eugene F. Howell, et ux
N	Nina Naomi Wise
O	Jerry Todd Williams
P	Barbara J. Davis
Q	William M. Baker
R	William M. Baker, et ux
S	Peter W. & Irmagard E. Guenter, Joint Living Trust
T	BRC Appalachian Minerals I, LLC
U	Robert C. Kramer
V	Ruth E. Blake
W	Charles E. Anderson, et ux
X	John Valentour
Y	Clara Jane Glover
Z	Brian D. Carpenter, et ux
AA	Tustin Family Trust
AB	Samuel O. Wagner
AC	Richard A. Fonner, et ux

Continued on Page 4

Bearing	Dist.
L1	S 49°12' E 1,403.2'
L2	S 27°57' E 1,525.0'
L3	N 72°05' W 894.4'
L4	N 07°05' W 1,464.1'
L5	S 81°53' E 1,744.6'



Note: 3 water wells and 1 pond were found within 2000' of proposed well. No occupied dwellings or buildings 2,500 square feet or larger used to house or shelter dairy cattle or poultry husbandry are located within 625' of the center of the well pad.

FILE NO: 11-54-E-19
 DRAWING NO: Lancaster Unit 3H Well Plat
 SCALE: 1" = 1500'
 MINIMUM DEGREE OF ACCURACY: Submeter
 PROVEN SOURCE OF ELEVATION: WVDOT, Harrisville, WV

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

DATE: March 2 20 20
 OPERATOR'S WELL NO. Lancaster 3H
 API WELL NO. MA3
 47 - 095 - 02676
 STATE COUNTY PERMIT

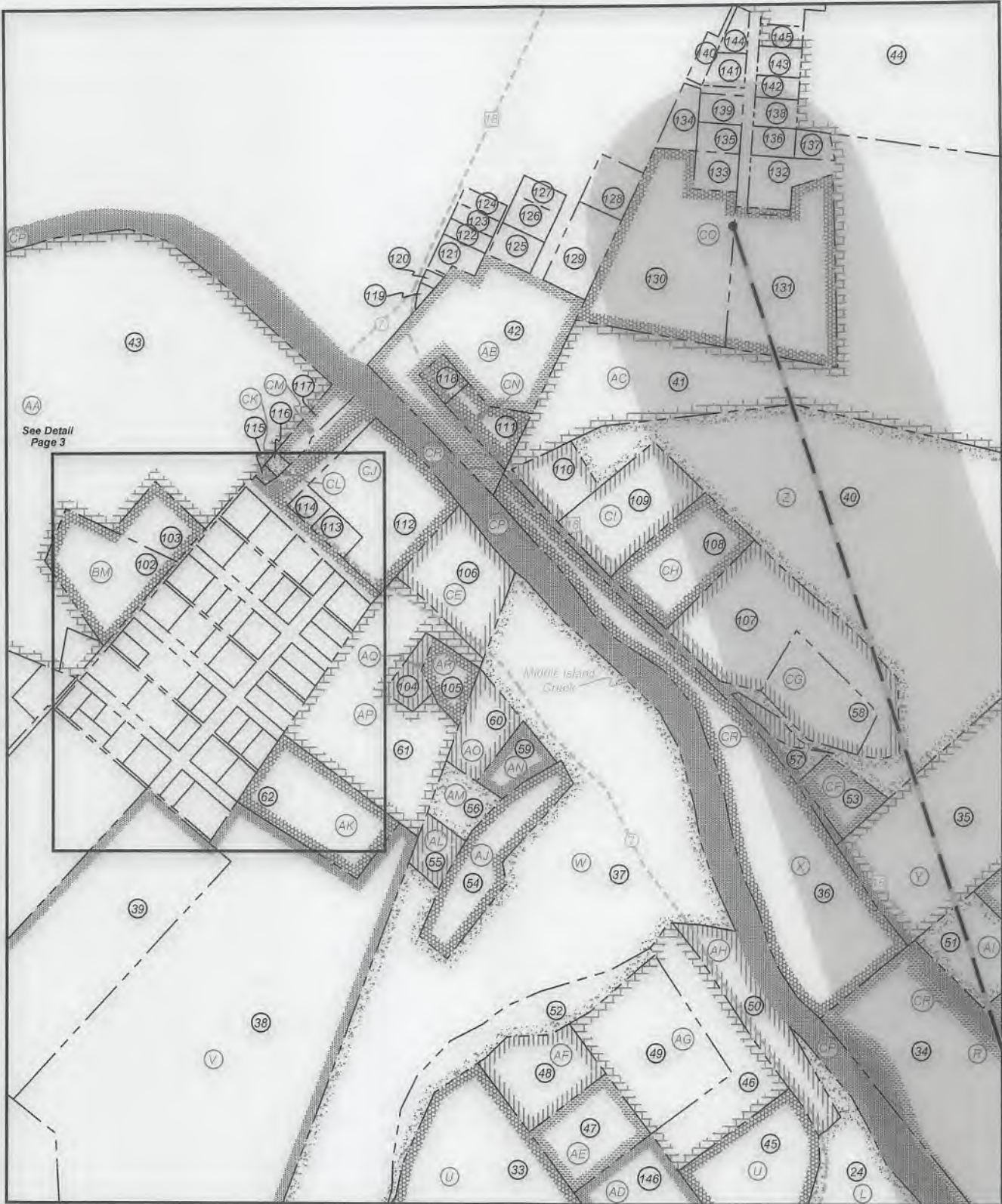


I, the undersigned, hereby certify that this plat is correct to the best of my knowledge and belief and shows all the information required by law and the rules issued and prescribed by the Department of Environmental Protection.

Bradley D. Miller
 Bradley D. Miller, P.S. 2167

WELL TYPE: OIL GAS LIQUID INJECTION WASTE DISPOSAL
 (IF GAS) PRODUCTION: STORAGE DEEP SHALLOW
 LOCATION: ELEVATION: Existing 1,033' Proposed 1,014.5' WATERSHED: Outlet Middle Island Creek QUADRANGLE: Middlebourne
 DISTRICT: Ellsworth COUNTY: Tyler
 SURFACE OWNER: Michael J. & Melinda R. Hogue; Eugene F. Howell, et ux; WV Dept. of Transportation, DOH; Michael A. Lenz, et ux; WV Division of Natural Resources; Barbara J. Davis; John F. Siender, et ux; Brian D. Carpenter, et ux; Richard A. Fonner, et ux; William M. Baker; Bradley Baker; Clara Jane Glover; William M. Baker, et ux
 ROYALTY OWNER: Michael J. & Melinda R. Hogue; James F. Doan, et ux; Ridgetop Capital LP. LEASE NO: _____ ACREAGE: _____
 PROPOSED WORK: DRILL CONVERT DRILL DEEPER FRACTURE OR STIMULATE PLUG OFF OLD FORMATION
 PERFORATE NEW FORMATION OTHER PHYSICAL CHANGE IN WELL (SPECIFY) BHL MOD
 PLUG AND ABANDON CLEAN OUT AND REPLUG TARGET FORMATION: Marcellus Shale ESTIMATED DEPTH: 6,900' TVD 16,900' MD

WELL OPERATOR: Antero Resources Corporation DESIGNATED AGENT: Dianna Stamper - CT Corporation System
 ADDRESS: 1615 Wynkoop Street ADDRESS: 5400 D Big Tyler Road
 Denver, CO 80202 Charleston, WV 25313



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Submeter
 PROVEN SOURCE OF ELEVATION:
WVDOT, Harrisville, WV

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

DATE: March 2 2020
 OPERATOR'S WELL NO. Lancaster 3H
 API WELL NO MOD
47 - 095 - 02676
 STATE COUNTY PERMIT

WELL TYPE: OIL GAS LIQUID INJECTION WASTE DISPOSAL
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 Proposed 1,014.5'
 LOCATION: ELEVATION: Existing 1,033' WATERSHED: Outlet Middle Island Creek QUADRANGLE: Middlebourne
 DISTRICT: Ellsworth COUNTY: Tyler
 SURFACE OWNER: Michael J. & Melinda R. Hogue Eugene F. Howell, et ux; WV Dept. of Transportation, DOH; Michael A. Lenz, et ux; WV Division of Natural Resources; Barbara J. Davis; John F. Stender, et ux; Brian D. Carpenter, et ux; Richard A. Fonner, et ux; William M. Baker; Bradley Baker; Clara Jane Clover; William M. Baker, et ux
 ROYALTY OWNER: Michael J. & Melinda R. Hogue; James F. Doan, et ux; Ridgetop Capital LP; LEASE NO: _____ ACREAGE: _____
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16,900' MD

WELL OPERATOR: Antero Resources Corporation DESIGNATED AGENT: Dianna Stamper - CT Corporation System
 ADDRESS: 1615 Wynkoop Street ADDRESS: 5400 D Big Tyler Road
Denver, CO 80202 Charleston, WV 25313



FILE NO: 11-54-E-19
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Submeter
 PROVEN SOURCE OF ELEVATION:
WVDOT, Harrisville, WV



DATE: March 2 2020
 OPERATOR'S WELL NO. Lancaster 3H
 API WELL NO MOD
47 - 095 - 02676
 STATE COUNTY PERMIT

WELL TYPE: OIL GAS LIQUID INJECTION WASTE DISPOSAL
 (IF GAS) PRODUCTION: STORAGE DEEP SHALLOW
 Proposed 1,014.5'
 LOCATION: ELEVATION: Existing 1,033' WATERSHED: Outlet Middle Island Creek QUADRANGLE: Middlebourne
 DISTRICT: Ellsworth Eugene F. Howell, et ux; WV Dept. of Transportation, DOH; COUNTY: Tyler 6.95064; 47.016;
 SURFACE OWNER: Michael J. & Melinda R. Hogue Michael A. Lenz, et ux; WV Division of Natural Resources; Barbara J. Davis; 1.97387; 28.54
 John F. Stender, et ux; Brian D. Carpenter, et ux; Richard A. Fonner, et ux 81.33; 310.393;
 William M. Baker; Bradley Baker; Clara Jane Glover; William M. Baker, et ux 191.5; 2.0; 2; 7.8;
 ROYALTY OWNER: Michael J. & Melinda R. Hogue; James F. Doan, et ux; Ridgetop Capital LP; LEASE NO: _____ ACREAGE: 192.0 100.45; 7.35; 25.629;
 102.33; 10.112;
 PROPOSED WORK: DRILL CONVERT DRILL DEEPER FRACTURE OR STIMULATE PLUG OFF OLD FORMATION
 PERFORATE NEW FORMATION OTHER PHYSICAL CHANGE IN WELL (SPECIFY) BHL MOD
 PLUG AND ABANDON CLEAN OUT AND REPLUG TARGET FORMATION: Marcellus Shale ESTIMATED DEPTH: 16,900' MD
 6,900' TVD

WELL OPERATOR: Antero Resources Corporation DESIGNATED AGENT: Dianna Stamper - CT Corporation System
 ADDRESS: 1615 Wynkoop Street ADDRESS: 5400 D Big Tyler Road
Denver, CO 80202 Charleston, WV 25313

Antero Resources
Well No. Lancaster Unit 3H
BHL MOD
Antero Resources Corporation

Page 4 of 4

Leases	
AD	Robert C. Kramer
AE	Gary R. Davis
AF	Brian Scott Foland
AG	Bernard M. Hayes, et ux
AH	Robert L. Berry, et ux
AI	Bradley Baker
AJ	Frankie Dean Goudy, et ux
AK	Earnestine Pelikan & David Leasure
AL	Larry H. Kimble, et ux
AM	David I. Farhatt, et ux
AN	Lemuel Hugh Moore
AO	Jeffrey A. Lancaster, et ux
AP	Earnestine Pelikan
AQ	Melinda Leasure
AR	Earnestine Pelikan, et vir
AS	Bessie L. Matthews, et vir
AT	Betty Lou Hadley
AU	Betty Lou Hadley
AV	Betty Lou Hadley
AW	Betty Lou Hadley
AX	Stephen D. Ashley, et ux
AY	Martha J. Hayes, et vir
AZ	Betty Lou Hadley
BA	Betty Lou Hadley
BB	Betty Lou Smith
BC	Betty Hadley
BD	Laura June Smith
BE	Kathryn Knowlton
BF	Crystal Christophel
BG	Betty Lou Hadley
BH	Rodney Mack Hayes
BI	Betty Hadley
BJ	Betty Lou Hadley
BK	Donald E. Huffman
BL	Timothy Stanley, et ux
BM	David A. Tustin
BN	Nancy Glover
BO	William H. Eddy
BP	John Miller, et ux
BQ	John R. Miller, et ux
BR	Rodney Mack Hayes
BS	Rodney Mack Hayes
BT	Earl E. Turner
BU	Arvil Shane Matthews
BV	Thurl Wayne Jones
BW	Brenda Lee Oyster
BX	Brenda Lee Oyster
BY	James W. Chapman
BZ	Charles L. Roberts
CA	Robert E. Judge
CB	Carolyn Westfall Barnhart
CC	Charles J. Mead, et ux
CD	Anna Blanche Cline
CE	Upper Ohio Soil Conservation
CF	Jeffrey A. Watson, et ux
CG	John F. Stender, et ux
CH	Neil A. Archer II
CI	Clara Catherine Spencer Wells
CJ	Tyler County Board of Education
CK	James D. Hardesty
CL	Antero Resources Corporation
CM	Tyler County Commission
CN	Kathleen Ross Mansuetto
CO	Michael A. Lenz, et ux
CP	WV Division of Natural Resources
CQ	Sara J. Judge
CR	WV Dept. of Transportation, DOH

ID	TM/Par	Owner	Bk/Pg	Acres	ID	TM/Par	Owner	Bk/Pg	Acres
1	20-108	Michael J. & Melinda R. Hogue	348/404	192.00	74	20A-18	Roy D. Hadley	WB23/305	0.66
2	26-46	Jay-Bee Production Company	420/97	286.04	75	20A-16	James M. Glover	330/197	0.50
3	26-46.14	Jay-Bee Production Company	420/97	8.69	76	20A-17	Christopher L. Hayes, et al	342/212	0.17
4	26-46.12	Charles R. Holliday, et ux	306/665	3.238	77	20A-49.1	Roy D. Hadley	299/37	0.24
5	26-46.3	Timothy Kanz	440/24	5.4	78	20A-49	Rodney M. Hayes	353/649	0.48
6	26-46.2	Robert E. Lee II, et al	408/122	5.135	79	20A-48	Rodney M. Hayes	353/649	0.22
7	26-46.7	Camille Patera	296/247	7.32	80	20A-47	Rodney Mack Hayes	336/609	0.21
8	26-46.9	Eugene B. Johnson, Jr, et ux	351/160	5.00	81	20A-21	Roy D. Hadley	317/647	0.33
9	26-46.6	Camille Patera	296/247	1.702	82	20A-22	Roy D. Hadley	WB23/305	0.17
10	26-46.15	Camille Patera	296/247	3.722	83	20A-23	Connie Sue Tanner	327/883	0.33
11	26-46.1	Darrell L. Shrader	348/711	5.58	84	20A-24	Timothy & Tonya Stanley	581/792	0.33
12	26-46.16	Jay-Bee Production Company	420/97	5.09	85	20A-25	Nancy Glover	147/104	0.33
13	26-46.10	Leon & Drema Gailson	359/673	4.98	86	20A-26.1	Evelyn S. Smith	328/95	0.165
14	26-46.5	Richard Doty	493/673	13.14	87	20A-26	Evelyn S. Smith	332/691	0.165
15	26-21	Ryan Lee Walton, et ux	342/687	35.9	88	20A-27	John R. & Shirley R. Miller	227/273	0.17
16	20-107	David L. & Kathy A. Lancaster	314/344	18.89	89	20A-28	John R. & Shirley R. Miller	269/669	0.33
17	20-104	David Lancaster	210/505	57.004	90	20A-46	Emily L. Eddy	336/590	0.20
18	20-105.1	Terry Lee Fiber	335/682	6.06	91	20A-45	Arvil Shane Matthews	431/116	0.19
19	20-105	Joe & Shirley Varse	352/736	11.322	92	20A-44	Anna Blanche Cline	WB31/662	0.34
20	20-106	Eugene & Phyllis Howell	223/371	19.76	93	20A-29	Joe & Shirley Varse	361/88	0.17
21	20-99	Pioneer Land Company, LLC	431/414	10	94	20A-30	John M. Hammell, et al	WV37/331	0.17
22	20-106.1	Lee Ann Hall	486/806	5.493	95	20A-31	John M. Hammell, et al	WV37/331	0.17
23	20-106.2	Nancy Forester	328/633	5.429	96	20A-43	Charles J. & Donna Mead	344/588	0.17
24	20-100	Eugene F. & Phyllis Howell	326/749	42.85	97	20A-41	Carolyn Barnhart	348/286	0.34
25	20-101	Henderson Cemetery	OS15/137	0.78	98	20A-40	Barry W. & Linda K. Harter	288/516	0.36
26	20-70	Nina Wise	WB25/700	3.91	99	20A-32	James W. Chapman	348/630	0.33
27	20-69	Jerry Williams, et al	440/471	1.5	100	20A-33	Charles L. & Karen S. Roberts	306/558	0.55
28	20-68	Barbara J. Davis	WB30/311	2.09	101	20A-34	Robert E. Judge	545/765	0.37
29	20-67	William M. & Janet S. Baker	175/391	2.10	102	20-46.1	Betty Tustin	WB45/156	2.476
30	20-100.1	Jacqueline E. Miller	375/626	4.202	103	20-47	Betty Tustin	WB45/156	1
31	20-93.5	Nina Smith & Mary Bennett	308/115	2.88	104	20-87.2	David & Melinda Leasure	252/581	0.50
32	20-93.1	Vernon Stevens	423/703	2.14	105	20-87.1	Earnestine & William Pelikan	242/631	0.77
33	20-93	Robert C. Kramer	547/650	23.964	106	20-88	Upper Ohio Soil Conservation Dist.	233/495	2.36
34	20-54	William M. Baker, et ux	175/391	100.45	107	20-51.3	John & Diana Stender	269/180	2.04
35	20-53	Clara Negie	344/51	8	108	20-51.5	Neil Archer	355/12	2.513
36	20-57	William M. Baker, et ux	189/374	7.5	109	20-51.4	Clara Wells	342/464	2.512
37	20-92	Charles & Doris Anderson	210/359	27	110	20-51	Clara Wells	342/464	1.005
38	20-86	Ruth E. Blake	317/103	23.75	111	20-50	Thomas Wagner	356/410	0.93
39	20-44.1	Ruth E. Blake	317/103	10.17	112	20A-38	Tyler County BOE	211/575	2.5
40	20-51.6	Brian & Sarah Carpenter	342/467	24.92	113	20A-42	Tyler County BOE	175/181	0.22
41	20-33	Lance M. & Tina R. Hickman	396/561	77.84	114	20A-3	Tyler County BOE	143/292	0.26
42	20-49	Samuel O. Wagner	327/411	3.37	115	20A-35	James D. Hardesty	372/186	0.06
43	20-46	Betty Tustin	350/386	29.66	116	20A-36	Tina M. Barnhart	373/828	0.08
44	20-33.3	Richard Fonner	415/796	18.5	117	20A-37	Tyler County Commission	332/574	0.50
45	20-93.7	Charles & Tara Templeton	234/790	4.05	118	20-48	Tyler County Commission	338/13	0.30
46	20-93.3	Wanna Hayes	347/293	3.25	119	4-128	Patty K. Long	AR45/571	0.10
47	20-93.2	Brian Scott Foland	WB58/423	2	120	4-126	William Long	WB32/551	0.07
48	20-93.4	Brian Scott Foland	WB58/423	2	121	4-112	James A. White II	357/177	0.285
49	20-95	Bernard & Tammie Hayes	321/108	3.91	122	4-113	Patricia Hess	249/263	0.22
50	20-96	Robert L. & Dorothy L. Berry	230/37	2.416	123	4-114	Donnie G. & Tawnya D. Rose	353/475	0.22
51	20-54.1	Bradley Baker	355/823	2	124	4-115	Kenneth I. Sinclair	342/566	0.22
52	20-94	Charles & Doris Anderson	217/398	2.806	125	4-120	Ann W. Galindo	WB25/479	0.44
53	20-52	Jeffery & Deborah Watson	270/234	1.03	126	4-121	Kenneth I. Sinclair	342/566	0.386
54	20-90	F. Dean & Shirley Kimble	303/340	2.42	127	4-122	Joseph E. McLaughlin, et ux	432/294	0.276
55	20-91	Larry H. & Shirley I. Kimble	212/435	1.13	128	4-125.1	James A. & Heidi M. Suter	354/511	0.66
56	20-89.2	David L. & Pamela C. Farhatt	375/1	0.848	129	4-125	Ann W. Galindo	WB25/479	0.88
57	20-51.2	John & Diana Stender	255/47	0.32	130	20-23.1	Michael & Chris Lenz	323/732	5.517
58	20-51.1	John & Diana Stender	255/47	2.04	131	20-23	Michael & Chris Lenz	313/216	4.595
59	20-89	John F. & Hailee Stender	538/343	0.92	132	20-25	Marshal McKinney	208/650	0.92
60	20-89.1	Jeffery A. Lancaster, et ux	348/471	1.18	133	20-24	Leslie A. Henderson	312/293	0.34
61	20-87	Earnest Leasure, et al	275/579	6.39	134	20-26	Nancy Mercer	198/157	0.52
62	20-86.1	Earnest Leasure, et al	321/160	3.37	135	20-22	Nancy Mercer	WB32/425	0.34
63	20A-54	Bessie L. Mathews, et vir	521/634	0.46	136	20-32	Homer Lee Matthews	176/216	0.34
64	20A-55	Roy & Betty Lou Hadley	350/341	0.17	137	20-33.2	Homer Matthews	284/375	0.28
65	20A-53	Deloris Gulley	AR40/97	0.33	138	20-31	Larry & Barbara Lee	211/179	0.34
66	20A-52	Betty Lou Hadley	579/652	0.2433	139	20-21	Nancy Mercer	WB32/425	0.34
67	20A-51.1	Crystal Christophel	WB19/379	0.16	140	20-109	Lorraine Weekley	AR49/717	0.24
68	20A-51	Shiri A. Henderson	WB19/379	0.17	141	20-27	Earl P. & Crucita Kendle	331/341	0.32
69	20A-50	Laura June Smith	AR48/562	0.1653	142	20-29.1	James Bembry	331/43	0.25
70	20A14	Roy D. Hadley	322/696	0.17	143	20-29	Maurine Hadley	167/69	0.34
71	20A-15	Stephen & Brenda J. Ashley	317/183	0.50	144	20-28	Victor & Lorraine Weekley	280/422	0.23
72	20A-20	Betty Hadley	470/683	0.1653	145	20-30	Donald & Susan Smith	321/422	0.26
73	20A-19	Roy D. Hadley	WB23/305	0.17	146	20-93.6	Robert C. Kramer	547/650	4.0

FILE NO: 11-54-E-19
 DRAWING NO: Lancaster Unit 3H Well Plat
 SCALE: 1" = 1500'
 MINIMUM DEGREE OF ACCURACY:
Submeter
 PROVEN SOURCE OF ELEVATION:
WVDOT, Harrisville, WV

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

DATE: March 2 2020
 OPERATOR'S WELL NO. Lancaster 3H
 API WELL NO. MOY
47 - 095 - 02676
 STATE COUNTY PERMIT

WELL TYPE: OIL GAS LIQUID INJECTION WASTE DISPOSAL
 (IF GAS) PRODUCTION: STORAGE DEEP SHALLOW
 Proposed 1,014.5'
 LOCATION: ELEVATION: Existing 1,033' WATERSHED: Outlet Middle Island Creek QUADRANGLE: Middlebourne
 DISTRICT: Ellsworth Eugene F. Howell, et ux; WV Dept. of Transportation, DOH; COUNTY: Tyler 6,95064; 47,016;
 SURFACE OWNER: Michael J. & Melinda R. Hogue Michael A. Lenz, et ux; WV Division of Natural Resources; Barbara J. Davis; 1,97387; 28,54
 ROYALTY OWNER: Michael J. & Melinda R. Hogue; James F. Doan, et ux; Ridgetop Capital LP; John F. Stender, et ux; Brian D. Carpenter, et ux; Richard A. Fonner, et ux; ACREAGE: 192.0 81.33; 310.393;
 PROPOSED WORK: DRILL CONVERT DRILL DEEPER FRACTURE OR STIMULATE PLUG OFF OLD FORMATION 191.5; 2.0; 2; 7.8;
 PERFORATE NEW FORMATION OTHER PHYSICAL CHANGE IN WELL (SPECIFY) BHL MOD 100.45; 7.35; 25.629;
 PLUG AND ABANDON CLEAN OUT AND REPLUG TARGET FORMATION: Marcellus Shale ESTIMATED DEPTH: 16,900' MD 102.33; 10.112;

WELL OPERATOR: Antero Resources Corporation DESIGNATED AGENT: Dianna Stamper - CT Corporation System
 ADDRESS: 1615 Wynkoop Street ADDRESS: 5400 D Big Tyler Road
Denver, CO 80202 Charleston, WV 25313

Adkins, Laura L

Subject: FW: [External] Lancaster 3H Mod

From: Dani Devito <ddevito@shalepro.com>
Sent: Monday, March 30, 2020 3:36 PM
To: Adkins, Laura L <Laura.L.Adkins@wv.gov>
Subject: [External] Lancaster 3H Mod

CAUTION: External email. Do not click links or open attachments unless you verify sender.

Laura,
For the Lancaster 3H Mod (095-02676) there were no additional wells within the buffer and no changes to the collision avoidance needed.
Thanks!
Dani

Dani DeVito
Director, Permitting & Marketing



304.709.7100 ext. 103
304.288.7104

www.shalepro.com