



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

Harold D. Ward, Cabinet Secretary
www.dep.wv.gov

Wednesday, August 3, 2022
PERMIT MODIFICATION APPROVAL
Horizontal 6A / New Drill

ANTERO RESOURCES CORPORATION
1615 WYNKOOP STREET

DENVER, CO 80202

Re: Permit Modification Approval for CONIFER 2H
47-017-06929-00-00

Lateral Extension

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.

A blue ink signature of James A. Martin.

James A. Martin
Chief

Operator's Well Number: CONIFER 2H
Farm Name: MICHAEL R BRITTON & ANGELA D PRATT
U.S. WELL NUMBER: 47-017-06929-00-00
Horizontal 6A New Drill
Date Modification Issued: 8/3/2022

Promoting a healthy environment.

08/19/2022

WW-6B
(04/15)

CK#
4610777
\$2500

API NO. 47-017 -
OPERATOR WELL NO. Conifer Unit 2H MOD
Well Pad Name: Oxford 98 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 017 - Dodd West Union West Union 7.5'
Operator ID County District Quadrangle

2) Operator's Well Number: Conifer Unit 2H MOD Well Pad Name: Oxford 98 Pad

3) Farm Name/Surface Owner: Michael R. Britton & Angela D. Pratt Public Road Access: CR 11/4

4) Elevation, current ground: 1120' AS-BUILT Elevation, proposed post-construction: _____

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

Other _____

(b) If Gas Shallow Deep _____

Horizontal _____

6) Existing Pad: Yes or No Yes

7) Proposed Target Formation(s), Depth(s), Anticipated Thickness and Expected Pressure(s):
Marcellus Shale: 7200' TVD, Anticipated Thickness- 55 feet, Associated Pressure- 2850#

8) Proposed Total Vertical Depth: 7200' TVD ✓

9) Formation at Total Vertical Depth: Marcellus

10) Proposed Total Measured Depth: 17300' ✓

11) Proposed Horizontal Leg Length: 7037.8' ✓

12) Approximate Fresh Water Strata Depths: 123' ✓

13) Method to Determine Fresh Water Depths: 47-017-02837, 47-017-06326 Offset well records. Depths have been adjusted according to surface elevations.

14) Approximate Saltwater Depths: 1653' ✓

15) Approximate Coal Seam Depths: 120'

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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Environmental Protection

Steve McCoy
08/19/2022
7/28/22

4701706929

WW-6B
(04/15)

API NO. 47- 017 -
OPERATOR WELL NO. Conifer Unit 2H MOD
Well Pad Name: Oxford 98 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	20"	New	H-40	79#	80'	80' ✓	CTS, 77 Cu. Ft.
Fresh Water	13-3/8"	New	J/K-55	54.5#	300'	300' ✓	CTS, 313 Cu. Ft.
Coal	9-5/8"	New	J-/K55	36#	2500'	2500' ✓	CTS, 1018 Cu. Ft.
Intermediate							
Production	5-1/2"	New	P-110CY	20#	17300'	17300' ✓	CTS, 3442 Cu. Ft.
Tubing	2-3/8"	New	N-80	4.7#			
Liners							

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	20"	24"	0.375"	2250	50	Class A	~1.18
Fresh Water	13-3/8"	17-1/2"	0.38"	2730	1000	Class A	~1.18
Coal	9-5/8"	12-1/4"	0.352"	3520	1500	Class A	~1.18
Intermediate							
Production	5-1/2"	8-3/4" & 8-1/2"	0.415"	14,360	2500 ✓	Class G/H	~1.8
Tubing	2-3/8"	4.778"	0.19"	11,200			
Liners							

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PACKERS

Kind:	N/A			WV Department of Environmental Protection
Sizes:	N/A			
Depths Set:	N/A			

Steve McCoy
08/19/2022
7/20/22

WW-6B
(10/14)

API NO. 47-017 -

OPERATOR WELL NO. Conifer Unit 2H MOD

Well Pad Name: Oxford 98 Pad

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

Drill a new horizontal shallow well into the 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

21) Total Area to be disturbed, including roads, stockpile area, pits, etc., (acres): 24.47 acres

22) Area to be disturbed for well pad only, less access road (acres): 5.73 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

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25) Proposed borehole conditioning procedures:

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

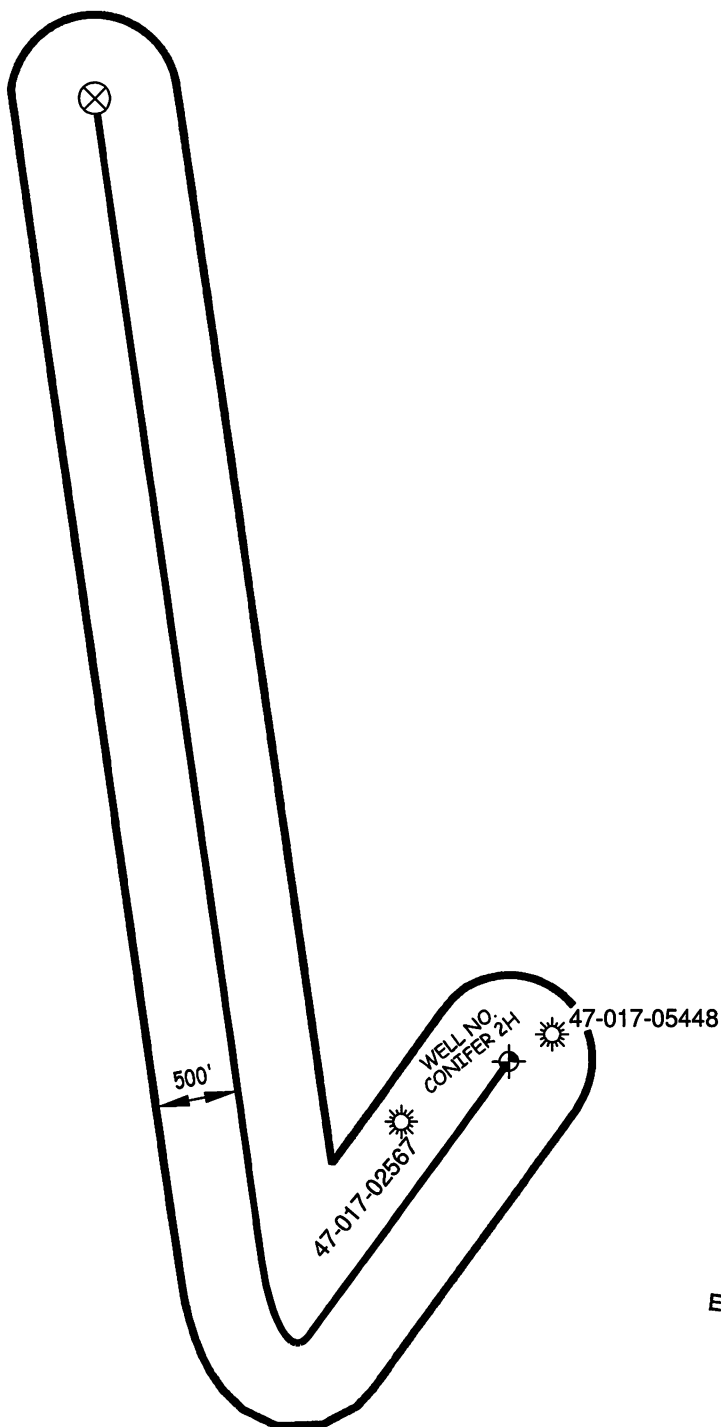
Surface: blowhole clean with air, trip to conductor shoe, trip to bottom, blowhole clean with air, trip out, run casing, circulate pipe capacity + 40 bbls fresh water followed by 25 bbls bentonite mud, 10 bbls fresh water spacer.

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.

*Note: Attach additional sheets as needed.

OXFORD 98 PAD
ANTERO RESOURCES
CORPORATION



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JUL 21 2022
WV Department of
Environmental Protection

WILLOW LAND SURVEYING, PLLC
P.O. BOX 17, PENNSBORO, WV 26415
(304) 659-1717

JOB #: 22-005WA
FILE: CONIFER2HSAOR.DWG

SCALE : 1-INCH = 1000-FEET



DATE: 07/14/22

DRAWN BY: D.L.P.

08/19/2022

UWI (APINum)	Well Name	Well Number	Operator	Historical Operator	TD	Perforated Interval (shallowest, deepest)	Perforated Formation(s)	Productible Formation(s) not perf'd
47017054480000	DEPI	15129	DIVERSIFIED PROD LLC	DOMINION EXPL&PROD	5,310	2589 - 5174	Gordon, Warren, Riley, Alexander	Weir, Berea, Benson
47017025670000	FRANCIS MICHAEL S	J-108	GREYLOCK CONVENT LLC	J & J ENTERPRISES	5,366	5156 - 5190	Gordon, Balltown, Riley, Benson, Alexander	Weir, Berea

4701706929

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LATITUDE 39°17'30"

2,236'

LATITUDE 39°17'30"

4,796' TO BOTTOM HOLE

Antero Resources Corporation Well No. Conifer 2H

NOTES: WELL 2H TOP HOLE INFORMATION: N: 277,021ft E: 1,631,993ft LAT: 39°15'11.80" LON: 80°47'58.43" BOTTOM HOLE INFORMATION: N: 282,791ft E: 1,629,516ft LAT: 39°16'08.47" LON: 80°48'30.98" WEST VIRGINIA COORDINATE SYSTEM OF 1927 NORTH ZONE. ZONE WAS DERIVED FROM MEASUREMENTS TAKEN WITH TRIMBLE GEOXT SUBMETER MAPPING GRADE GPS UNIT. PLAT ORIENTATION, CORNER, AND WELL REFERENCE TIE LINES ARE BASED ON GRID NORTH.

(NAD) 83 (UTM) ZONE 17 COORDS: WELL 2H TOP HOLE INFORMATION: N: 4,344,912m E: 517,309m BOTTOM HOLE INFORMATION: N: 4,346,658m E: 516,525m

(NAD) 27 (UTM) ZONE 17 COORDS: WELL 2H TOP HOLE INFORMATION: N: 14,254,218ft E: 1,697,157ft POINT OF ENTRY INFORMATION: N: 14,252,996ft E: 1,695,691ft BOTTOM HOLE INFORMATION: N: 14,259,944ft E: 1,694,586ft

Table with 2 columns: Parcel ID, Owner Name. Includes parcels 14-15.1, 14-15.2, 14-15.5, 14-15.7, 19-03, 19-3.1, 19-04, 19-08, 19-15.1, 19-15.2, 19-15.3, 19-20.1, 19-21, 19-22.

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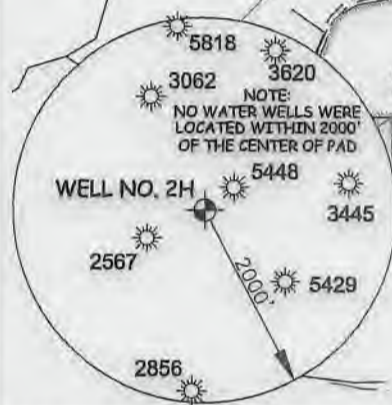
NOTE: NO OCCUPIED DWELLINGS OR BUILDINGS TWO THOUSAND FIVE HUNDRED (2,500) SQUARE FEET OR LARGER USED TO HOUSE OR SHELTER DAIRY CATTLE OR POULTRY HUSBANDRY ARE LOCATED WITHIN SIX HUNDRED TWENTY-FIVE (625) FEET OF THE CENTER OF THE WELL PAD.

GRID NORTH

8,249' TO BOTTOM HOLE

LONGITUDE 80°47'30"

13,968'



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 PERSCRIBED BY THE DEPARTMENT OF ENVIRONMENTAL PROTECTION.



STATE OF WEST VIRGINIA, DIVISION OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS. WILLOW LAND SURVEYING PLLC, 220 MASONIC AVE. PENNSBORO WEST VIRGINIA 26415

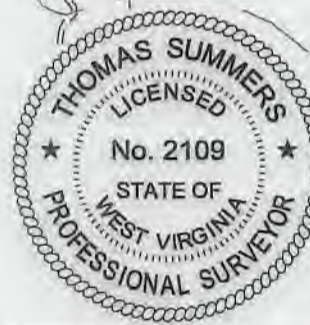


Table with 4 columns: JOB # 22-008WA, LEGEND (Surface Owner Boundary Lines +/-, Adjoining Surface Tracts +/-, Found monument, as noted), PAD LAYOUT (Diagram showing well units: CONIFER UNIT 1H, 2H, ASPEN UNIT 1H, 2H, REDWOOD UNIT 1H, 2H, 3H, OXFORD 98 5H), REFERENCES (Diagram showing stake/nail set with bearings N 68°W 266.4' and N 52°E 219.0').

WELL TYPE: OIL ___ GAS X LIQUID INJECTION ___ WASTE DISPOSAL ___ 47 - 017 - 06929 (IF "GAS") PRODUCTION X STORAGE ___ DEEP ___ SHALLOW X STATE COUNTY PERMIT LOCATION: ELEVATION 1,120' - AS BUILT WATERSHED HEADWATERS MIDDLE ISLAND CREEK QUADRANGLE WEST UNION 7.5 DISTRICT WEST UNION COUNTY DODDRIDGE SURFACE OWNER MICHAEL R. BRITTON & ANGELA D. PRATT ACREAGE 136.56 ACRES +/- OIL & GAS ROYALTY OWNER MICHAEL S. FRANCIS ET AL; APPALACHIAN ROYALTIES INC. LEASE ACREAGE 173 AC±; 119 AC±; WANDA HURST; RITCHIE BRITTON ET UX; IVY COONTZ; GLENN D. WHITEHAIR ET UX; LEWIS MAXWELL HEIRS 50 AC±; 126 AC±; 8.52 AC±; 12.37 AC±; 960 AC±; PROPOSED WORK: DRILL ___ CONVERT ___ DRILL DEEPER X REDRILL ___ FRACTURE OR STIMULATE X PLUG OFF OLD FORMATION ___ PERFORATE NEW FORMATION X OTHER PHYSICAL CHANGE IN WELL (SPECIFY) MOD-BHL PLUG & ABANDON CLEAN OUT & REPLUG TARGET FORMATION MARCELLUS ESTIMATED DEPTH 7,200' TVD 17,300' MD WELL OPERATOR ANTERO RESOURCES CORP. DESIGNATED AGENT DIANNA STAMPER - CT CORPORATION SYSTEM ADDRESS 1815 WYNKOOP ST. ADDRESS 5400 D BIG TYLER ROAD FORM WW-6 DENVER, CO 80202 CHARLESTON, WV 25313

08/19/2022

COUNTY NAME

PERMIT

LATITUDE 39°17'30"

2,236'

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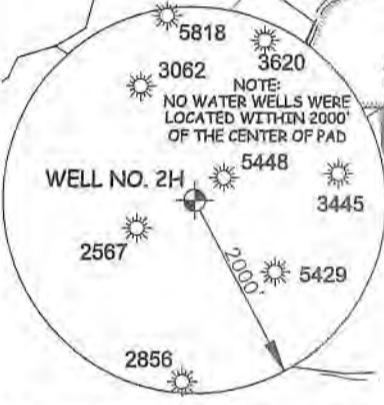
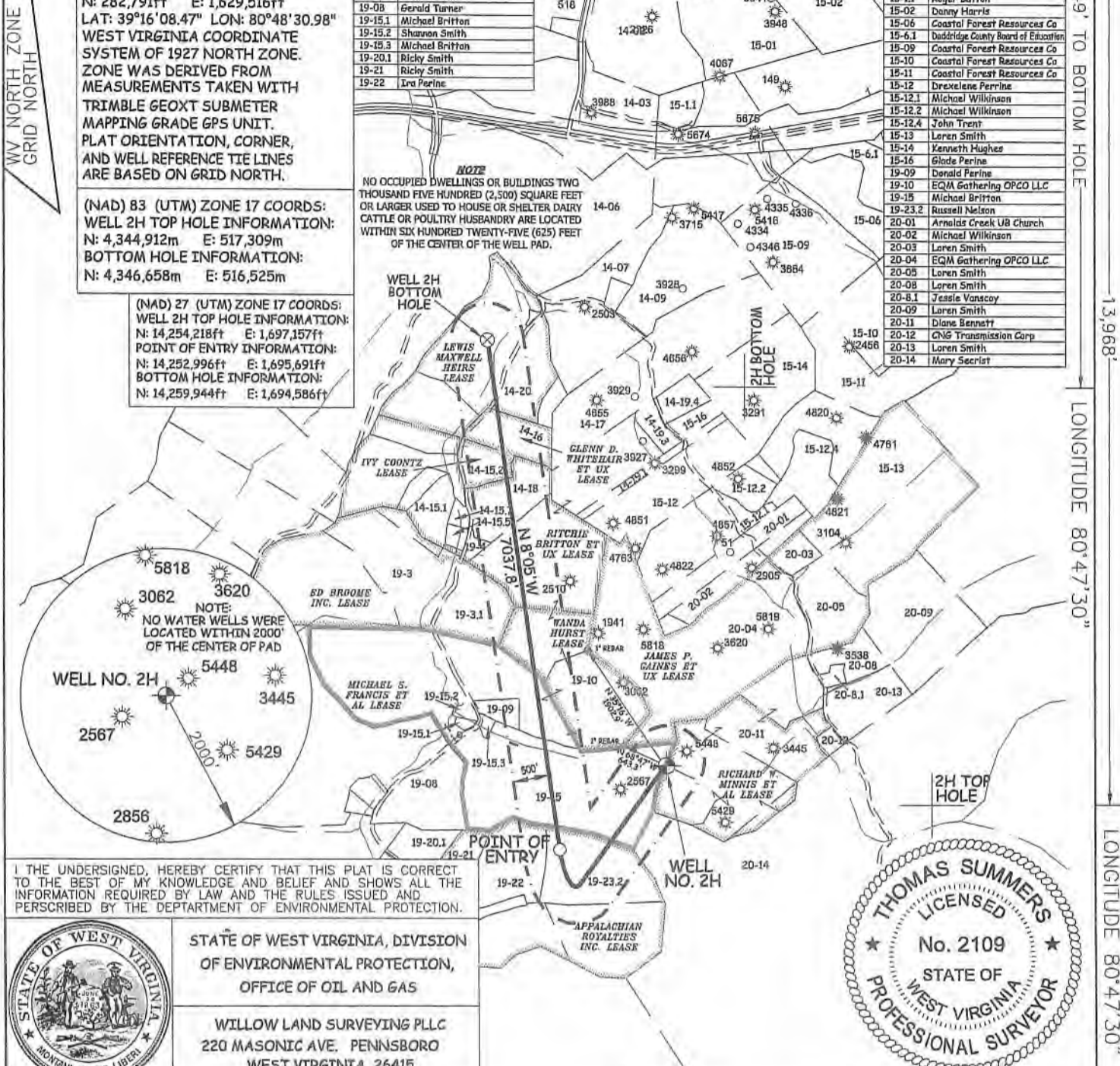
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Table with 2 columns: West Union District, Lease Number, Lease Name. Includes entries like 14-15.1 Lorie Doll, 14-15.2 Stephanie Crowder, etc.

Table with 2 columns: Lease Number, Lease Name. Includes entries like 14-02 Alfred Perine, 14-03 Gail DeBerry, 14-06 Lisa Meyer, etc.

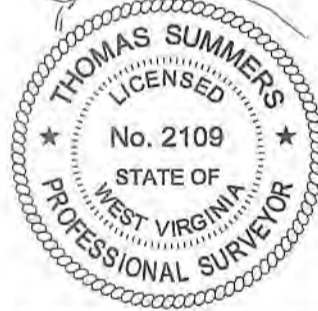
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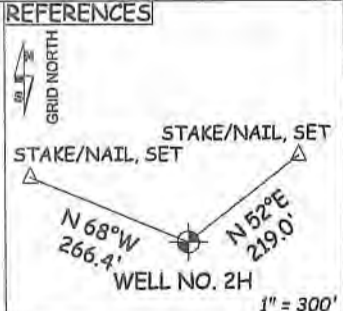
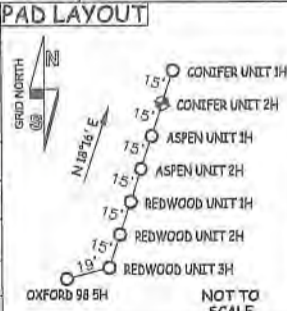


STATE OF WEST VIRGINIA, DIVISION OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS. WILLOW LAND SURVEYING PLLC, 220 MASONIC AVE. PENNSBORO WEST VIRGINIA 26415



JOB # 22-008WA DRAWING # CONIFER2H SCALE 1" = 2000' MINIMUM DEGREE OF ACCURACY SUBMETER PROVEN SOURCE OF ELEV. SUBMETER MAPPING GRADE GPS

LEGEND: Surface Owner Boundary Lines +/-, Adjoining Surface Tracts +/-, Found monument, as noted. Signature of Thomas Summers, P.S. 2109.



STATE OF WEST VIRGINIA DEPARTMENT OF ENERGY DIVISION OF OIL AND GAS

DATE 07/14/22 OPERATOR'S WELL# CONIFER 2H

WELL TYPE: OIL ___ GAS X LIQUID INJECTION ___ WASTE DISPOSAL ___ 47 - 017 - 06929 (IF "GAS") PRODUCTION X STORAGE ___ DEEP ___ SHALLOW X STATE COUNTY PERMIT LOCATION: ELEVATION 1,120' - AS BUILT WATERSHED HEADWATERS MIDDLE ISLAND CREEK QUADRANGLE WEST UNION 7.5 DISTRICT WEST UNION COUNTY DODDRIDGE SURFACE OWNER MICHAEL R. BRITTON & ANGELA D. PRATT ACREAGE 136.56 ACRES +/- OIL & GAS ROYALTY OWNER MICHAEL S. FRANCIS ET AL; APPALACHIAN ROYALTIES INC. LEASE ACREAGE 173 AC±; 119 AC±; WANDA HURST; RITCHIE BRITTON ET UX; IVY COONTZ; GLENN D. WHITEHAIR ET UX; LEWIS MAXWELL HEIRS 50 AC±; 126 AC±; 8.52 AC±; 12.37 AC±; 960 AC±

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8,249' TO BOTTOM HOLE 13,968' LONGITUDE 80°47'30"

08/19/2022

WW-6A1

Operator's Well Number Conifer Unit 2H MODRECEIVED
Office of Oil and Gas

JUL 21 2022

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)

WV Department of
Environmental Protection

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 S. Francis, et al Lease</u>			
Michael S. Francis, et al	Key Oil Company	1/8	0106/0273
Key Oil Company	Columbia Gas Transmission Corporation	Assignment	0115/0436
Columbia Gas Transmission Corporation	Columbia Natural Resources Inc	Assignment	0161/0068
Columbia Natural Resources Inc	Columbia Natural Resources LLC	Name Change	0256/0588
Columbia Natural Resources LLC	Chesapeake Appalachia LLC	Merger	0264/0447
Chesapeake Appalachia LLC	CNX Gas Company	Assignment	0372/0585
CNX Gas Company	Antero Resources Corporation	Assignment	0387/0216
<u>Appalachian Royalties Inc. Lease</u>			
Appalachian Royalties Inc.	Key Oil Company	1/8	0105/0677
Key Oil Company	Columbia Gas Transmission Corporation	Assignment	0115/0436
Columbia Gas Transmission Corporation	Columbia Natural Resources Inc	Assignment	0161/0068
Columbia Natural Resources Inc.	Columbia Natural Resources LLC	Name Change	0256/0588
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Chesapeake Appalachia, LLC	CNX Gas Company	Assignment	0372/0585
CNX Gas Company	Antero Resources Corporation	Assignment	0387/0216
<u>Michael Francis, et al Lease</u>			
Michael Francis, et al	Key Oil Company	1/8	0106/0273
Key Oil Company	Columbia Gas Transmission Corporation	Assignment	0115/0436
Columbia Gas Transmission Corporation	Columbia Natural Resources Inc	Assignment	0161/0068
Columbia Natural Resources Inc	Columbia Natural Resources LLC	Name Change	0256/0588
Columbia Natural Resources LLC	Chesapeake Appalachia LLC	Merger	0264/0447
Chesapeake Appalachia LLC	CNX Gas Company	Assignment	0372/0585
CNX Gas Company	Antero Resources Corporation	Assignment	0387/0216
<u>Wanda Hurst Lease</u>			
Wanda Hurst	J&J Enterprises, Inc.	1/8	0119/0281
J&J Enterprises, Inc.	Eastern American Energy Corporation	Merger	0211/0137
Eastern American Energy Corporation	Energy Corporation of America	Name Change	0283/0431
Energy Corporation of America	Antero Resources Appalachian Corporation	Assignment	0307/0321
Antero Resources Appalachian Corporation	Antero Resources Corporation	Name Change	0046/0523

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Office of Oil and Gas

JUL 21 2022

WV Department of
Environmental Protection **08/19/2022**

WW-6A1

Operator's Well Number Conifer Unit 2H MOD

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 –

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Grantor, lessor, etc.	Grantee, lessee, etc.	Royalty	Book/Page
<u>Ritchie Britton, et ux Lease</u>			
Ritchie Britton, et ux	Key Oil Company	1/8	0104/0345
Key Oil Company	Columbia Gas Transmission Corporation	Assignment	0115/0436
Columbia Gas Transmission Corporation	Columbia Natural Resources Inc	Assignment	0161/0068
Columbia Natural Resources Inc	Columbia Natural Resources LLC	Name Change	0256/0588
Columbia Natural Resources LLC	Chesapeake Appalachia LLC	Merger	0264/0447
Chesapeake Appalachia LLC	CNX Gas Company	Assignment	0372/0585
CNX Gas Company	Antero Resources Corporation	Assignment	0387/0216
<u>Ivy Coontz Lease</u>			
Ivy Coontz, widow	J & J Enterprises, LLC	1/8	0104/0454
J & J Enterprises, LLC	Eastern American Energy Corporation	Merger	0211/0137
Eastern American Energy Corporation	Energy Corporation of America	Name Change	0283/0431
Energy Corporation of America	Antero Resources Appalachian Corporation	Assignment	0307/0321
Antero Resources Appalachian Corporation	Antero Resources Corporation	Name Change	0046/0523
<u>Glenn D. Whitehair, et ux Lease</u>			
Glenn D. and Linda L. Whitehair	Antero Resources Corporation	1/8+	0503/0701

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Office of Oil and Gas

JUL 21 2022

WV Department of
Environmental Protection

*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.

08/19/2022

WW-6A1
(5/13)

Operator's Well No. Conifer Unit 2H MOD

**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
<u>Lewis Maxwell Heirs Lease</u>				
Lewis Maxwell Heirs	D.P. Stout	D.P. Stout	1/8	0023/0344
D.P. Stout	J.F. Donaldson	J.F. Donaldson	Assignment	0024/0077
J.F. Donaldson	The Philadelphia Company of West Virginia	The Philadelphia Company of West Virginia	Assignment	0024/0080
The Philadelphia Company of West Virginia	Pittsburgh and West Virginia Gas Company	Pittsburgh and West Virginia Gas Company	Assignment	0087/0090
Pittsburgh and West Virginia Gas Company	Equitable Gas Company	Equitable Gas Company	Conveyance	0121/0257
Equitable Gas Company	Equitrans, Inc.	Equitrans, Inc.	Assignment	0154/0475
Equitrans, Inc.	EQT Capital Corporation	EQT Capital Corporation	Merger	0023/0032
EQT Capital Corporation	Equitable Resources, Inc.	Equitable Resources, Inc.	Merger	0023/0032
Equitable Resources, Inc.	Equitable Gas Company, LLC	Equitable Gas Company, LLC	Merger	0023/0032
Equitable Gas Company, LLC	Equitrans, L.P.	Equitrans, L.P.	Assignment	0329/0645
Equitrans, L.P.	Equitable Production - Eastern States, Inc	Equitable Production - Eastern States, Inc	Assignment	0192/0019
Equitable Production - Eastern States, Inc	Equitable Production Company	Equitable Production Company	Merger	WVSOS
Equitable Production Company	EQT Production Company	EQT Production Company	Name Change	0281/0346
EQT Production Company	Antero Resources Corporation	Antero Resources Corporation	Permission	Permission to Permit Letter

*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.

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

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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
Its: VP of Land

Execution Version

June 27, 2022

Jarred Detweiler
EQT Production Company
EQT Plaza
625 Liberty Avenue, Suite 1700
Pittsburgh, PA 15222

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RE: **Permission to Permit and Drill**

Doddridge County, West Virginia

WV Department of
Environmental Protection

Dear Mr. Detweiler,

Antero Resources Corporation ("**Antero**") hereby requests permission from EQT Production Company ("**EQT**") to proceed with Antero's plans to drill one or more horizontal wells in, under, and through certain properties subject to oil and gas interests owned or controlled by EQT located in Doddridge County, West Virginia, as more particularly described on Exhibit A to this letter agreement (the "**O&G Interests**"), and insofar and only insofar as to the Marcellus Rights (the "**Properties**"), pursuant to the terms and conditions of this letter agreement. Antero and EQT are currently parties to an Acreage Trade Agreement dated December 17, 2021 (as amended from time to time, the "**Trade Agreement**"), which includes the Properties. Capitalized terms not otherwise defined herein shall have the meanings ascribed to them in the Trade Agreement.

In order to generate mutual goodwill between EQT and Antero, and for one hundred dollars (\$100.00) and other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, subject to the terms and conditions of this letter agreement and the Trade Agreement, EQT hereby grants Antero the right to apply for and obtain all applicable governmental permits for the drilling of one or more wellbore laterals in, under, and through the Properties (collectively, "**Wells**") and to drill, complete and produce such Wells.

In the event that Antero and EQT do not consummate the Closing of the Trade Agreement with respect to a Property, then Antero shall have the right to elect to enter into with EQT one (1) or more mutually-agreed joint operating agreements (with each contract area covering a unit) with respect to such Properties, effective as of the date hereof and in each case subject to the terms and conditions of the Trade Agreement.

Antero hereby agrees to release, protect, indemnify, defend and hold harmless EQT from and against any claims, expenses, damages, injuries, claims or obligations or liabilities (including reasonable attorneys' fees) that may be brought by any third party against EQT or its Affiliates to the extent arising out of Antero's drilling or other operations pursuant to this letter agreement and that arise on or after the date of this letter agreement through the Expiration Date (as defined below). This paragraph shall survive (a) the Closing and the assignment or lease, as applicable,

related to the Properties, (b) the execution of a mutually-agreed joint operating agreement with respect to any Properties, or (c) any termination of all or any part of this letter agreement.

Nothing in this letter agreement will diminish any current or future rights of EQT in the Properties or other properties. This letter agreement and the rights and obligations of EQT and Antero hereunder will terminate (on a Property-by-Property basis) upon the earliest of (I) the execution of a mutually-agreed joint operating agreement with respect to such Property, (II) if and when Antero and EQT consummate the Closing of the Trade Agreement with respect to such Property and (III) the date this letter agreement terminates with respect to such Property as provided in the Trade Agreement. ("***Expiration Date***").

If the above meets your approval, please execute in the space provided below and return one signed copy to the letterhead address. Should you have any questions, please contact Jared Hurst at (303) 357-6835.

[Signature Pages Follow.]

Sincerely,

ANTERO RESOURCES CORPORATION

By: _____
Name: Brian Kuhn
Title: Senior Vice President – Land


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Signature Page to Letter Agreement

08/19/2022

Sincerely,

ANTERO RESOURCES CORPORATION

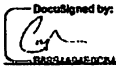
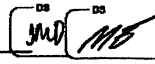
By: 
Name: Brian Kuhn
Title: Senior Vice President – Land

Signature Page to Letter Agreement

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AGREED TO AND ACCEPTED:

EQT PRODUCTION COMPANY

By:  _____ 
Name: Corey C. Peck
Title: Authorized Agent

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**EXHIBIT A
PROPERTIES**

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Exhibit A
Properties

Lease No.	ESOP	Licensee	Operator	Lease Date	Lease Gross Acres	Current Net Lease	Royalty Interest	WT	NRI	Conserved Oil Days	State	County	Block	Page	Conserved Interest	Reservoir Unit	Full Ownership Lease	Well Head Installation	Appl. Fee	Appl. Fee Rate	
Lease	HBP	Lewis Maxwell Wells	T. P. Moran	4/9/1921	90.0000	17,600	0.1250	100%	0.8730	21,878	WV	Doddridge	West Union	23	348	pp 8-14-20	For State use based on the "Conserved Interest" Column as set forth in the attached "Schedule" as the attached Exhibit A-1 Part 2-48				Exhibit A-1 Part 2-48
Lease	HBP	Lewis Maxwell Wells	T. P. Moran	3/31/1921	95.0000	29,570	0.1250	100%	0.8730	21,878	WV	Doddridge	West Union	23	430	pp 8-14-20	For State use based on the "Conserved Interest" Column as set forth in the attached "Schedule" as the attached Exhibit A-1 Part 2-48				Exhibit A-1 Part 2-48
Lease	HBP	Lewis Maxwell and Sarah Maxwell	T. P. Moran	1/4/1899	1502.0000	24,900	0.1250	100%	0.8730	23,372	WV	Doddridge	West Union	11	479	pp 8-14-14	For State use based on the "Conserved Interest" Column as set forth in the attached "Schedule" as the attached Exhibit A-1 Part 2-48				Exhibit A-1 Part 2-48

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EXHIBIT A-1-Part 2-48

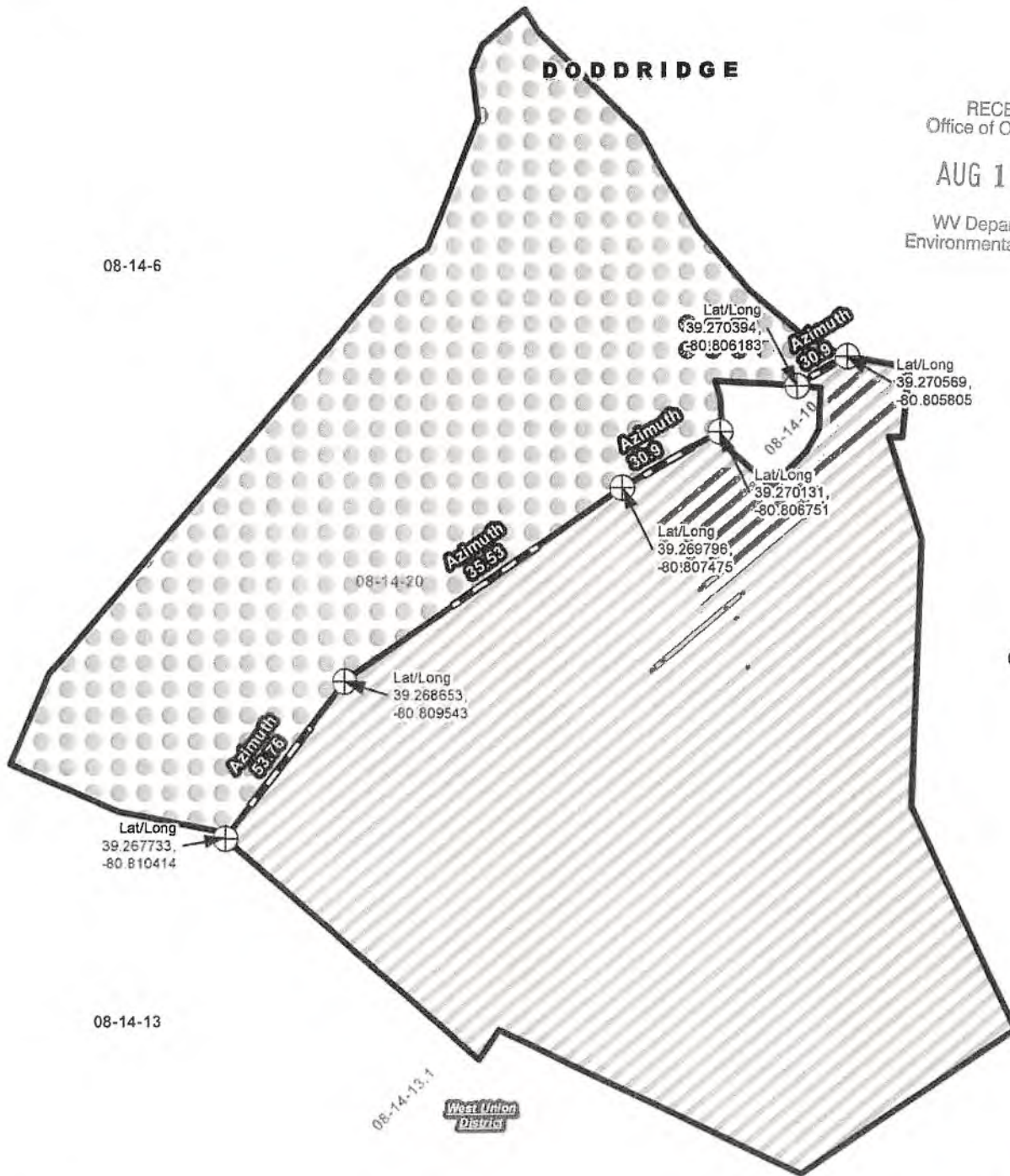
EQT to Antero Split Tract

-  Conveyed: 35.2 Gross Acres
-  Retained: 23.95 Gross Acres


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08-14-17



Appalachian Basin

EXHIBIT A-1-Part 2-48

0 0.0125 0.025 0.05

8/19/2022 Created by: strange

*Coordinates are Geographic NAD27



EXHIBIT A-1-Part 2-49

08-15-B-1

08-15-6.1

08-15-6

EQT to Antero Split Tract

-  Conveyed: 26.94 Gross Acres
-  Retained: 22.74 Gross Acres

08-15-9

08-15-10

DODDRIDGE

West Union District

Lat/Long
39.269467,
-80.787377

*Azimuth
74.43*

08-15-11

08-15-8

08-15-14

Lat/Long
39.267050,
-80.788252

08-15-12.8


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08-15-13

08-15-12.6



Appalachian Basin

EXHIBIT A-1-Part 2-49

0 0015 003 C06
9/10/2022 08/19/2022
Created by: [unclear]

*Coordinates are Geographic NAD27

Certificate Of Completion

Envelope Id: D27A6D562899468EBEF30E964786A1E4

Status: Completed

Subject: Please DocuSign: (Antero-EQT) Permission to Antero to Permit and Drill Execution Version 6.27.2...

Source Envelope:

Document Pages: 8

Signatures: 1

Certificate Pages: 2

Initials: 2

AutoNav: Enabled

EnvelopeId Stamping: Enabled

Time Zone: (UTC-05:00) Eastern Time (US & Canada)

Envelope Originator:

Jarred Detweiler

625 Liberty Ave Ste 1700

Pittsburgh, PA 15222

jdetweiler@eqt.com

IP Address: 47.133.146.76

Record Tracking

Status: Original

6/26/2022 2:56:01 PM

Holder: Jarred Detweiler

jdetweiler@eqt.com

Location: DocuSign

Signer Events

Jarred Detweiler

jdetweiler@eqt.com

Landman IV

EQT Corporation

Security Level: Email, Account Authentication (None)

Signature



Signature Adoption: Pre-selected Style

Signed by link sent to jdetweiler@eqt.com

Using IP Address: 136.226.49.8

Timestamp

Sent: 6/26/2022 2:58:32 PM

Viewed: 6/26/2022 2:58:42 PM

Signed: 6/26/2022 2:58:48 PM

Electronic Record and Signature Disclosure: Not Offered via DocuSign

Matt Eller

meller@eqt.com

Land BD Director

EQT Corporation

Security Level: Email, Account Authentication (None)



Signature Adoption: Pre-selected Style

Signed by link sent to meller@eqt.com

Using IP Address: 73.174.81.247

Signed using mobile

Sent: 6/26/2022 2:58:49 PM

Viewed: 6/26/2022 7:17:57 PM

Signed: 6/26/2022 7:18:12 PM

Electronic Record and Signature Disclosure: Not Offered via DocuSign

Corey C Peck

cpeck@eqt.com

Managing Director - Land Ops

EQT Corporation

Security Level: Email, Account Authentication (None)



Signature Adoption: Uploaded Signature Image

Signed by link sent to cpeck@eqt.com

Using IP Address: 71.206.252.2

Signed using mobile

Sent: 6/26/2022 7:18:13 PM

Viewed: 6/26/2022 7:58:11 PM

Signed: 6/26/2022 7:58:24 PM

Electronic Record and Signature Disclosure: Not Offered via DocuSign

In Person Signer Events

Signature

Timestamp

Editor Delivery Events

Status

Timestamp

Agent Delivery Events

Status

Timestamp

Intermediary Delivery Events

Status

Timestamp

Certified Delivery Events

Status

Timestamp

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Carbon Copy Events

Status

Timestamp

Witness Events

Signature

Timestamp

Notary Events

Signature

Timestamp

Envelope Summary Events

Status

Timestamps

Envelope Sent

Hashed/Encrypted

6/26/2022 2:58:32 PM

Certified Delivered

Security Checked

6/26/2022 7:58:11 PM

Signing Complete

Security Checked

6/26/2022 7:58:24 PM

Completed

Security Checked

6/26/2022 7:58:24 PM

Payment Events

Status

Timestamps

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Stansberry, Wade A <wade.a.stansberry@wv.gov>

Modification Horizontal H6A Well Work Permits API: (47-017-06929)

1 message

Stansberry, Wade A <wade.a.stansberry@wv.gov>

Wed, Aug 17, 2022 at 11:39 AM

To: Mallory Stanton <mstanton@anteroresources.com>, Diane Blair <dblair@anteroresources.com>, Dani DeVito <ddevito@shalepro.com>, David Sponaugle <dsponaug@assessor.state.wv.us>, "Blevins, Cragin" <cragin.blevins@wv.gov>, "Ward, Samuel D" <samuel.d.ward@wv.gov>

I have attached a copy of the newly issued well [permit](#) numbers:

47-017-06929 - CONIFER 2H

These will serve as your copy.

Thank you,

Wade A. Stansberry

Environmental Resource Specialist 3

West Virginia Department of Environmental Protection

Office of Oil & Gas


601 57th St. SE

Charleston, WV 25304

(304) 926-0499 ext. 41115

(304) 926-0452 fax

Wade.A.Stansberry@wv.gov

 **47-017-06929 - mod.pdf**
1451K

08/19/2022