



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

Monday, August 29, 2022
PERMIT MODIFICATION APPROVAL
Horizontal 6A / New Drill

ANTERO RESOURCES CORPORATION
1615 WYNKOOP STREET

DENVER, CO 80202

Re: Permit Modification Approval for ASPEN 2H
47-017-06927-00-00

Extended lateral length

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

Operator's Well Number: ASPEN 2H
Farm Name: MICHAEL R BRITTON & ANGELA D PRATT
U.S. WELL NUMBER: 47-017-06927-00-00
Horizontal 6A New Drill
Date Modification Issued: 8/29/2022

Promoting a healthy environment.

09/02/2022

WW-6B
(04/15)

API NO. 47-017 - 06927
OPERATOR WELL NO. Aspen 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 Uni West Union 7.5'
Operator ID County District Quadrangle

2) Operator's Well Number: Aspen 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: 6600' TVD, Anticipated Thickness- 55 feet, Associated Pressure- 2850#

*SDW
8/25/2022*

8) Proposed Total Vertical Depth: 6600' TVD

9) Formation at Total Vertical Depth: Marcellus

10) Proposed Total Measured Depth: 20100'

11) Proposed Horizontal Leg Length: 8470.2'

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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WV Department of
Environmental Protection

Handwritten notes in the left margin, including the word "edit" and some illegible scribbles.

RECEIVED
OFFICE OF THE ATTORNEY GENERAL
AUG 2 2022
To: Inmate # 00000000
From: [illegible]

18)

CASING AND TUBING PROGRAM

TYPE	<u>Size (in)</u>	<u>New or Used</u>	<u>Grade</u>	<u>Weight per ft. (lb/ft)</u>	<u>FOOTAGE: For Drilling (ft)</u>	<u>INTERVALS: Left in Well (ft)</u>	<u>CEMENT: Fill-up (Cu. Ft./CTS)</u>
Conductor	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#	20100'	20100'	CTS, 4147 Cu. Ft.
Tubing	2-3/8"	New	N-80	4.7#			
Liners							

*SDW
8/25/2022*

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

PACKERS

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

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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.

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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.

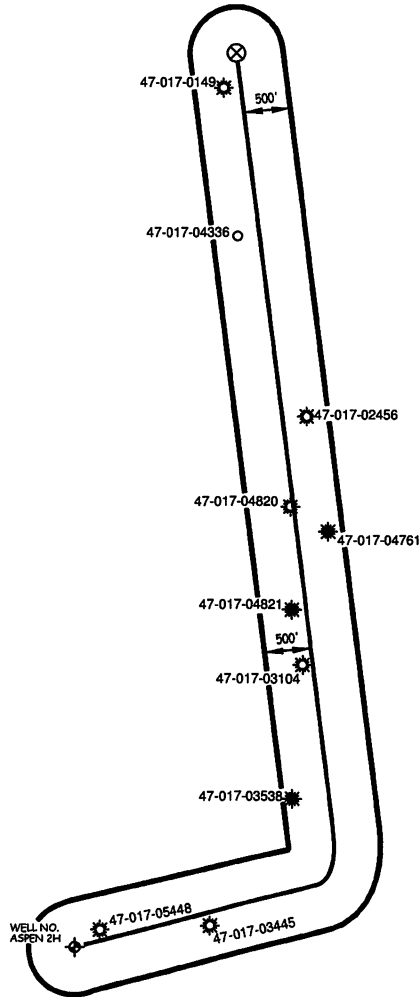
Surface: blowhole clean with air, trip to conductor shoe, trip to bottom, blowhole clean with air, trip out, run casing, circulate pipe capacity + 40 bbls fresh water followed by 25 bbls bentonite mud, 10 bbls fresh water spacer.

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

JOB #: 22-005WA

FILE: ASPEN2HAOR.DWG

SCALE : 1-INCH = 2000-FEET



DATE: 08/04/22

DRAWN BY: D.L.P.

09/02/2022

UWI (APINum)	Well Name	Well Number	Operator	Historical Operator	TD	Perforated Interval (shallowest, deepest)	Perforated Formation(s)	Producible 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
47017034450000	MINNIS RICHARD W & JOAN	1321	DIVERSIFIED PROD LLC	CNG DEVELOPMENT CO	5,182	4882 - 4931	Gordon, Speechley, Alexander	Weir, Berea, Benson
47017035380000	GAIN JAMES A	2748	DIVERSIFIED PROD LLC	CNG DEVELOPMENT CO	5,330	5032 - 5079	Speechley, Balltown, Alexander	Weir, Berea, Benson
47017031040000	GAINS JAMES A	J-694	GREYLOCK CONVENT LLC	J & J ENTERPRISES	5,205	4965 - 4975	Alexander	Weir, Berea, Benson
47017048210000	FLEMING	5	KEY OIL CO	KEY OIL CO	2,840	1920 - 2590	Pocahontas, Squaw, Gordon	Weir, Berea, Benson
47017047610000	FLEMING	1	KEY OIL CO	KEY OIL CO	5,593	3423 - 5361	Warren, Speechley, Balltown, Riley, Benson	Weir, Berea
47017048200000	FLEMING	4	KEY OIL CO	KEY OIL CO	2,927	2125 - 2792	Big Injun, Squaw, Hampshire	Weir, Berea, Benson
47017024560000	HAMMOND J W	1	GREYLOCK CONVENT LLC	J & J ENTERPRISES	5,525		Warren, Alexander	Weir, Berea, Benson
47017043360000	WILLIAM WOLFE	3	P G OIL & GAS INC	BOWIE INC				Weir, Berea, Benson
47017001490000	L MAXWELL 2	80796	SOUTH PENN OIL	SOUTH PENN OIL	2,648		Gordon	Weir, Berea, Benson

4701706927

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Environmental Protection

LATITUDE 39°17'30"

2,245'

LATITUDE 39°17'30"

612' TO BOTTOM HOLE

Antero Resources Corporation Well No. Aspen 2H

NOTES: WELL 2H TOP HOLE INFORMATION: N: 276,993ft E: 1,631,983ft LAT: 39°15'11.52" LON: 80°47'58.54" BOTTOM HOLE INFORMATION: N: 286,646ft E: 1,633,756ft LAT: 39°16'47.18" LON: 80°47'37.79" 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: 4,344,903m E: 517,306m BOTTOM HOLE INFORMATION: N: 4,347,853m E: 517,797m

(NAD) 27 (UTM) ZONE 17 COORDS: WELL 2H TOP HOLE INFORMATION: N: 14,254,190ft E: 1,697,148ft POINT OF ENTRY INFORMATION: N: 14,255,481ft E: 1,699,924ft BOTTOM HOLE INFORMATION: N: 14,263,867ft E: 1,698,758ft

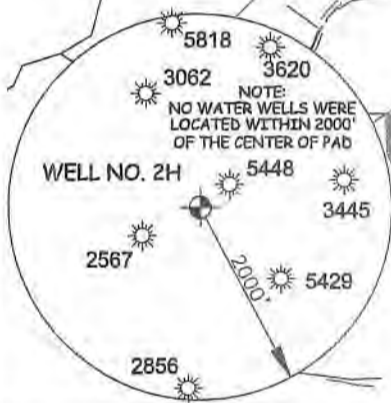
NOTE NO OCCUPIED DWELLINGS OR BUILDINGS TWO THOUSAND FIVE HUNDRED (2,500) SQUARE FEET OR LARGER USED TO HOUSE OR SHELTER DAIRY CATTLE OR POULTRY HUSBANDRY ARE LOCATED WITHIN SIX HUNDRED TWENTY-FIVE (625) FEET OF THE CENTER OF THE WELL PAD.

Table listing West Union District parcels (14-02 to 20-14) and their owners, including Alfred Perline, Gail DeBerry, Lisa Meyer, Dennis Hoyes, Marvin Rollins, Glenn Whitehair, Mark Smith, Michael Algranelli, Richard Leggett, Mary Nesler, Danny Harris, Roger Barton, Danny Harris, Constal Forest Resources Co, Doddridge County Board of Education, Constal Forest Resources Co, Drexelene Perrine, Michael Wilkinson, John Trent, Loren Smith, Kenneth Hughes, Glade Perline, Donald Perline, EQM Gathering OPCO LLC, Michael Britton, Russell Nelson, Arnolds Creek UB Church, Michael Wilkinson, Loren Smith, EQM Gathering OPCO LLC, Loren Smith, Loren Smith, Jessie Vansoy, Loren Smith, Diane Bennett, CNG Transmission Corp, Loren Smith, and Mary Secrist.

GRID NORTH

LONGITUDE 80°47'30"

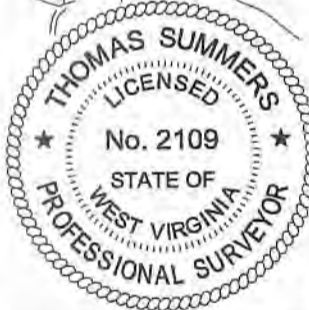
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I THE UNDERSIGNED, HEREBY CERTIFY THAT THIS PLAT IS CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF AND SHOWS ALL THE INFORMATION REQUIRED BY LAW AND THE RULES ISSUED AND PERSCRIBED BY THE DEPARTMENT OF ENVIRONMENTAL PROTECTION.

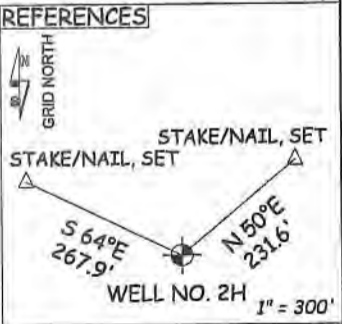
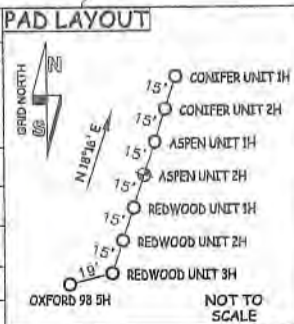


STATE OF WEST VIRGINIA, DIVISION OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS
WILLOW LAND SURVEYING PLLC
220 MASONIC AVE. PENNSBORO WEST VIRGINIA 26415



JOB # 19-039WA
DRAWING # ASPEN2H
SCALE 1" = 2000'
MINIMUM DEGREE OF ACCURACY SUBMETER
PROVEN SOURCE OF ELEV. SUBMETER MAPPING GRADE GPS
STATE OF WEST VIRGINIA DEPARTMENT OF ENERGY DIVISION OF OIL AND GAS

LEGEND
— Surface Owner Boundary Lines +/-
- - - Adjoining Surface Tracts +/-
⊕ Found monument, as noted
THOMAS SUMMERS P.S. 2109
DATE 08/04/22
OPERATOR'S WELL# ASPEN 2H



WELL TYPE: OIL ___ GAS X LIQUID INJECTION ___ WASTE DISPOSAL ___ 47 - 017 - 06927 MOD
(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; RICHARD W. MINNIS ET AL; HARRISON-RITCHIE LEASE ACREAGE 173 AC±; 69 AC±; 17 AC±;
OIL & GAS CO.; JAMES P. GAINES ET AL; JAMES P. GAINES; JAMES P. GAINES ET UX; FRANKLIN L. BUTLER; 14 AC±; 42 AC±; 200 AC±; 109 AC±;
LEWIS MAXWELL ET UX; WM. WOLFE; BENJAMIN F. HEFLIN ET UX; DONALD BARKER ET AL; LAURIE GIVENS 1562 AC±; 50 AC±; 60 AC±; 54.5 AC±; 71.25 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 6,600' TVD 20,100' MD
WELL OPERATOR ANTERO RESOURCES CORP. DESIGNATED AGENT DIANNA STAMPER - CT CORPORATION SYSTEM
ADDRESS 1615 WYNKOOP ST. ADDRESS 5400 D BIG TYLER ROAD
FORM WW-6 DENVER, CO 80202 CHARLESTON, WV 25313

09/02/2022

COUNTY NAME

PERMIT

LATITUDE 39°17'30"

2,245'

LATITUDE 39°17'30"

612' TO BOTTOM HOLE

Antero Resources Corporation Well No. Aspen 2H

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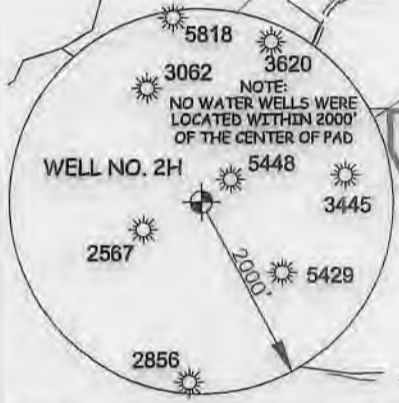
WV NORTH ZONE GRID NORTH

4,333' TO BOTTOM HOLE

LONGITUDE 80°47'30"

14,011'

LONGITUDE 80°47'30"

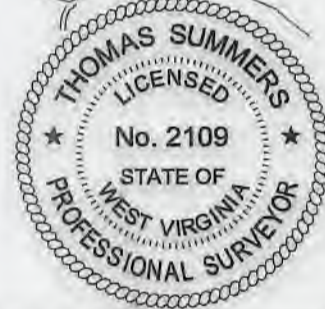


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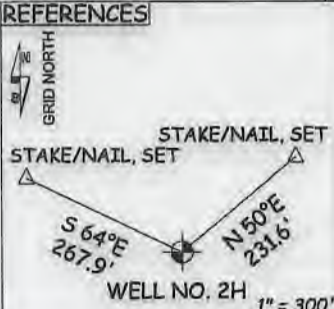
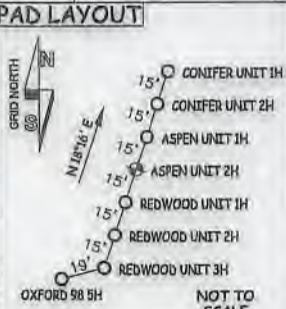
STATE OF WEST VIRGINIA, DIVISION OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS

WILLOW LAND SURVEYING PLLC 220 MASONIC AVE. PENNSBORO WEST VIRGINIA 26415



JOB # 19-039WA DRAWING # ASPEN2H 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 08/04/22 OPERATOR'S WELL # ASPEN 2H

WELL TYPE: OIL ___ GAS X LIQUID INJECTION ___ WASTE DISPOSAL ___ 47 - 017 - 06927 MOD (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 +/-

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09/02/2022

COUNTY NAME

PERMIT

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:

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>Richard W. Minnis, et al Lease</u>			
Richard W. Minnis, et al	Consolidated Gs Supply Corporation	1/8	0095/0706
Consolidated Gas Supply Corporation	Consolidated Gas Transmission Corporation	Assignment	0135/0583
Consolidated Gas Transmission Corporation	CNG Development Company	Assignment	0139/0041
CNG Development Company	Dominion Exploration & Production Inc	Name Change	WV SOS
Dominion Exploration & Production Inc	Dominion Transmission Inc	Assignment	0244/0528
Dominion Transmission Inc	CONSOL Gas Company	Name Change	0292/0469
CONSOL Gas Company	CNX Gas Company, LLC	Name Change	0293/0252
CNX Gas Company	Antero Resources Corporation	Assignment	0325/0507
<u>Harrison-Ritchie Oil & Gas Co. Lease</u>			
Harrison-Ritchie Oil & Gas Co.	Antero Resources Corporation	1/8+	0503/0456
<u>James P. Gaines, et al Lease</u>			
James P. Gaines, et al	CNG Development Company	1/8	0150/0491
CNG Development Company	CNG Producing Company	Name Change	WV SOS
CNG Producing Company	Dominion Exploration & Production, Inc	Name Change	0058/0366
Dominion Exploration & Production, Inc.	Dominion Transmission, Inc	Assignment	0244/0528
Dominion Transmission, Inc	CONSOL Energy Holdings	Assignment	0245/0001
CONSOL Energy Holdings	CONSOL Gas Company	Merger	0292/0469
CONSOL Gas Company	CNX Gas Company, LLC	Merger	0292/0469
CNX Gas Company, LLC	Antero Resources Corporation	Assignment	0387/0216
<u>James P. Gaines Lease</u>			
James P. Gaines	CNG Development Company	1/8	0151/0491
CNG Development Company	CNG Producing Company	Name Change	WV SOS
CNG Producing Company	Dominion Exploration & Production, Inc	Name Change	0058/0366
Dominion Exploration & Production, Inc.	Dominion Transmission, Inc	Assignment	0244/0528
Dominion Transmission, Inc	CONSOL Energy Holdings	Assignment	0245/0001
CONSOL Energy Holdings	CONSOL Gas Company	Merger	0292/0469
CONSOL Gas Company	CNX Gas Company, LLC	Merger	0292/0469
CNX Gas Company, LLC	Antero Resources Corporation	Assignment	0387/0216
<u>James P. Gaines, et ux Lease</u>			
James P. Gaines, et ux	Hope Natural Gas Company	1/8	0037/0328

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**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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<u>Grantor, lessor, etc.</u>	<u>Grantee, lessee, etc.</u>	<u>Royalty</u>	<u>Book/Page</u>
Hope Natural Gas Company	Consolidated Gas Supply Corporation	Assignment	0143/0345
Consolidated Gas Supply Corporation	Consolidated Gas Transmission Corporation	Assignment	0135/0583
Consolidated Gas Transmission Corporation	CNG Transmission Corporation	Assignment	0332/0563
CNG Transmission Corporation	Dominion Transmission Inc	Assignment	0332/0570
Dominion Transmission Inc	CNX Gas Company, LLC	Assignment	0325/0517
CNX Gas Company, LLC	Antero Resources Corporation	Assignment	0628/0257
<u>Franklin L. Butler Lease</u>			
Franklin L. Butler	Key Oil Company	1/8	0195/0445
Key Oil Company	Antero Resources Appalachian Corporation	Assignment	0256/0285
Antero Resources Appalachian Corporation	Antero Resources Corporation	Name Change	0046/0523
<u>Lewis Maxwell, et ux Lease</u>			
Lewis Maxwell and Sarah E. Maxwell	P.H. Gaffney, Joshua Russell, and James McCoach	1/8	0011/0479
P.H. Gaffney, Joshua Russell, and James McCoach	Eastern Oil Company	Assignment	0014/0231
Eastern Oil Company	Mountain State Carbon Black Company	Assignment	0022/0199
Mountain State Carbon Black Company	Columbian Carbon Company	Assignment	0033/0431
Columbian Carbon Company	Columbian Fuel Corporation	Assignment	0079/0202
Columbian Fuel Corporation	Cities Service Oil Company	Merger	0153/0742
Cities Service Oil Company	Cities Service Company	Assignment	0103/0328
Cities Service Company	Cities Service Oil and Gas Corporation	Assignment	0132/0177
Cities Service Oil and Gas Corporation	OXY USA, Inc.	Name Change	0205/0614
OXY USA, Inc.	Ashland Exploration, Inc.	Assignment	0160/0679
Ashland Exploration, Inc	Ashland Exploration Holdings, Inc	Name Change	WV SOS
Ashland Exploration Holdings, Inc	Blazer Energy Corporation	Conveyance	0181/0421
Blazer Energy Corporation	Eastern States Oil & Gas	Name Change	0244/0149
Easter States Oil & Gas	Equitable Production-Eastern Sates	Name Change	WV SOS
Equitable Production-Eastern States	Equitable Production Company	Assignment	0194/0091
Equitable Production Company	EQT Production Company	Name Change	0281/0346
EQT Production Company	Antero Resources Corporation	Assignment	Permission to Permit Letter
<u>Wm. Wolfe Lease</u>			
William J. Wolfe, single	Justin M. Henderson	1/8	0104/0287
Justin Henderson	W.B. Berry	Assignment	0110/0553
W.B. Berry	Benson Drilling Joint Venture No. 2	Assignment	0110/0061
Benson Drilling Joint Venture No. 2	J&J Enterprises, Inc	Agreement	0154/0001
J&J Enterprises, Inc	Eastern American Energy Corporation	Merger	0159/0139
Eastern American Energy Corporation	UMC Petroleum Corporation	Assignment	0166/0671
UMC Petroleum Corporation	Ashland Exploration, Inc	Assignment	0227/0252
Ashland Exploration, Inc	Ashland Exploration Holdings, Inc	Name Change	WV SOS
Ashland Exploration Holdings, Inc	Blazer Energy Corporation	Conveyance	0181/0421
Blazer Energy Corporation	Eastern States Oil & Gas	Name Change	0244/0149
Easter States Oil & Gas	Equitable Production-Eastern Sates	Name Change	WV SOS
Equitable Production-Eastern States	Equitable Production Company	Merger	WV SOS

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Grantor, lessor, etc.	Grantee, lessee, etc.	Royalty	Book/Page
Equitable Production Company EQT Production Company	EQT Production Company Antero Resources Corporation	Name Change Assignment	0281/0346 0388/0294
<u>Benjamin F. Heflin, et ux Lease</u>			
Benjamin F. Heflin, et ux C.H. Pigott Eastern American Energy Corporation Energy Corporation of America Antero Resources Appalachian Corporation	C.H. Pigott Eastern American Energy Corporation Energy Corporation of America Antero Resources Appalachian Corporation Antero Resources Corporation	1/8 Assignment Assignment Assignment Name Change	0042/0382 0174/0070 0240/0498 0272/0370 0046/0523
<u>Donald Barker, et al Lease</u>			
Donald G. Barker, et al Justin Henderson W.B. Berry Benson Drilling Joint Venture No. 2 J&J Enterprises, Inc Eastern American Energy Corporation UMC Petroleum Corporation Ashland Exploration, Inc Ashland Exploration Holdings, Inc Blazer Energy Corporation Eastern States Oil & Gas Equitable Production-Eastern States Equitable Production Company EQT Production Company	Justin M. Henderson W.B. Berry Benson Drilling Joint Venture No. 2 J&J Enterprises, Inc Eastern American Energy Corporation UMC Petroleum Corporation Ashland Exploration, Inc Ashland Exploration Holdings, Inc Blazer Energy Corporation Eastern States Oil & Gas Equitable Production-Eastern States Equitable Production Company EQT Production Company Antero Resources Corporation	1/8 Assignment Assignment Agreement Merger Assignment Assignment Name Change Conveyance Name Change Name Change Merger Name Change Assignment	0104/0236 0110/0553 0110/0061 0154/0001 0159/0139 0166/0671 0227/0252 WV SOS 0181/0421 0244/0149 WV SOS WV SOS 0281/0346 0388/0294

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(5/13)

Operator's Well No. Aspen Unit 2H MOD

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Lease Name or Number	Grantor, Lessor, etc.	Grantee, Lessee, etc.	Royalty	Book/Page
<u>Lauri Givens Lease</u>	Laurie Givens	Antero Resources Corporation	1/8+	0355/0027

*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: Max Green 
 Its: VP of Land 

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