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west virginia department of environmental protection

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

Harold D. Ward, Cabinet Secretary  
[www.dep.wv.gov](http://www.dep.wv.gov)

Thursday, June 23, 2022  
PERMIT MODIFICATION APPROVAL  
Horizontal 6A / New Drill

ANTERO RESOURCES CORPORATION  
1615 WYNKOOP STREET  
DENVER, CO 80202

Re: Permit Modification Approval for SHAYS 2H  
47-085-10422-00-00

**Lateral Extension. Total Measured Depth 13900' to 22100'. Horizontal Lateral Length 5968' to 13485'. Updated Leases**

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 positioned over the printed name and title.

Operator's Well Number: SHAYS 2H  
Farm Name: ELMER W PIERCE  
U.S. WELL NUMBER: 47-085-10422-00-00  
Horizontal 6A New Drill  
Date Modification Issued: 06/23/2022

Promoting a healthy environment.

06/24/2022

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

1) Well Operator: Antero Resources Corporation 494507062 085-Ritchie Union Oxford 7.5'  
Operator ID County District Quadrangle

2) Operator's Well Number: Shays Unit 2H MOD Well Pad Name: Cashew Pad

3) Farm Name/Surface Owner: Elmer W. Pierce Public Road Access: Pleasant Hollow Road

4) Elevation, current ground: 1040' Elevation, proposed post-construction: ~1019'

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: 6900' TVD, Anticipated Thickness- 55 feet, Associated Pressure- 2850#

8) Proposed Total Vertical Depth: 6900' TVD

9) Formation at Total Vertical Depth: Marcellus

10) Proposed Total Measured Depth: 22,100' MD

11) Proposed Horizontal Leg Length: 13,485'

12) Approximate Fresh Water Strata Depths: 53', 236'

13) Method to Determine Fresh Water Depths: 47-085-07654

14) Approximate Saltwater Depths: 1709', 1847'

15) Approximate Coal Seam Depths: None Identified

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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*Steve McCoy*  
6-16-22  
06/24/2022

18)

**CASING AND TUBING PROGRAM**

<b>TYPE</b>	<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, 63 Cu. Ft.
Fresh Water	13-3/8"	New	J/K-55	54.5#	300	300	CTS, 164 Cu. Ft.
Coal	9-5/8"	New	J/K-55	36#	2500	2500	CTS, 698 Cu. Ft.
Intermediate							
Production	5-1/2"	New	P-110CY	20#	22,100	22,100	2233 Cu. Ft
Tubing	2-3/8"	New	N-80	4.7#			
Liners							

<b>TYPE</b>	<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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G.K.P.C.

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): 33.75 acres

22) Area to be disturbed for well pad only, less access road (acres): 14.29 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.

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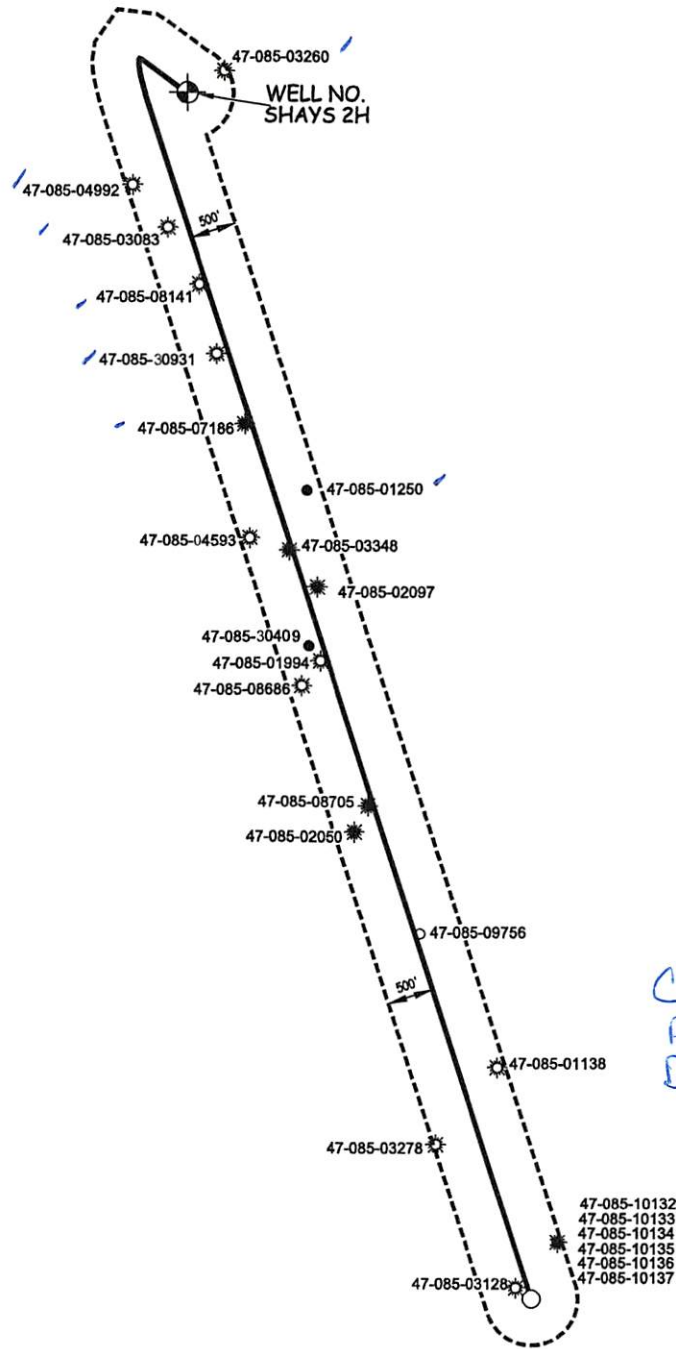
Page 3 of 3

WV Department of  
Environmental Protection

SM  
06/24/2022  
6-16-22



# CASHEW PAD ANTERO RESOURCES CORPORATION



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JUN 3 2022  
  
WV Department of  
Environmental Protection

CK#4008147  
Amt \$5,000  
Date 5/31/22

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

JOB #: 22-005WA  
FILE: SHAYS2HAOR.DWG

SCALE : 1-INCH = 2000-FEET



DATE: 05/27/22

DRAWN BY: T.B.S.

06/24/2022

UWI (API#)	Well Name	Well Number	Operator	Historical Operator	TD	Perforated Interval (shallowest, deepest)	Perforated Formation(s)	Producing Formation(s) not perf'd
4708503260000	R L KEISTER	3	R & R OIL & GAS LLC	OIL STATES SALES	2,013		Big Injun	Gordon, Berea
4708504992000	SMITH-SHEPLER	1	BETA HELIX ENRGY LLC	CHASE PETROLEUM CO	5,150	3824 - 4909	Bradford, Riley, Benson, Alexander	Gordon, Berea
47085030830000	R L KEISTER	1	R & R OIL & GAS LLC	OIL STATES SALES	2,080		Maxton, Big Injun	Gordon, Berea
47085081410000	JETT MYRTLE & RALPH & EVA	1	HARPER CROSBY HOLDNG	FLUHARTY ENTERPRISES	5,402	4072 - 5190	Riley, Benson, Alexander	Gordon, Berea
4708509310000	S JETT 1	4717	PITTSBURGH&W VA GAS	PITTSBURGH&W VA GAS	2,021		Maxton	Gordon, Berea
47085071860000	BRITTON-PIGOTT	1	BETA HELIX ENRGY LLC	CHASE PETROLEUM CO	5,350	4708 - 5085	Weir, Benson, Alexander	Gordon, Berea
47085012500000	AL PIERCE	1	PIGOTT L G	PIGOTT L G	1,802			Gordon, Berea
47085045930000	COX FONDA	J-236	BRAXTON O&G CORP	J & J ENTERPRISES	5,529	2111 - 5025	Weir, Benson, Alexander	Gordon, Berea
47085033480000	D J RICHARDS	2	TERM ENERGY	MOSSOR W H	1,800	1715 - 1784	Big Injun	Gordon, Berea
47085020970000	B M PIERCE	1	TERM ENERGY	MOSSOR W H	1,788		Big Injun	Gordon, Berea
47085304090000	ICY M SNIDER	1	DEEM F S	DEEM F S				Gordon, Berea
47085019940000	I M SNIDER	1	ADAMS ENERGY CO	TOWER DRILLING	1,992		Big Injun	Gordon, Berea
47085086860000	TOWNSEND	1A	KEY OIL CO	KEY OIL CO	5,175	4317 - 5009	Riley, Benson, Alexander	Gordon, Berea
47085087050000	TOWNSEND	3	KEY OIL CO	KEY OIL CO	5,154	4303 - 5007	Riley, Benson, Alexander	Gordon, Berea
47085020500000	CECIAL TOWNSEND	2	ADAMS ENERGY CO	TOWER DRILLING	1,900		Riley	Gordon, Berea
47085011380000	J I PIERCE	1	COX I D	COX I D	1,770			Gordon, Berea
47085032780000	HARVEY SHEPLER	2	R & R OIL & GAS LLC	FRIESTAD FRANCIS	2,103		Big Injun	Gordon, Berea
47085101320000	PIERCE J E ET AL	WV 513756	EQT PRODUCTION CO	EQT PRODUCTION CO	6,650		Marcellus	
47085101330000	PIERCE J E ET AL	WV 513757	EQT PRODUCTION CO	EQT PRODUCTION CO	14,606	7060 - 14557	Marcellus	
47085101340000	PIERCE J E ET AL	WV 513758	EQT PRODUCTION CO	EQT PRODUCTION CO	15,400	7598 - 15397	Marcellus	
47085101350000	PIERCE J E ET AL	WV 513759	EQT PRODUCTION CO	EQT PRODUCTION CO	14,700	8844 - 14684	Marcellus	
47085101360000	PIERCE J E ET AL	WV 513760	EQT PRODUCTION CO	EQT PRODUCTION CO	14,819	7305 - 14804	Marcellus	
47085101370000	PIERCE J E ET AL	WV 513761	EQT PRODUCTION CO	EQT PRODUCTION CO	15,371	7109 - 15356	Marcellus	
47085031280000	J E PIERCE HRS	1	DEEM J F O & G LLC	FERRELL WILLARD E	2,080		Big Injun	Gordon, Berea

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LATITUDE 39°12'30" 6,978'

LATITUDE 39°10'00" 3,060' TO BOTTOM HOLE

Antero Resources Corporation Well No. Shays 2H

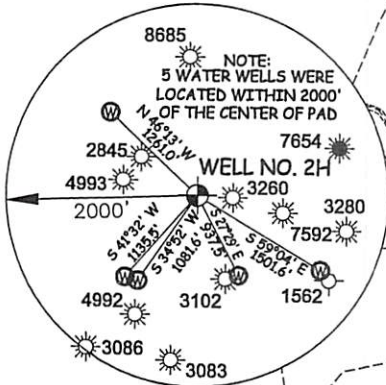
NOTES:

WELL 2H TOP HOLE INFORMATION: N: 247,455ft E: 1,615,012ft LAT: 39°10'17.12" LON: 80°51'28.60" BOTTOM HOLE INFORMATION: N: 234,460ft E: 1,618,737ft LAT: 39°08'09.23" LON: 80°50'38.83" 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: 4,335,819m E: 512,286m BOTTOM HOLE INFORMATION: N: 4,331,879m E: 513,487m

(NAD) 27 (UTM) ZONE 17 COORDS: WELL 2H TOP HOLE INFORMATION: N: 14,224,384ft E: 1,680,677ft POINT OF ENTRY INFORMATION: N: 14,224,216ft E: 1,680,266ft BOTTOM HOLE INFORMATION: N: 14,211,457ft E: 1,684,617ft

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.



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

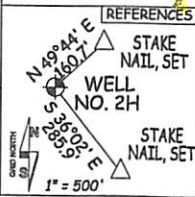
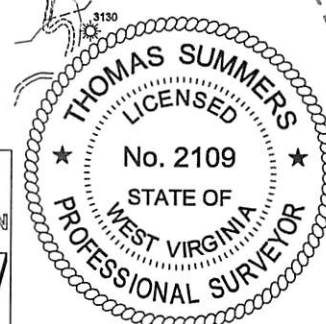
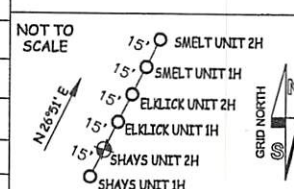


Table listing landowners and their acreage for various tracts in Southwest District - Doddridge County and Union District - Ritchie County.



Job information and legend section including JOB # 21-015WA, DRAWING # SHAYS2HR, SCALE 1" = 2000', and LEGEND for surface owner boundary lines and monuments.



Well type and location information section including WELL TYPE: OIL, GAS X, LIQUID INJECTION, WASTE DISPOSAL, LOCATION: ELEVATION 1,040' - ORIGINAL 1,019' - PROPOSED, QUADRANGLE OXFORD 7.5, SURFACE OWNER ELMER W. PIERCE, and well operator ANTERO RESOURCES CORP.

LONGITUDE 80°50'00" 11,207' TO BOTTOM HOLE

COUNTY NAME PERMIT 06/24/2022



LATITUDE 39°12'30" 6,978'

LATITUDE 39°10'00" 3,060' TO BOTTOM HOLE

Antero Resources Corporation Well No. Shays 2H

NOTES: WELL 2H TOP HOLE INFORMATION: N: 247,455ft E: 1,615,012ft... BOTTOM HOLE INFORMATION: N: 234,460ft E: 1,618,737ft...

(NAD) 83 (UTM) ZONE 17 COORDS: WELL 2H TOP HOLE INFORMATION: N: 4,335,819m E: 512,286m...

(NAD) 27 (UTM) ZONE 17 COORDS: WELL 2H TOP HOLE INFORMATION: N: 14,224,384ft E: 1,680,677ft...

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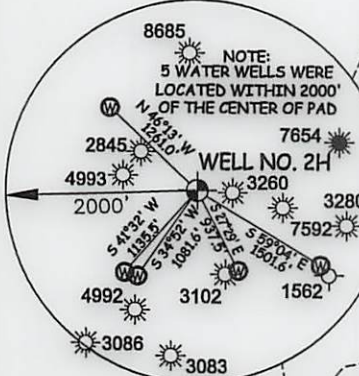
Table listing landowners and leases in Southwest District - Doddridge County and Union District - Ritchie County. Includes names like David Ball, Larry Gander, WF Smith, etc.

WV NORTH ZONE GRID NORTH

13,444'

11,207' TO BOTTOM HOLE LONGITUDE 80°50'00"

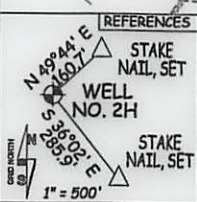
LONGITUDE 80°50'00"



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...

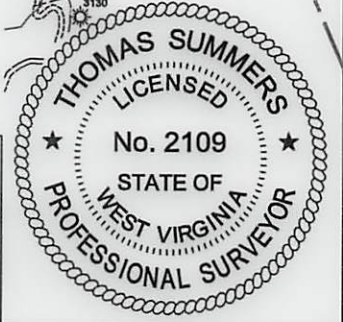
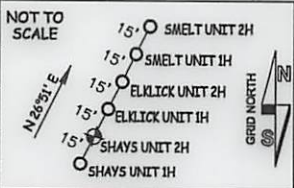


STATE OF WEST VIRGINIA, DIVISION OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS. WILLOW LAND SURVEYING PLLC, 220 MASONIC AVE. PENNSBORO WEST VIRGINIA 26415



JOB # 21-015WA DRAWING # SHAYS2HR SCALE 1" = 2000' MINIMUM DEGREE OF ACCURACY SUBMETER...

LEGEND: Surface Owner Boundary Lines +/-, Adjoining Surface Tracts +/-, Found monument, as noted. THOMAS SUMMERS P.S. 2109 DATE 05/26/22 OPERATOR'S WELL# SHAYS 2H



WELL TYPE: OIL \_\_\_ GAS X LIQUID INJECTION \_\_\_ WASTE DISPOSAL \_\_\_ 47 - 085 - 10422 MOP (IF "GAS") PRODUCTION X STORAGE \_\_\_ DEEP \_\_\_ SHALLOW X STATE COUNTY PERMIT LOCATION: ELEVATION 1,040'-ORIGINAL 1,019'-PROPOSED WATERSHED SOUTH FORK HUGHES RIVER QUADRANGLE OXFORD 7.5' DISTRICT UNION COUNTY RITCHIE 06/24/2022 SURFACE OWNER ELMER W. PIERCE ACREAGE 67.78 ACRES +/- OIL & GAS ROYALTY OWNER R.E. KEISTER ET AL; DELLA M. SHEPLER ET AL; RALPH JETT ET UX; LEASE ACREAGE 70 AC.±; 48 AC.±; 148 AC.±; O.M. BRITTON ET AL; DJ RICHARDS ET UX; MAUDE PIERCE ET AL; LARRY J. TOWNSEND ET AL; 50 AC.±; 38.2 AC.±; 60.26 AC.±; 20 AC.±; CHAD W. JOHNSON; ANTERO MINERALS LLC.; HARVEY SHEPLER ET AL 165 AC.±; 107 AC.±; 188 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 6,900' TVD 22,100' MD WELL OPERATOR ANTERO RESOURCES CORP. DESIGNATED AGENT DIANNA STAMPER - CT CORPORATION SYSTEM ADDRESS 1615 WYNKOOP ST. ADDRESS 5400 D BIG TYLER ROAD DENVER, CO 80202 CHARLESTON, WV 25313



JUN 03 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
<b>✓ R.F. Keister, et al Lease</b>			
R.F. Keister, et al	G.L. Yaste	1/8	0105/0504
G.L. Yaste	D.L.Y., Inc.	Assignment	0112/0302
D.L.Y.m Inc.	Betty Jean Stalkner and Rosalee Roberts	Assignment	0132/0565
Betty Jean Stalkner and Rosalee Roberts	R & S Gas Company	Assignment	0147/0548
R & S Gas Company	BET-RO Inc	Assignment	0147/0554
BET-RO Inc	Roberts Energy Corporation	Assignment	0240/0036
Roberts Energy Corporation	Antero Resources Corporation	Assignment	0329/0138
<b>✓ Della M. Shepler, et al Lease</b>			
Della M. Shepler, et al	Alton Skinner	1/8	0132/0345
Alton Skinner	Crystal G. Skinner and Desari S. Garrett	Assignment	0216/0391
Cyrstal G. Skinner and Desari S. Garrett	D C Petroleum, Inc.	Assignment	0247/0245
D C Petroleum, Inc.	Antero Resources Appalachian Corporation	Assignment	0254/0789
Antero Resources Appalachian Corporation	Antero Resources Corporation	Name Change	0015/0705
<b>✓ R.F. Keister, et al Lease</b>			
R.F. Keister, et al	G.L. Yaste	1/8	0105/0504
G.L. Yaste	D.L.Y., Inc.	Assignment	0112/0302
D.L.Y.m Inc.	Betty Jean Stalkner and Rosalee Roberts	Assignment	0132/0565
Betty Jean Stalkner and Rosalee Roberts	R & S Gas Company	Assignment	0147/0548
R & S Gas Company	BET-RO Inc	Assignment	0147/0554
BET-RO Inc	Roberts Energy Corporation	Assignment	0240/0036
Roberts Energy Corporation	Antero Resources Corporation	Assignment	0329/0138
<b>✓ Ralph Jett, et ux Lease</b>			
Ralph Jett, et ux	W.R. Development Co. Inc.	1/8	0191/0378
W.R. Development Co. Inc.	Whittle Corporation	Assignment	0254/0910
Whittle Corporation	Antero Resources Appalachian Corporation	Assignment	0255/0526
Antero Resources Appalachian Corporation	Antero Resources Corporation	Name Change	0015/0702
<b>✓ O.M. Britton, et al Lease</b>			
O.M. Britton	L.G. Piggott	1/8	0078/0337
L.G. Piggott	Dorothy W. Piggott, Carolyn Erambert, Janet W. Coffman, Lucia C. Anderson, and Dorthy Black Chase Petroleum, Inc.	Assignment	0151/0137
Dorothy W. Piggott, Carolyn Erambert, Janet W. Coffman, Lucia C. Anderson, and Dorthy Black Chase Petroleum, Inc.	Antero Resources Appalachian Corporation	Assignment	0159/0383
Antero Resources Appalachian Corporation	Antero Resources Corporation	Name Change	0254/0133 0015/0705
<b>✓ D.J. Richards, et ux Lease</b>			
D.J. Richards, et ux	S.W. Young	1/8	0051/0365
S.W. Young	B.W. Foley	Assignment	0064/0271
B.W. Foley	J.D. Foley	Assignment	0075/0051
J.D Foley	F.S. Deem	Assignment	0075/0051

06/24/2022

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)

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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
F.S. Deem	W.H. Mossor	Assignment	0075/0053
W.H. Mosor	S.W. Jack Jr., S.W. Jack Drilling Company	Assignment	0130/0385
S.W. Jack Jr., S.W. Jack Drilling Company	J&J Enterprises, Inc	Assignment	0130/0392
J&J Enterprises, Inc	Eastern American Energy Corporation	Assignment	0231/0732
Eastern American Energy Corporation	Energy Corporation of America	Merger	0006/0450
Energy Corporation of America	Antero Resources Appalachian Corporation	Assignment	0264/0266
Antero Resources Appalachian Corporation	Antero Resources Corporation	Name Change	0015/0705
<b>/ <u>Maude Pierce et al Lease</u></b>			
Maude Pierce et al	W.H. Mossor	1/8	90/113
W.H. Mossor	Term Energy Corporation	Assignment	132/314
Term Energy Corporation	Antero Resources Appalachian Corporation	Assignment	257/362
Antero Resources Appalachian Corporation	Antero Resources Corporation	Name Change	15/705
<b>/ <u>Larry J Townsend et al Lease</u></b>			
Larry J Townsend et al	Ed Broome Inc	1/8	226/376
Ed Broome Inc	Antero Resources Corporation	Assignment	332/725
<b>/ <u>Chad W Johnson Lease</u></b>			
Chad W Johnson	Antero Resources Corporation	1/8+	329/663
<b>✓ <u>Antero Minerals LLC Lease</u></b>			
Antero Minerals LLC	Antero Resources Corporation	1/8+	328/92

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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.

06/24/2022



**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)**

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>Harvey Shepler et al Lease</u>				
	Harvey Shepler et al	L.E. Mossor	1/8	107/451
	L.E. Mossor	Francis Friestad	Assignment	148/326
	Francis Friestad	W.H Thomson	Assignment	198/705
	W.H. Thomson	BET-RO	Assignment	222/426
	BET-RO	William K. Stalnaker	Assignment	227/461
	William K Stalnaker	Key Oil	Assignment	254/1086
	Key Oil	Antero Resources Appalachian Corporation	Assignment	255/22
	Antero Resources Appalachian Corp.	Antero Resources Corporation	Name Change	15/705

\*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

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: Senior VP of Land

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SM  
06/24/2022  
6-16-22