



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

Tuesday, July 1, 2025
PERMIT MODIFICATION APPROVAL
Horizontal 6A / New Drill

ANTERO RESOURCES CORPORATION
1615 WYNKOOP STREET

DENVER, CO 80202

Re: Permit Modification Approval for Izabela Unit 2H
47-095-02937-00-00

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 handwritten signature in blue ink, appearing to read "James A. Martin", is written over a faint, larger signature.

James A. Martin
Chief

Operator's Well Number: Izabela Unit 2H
Farm Name: Robert F & Rita K Scardina
U.S. WELL NUMBER: 47-095-02937-00-00
Horizontal 6A New Drill
Date Modification Issued: 07/01/2025

Promoting a healthy environment.

07/04/2025

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

CK # 4041962
\$ 7500

1) Well Operator: Antero Resources Corporation 494507062 095 - Tyler Lincoln Paden City
Operator ID County District Quadrangle

2) Operator's Well Number: Izabela Unit 2H MOD Well Pad Name: Starkey Pad

3) Farm Name/Surface Owner: Robert F. Scardina & Rita K. Scardina Public Road Access: Hamilton Drive

4) Elevation, current ground: 1092' Elevation, proposed post-construction: _____

5) Well Type (a) Gas X Oil _____ Underground Storage _____
Other _____
(b) If Gas Shallow X Deep _____
Horizontal X

6) Existing Pad: Yes or No No

7) Proposed Target Formation(s), Depth(s), Anticipated Thickness and Expected Pressure(s):
Marcellus Shale: 6700' TVD, Anticipated Thickness- 55 feet, Associated Pressure- 2800#

8) Proposed Total Vertical Depth: 6700' TVD

9) Formation at Total Vertical Depth: Marcellus

10) Proposed Total Measured Depth: 19300' MD

11) Proposed Horizontal Leg Length: 11016'

12) Approximate Fresh Water Strata Depths: 464

13) Method to Determine Fresh Water Depths: 47-095-00275

14) Approximate Saltwater Depths: 1522

15) Approximate Coal Seam Depths: None

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 X

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

RECEIVED
Office of Oil and Gas

JUN 26 2025

WV Department of
Environmental Protection

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	94#	100	100 ✓	CTS, 96 Cu. Ft.
Fresh Water	13-3/8"	New	J-55	54.5#	514	514 ✓	CTS, 536 Cu. Ft.
Coal	9-5/8"	New	J-55	36#	2500	2500 ✓	CTS, 1018 Cu. Ft. ✓
Intermediate							
Production	5-1/2"	New	P-110	23#	17600	17600 ✓	3507 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"	0.438"	1530	50	Class A/L	~1.18
Fresh Water	13-3/8"	17-1/2"	0.38"	2730	1000	Class A/L	~1.18
Coal	9-5/8"	12-1/4"	0.352"	3520	1500	Class A/L	~1.18
Intermediate							
Production	5-1/2"	8-3/4" & 8-1/2"	0.415"	12,630 ✓	2500	Lead-H/POZ & Tail - H	H/POZ-1.44 & 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			

RECEIVED
Office of Oil and Gas

JUN 26 2025

WV Department of
Environmental Protection

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

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

RECEIVED
Office of Oil and Gas
JUN 26 2025
WV Department of
Environmental Protection

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): 35.27 acres

22) Area to be disturbed for well pad only, less access road (acres): 14.87 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/L cement.
Surface: Class A/L cement with 2-3% calcium chloride and 1/4 lb of flake
Intermediate: Class A/L 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.

*Note: Attach additional sheets as needed.

LEGEND

- Proposed gas well
- Existing Well, as noted
- Digitized Well, as noted

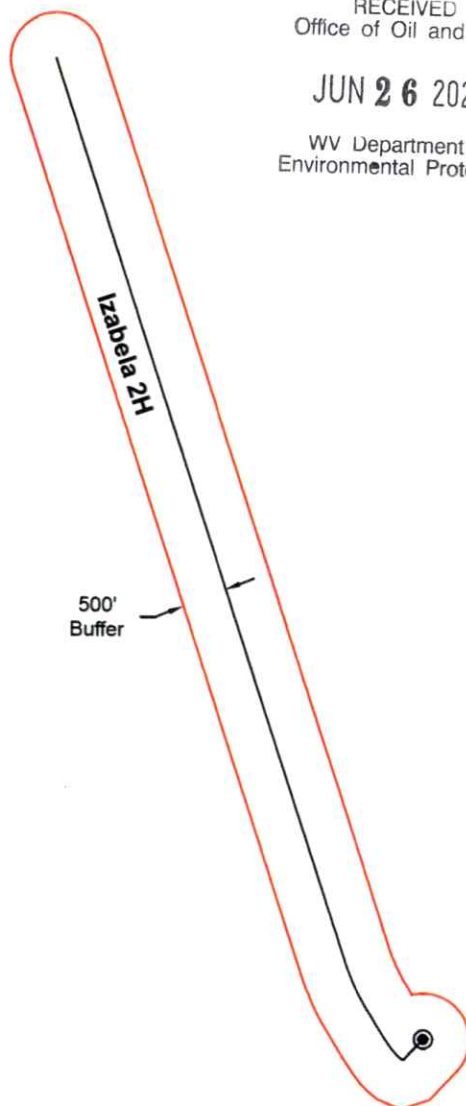


The orientation of this survey is Grid North, and its coordinate base is the West Virginia Coordinate System of 1927, North Zone

RECEIVED
Office of Oil and Gas

JUN 26 2025

WV Department of
Environmental Protection



Bridgeport Office
Phone: (304) 848-5035
Fax: (304) 848-5037

172 Thompson Drive
Bridgeport, WV 26330

PARTY CHIEF: C. Lynch	DRAWN BY: C. Robinson
RESEARCH: J. Miller	PREPARED: June 13, 2025
SURVEYED: Dec. 2016	PROJECT NO: 64-54-L-25
FIELD CREW: C.L., K.M.	DRAWING NO: Izabela 2H AOR

Sheet 1 of 1



Scale: 1 inch = 2000 feet

07/04/2025

Antero Resources
Well No. Izabela 2H
BHL MOD
Antero Resources Corporation

Page
1 of 2



Legend

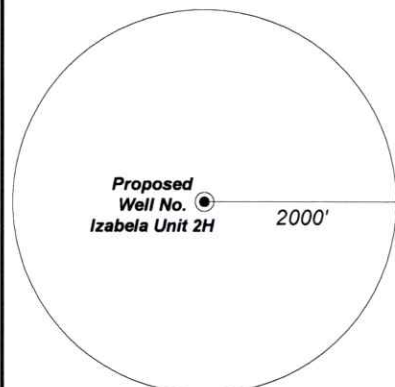
- Proposed gas well
- Monument, as noted
- Existing Well, as noted
- Digitized Well, as noted
- Creek or Drain
- Road
- Surface boundary (approx.)
- Interior surface tracts (approx.)

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, P.S. 2167



SEAL



Note: No water wells 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: 64-54-L-25

DRAWING NO: Izabela Unit 2H Well Plat

SCALE: 1" = 2000'

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: June 19 2025

OPERATOR'S WELL NO. Izabela Unit 2H

API WELL NO

47 - 095 - 02937
STATE COUNTY PERMIT

WELL TYPE: ☐ OIL ☒ GAS ☐ LIQUID INJECTION ☐ WASTE DISPOSAL
(IF GAS) PRODUCTION: ☐ STORAGE ☐ DEEP ☒ SHALLOW

LOCATION: ELEVATION: As-Built 1,092' WATERSHED: Outlet Middle Island Creek QUADRANGLE: Paden City

DISTRICT: Lincoln COUNTY: Tyler 07/04/2025

SURFACE OWNER: Robert F. Scardina & Rita K. Scardina ACREAGE: 25.00

ROYALTY OWNER: Robert F. Scardina & Rita K. Scardina LEASE NO: ACREAGE: 25

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: 19,300' MD 6,700' TVD

WELL OPERATOR: Antero Resources Corporation

DESIGNATED AGENT: Conrad Baston

ADDRESS: 1615 Wynkoop Street

ADDRESS: 535 White Oaks Blvd.

Denver, CO 80202

Bridgeport, WV 26330

8,043' to Bottom Hole

3,687' to Top Hole

BHL LATITUDE 39 - 37 - 30

THL LATITUDE 39 - 35 - 00

LONGITUDE 80 - 55 - 00

10,411' to Bottom Hole

	Bearing	Dist.
L1	S 34°17' W	1,103.9'
L2	S 06°08' E	1,266.8'
L3	S 88°57' E	1,590.2'
L4	N 63°14' E	1,237.0'
L5	N 87°05' W	752.4'

Well Location References

Not To Scale

Proposed Well No. Izabela 2H



See Detail "A"

See Detail "B"

Notes

West Virginia Coordinate System of 1927, North Zone

based upon Differential GPS Measurements.

Well No. Izabela Unit 2H Top Hole coordinates are
N: 392,093.37' Latitude: 39°34'03.79"
E: 1,596,954.01' Longitude: 80°55'47.08"
Bottom Hole coordinates are
N: 402,610.57' Latitude: 39°35'47.06"
E: 1,592,761.24' Longitude: 80°56'42.78"
UTM Zone 17, NAD 1983
Top Hole Coordinates Bottom Hole Coordinates
N: 4,379,790.955m N: 4,382,973.731m
E: 506,049.384m E: 504,718.619m
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. Izabela Unit 2H
UTM Zone 17, NAD 1927
N: 14,368,650.04'
E: 1,660,215.53'
Point of Entry Coordinates
N: 14,368,675.76'
E: 1,659,463.83'
Bottom Hole Coordinates
N: 14,379,092.21'
E: 1,655,849.33'

Wellhead Layout (NTS)

- Grey Unit 2H (API# 47-095-02935)
- Grey Unit 1H (API# 47-095-02934)
- Proposed Well Izabela Unit 2H (API# 47-095-02937)
- Izabela Unit 1H (API# 47-095-02936)
- Eleanor Unit 2H (API# 47-095-02933)
- Eleanor Unit 1H (API# 47-095-02932)



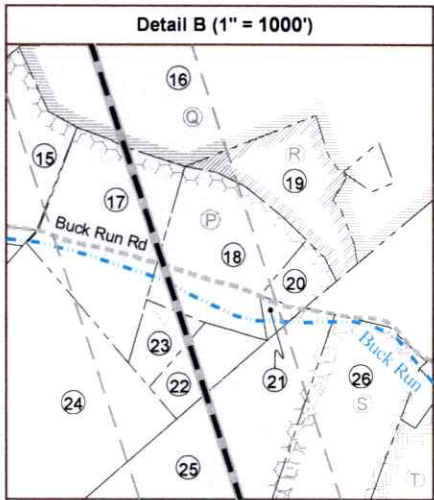
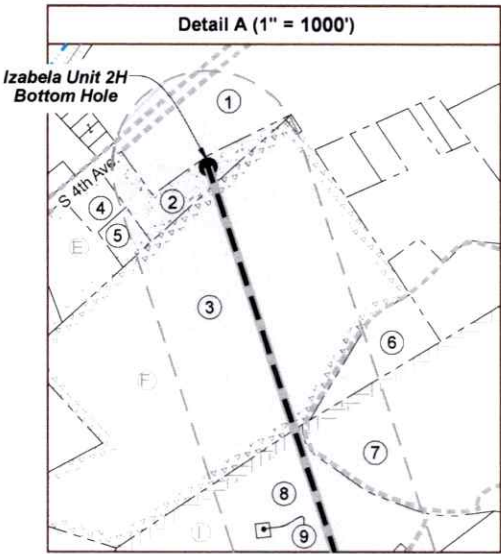
Leases	
E	T&D Corporation, et al
F	Stanley E. Dennis & Edith L. Dennis, JTWROS
I	Henry P. Snyder, et al
J	Aunix Energy, LLC
N	Ralph Mikes or Dora Mikes, h/w
P	John L. Renner, II
Q	Richard & Linda Tuttle, JTWROS
R	Martha Jean Suter & Bryan Jay Suter, h/w, JTWROS
S	Roger D. Jones
T	Bounty Minerals, LLC
U	Robert W. Cross & Jean A. Cross, JTWROS
W	Ralph David & Sophia Judge
X	AMP IV, LP
Y	Robert F. Scardina & Rita K. Scardina, h/w
AA	Robert F. Scardina & Rita K. Scardina
AB	Robert F. Scardina & Rita K. Scardina

ID	TM-Par	Owner	Bk/Pg	Acres
1	xx-xx	Owner	xx/xx	x.xx
2	1-20.2	Trustees of Congregation of Jehovah's Witnesses	292/173	3.59
3	1-20.1	Albert Merton & Barbara Jo Mohrman	399/329	17.50
4	1-20.6	Timothy B. & Carolyn R. Hizer	409/549	1.39
5	1-20.3	Triad Hunter LLC	385/566	0.89
6	1-6.1	Charles M. & Rebecca Hayes	272/447	3.80
7	1-21	Stanley E. & Edith L. Dennis	350/414	77.71
8	1-21	Stanley E. & Edith L. Dennis	350/414	77.71
9	1-21.2	Friendly Public Service District	320/321	0.13
10	1-21.1	West Virginia Department of Highways	251/689	0.49
11	1-7	Alice M. Bungard	270/220	86.83
12	4-67	Richard L. Wright Jr, et al	408/24	71.41
13	4-66	Dianna M. Mikes	199/362	13.14
14	4-65	Carl D. O'Neill	248/117	45.90
15	4-77	Mary Ann Westbrook	243/98	9.50
16	4-69	Richard Lee & Linda Tuttle	362/43	87.48
17	4-75	Bryan & Martha J. Suter	293/345	12.20
18	4-74	Kevin W. Barnhart	OR11/18	12.64
19	4-69.2	Bryan J. & Martha J. Suter	288/50	5.88
20	4-74.2	Darnell & Cindy Fulks	484/575	1.66
21	4-74.1	Darnell & Cindy Fulks	484/575	1.00
22	4-72	Bryan J. & Martha J. Suter	293/345	2.50
23	4-73	Bryan J. & Martha J. Suter	293/345	1.50
24	4-76	Scott & Jeffery Grim	387/119	90.00
25	4-71	Darnell & Cindy Fulks	484/575	20.00
26	4-70	Michael J. Eddy	352/129	19.00
27	5-2	Brian Clegg	OR2/648	19.44
28	4-92	Robert W. & Jean A. Cross	342/751	53.00
29	5-4	Ralph D. & Sophia Judge	306/681	60.77
30	5-9.4	Neil R. Stebbins	366/436	51.48
31	5-11	Robert F. Scardina & Rita K. Scardina	320/646	25.00
32	5-10	Robert F. Scardina & Rita K. Scardina	320/646	25.00
33	5-12	Robert F. Scardina & Rita K. Scardina	320/646	25.00

RECEIVED
Office of Oil and Gas

JUN 26 2025

WV Department of
Environmental Protection



FILE NO: 64-54-L-25
DRAWING NO: Izabela Unit 2H Well Plat
SCALE: 1" = 2000'
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: June 19 2025
OPERATOR'S WELL NO. Izabela Unit 2H
API WELL NO
47 - 095 - 02937
STATE COUNTY PERMIT

WELL TYPE: ☐ OIL ☒ GAS ☐ LIQUID INJECTION ☐ WASTE DISPOSAL
(IF GAS) PRODUCTION: ☐ STORAGE ☐ DEEP ☒ SHALLOW
LOCATION: ELEVATION: As-Built 1,092' WATERSHED: Outlet Middle Island Creek QUADRANGLE: Paden City
DISTRICT: Lincoln COUNTY: Tyler 07/04/2025
SURFACE OWNER: Robert F. Scardina & Rita K. Scardina ACREAGE: 25.00
ROYALTY OWNER: Robert F. Scardina & Rita K. Scardina LEASE NO: ACREAGE: 25
PROPOSED WORK: ☐ DRILL ☐ CONVERT ☒ DRILL DEEPER ☐ FRACTURE OR STIMULATE ☐ PLUG OFF OLD FORMATION
☐ PERFORATE NEW FORMATION ☒ OTHER PHYSICAL CHANGE IN WELL (SPECIFY) BHL MOD 6,700' TVD
☐ PLUG AND ABANDON ☐ CLEAN OUT AND REPLUG TARGET FORMATION: Marcellus Shale ESTIMATED DEPTH: 19,300' MD

WELL OPERATOR: Antero Resources Corporation DESIGNATED AGENT: Conrad Baston
ADDRESS: 1615 Wynkoop Street ADDRESS: 535 White Oaks Blvd.
Denver, CO 80202 Bridgeport, WV 26330

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
<div style="display: flex; justify-content: space-between;"> <div> <p>✓ <u>Y: Robert F. Scardina & Rita K. Scardina, h/w Lease</u> Robert F. Scardina & Rita K. Scardina, h/w</p> <p>✓ <u>X: AMP IV, LP Lease</u> AMP IV, LP</p> <p>✓ <u>W: Ralph David & Sophia Judge Lease</u> Ralph David & Sophia Judge SEP Exploration, LLC</p> <p>✓ <u>U: Robert W. Cross & Jean A. Cross, JTWROS Lease</u> Robert W. Cross & Jean A. Cross, JTWROS</p> <p>✓ <u>S: Roger D. Jones Lease</u> Roger D. Jones</p> <p>✓ <u>P: John L. Renner, II Lease</u> John L. Renner, II</p> <p>✓ <u>Q: Richard & Linda Tuttle, JTWROS Lease</u> Richard & Linda Tuttle, JTWROS</p> <p>✓ <u>J: Aunix Energy, LLC Lease</u> Aunix Energy, LLC</p> <p>✓ <u>I: Henry P. Snyder, et al Lease</u> Henry P. Snyder, et al Charles L. Stout Applied Mechanics Corporation Triad Hunter LLC</p> <p>✓ <u>F: Stanley E. Dennis & Edith L. Dennis, JTWROS Lease</u> Stanley E. Dennis & Edith L. Dennis, JTWROS</p> </div> <div> <p>Antero Resources Corporation</p> <p>Antero Resources Corporation</p> <p>SEP Exploration, LLC Antero Resources Corporation</p> <p>Antero Resources Corporation</p> <p>Antero Resources Corporation</p> <p>Antero Resources Corporation</p> <p>Antero Resources Corporation</p> <p>Charles L. Stout Applied Mechanics Corporation Triad Hunter LLC Antero Resources Corporation</p> <p>Antero Resources Corporation</p> </div> <div> <p>1/8+</p> <p>1/8+</p> <p>1/8+ Agreement</p> <p>1/8+</p> <p>1/8+</p> <p>1/8+</p> <p>1/8+</p> <p>1/8 Assignment Assignment Assignment</p> <p>1/8+</p> </div> <div> <p>235/654</p> <p>231/747</p> <p>283/360 358/276</p> <p>190/433</p> <p>323/423</p> <p>332/730</p> <p>211/512</p> <p>267/294</p> <p>282/338 385/100 385/566 56/718</p> <p>220/733</p> </div> </div>			

RECEIVED
Office of Oil and Gas

JUN 26 2025

WV Department of
Environmental Protection

***Cotenancy Utilization** - Antero is utilizing the Co-tenancy Modernization and Majority Protection Act to proceed with development of certain royalty owners' interests in this tract.

****Pooling/Unitization** – Antero has filed a horizontal well unitization application with the West Virginia Oil and Gas Conservation Commission that seeks to pool certain owners in this tract

**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>E: T&D Corporation, et al Lease</u>				
	T&D Corporation, et al	Charlie Stout	1/8	248/113
	Charlie Stout	Applied Mechanics Corporation	Assignment	286/376
	Applied Mechanics Corporation	Triad Hunter, LLC	Assignment	385/566
	Triad Hunter, LLC	Antero Resources Corporation	Assignment	496/776

RECEIVED
Office of Oil and Gas

JUN 26 2025

WV Department of
Environmental Protection

**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

Its: Senior Vice President of Land