

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, November 18, 2024 PERMIT MODIFICATION APPROVAL Horizontal 6A / New Drill

ANTERO RESOURCES CORPORATION 1615 WYNKOOP STREET

DENVER, CO 80202

Re: Permit Modification Approval for Bassett Unit 1H

47-103-03676-00-00

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: Bassett Unit 1H

Farm Name: Antero Midstream, LLC

U.S. WELL NUMBER: 47-103-03676-00-00

Horizontal 6A New Drill

Date Modification Issued: 11/18/2024

Promoting a healthy environment.

API NO. 47-103	03676
OPERATOR WELL	NO. Bassett Unit 1H MOD
Well Pad Name:	Lincoln Pad

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

1) Well Operator	r: Antero I	Resources	Corpor	ai 4945	07062	103 - We	Green	Pine Grove 7.5'
				Oper	ator ID	County	District	Quadrangle
2) Operator's We	ell Number:	Bassett L	Init 1H N	MOD	_ Well Pa	d Name: L	incoln Pad	
3) Farm Name/S	urface Own	er: Antero	Midstrea	m, LLC	Public Ro	ad Access:	Furbee Ridge	Road
4) Elevation, cur	rent ground	: 1290'	I	Elevation	, proposed	post-const	ruction: 1260	
5) Well Type ((a) Gas	X	_ Oil _		Und	lerground S	torage	
	Other						-	
((b)If Gas	Shallow	X		Deep			
	,	Horizontal	X					
6) Existing Pad:					-			
7) Proposed Targ			n(s). Anti	icinated	Thickness	– and Expect	ed Pressure(s):	
Marcellus Sha	-						1/	
8) Proposed Tota	al Vertical I	Depth: 760	00' TVD					
9) Formation at 7		10.00	Marcellu	ıs				
10) Proposed To		-	18000' 1	MD				
11) Proposed Ho	rizontal Leg	g Length:	8487'	*Open t	o modifica	ition at a la	ter date	
12) Approximate	Fresh Wate	er Strata De	epths:	387'				
13) Method to D	etermine Fr	esh Water 1	Depths:	471030340	90000 Offset we	ell records. Depth	s have been adjusted	according to surface elevations.
14) Approximate			•					
15) Approximate	Coal Seam	Depths: 1	003'					
16) Approximate	Depth to P	ossible Voi	d (coal n	nine, kar	st, other):	None Anti	cipated	
17) Does Propos	ed well loca	tion contain	n coal se	ams				
directly overlying	g or adjacen	it to an acti	ve mine?	Y	es		No X	
(a) If Yes, prov	ide Mine In	fo: Name	:					
		Depth	1:			7,5-2,00	RECEIVED	
		Seam				Off	ice of Oil and o	gas .
		Owne	_				10V 08 2024	
							8 2024	

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WW-6B	
(04/15)	

API NO. 47- 103 - 03676

OPERATOR WELL NO. Bessett Unit 1H MOD Well Pad Name: Lincoln Pad

18)

CASING AND TUBING PROGRAM

ТҮРЕ	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	J-55	94#	100'	100'	CTS, 96 Cu. Ft.
Fresh Water	13-3/8"	New	J-55	54.5#	437'	437'	CTS, 455 Cu. Ft.
Coal	9-5/8"	New	J-55	36#	3100'	3100'	CTS, 1262 Cu. Ft.
Intermediate							
Production	5-1/2"	New	P110-ICY	23#	18000'	18000'	CTS, 3608 Cu. Ft.
Tubing	2-3/8"	New	N-80	4.7#			
Liners							

ТҮРЕ	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/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"	14,360	2500	Class G/H	~1.8
Tubing	2-3/8"	4.778"	0.19"	11,200			
Liners							

PACKERS

Kind:	N/A	Office of Oil and Gas
Sizes:	N/A	NOV 0 8 2024
Depths Set:	N/A	WV Department of Environmental Protection

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11/22/2024

WW-6B (10/14) API NO. 47- 103 - 03676

OPERATOR WELL NO. Bassett Unit 1H MOD

Well Pad Name: Lincoln 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): 34.11 acres
- 22) Area to be disturbed for well pad only, less access road (acres): 10.64 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/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 G/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.

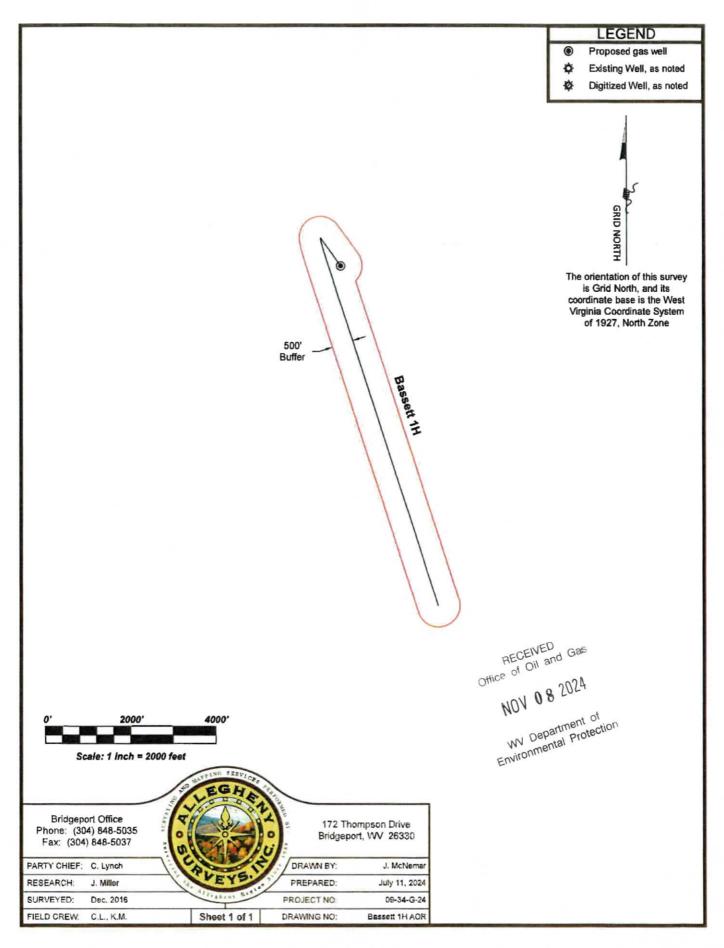
Surface: blowhole clean with air, trip to conductor shoe, trip to bottom, blowhole clean with air, trip out, run casing, circulate pipe capacity + 40 bbls fresh water followed by 25 bbls bentonite mud, 10 bbls fresh water spacer.

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.

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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)

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: Melinda A. Debner Lease			
Melinda A. Debner	Antero Resources Corporation	1/8+	327A/0871
A: J.L. Lancaster Lease			
J.L. Lancaster	F.M. Lowry	1/8	0059/0213
F.M. Lowry	Tri-State Gas Company	Assignment	0073/0155
Tri-State Gas Company	Manufacturers Light & Heat Company	Assignment	009A/0141
Manufacturers Light & Heat Company	A.M. Snider & Duane M. Snider	Assignment	048A/0109
A.M. Snider & Duane M. Snider	Hundred Gas Company	Assignment	0256/0189
Hundred Gas Company	Carl D. Perkins	Assignment	055A/0062
Carl D. Perkins	Perkins Oil & Gas, Inc.	Assignment	075A/0621
Perkins Oil & Gas, Inc.	Stone Energy Corporation	Assignment	126A/0958
Stone Energy Corporation	EQT Production Company	Assignment	183A/0305
EQT Production Company	Antero Resources Company	Assignment	230A/0783
B: Melinda A. Debner Lease			
Melinda A. Debner	Antero Resources Corporation	1/8+	327A/0871
C: Blackrock Enterprises, LLC Lease			
Blackrock Enterprises, LLC	Antero Resources Corporation	1/8+	186A/0593
E: Patricia Lou Scheper Lease		200	
Patricia Lou Scheper	Antero Resources Corporation	1/8+	360A/0103
F: Shiben Estates, Inc. Lease			
Shiben Estates, Inc.	Antero Resources Corporation	1/8+	257A/0029
H: Chesapeake Appalachia, LLC Lease	SUBJ Description Comments and	4.0	
Chesapeake Appalachia, LLC	SWN Production Company LLC	1/8	157A/0640
SWN Production Company LLC	Antero Exchange Properties LLC	Assignment	177A/0533
Antero Exchange Properties LLC	Antero Resources Corporation	Merger	0013/0311
G: A.J. McHenry & Maggie McHenry Lease A.J. McHenry & Maggie McHenry	Tri-State Gas Company	1/8	0107/0342
Tri-State Gas Company	The Manufacturers Light & Heat Company	Assignment	0107/0342 009A/0141
The Manufacturers Light & Heat Company	A.M. Snider and Duane M. Snider	_	
A.M. Snider and Duane M. Snider	Hundred Gas Company	Assignment Assignment	048A/0109
Hundred Gas Company		•	0256/0189
Carl D. Perkins, et ux	Carl D. Perkins, et ux Perkins Oil & Gas Inc.	Assignment	055A/0062
Perkins Oil & Gas Inc.	Stone Energy Corporation	Assignment	084A/0009
Stone Energy Corporation	EQT Production Company	Assignment	126A/0958
EQT Production Company	Antero Resources Corporation	Assignment	0556/0132
Eq. Floudction Company	Antero Resources Corporation	Assignment	296A/0432

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WV Department of Environmental Protection

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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Grantor, lessor, etc.	Grantee, lessee, etc.	Royalty	Book/Page
I: J.W. Haught & A.B. Haught Lease			
J.W. Haught & A.B. Haught	Tri State Gas Company	1/8	0107/0340
Tri State Gas Company	The Manufacturers Light and Heat Company	Assignment	009A/0141
The Manufacturers Light and Heat Company	Hundred Gas Company	Assignment	048A/0109
Hundred Gas Company	Carl D. Perkins, et ux	Assignment	055A/0062
Carl D. Perkins, et ux	Perkins Oil & Gas Inc.	Assignment	075A/0621
Perkins Oil and Gas Inc.	Stone Energy Corporation	Assignment	126A/0658
Stone Energy Corporation	EQT Production Company	Assignment	183A/0305
EQT Production Company	Antero Resources Corporation	Assignment	230A/0783
J: AMP V, LP Lease AMP V, LP	Antero Resources Corporation	1/8+	0295/0642
K: Tribune Resources Minerals, LLC Lease Tribune Resources Minerals, LLC	Antero Resources Corporation	1/8+	248A/0656
I: AMP V, LP Lease AMP V, LP	Antero Resources Corporation	1/8+	0295/0642

Office of Oil and Gas

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

*Co-tenancy 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.

WW-6A1 (5/13)

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Lease Name or Number	Grantor, Lessor, etc.	Grantee, Lessee, etc.	Royalty	Book/Page
L: Chesapeake Appalachia,	LLC Lease			
	Chesapeake Appalachia, LLC	SWN Production Company, LLC	1/8	157A/0640

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

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

Office of Oil and Gas

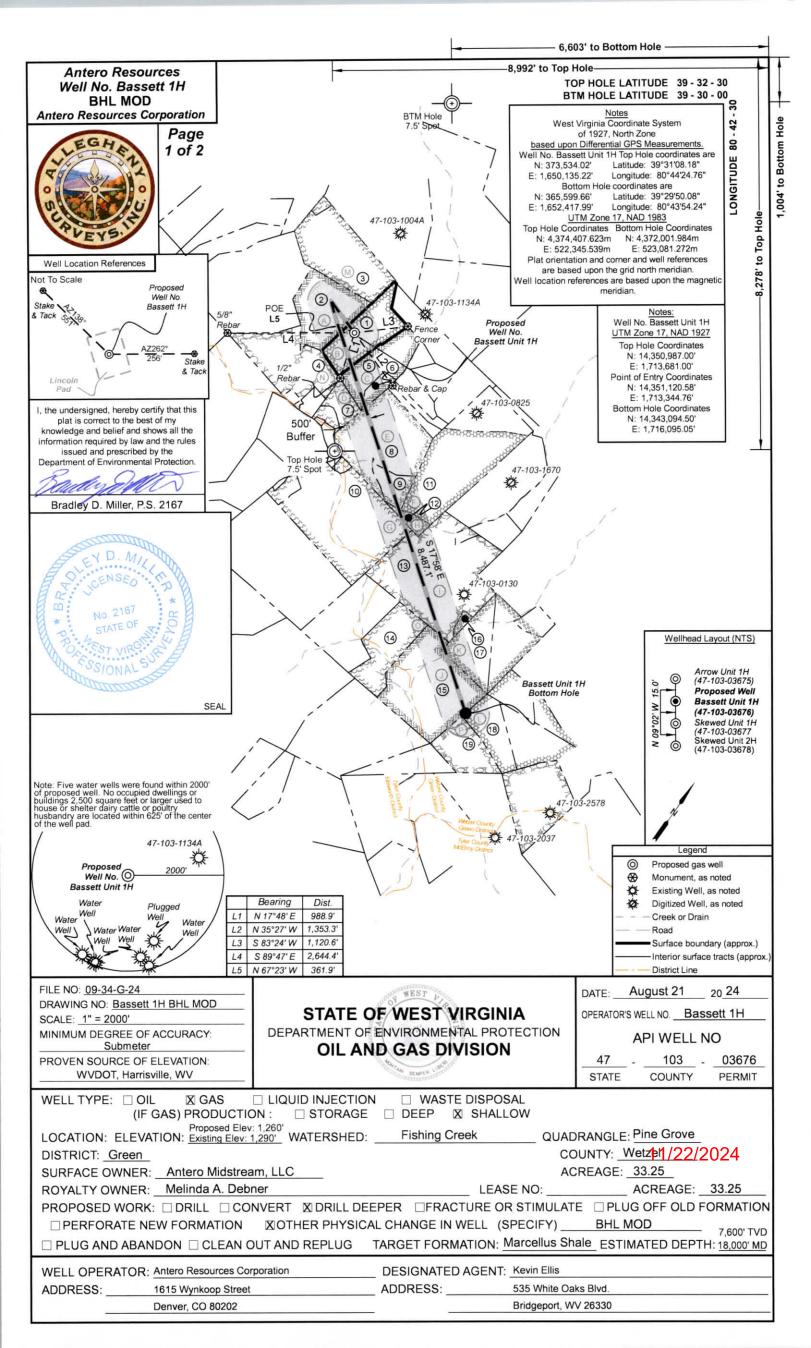
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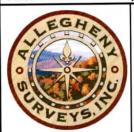
The applicant further acknowledges that any Office of Oil and Gas permit in no way overrides, replaces, or nullifies the need for other permits/approvals that may be necessary and further affirms that all needed permits/approvals should be acquired from the appropriate authority before the affected activity is initiated.

Well Operator:	Antero Resor	urçes Corporation
By:	Tim Rady	Can Verly
Its:	Senior Vice F	President of Land

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Antero Resources Well No. Bassett 1H BHL MOD Antero Resources Corporation

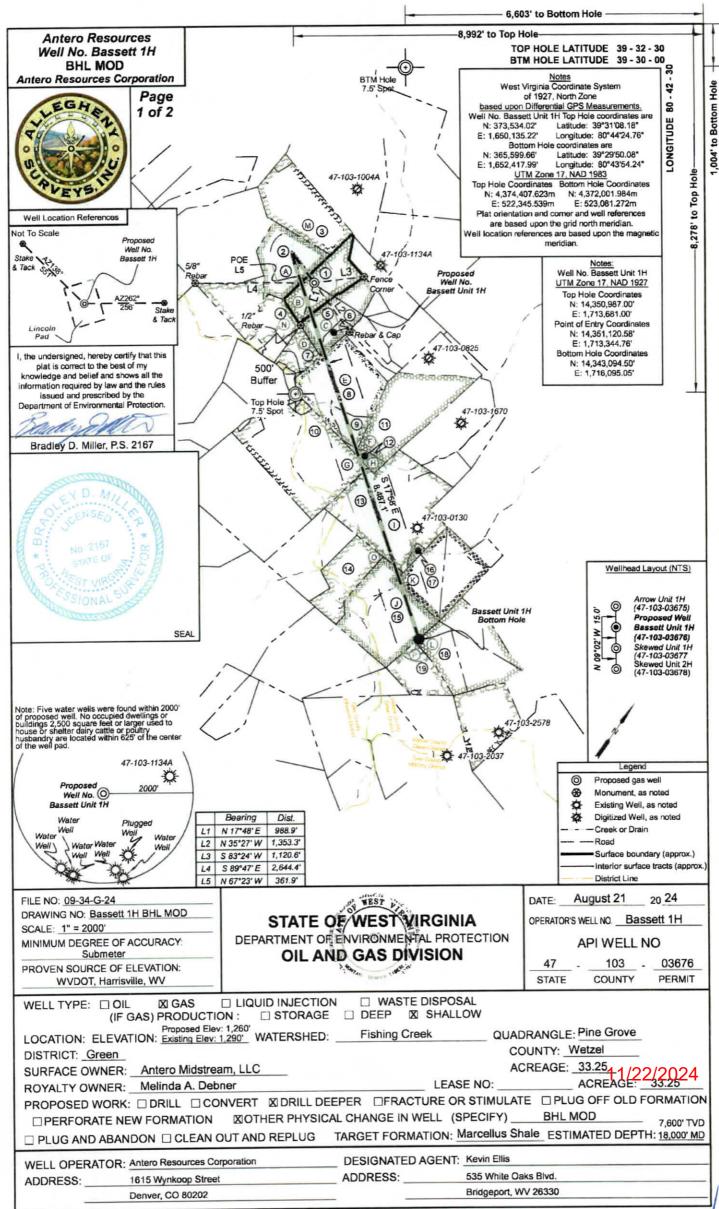


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	Leases
Α	J.L. Lancaster
В	Melinda A. Debner
С	Blackrock Enterprises, LLC
D	Nancy K. Sayre
Е	Patricia Lou Scheper
F	Shiben Estates, Inc.
G	A.J. McHenry & Maggie McHenry
Н	Chesapeake Appalachia, LLC
1	J.W. Haught & A.B. Haught
J	AMP V, LP
K	Tribune Resources Minerals, LLC
L	Chesapeake Appalachia, LLC
М	Deborah A. Beaver
N	Acropolis, Inc.
0	Antero Minerals, LLC
Р	Dominic J. Kowalski, et ux

ID	TM-Par	Owner	Bk/Pg	Acres
1	20-23	Antero Midstream, LLC	465/156	33.30
2	19-49	Antero Midstream, LLC	465/156	32.30
3	19-48	Antero Midstream, LLC	465/156	51.00
4	19-50	Ronald H. Eastham, et al	451/110	40.00
5	20-29	Antero Midstream, LLC	465/153	20.90
6	20-38	Antero Midstream, LLC	465/153	6.50
7	22-1	Antero Midstream, LLC	465/156	8.61
8	22-41	Robert L. Jr. & Donna K. Jones	462/717	71.29
9	22-12	Robert L. Jr. & Donna K. Jones	297/500	10.80
10	18-9	Courtney N. Vancamp	638/148	86.50
11	22-5	Robert L. Jr. & Donna K. Jones	297/500	76.00
12	22-13	Timothy L. & Vicki L. Glasscock	370/425	4.10
13	22-18	Timothy L. & Vicki L. Glasscock	370/425	99.89
14	18-6	Eric D. Beatty & Jack Gordon Straight	651/575	31.96
15	18-7	Thomas Straight, et al	270/558	68.00
16	22-24	Thomas & Shawn Pratt	429/66	2.00
17	22-21	Thomas & Shawn Pratt	429/66	25.85
18	22-32	Dominic Joseph & Delmer Michele Kowalski	353/533	20.30
19	25-1	Dominic Joseph & Delmer Michele Kowalski	353/533	60.00

FILE NO: <u>09-34-G-24</u>	WEST L	DATE: August 21 20 24				
DRAWING NO:	STATE OF WEST VIRGINIA	OPERATOR'S WELL NO. Bassett 1H				
SCALE: 1" = 2000' MINIMUM DEGREE OF ACCURACY: Submeter PROVEN SOURCE OF ELEVATION: WVDOT, Harrisville, WV	DEPARTMENT OF ENVIRONMENTAL PROTECTION OIL AND GAS DIVISION	API WELL NO 47 - 103 - 03676 STATE COUNTY PERMIT				
WELL TYPE: □ OIL ☑ GAS (IF GAS) PRODUCTION	☐ LIQUID INJECTION ☐ WASTE DISPOSAL ON: ☐ STORAGE ☐ DEEP ☒ SHALLOW					
LOCATION: ELEVATION: Existing Elev: 1,290' WATERSHED: Fishing Creek QUADRANGLE: Pine Grove						
DISTRICT: Green	The second secon					
SURFACE OWNER: Antero Minerals		CREAGE: 33.25				
ROYALTY OWNER: Melinda A. Deb	ner LEASE NO:	ACREAGE:33.25				
PROPOSED WORK: □ DRILL □ CONVERT ☒ DRILL DEEPER □ FRACTURE OR STIMULATE □ PLUG OFF OLD FORMATION						
□ PERFORATE NEW FORMATION XIOTHER PHYSICAL CHANGE IN WELL (SPECIFY) BHL MOD 7,600' TVD						
□ PLUG AND ABANDON □ CLEAN OUT AND REPLUG TARGET FORMATION: Marcellus Shale ESTIMATED DEPTH: 18,000' MD						
WELL OPERATOR: Antero Resources Corporation DESIGNATED AGENT: Kevin Ellis						
	ADDRESS: 535 White C	Daks Blvd.				
Denver, CO 80202	Bridgeport, \					



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Antero Resources
Well No. Bassett 1H
BHL MOD
Antero Resources Corporation
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FILE NO: 09-34-G-24 DRAWING NO: 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: August 21 20 24 OPERATOR'S WELL NO. Bassett 1H API WELL NO 47 - 103 - 03676 STATE COUNTY PERMIT			
WELL TYPE: OIL					
WELL OPERATOR: Antero Resources Co ADDRESS: 1615 Wynkoop Street Denver, CO 80202	ADDRESS: 535 White	s Oaks Blvd. t, WV 26330			