



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, December 20, 2023
PERMIT MODIFICATION APPROVAL
Horizontal 6A / New Drill

ANTERO RESOURCES CORPORATION
1615 WYNKOOP STREET

DENVER, CO 80202

Re: Permit Modification Approval for Jiffy 1H
47-103-03615-00-00

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.

James A. Martin
Chief

Operator's Well Number: Jiffy 1H
Farm Name: Kenneth E & Vicky A VanDyne
U.S. WELL NUMBER: 47-103-03615-00-00
Horizontal 6A New Drill
Date Modification Issued: 12/20/2023

Promoting a healthy environment.

12/22/2023

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

1) Well Operator: Antero Resources Corporation 494507062 103 - Wetzel Green Pine Grove 7.5'
Operator ID County District Quadrangle

2) Operator's Well Number: Jiffy Unit 1H MOD Well Pad Name: Cedar Pad

3) Farm Name/Surface Owner: Dallison Lumber Company Public Road Access: CR 52

4) Elevation, current ground: 1276' Elevation, proposed post-construction: 1248'

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: 7600' TVD, Anticipated Thickness- 55 feet, Associated Pressure- 2850#

8) Proposed Total Vertical Depth: 7600' TVD

9) Formation at Total Vertical Depth: Marcellus

10) Proposed Total Measured Depth: 25800' MD

11) Proposed Horizontal Leg Length: 16274' *Open to modification at a later date

12) Approximate Fresh Water Strata Depths: 612'

13) Method to Determine Fresh Water Depths: 47103308970000 Offset well records. Depths have been adjusted according to surface elevations.

14) Approximate Saltwater Depths: 2193'

15) Approximate Coal Seam Depths: 1010'

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: _____

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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	J-55	94#	100'	100' ✓	CTS, 96 Cu. Ft.
Fresh Water	13-3/8"	New	J-55	54.5#	662'	662' ✓	CTS, 690 Cu. Ft. ✓
Coal	9-5/8"	New	J-55	36#	3450'	3450' ✓	CTS, 1405 Cu. Ft.
Intermediate							
Production	5-1/2"	New	P110-ICY	23#	25800'	25800' ✓	CTS, 5573 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/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			
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): 71.85 acres

22) Area to be disturbed for well pad only, less access road (acres): 18.45 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 G/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.

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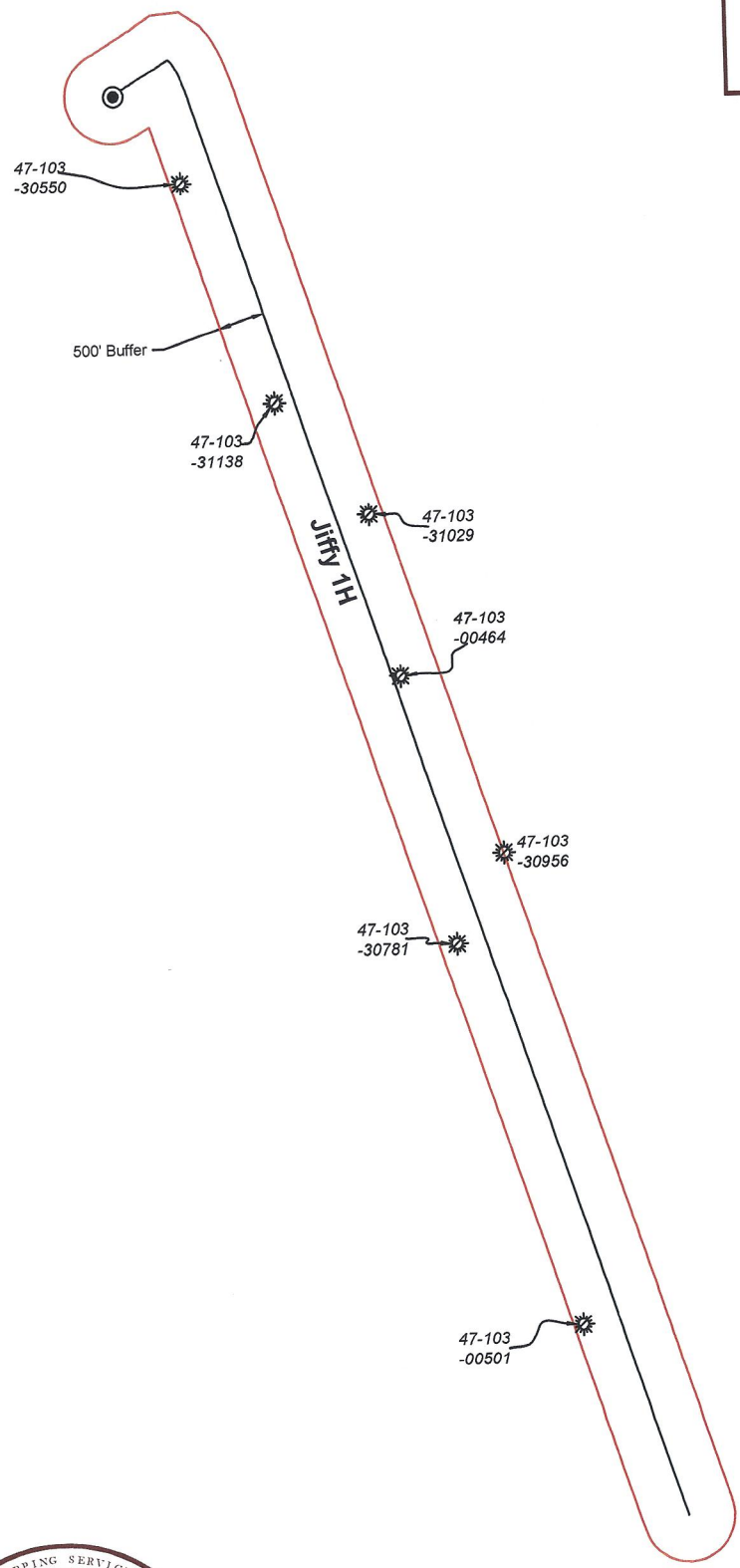
DEC 14 2023
Page 3 of 3
WV Department of Environmental Protection
12/22/2023

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



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

172 Thompson Drive
 Bridgeport, WV 26330

PARTY CHIEF: C. Lynch	DRAWN BY: J. Smith
RESEARCH: J. Miller	PREPARED: October 23, 2023
SURVEYED: Dec. 2016	PROJECT NO: 232-34-G-23
FIELD CREW: C.L., K.M.	DRAWING NO: Jiffy 1H AOR

Sheet 1 of 1



Scale: 1 inch = 2000 feet

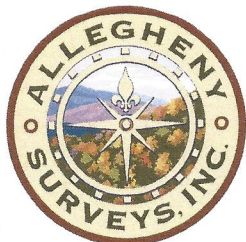
12/22/2023

UWI (API/Num)	Well Name	Well Number	Operator	Historical Operator	TD	Perforated Interval (shallowest, deepest)	Perforated Formation(s)	Producible Formation(s) not perf'd
47103305500000	JENKINS MILLER 1	5393	UNKNOWN	UNKNOWN	2,975			
47103311380000	C S HEADLEY	5479	UNKNOWN	UNKNOWN	3,057		Big Injun, Gordon Stray	Weir, Berea, Benson, Alexander
47103310290000	J B PRICE	1964	HOPE NATURAL GAS	HOPE NATURAL GAS	2,064			
471030004640000	POSTLEWAIT R W	5212	HOPE NATURAL GAS	HOPE NATURAL GAS	3,106		Mahoning, 2nd Salt, Big Injun, Gordon Stray Gordon Stray	Weir, Berea, Benson, Alexander
47103309560000	THOMAS CUNNINGHAM	3915	HOPE NATURAL GAS	HOPE NATURAL GAS	3,420			Weir, Berea, Benson, Alexander
47103307810000	M A & A E BRAST	4	HOPE NATURAL GAS	HOPE NATURAL GAS	2,002		Big Injun, Gordon Stray, Gordon	Weir, Berea, Benson, Alexander
47103005010000	JOSEPH SHIBEN 2	18-11	UN CRBDE OLEFINS DIV	UN CRBDE OLEFINS DIV				

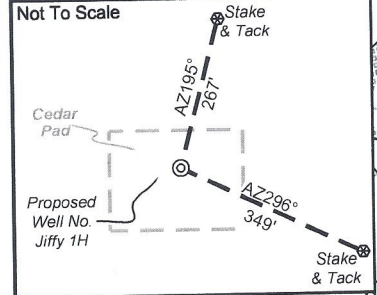
12/22/2023

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

Page 1 of 2

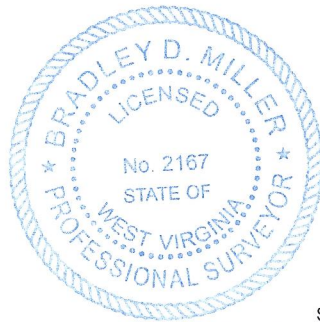


Well Location References

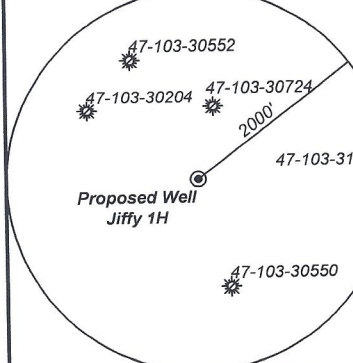


I, the undersigned, hereby certify that this plat is correct to the best of my knowledge and belief and shows all the information required by law and the rules issued and prescribed by the Department of Environmental Protection.

Bradley D. Miller
 Bradley D. Miller, P.S. 2167



Note: 0 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.



	Bearing	Dist.
L1	N 83°23' E	1,609.7'
L2	N 46°06' W	2,724.9'
L3	N 08°01' W	2,509.2'
L4	N 16°48' E	2,439.2'
L5	S 84°31' E	862.7'

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

7,205' to Bottom Hole

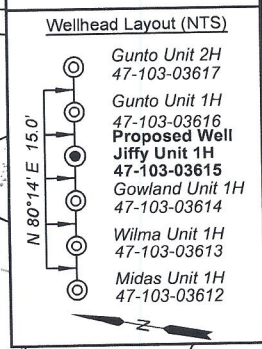
1,567' to Top Hole

TOP HOLE LATITUDE 39 - 35 - 00
BTM HOLE LATITUDE 39 - 32 - 30

Notes
 West Virginia Coordinate System of 1927, North Zone based upon Differential GPS Measurements.
 Well No. Jiffy Unit 1H Top Hole coordinates are
 N: 391,161.63' Latitude: 39°34'03.43"
 E: 1,657,798.59' Longitude: 80°42'50.01"
 Bottom Hole coordinates are
 N: 375,608.06' Latitude: 39°31'30.50"
 E: 1,663,705.44' Longitude: 80°41'31.95"
 UTM Zone 17, NAD 1983
 Top Hole Coordinates Bottom Hole Coordinates
 N: 4,379,817.055m N: 4,375,108.607m
 E: 524,590.851m E: 526,469.354m
 Plat orientation and corner and well references are based upon the grid north meridian.
 Well location references are based upon the magnetic meridian.

TOP HOLE LONGITUDE 80 - 42 - 30
BTM HOLE LONGITUDE 80 - 40 - 00
 5,724' to Top Hole
 6,021' to Bottom Hole

Notes:
 Well No. Jiffy Unit 1H
 UTM Zone 17, NAD 1927
 Top Hole Coordinates
 N: 14,368,734.12'
 E: 1,721,046.61'
 Point of Entry Coordinates
 N: 14,368,666.00'
 E: 1,721,906.34'
 Bottom Hole Coordinates
 N: 14,353,286.46'
 E: 1,727,210.18'



STATE OF WEST VIRGINIA
 DEPARTMENT OF ENVIRONMENTAL PROTECTION
OIL AND GAS DIVISION

DATE: December 6 2023
 OPERATOR'S WELL NO. Jiffy 1H
 API WELL NO
47 - 103 - 03615
 STATE COUNTY PERMIT

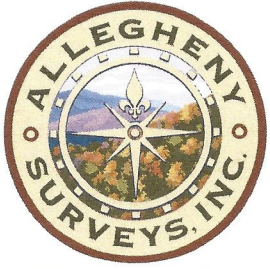
WELL TYPE: OIL GAS LIQUID INJECTION WASTE DISPOSAL
 (IF GAS) PRODUCTION: STORAGE DEEP SHALLOW

LOCATION: ELEVATION: Proposed: 1,248' WATERSHED: Fishing Creek QUADRANGLE: Pine Grove
 DISTRICT: Green Dallison Lumber COMPANY: Wetzel
 SURFACE OWNER: Company ACREAGE: 51.5
 ROYALTY OWNER: Jenkins Miller LEASE NO: _____ ACREAGE: 200

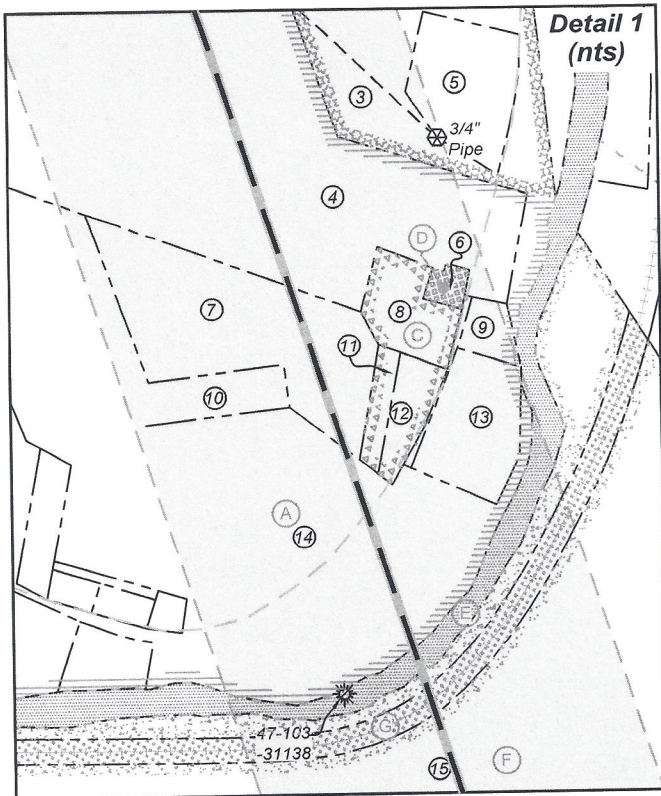
PROPOSED WORK: DRILL CONVERT DRILL DEEPER FRACTURE OR STIMULATE PLUG OFF OLD FORMATION
 PERFORATE NEW FORMATION OTHER PHYSICAL CHANGE IN WELL (SPECIFY) BHL MOD ESTIMATED DEPTH: 25,800' MD
 PLUG AND ABANDON CLEAN OUT AND REPLUG TARGET FORMATION: Marcellus Shale ESTIMATED DEPTH: 25,800' MD

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

Bradley D. Miller



Leases	
A	Jenkins Miller
B	Eddie D. Dallison
C	J.B. Holtzclaw
D	Albert J. Moore, et ux, et al
E	WVDNR
F	Coastal Forest Resources Co.
G	CSX Transportation, Inc.
H	Jeffrey T. Hayes
I	Tribune Resources Minerals, LLC
J	Thomas Cunningham, et ux
K	Shiben Estates Inc.
L	BRC Appalachian Minerals I, LLC
M	Shiben Estates Inc.
N	Antero Minerals, LLC
O	Tribune Resources Minerals, LLC
P	Clay D.C. Dallison, et al



ID	TM-Par	Owner	Bk/Pg	Acres
1	14-19	Dallison Lumber Company	357/267	51.50
2	13-40	Kenneth E. & Vicky A. VanDyne	357/204	42.33
3	14-20	Dallison Lumber Co.	357/270	109.91
4	14-34	Dearld T. Mason	292/646	41.00
5	14-20.1	David A. Burtrand, et al	435/879	2.00
6	14-44	Barbara Jo Leek, et al	360/141	0.25
7	14-42	Karen King, et al	WB96/811	2.87
8	14-43	Melvin G. Leek	397/499	0.60
9	14-63	Melvin G. Leek	397/499	0.50
10	14-41	Amy J. Byard	389/385	1.00
11	14-43.2	Ronald Leek	360/225	0.44
12	14-43.1	Ronald Leek	301/668	0.58
13	14-62	Brian Lowe	427/299	2.00
14	14-60	Amy J. Byard	389/385	21.25
15	17-10	Coastal Forest Resources	444/105	90.00
16	17-5	Coastal Forest Resources	444/105	90.00
17	17-21	Pauline E. Hayes	420/626	83.30
18	17-32	Pauline E. Hayes	420/626	79.25
19	17-40	Heartland Forest Land Fund VII LP	431/936	120.00
20	18-4	Barbara D. Cunningham	291/112	212.80
21	17-41	Heartland Forest Land Fund VII, LP	431/936	0.94
22	18-6	Barbara D. Cunningham	291/112	56.80
23	17-51	Linda K. Ice & Harry G. Wichterman Jr.	WB66/545	156.00
24	18-8	Linda K. Ice & Harry G. Wichterman Jr.	W66/545	23.40
25	21-24	Linda Ice Long	431/249	17.95
26	20-48	Charles R. Kuhn & William J. Shrum	411/688	30.00
27	21-4	Michael & Janet Miller	282/45	23.06
28	21-1	Lucile Olga Noland, et al	157/348	3.30
29	21-7	Francis & Patricia Fluharty	436/793	14.14
30	21-7.5	Kelly L. Fluharty	431/816	1.50
31	21-7.4	Charles L. & Joyce Fluharty	396/62	1.50
32	21-7.2	Francis L. & Patricia Fluharty	296/86	0.92
33	21-7.1	Robert D. & Gloria Fluharty	296/83	1.33
34	21-7.8	Robert & Gloria Fluharty	436/808	0.25
35	21-7.3	Roger D. & Janet Fluharty	296/89	1.53
36	21-7.6	Roger & Janet Fluharty	436/803	1.83
37	21-7.7	Robert & Gloria Fluharty	436/808	5.44
38	21-7.9	Charles Fluharty	439/535	1.97
39	21-9	Kyle R. & Lauren Fluharty	439/308	45.90
40	21-11	Unknown	---/---	6.8
41	21-10	Pine Church of Christ	200/111	0.87
42	21-3	State of WV	207/239	5228.5

FILE NO: 232-34-G-23
DRAWING NO: Jiffy 1H BHL MOD Plat
SCALE: 1" = 2000'
MINIMUM DEGREE OF ACCURACY:
Submeter
PROVEN SOURCE OF ELEVATION:
WV DOT, Harrisville, WV

STATE OF WEST VIRGINIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
OIL AND GAS DIVISION

DATE: December 6 2023
OPERATOR'S WELL NO. Jiffy 1H
API WELL NO
47 - 103 - 03615
STATE COUNTY PERMIT

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(IF GAS) PRODUCTION: STORAGE DEEP SHALLOW

LOCATION: ELEVATION: Proposed: 1,248' WATERSHED: Fishing Creek QUADRANGLE: Pine Grove
DISTRICT: Green Dallison Lumber COMPANY COUNTY: Wetzel
SURFACE OWNER: Company ACREAGE: 51.5 12/22/2023
ROYALTY OWNER: Jenkins Miller LEASE NO: ACREAGE: 200

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: 7,600' TVD 25,800' MD

WELL OPERATOR: Antero Resources Corporation DESIGNATED AGENT: Kevin Ellis
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
<u>N: Antero Minerals, LLC Lease</u> Antero Minerals, LLC	Antero Resources Corporation	1/8+	250A/0847
<u>A: Jenkins Miller Lease</u> Jenkins Miller Hope Natural Gas Company Consolidated Gas Supply Corporation Consolidated Gas Transmission Corporation Eastern States Oil & Gas Inc. Blazer Energy Corp. Eastern States Oil & Gas Inc. Equitable Production – Eastern States Inc. Appalachian Natural Gas Trust EQT Production Company	Hope Natural Gas Company Consolidated Gas Supply Corporation Consolidated Gas Transmission Corporation Eastern States Oil & Gas Inc. Blazer Energy Corp. Eastern States Oil & Gas Inc. Equitable Production – Eastern States Inc. Appalachian Natural Gas Trust EQT Production Company Antero Resources Corporation	1/8 Assignment Assignment Assignment Merger Name Change Name Change Assignment Merger Assignment	0107/0056 0233/0387 066A/0069 076A/0232 0012/0253 0012/0259 WVSOS 079A/0244 0096/0505 230A/0801
<u>E: WVDNR Lease</u> WVDNR	Antero Resources Corporation	1/8+	323A/0541
<u>F: Coastal Forest Resources Co. Lease</u> Coastal Forest Resources Co.	Antero Resources Corporation	1/8+	273A/0764
<u>G: CSX Transportation, Inc. Lease</u> CSX Transportation, Inc.	Antero Resources Corporation	1/8+	275A/0895
<u>F: Coastal Forest Resources Co. Lease</u> Coastal Forest Resources Co.	Antero Resources Corporation	1/8+	273A/0764
<u>H: Jeffrey T. Hayes Lease</u> Jeffrey T. Hayes	Antero Resources Corporation	1/8+	327A/0836
<u>I: Tribune Resources Minerals, LLC Lease</u> Tribune Resources Minerals, LLC	Antero Resources Corporation	1/8+	218A/0794
<u>J: Thomas Cunningham, et ux Lease</u> Thomas Cunningham, et ux L.G. Robinson South Penn Oil Company Hope Natural Gas Company Consolidated Gas Supply Corporation Consolidated Gas Transmission Corporation CNG Transmission Corporation Eastern States Oil & Gas Inc. Equitable Production – Eastern States Inc. Equitable Production Company EQT Production Company	L.G. Robinson South Penn Oil Company Hope Natural Gas Company Consolidated Gas Supply Corporation Consolidated Gas Transmission Corporation CNG Transmission Corporation Eastern States Oil & Gas Inc. Equitable Production – Eastern States Inc. Equitable Production Company EQT Production Company Antero Resources Corporation	1/8 Assignment Assignment Assignment Assignment Name Change Assignment Name Change Merge Name Change Assignment	0048/0569 0049/0659 009A/0230 0233/0387 066A/0069 0013/0151 076A/0232 0013/0014 0013/0014 0013/0014 230A/0801
<u>K: Shiben Estates, Inc. Lease</u> Shiben Estates, Inc.	Antero Resources Corporation	1/8+	197A/0825

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INFORMATION SUPPLIED UNDER WEST VIRGINIA CODE
 Chapter 22, Article 6A, Section 5(a)(5)
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Grantor, lessor, etc.	Grantee, lessee, etc.	Royalty	Book/Page
L: BRC Appalachian Minerals I, LLC Lease			
BRC Appalachian Minerals I, LLC	BRC Working Interest Company	1/8	102A/0505
BRC Working Interest Company	Chesapeake Appalachia LLC	Assignment	103A/0470
Chesapeake Appalachia LLC	SWN Production Company	Assignment	157A/0540
SWN Production Company	Antero Exchange Properties LLC	Assignment	177A/0533
Antero Exchange Properties LLC	Antero Resources Corporation	Merge	0013/0311

*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.

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 Office of Oil and Gas

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 Environmental Protection

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**INFORMATION SUPPLIED UNDER WEST VIRGINIA CODE
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Lease Name or Number	Grantor, Lessor, etc.	Grantee, Lessee, etc.	Royalty	Book/Page
<u>M: Shibden Estates Inc. Lease</u>	Shibden Estates Inc.	Antero Resources Corporation	1/8+	202A/0234

*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 the 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.

**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

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Environmental Protection

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



December 13, 2023

Antero Resources
1615 Wynkoop Street
Denver, CO 80202
Office 303.357.7310
Fax 303.357.7315

West Virginia Department of Environmental Protection
Office of Oil and Gas
Attn: Mr. Taylor Brewer
601 57th Street
Charleston, WV 25304

CK#4026473
CK\$ 7,500.00

Mr. Brewer:

Antero Resources Corporation (Antero) would like to submit the following permit modifications for approved well on the existing Cedar Pad; Jiffy Unit 1H 47-103-03615).

Attached you will find the following:

- Revised Forms WW-6B
- Revised Forms WW-6A1
- Revised Mylar Plats
- AORs

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Environmental Protection

If you have any questions please feel free to contact me at (303) 357-7182.

Thank you in advance for your consideration.

Sincerely,

A handwritten signature in black ink that reads "Mallory Stanton". The signature is written in a cursive style with a long horizontal stroke at the end.

Mallory Stanton
Permitting Manager
Antero Resources Corporation

Enclosures

12/22/2023