



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, July 15, 2024
PERMIT MODIFICATION APPROVAL
Horizontal 6A / New Drill

ANTERO RESOURCES CORPORATION
1615 WYNKOOP STREET

DENVER, CO 80202


Re: Permit Modification Approval for Harlan Unit 2H
47-103-03655-00-00

Lateral Extension/ Forced Pooling

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: Harlan Unit 2H
Farm Name: Dallison Lumber Inc.
U.S. WELL NUMBER: 47-103-03655-00-00
Horizontal 6A New Drill
Date Modification Issued: 7/15/2024

Promoting a healthy environment.

07/19/2024

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

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

2) Operator's Well Number: Harlan Unit 2H MOD Well Pad Name: Galmish Pad

3) Farm Name/Surface Owner: Dallison Lumber Inc. Public Road Access: McKimmie Ridge Road

4) Elevation, current ground: As-Built 1160.7 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 Yes

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: 28300' MD

11) Proposed Horizontal Leg Length: 17726' *Open to modification at a later date

12) Approximate Fresh Water Strata Depths: 45', 130'

13) Method to Determine Fresh Water Depths: 471103025550000 Offset well records. Depths have been adjusted according to surface elevations.

14) Approximate Saltwater Depths: 1961'

15) Approximate Coal Seam Depths: N/A

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: _____

CK # 4032649
7500
6/13/2024

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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#	300'	300' ✓	CTS, 313 Cu. Ft.
Coal	9-5/8"	New	J-55	36#	3200'	3200' ✓	CTS, 1303 Cu. Ft.
Intermediate							
Production	5-1/2"	New	P110-ICY	23#	28300'	28300' ✓	CTS, 6203 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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Handwritten signature and date: 07/19/2024

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): 64.40 acres

22) Area to be disturbed for well pad only, less access road (acres): 17.53 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.

[Handwritten signature]
06/17/24



June 24, 2024

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

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

Mr. Brewer:

Antero Resources Corporation (Antero) would like to submit the following permit modifications for approved well on the existing Galmish Pad: Cobb Unit 1H (47-103-03657), Harlan Unit 1H (47-103-03654), and Harlan Unit 2H (47-103-03655) Expedited.

Attached you will find the following:

- AOR
- Revised Form WW-6B
- Revised Form WW-6A1
- Revised Mylar Plat

If you have any questions please feel free to contact me at (303) 357-6959.

Thank you in advance for your consideration.

Sincerely,

A handwritten signature in black ink that reads "S Gaspar". The signature is written in a cursive, flowing style.

Stefan Gaspar
Permitting Agent
Antero Resources Corporation

Enclosures

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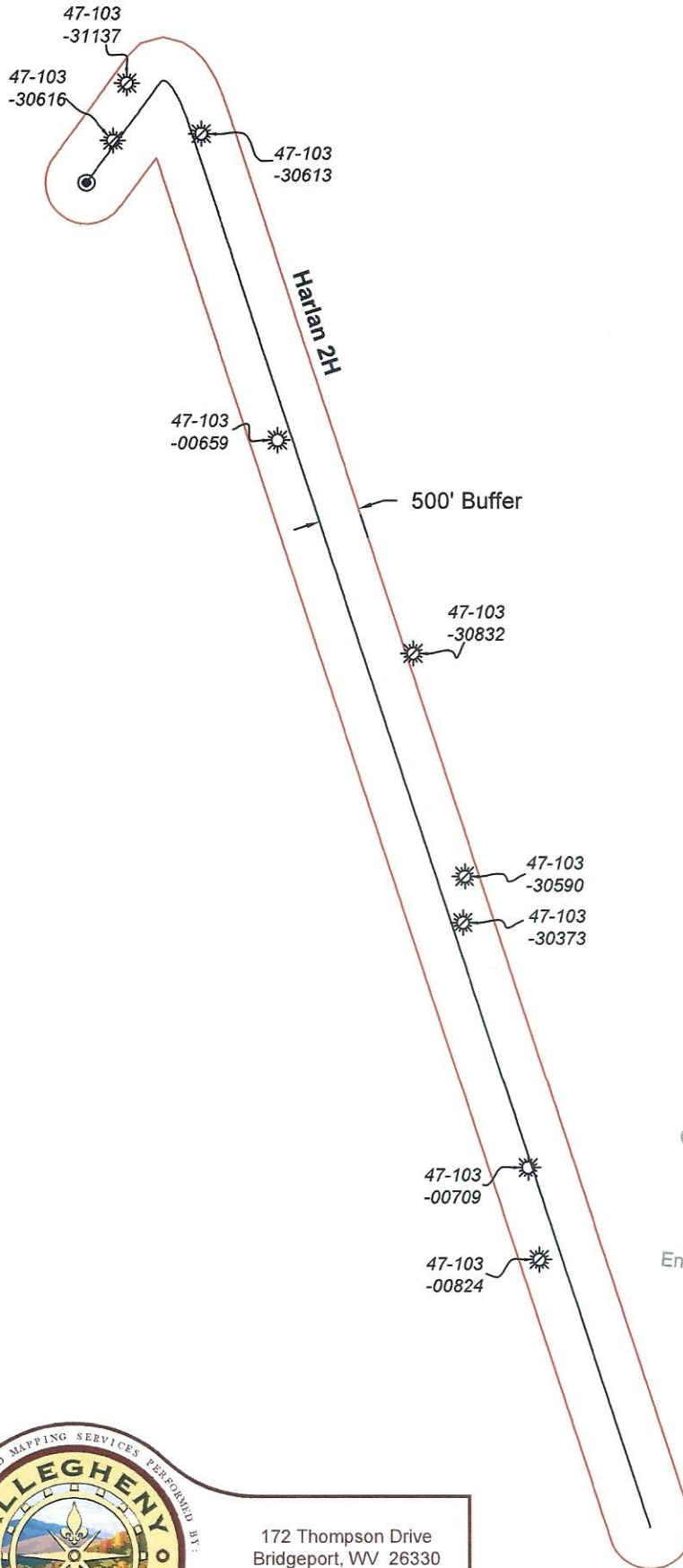
07/19/2024

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



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Bridgeport Office Phone: (304) 848-5035 Fax: (304) 848-5037		172 Thompson Drive Bridgeport, WV 26330	
PARTY CHIEF: C. Lynch		DRAWN BY: J. McNemar	
RESEARCH: J. Miller		PREPARED: March 14, 2024	
SURVEYED: Dec. 2016		PROJECT NO: 124-34-G-18	
FIELD CREW: C.L., K.M.	Sheet 1 of 1	DRAWING NO: Harlan 2H AOR	



Scale: 1 inch = 2000 feet 07/19/2024

UWI (API#)	Well Name	Well Number	Operator	Historical Operator	TD	Perforated Interval (shallowest, deepest)	Perforated Formation(s)	Producible Formation(s) not perf'd
47103306160000	J W HAINES 1	4850	UNKNOWN	UNKNOWN	2,891		Gordon Stray, Gordon	Weir, Benson, Alexander
47103311370000	ISAAC SMITH	6520	UNKNOWN	UNKNOWN				
47103306130000	LUTHER POSTLETHWAIT 1	6024	UNKNOWN	UNKNOWN	2,742		Big Injun, Gordon Stray, Fourth	Weir, Benson, Alexander
47103006590000	T H ALLEY	1	DIVERSIFIED PRODUCTION LLC	SOUTH PENN OIL	2,822		Gordon Stray, Gordon	Weir, Benson, Alexander
47103308320000	ARA LONG	4271	HOPE NATURAL GAS	HOPE NATURAL GAS	2,878		2nd salt sand, Gordon	Weir, Benson, Alexander
47103305900000	NANCY OLIVER 1	4272	UNKNOWN	UNKNOWN	2,589		Salt Sands, Gordon Stray, Gordon	Weir, Benson, Alexander
47103303730000	F M WATSON	1920	HOPE NATURAL GAS	HOPE NATURAL GAS	2,625		Big Injun, Gordon	Weir, Benson, Alexander
47103007090000	WATCHERMAN A	4897	DIVERSIFIED PRODUCTION LLC	CONSOL GAS SUPPLY GRP	2,715			
47103008240000	JOHN JUDGE	195	CARNEGIE PRODUCTION CO	CARNEGIE NATURAL GAS				

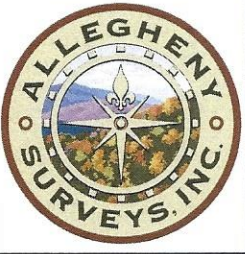
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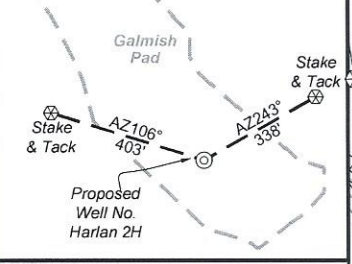
07/19/2024

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



Well Location References

Not To Scale

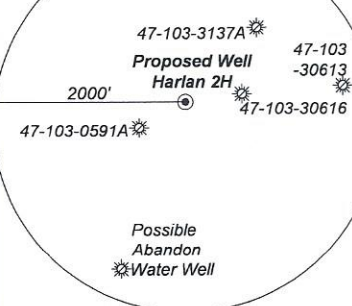


I, the undersigned, hereby certify that this plat is correct to the best of my knowledge and belief and shows all the information required by law and the rules issued and prescribed by the Department of Environmental Protection.

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



Note: 1 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	S 07°04' E	1,289.5'
L2	S 55°37' W	1,334.0'
L3	S 89°55' W	1,601.2'
L4	N 40°50' E	2,735.6'
L5	N 65°34' E	1,401.9'

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.)
- District Line

8,073' to Top Hole

1,098' to Bottom Hole

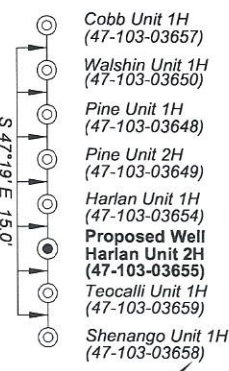
TOP HOLE LATITUDE 39 - 35 - 00
 BTM HOLE LATITUDE 39 - 32 - 30

Notes
 West Virginia Coordinate System of 1927, North Zone based upon Differential GPS Measurements.
 Well No. Harlan Unit 2H Top Hole coordinates are
 N: 394,556.73' Latitude: 39°34'37.68"
 E: 1,663,083.42' Longitude: 80°41'43.11"
 Bottom Hole coordinates are
 N: 378,281.26' Latitude: 39°31'57.71"
 E: 1,669,848.22' Longitude: 80°40'14.01"
 UTM Zone 17, NAD 1983
 Top Hole Coordinates Bottom Hole Coordinates
 N: 4,380,878.323m N: 4,375,954.305m
 E: 526,183.718m E: 528,327.273m
 Plat orientation and corner and well references are based upon the grid north meridian.
 Well location references are based upon the magnetic meridian.

LONGITUDE 80 - 40 - 00
 3,267' to Bottom Hole
 2,258' to Top Hole

Notes:
 Well No. Harlan Unit 2H UTM Zone 17, NAD 1927
 Top Hole Coordinates
 N: 14,372,215.80'
 E: 1,726,272.29'
 Point of Entry Coordinates
 N: 14,372,816.65'
 E: 1,727,538.44'
 Bottom Hole Coordinates
 N: 14,356,060.88'
 E: 1,733,305.46'

Wellhead Layout (NTS)



See Detail (Page 3)

Match Line
 Sheet 2

FILE NO: 124-34-G-18
 DRAWING NO: Harlan 2H Well Plat

SCALE: 1" = 2000'

MINIMUM DEGREE OF ACCURACY: Submeter

PROVEN SOURCE OF ELEVATION:

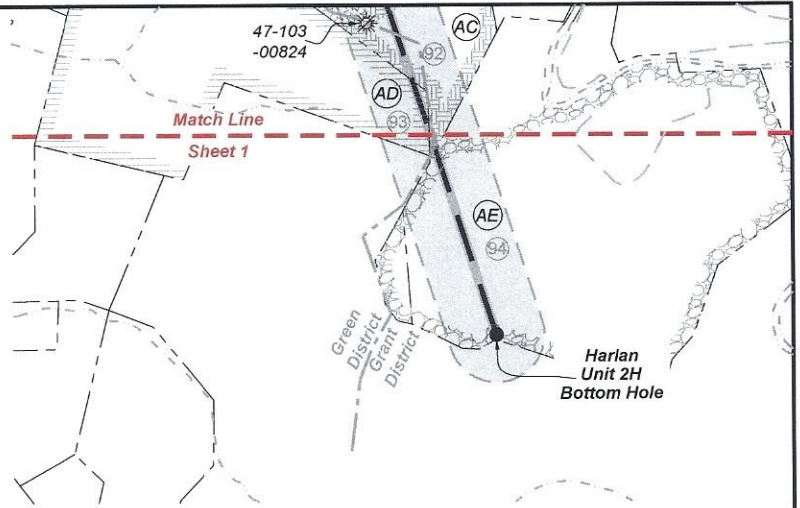
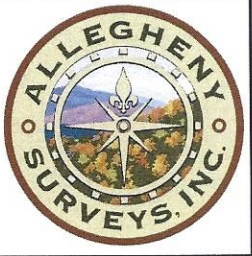
STATE OF WEST VIRGINIA
 DEPARTMENT OF ENVIRONMENTAL PROTECTION
OIL AND GAS DIVISION

DATE: May 16 2024

OPERATOR'S WELL NO: 07-19-2024

API WELL NO

47 - 103 - 03655



Leases	
1	BRC Appalachian Minerals I, LLC
2	Antero Minerals, LLC
3	Robert Barry Myers, Jr.
4	Robert Barry Myers, Jr.
5	Aunix Energy, LLC
6	Antero Minerals, LLC
7	Freeda Marie Brown
8	Jay Michael Myers
10	William J. Patterson
11	David E. Bowyer
12	T.H. Alley, et ux
17	Town of Pine Grove
18	Darlene M. Sargent
20	WVDNR
23	Antero Minerals, LLC
24	Dennis Perry & Kendra Lea Lydick
41	CSX Transportation
42	Keith Eugene Rush
51	Danny J. & Floriene G. Dulaney
52	David B. & Gabrielle B. Palmer
58	Antero Minerals, LLC
85	Chesapeake Appalachia, LLC
88	H3, LLC
89	Kimble White, et al
91	A. J. Witchterman, et al
92	Blackrock Enterprises, LLC
93	Ridgetop Appalachia, LLC
94	EQT Production Company

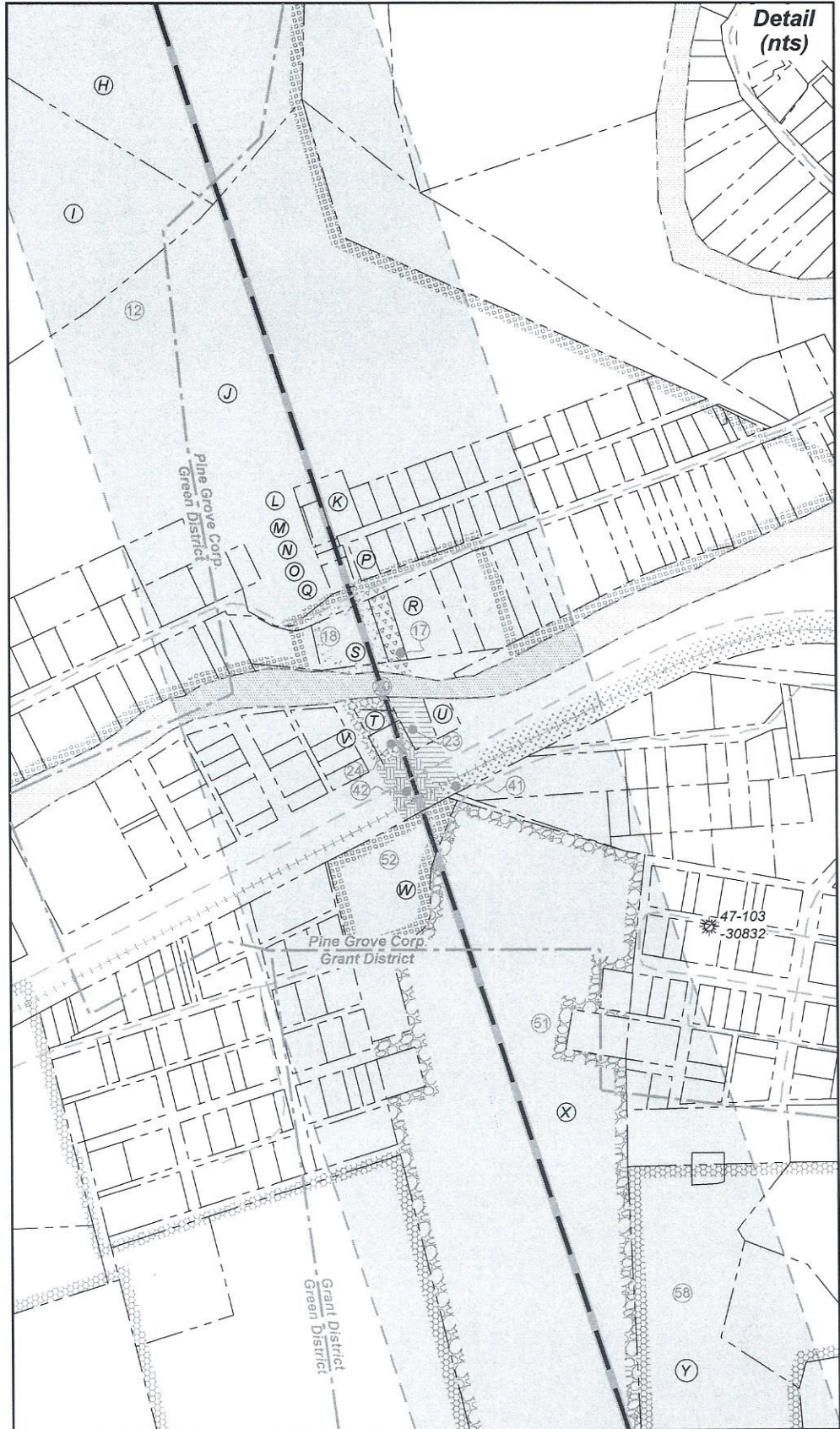
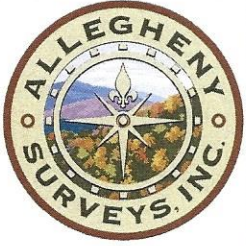
ID	TM-Par	Owner	Bk/Pg	Acres
A	14-9	Dallison Lumber, Inc.	474/290	25.00
B	14-10	Sandra Jane Fortney	446/700	61.78
C	14-12	Freeda M. Brown	WB79/104	70.06
D	14-13	Freeda M. Brown	WB79/104	6.20
E	14-11	Freeda M. Brown	WB79/104	8.00
F	14-15	Freeda M. Brown	WB79/104	33.00
G	14-32	Community Sportsman Club	176/370	79.52
H	14-33.4	Ronnie Lee & Debra Lee Robinson	315/252	16.40
I	14-33.5	Ronnie Lee & Debra Lee Robinson	315/134	8.10
J	14-40	Larry D. & Melinda J. Kinkade	285/577	25.63
K	2-15.1	Charles E. III & Cindy Roberts	369/55	0.31
L	2-15	Charles E. III & Cindy Roberts	420/317	0.11
M	2-19.1	Larry D. & Melinda J. Kinkade	330/241	0.01
N	2-16	Larry D. & Melinda J. Kinkade	330/241	0.03
O	2-18	Larry D. & Melinda J. Kinkade	330/241	0.04
P	2-21	Jennifer L. Martie	MS84/361	0.11
Q	2-17	Richard D. Miller, Jr.	448/308	0.12
R	2-44	Town of Pine Grove	405/714	0.24
S	2-43	Larry D. Blake & Robert E. Sovil	387/487	0.58
T	3-2	DPL Enterprises, LLC	446/374	0.17
U	3-1.1	John B. & Kathy Watson	367/34	0.22
V	3-2.1	DPL Enterprises, LLC	446/374	0.16
W	3-28	David B. & Gabrielle B. Palmer	369/531	1.57
X	11-74	James L. & Karen J. Dulaney	485/19	18.41
Y	16-2	Robert D. & Nancy L. Streets	219/100	33.70
Z	16-8	Dominion Gathering & Processing, Inc.	460/781	572.05
AA	16-41	Consolidated Gas Transmission Corp.	302/113	25.00
AB	16-42	Timothy & Michael McDiffitt	385/193	14.16
AC	16-43	Timothy & Michael McDiffitt	385/193	54.00
AD	18-10	Paul U. & Betty A. Garber Revocable Living Trust	474/722	150.00
AE	21-4.1	Eureka Hunter Land, LLC	431/771	258.75

FILE NO: 124-34-G-18
 DRAWING NO: Harlan 2H Well Plat
 SCALE: 1" = 2000'
 MINIMUM DEGREE OF ACCURACY:
 Submeter
 PROVEN SOURCE OF ELEVATION:


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

DATE: May 16 2024
 OPERATOR'S WELL NO: 07-103-03655
Harlan 2H
 API WELL NO
 47 - 103 - 03655

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



FILE NO: 124-34-G-18
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STATE OF WEST VIRGINIA
 DEPARTMENT OF ENVIRONMENTAL PROTECTION
 OIL AND GAS DIVISION

DATE: May 16 2024
 OPERATOR'S WELL NO: Harlan 2H
 API WELL NO
 47 - 103 - 03655

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>3: Robert Barry Myers, Jr. Lease</u> Robert Barry Myers, Jr.	Antero Resources Corporation	1/8+	300A/0634
<u>1: BRC Appalachian Minerals I, LLC Lease</u> BRC Appalachian I, LLC BRC Working Interest Company Chesapeake Appalachia LLC SWN Production Company Antero Exchange Properties LLC	BRC Working Interest Company Chesapeake Appalachia LLC SWN Production Company Antero Exchange Properties LLC Antero Resources Corporation	1/8 Assignment Assignment Assignment Merge	102A/0505 103A/0470 157A/0540 177A/0533 0013/0311
<u>2: Antero Minerals, LLC Lease</u> Antero Minerals, LLC	Antero Resources Corporation	1/8+	292A/0739
<u>4: Robert Barry Myers, Jr. Lease</u> Robert Barry Myers, Jr.	Antero Resources Corporation	1/8+	304A/0413
<u>5: Aunix Energy, LLC Lease</u> Aunix Energy, LLC	Antero Resources Corporation	1/8+	305A/0014
<u>6: Antero Minerals, LLC Lease</u> Antero Minerals, LLC	Antero Resources Corporation	1/8+	292A/0739
<u>7: Freeda Marie Brown Lease</u> Freeda Marie Brown	Antero Resources Corporation	1/8+	308A/0508
<u>8: Jay Michael Myers Lease</u> Jay Michael Myers Gastar Exploration USA Inc Stone Energy Corporation EQT Production Company	Gastar Exploration USA Inc Stone Energy Corporation EQT Production Company Antero Resources Corporation	1/8 Assignment Assignment Assignment	103A/0277 152A/0521 183A/0305 230A/0783
<u>10: William J. Patterson Lease</u> William J. Patterson	Antero Resources Corporation	1/8+	327A/0477
<u>8: Jay Michael Myers Lease</u> Jay Michael Myers Gastar Exploration USA Inc Stone Energy Corporation EQT Production Company	Gastar Exploration USA Inc Stone Energy Corporation EQT Production Company Antero Resources Corporation	1/8 Assignment Assignment Assignment	103A/0277 152A/0521 183A/0305 230A/0783
<u>11: David E. Bowyer Lease</u> David E. Bowyer	Antero Resources Corporation	1/8+	336A/0777

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JUN 28 2024

WV Department of
Environmental Protection

07/19/2024

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
<u>12: T.H. Alley, et ux Lease</u> T.H. Alley et ux L.G. Robinson Tri-State Gas Company South Penn Oil Company Hope Natural Gas Company 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 Tri-State Gas Company South Penn Oil Company Hope Natural Gas Company 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 Name Change Name Change Assignment	0048/0572 0059/0415 0073/0185 138A/0641 066A/0069 0013/0151 076A/0232 0013/0014 0013/0014 0013/0014 230A/0801
<u>18: Darlene M. Sargent Lease</u> Darlene M. Sargent	Antero Resources Corporation	1/8+	320A/0413
<u>20: WVDNR Lease</u> WVDNR	Antero Resources Corporation	1/8+	323A/0541
<u>24: Dennis Perry & Kendra Lee Lydick Lease</u> Dennis Perry & Kendra Lee Lydick	Antero Resources Corporation	1/8+	320A/0413
<u>42: Keith Eugene Rush Lease</u> Keith Eugene Rush	Antero Resources Corporation	1/8+	346A/0625
<u>52: David B. & Gabrielle B. Palmer Lease</u> David B. & Gabrielle B. Palmer	Antero Resources Corporation	1/8+	317A/0783
<u>51: Danny J. & Floriene G. Dulaney Lease</u> Danny J. & Floriene G. Dulaney	Antero Resources Corporation	1/8+	193A/0633
<u>58: Antero Minerals, LLC Lease</u> Antero Minerals, LLC	Antero Resources Corporation	1/8+	292A/0795
<u>85: Chesapeake Appalachia, LLC Lease</u> Chesapeake Appalachia, LLC SWN Production Company LLC Antero Exchange Properties LLC	SWN Production Company LLC Antero Exchange Properties LLC Antero Resources Corporation	1/8 Assignment Merger	157A/0634 177A/0533 0013/0311
<u>88: H3, LLC Lease</u> H3, LLC	Antero Resources Corporation	1/8+	347A/0174
<u>20: WVDNR Lease</u> WVDNR	Antero Resources Corporation	1/8+	323A/0541

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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
<u>89: Kimble White, et al Lease</u> Kimble White, et al Hope Natural Gas Company Consolidated Gas Supply Corporation Consolidated Gas Transmission Corporation CNG Transmission Corporation CONSOL Gas Company CNX Gas Company, LLC	Hope Natural Gas Company Consolidated Gas Supply Corporation Consolidated Gas Transmission Corporation CNG Transmission Corporation CONSOL Gas Company CNX Gas Company, LLC Antero Resources Corporation	1/8 Conveyance Conveyance Merger Merger Merger Assignment	0126/0216 0233/0387 0311/0184 0013/0151 0013/0114 0096/0307 365A/0129
<u>20: WVDNR Lease</u> WVDNR	Antero Resources Corporation	1/8+	323A/0541
<u>88: H3, LLC Lease</u> H3, LLC	Antero Resources Corporation	1/8+	347A/0174
<u>91: A.J. Wichterterman, et al Lease</u> A.J. Wichterterman et al 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	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 Merge Assignment Name Change Name Change Name Change Assignment	0107/0420 0233/0387 066A/0069 0013/0151 076A/0232 0013/0014 0013/0014 0013/0014 230A/0801
<u>92: Blackrock Enterprises, LLC Lease</u> Blackrock Enterprises, LLC	Antero Resources Corporation	1/8+	294A/0040
<u>93: Ridgetop Appalachia, LLC Lease</u> Ridgetop Appalachia, LLC	Antero Resources Corporation	1/8+	304A/0061
<u>92: Blackrock Enterprises, LLC</u> Blackrock Enterprises, LLC	Antero Resources Corporation	1/8+	294A/0040

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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.

**INFORMATION SUPPLIED UNDER WEST VIRGINIA CODE
Chapter 22, Article 6A, Section 5(a)(5)
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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:

Lease Name or Number	Grantor, Lessor, etc.	Grantee, Lessee, etc.	Royalty	Book/Page
<u>89: EQT Production Company Lease</u>	EQT Production Company	Antero Resources Corporation	1/8+	230A/0877

*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

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: Vice President of Land

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