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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)

Monday, November 1, 2021  
PERMIT MODIFICATION APPROVAL  
Horizontal 6A / New Drill

ANTERO RESOURCES CORPORATION  
1615 WYNKOOP STREET

DENVER, CO 80202

Re: Permit Modification Approval for ORNER UNIT 1H  
47-103-03428-00-00

**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: ORNER UNIT 1H  
Farm Name: DALLISON LUMBER, INC.  
U.S. WELL NUMBER: 47-103-03428-00-00  
Horizontal 6A New Drill  
Date Modification Issued: 11/2/2021

Promoting a healthy environment.

11/05/2021



**Antero Resources**  
1615 Wynkoop St.  
Denver, CO 80202  
**Office:** 303.357.7310  
**Fax:** 303.357.7315

October 11, 2021

West Virginia Department of Environmental Protection  
Office of Oil and Gas  
Attn: James Martin  
601 57<sup>th</sup> Street  
Charleston, WV 25304

Mr. Martin:

Antero Resources Corporation (Antero) would like to submit the following applications for modifications of well work permits to explore/develop the Marcellus Shale. Our **Wetzel** project is located in Wetzel County, WV. On the **existing Dogwood Pad** are three (3) **horizontal** shallow wells (Daags Unit 1H, Ormer Unit 1H and Ormer Unit 2H) that we are requesting approval to drill deeper to extend the laterals.

Attached you will find the following:

- Permit Application packages

If you have any questions please feel free to contact me at (304) 842-4153 or by email at [mhamsher@anteroresources.com](mailto:mhamsher@anteroresources.com).

Thank you in advance for your consideration.

Sincerely,

A handwritten signature in blue ink, appearing to read "Melissa Hamsher", written over a blue line that extends from the signature down to the typed name below.

Melissa Hamsher  
Permitting Agent  
Antero Resources Corporation

Enclosures

RECEIVED  
Office of Oil and Gas

OCT 14 2021

WV Department of  
Environmental Protection

11/05/2021

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

1) Well Operator: Antero Resources Corporat

<u>494507062</u>	<u>103-Wetzel</u>	<u>Green</u>	<u>Pine Grove 7.5'</u>
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Operator ID County District Quadrangle

2) Operator's Well Number: Orner Unit 1H Well Pad Name: Dogwood Pad

3) Farm Name/Surface Owner: Dallison Lumber Inc. Public Road Access: CO. Route 50

4) Elevation, current ground: 1308' Elevation, proposed post-construction: \_\_\_\_\_

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: 7600' TVD, Anticipated Thickness- 55 feet, Associated Pressure- 2800#

8) Proposed Total Vertical Depth: 7600' TVD

9) Formation at Total Vertical Depth: Marcellus

10) Proposed Total Measured Depth: 27300' MD

11) Proposed Horizontal Leg Length: 15795'

12) Approximate Fresh Water Strata Depths: 539'

13) Method to Determine Fresh Water Depths: 47-095-30941

14) Approximate Saltwater Depths: 2341' (47-095-30941)

15) Approximate Coal Seam Depths: 815' (47-103-31064)

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: \_\_\_\_\_

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#	80	80	CTS, 218 Cu. Ft.
Fresh Water	13-3/8"	New	J-55	54.5#	589	589	CTS, 532 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#	27300	27300	6507 Cu. Ft
Tubing	2-3/8"	New	N-80	4.7#			
Liners							

*Bryan Ham*  
10-13-21

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	~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"	12,630	9300	Class H-PC2 & 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			

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

Drill, perforate, fracture a new horizontal shallow well and complete 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): 35.9

22) Area to be disturbed for well pad only, less access road (acres): 15.40

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:

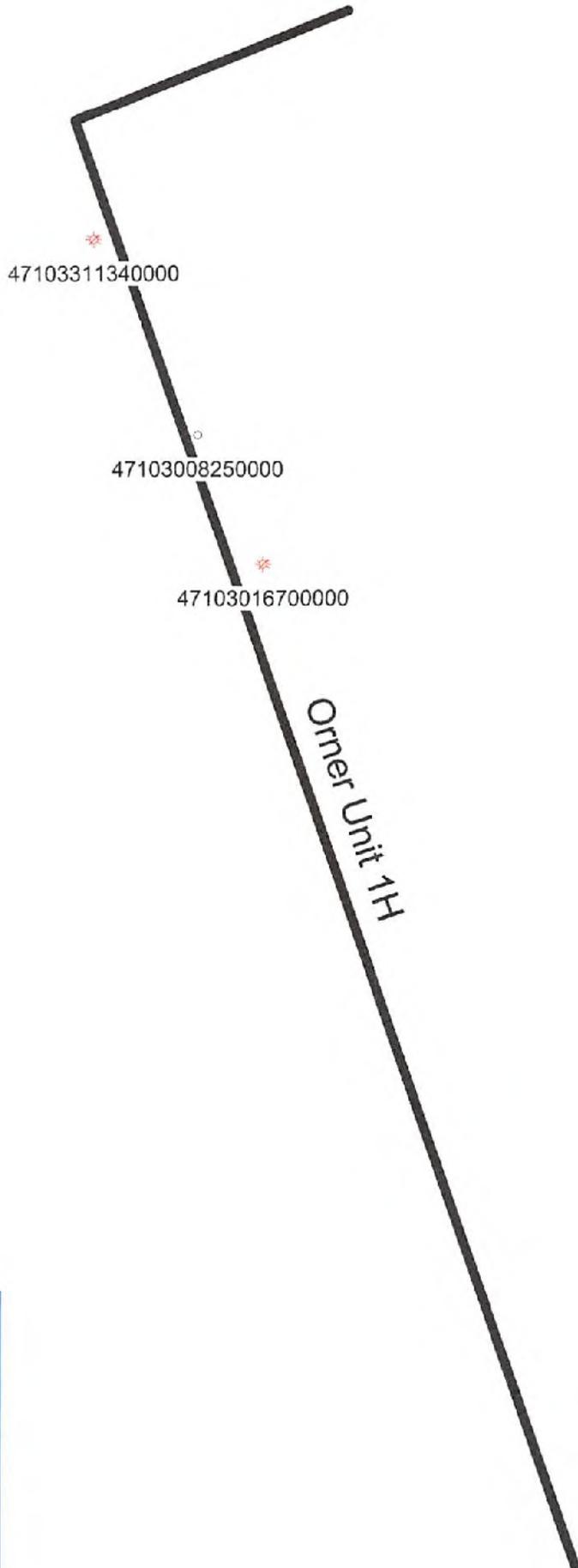
Conductor: blowhole clean with air, run casing, 10 bbls fresh water.

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.

\*Note: Attach additional sheets as needed.



Antero Resources Corporation

Orner Unit 1H - AOR



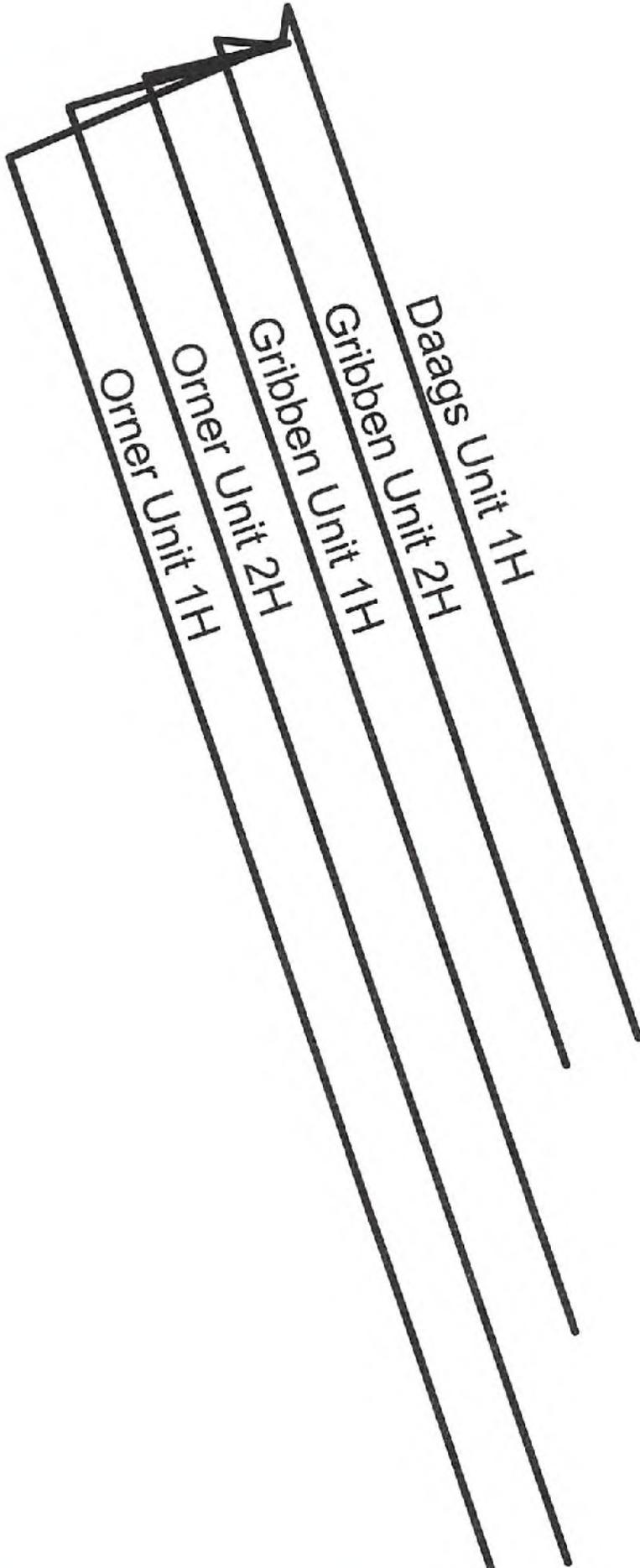
WELL SYMBOLS  
Plugged Gas Well

October 29, 2021

11/05/2021

**Orner Unit 1H AOR**

UWI (API Num)	Well Name	Well Number	Operator	Historical Operator	TD	Perforated Interval (shallowest, deepest)	Perforated Formation(s)	Producible Formation(s) not perf'd
47103311340000	EVA HAUGHT	1676	HOPE NATURAL GAS	HOPE NATURAL GAS	3,139	Unknown	Gordon	Weir, Berea, Benson, Alexander
47103008250000	WEST HEIRS	989	PERKINS OIL & GAS	CARNEGIE NATURAL GAS	Unknown	Unknown	Unknown	Unknown
47103016700000	KERNAN WILLIAM 1	2285	MANUFACT LIGHT & HEAT	MANUFACT LIGHT & HEAT	2,865	2842 - 2848	Gordon	Weir, Berea, Benson, Alexander



2,278' to Bottom Hole

4,587' to Top Hole

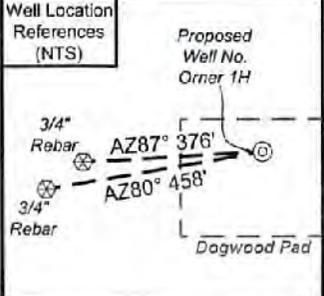
TOP HOLE LATITUDE 39 - 32 - 30  
BTM HOLE LATITUDE 39 - 30 - 00

LONGITUDE 80 - 42 - 30

5,537' to Top Hole

6,821' to Bottom Hole

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

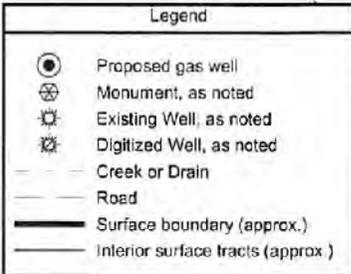
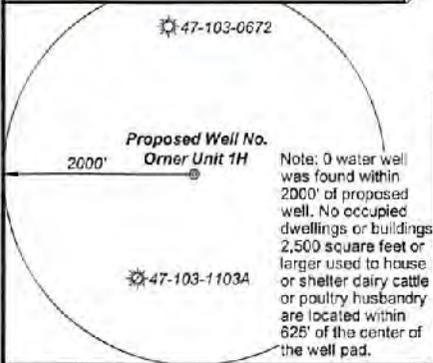


I, the undersigned, hereby certify that this plat is correct to the best of my knowledge and belief and shows all the information required by law and the rules issued and prescribed by the Department of Environmental Protection.

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



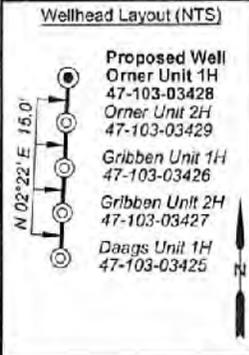
SEAL



Notes  
West Virginia Coordinate System of 1927, North Zone based upon Differential GPS Measurements.  
Well No. Orner Unit 1H Top Hole coordinates are  
N: 376,214.07' Latitude: 39°31'35.27"  
E: 1,654,577.56' Longitude: 80°43'28.54"  
Bottom Hole coordinates are  
N: 359,724.37' Latitude: 39°28'52.58"  
E: 1,656,665.11' Longitude: 80°42'59.05"  
UTM Zone 17, NAD 1983  
Top Hole Coordinates: Bottom Hole Coordinates  
N: 4,375,246.746m N: 4,370,233.668m  
E: 523,685.356m E: 524,405.078m  
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. Orner Unit 1H  
UTM Zone 17, NAD 1927  
Top Hole Coordinates  
N: 14,353,739.90'  
E: 1,718,076.51'  
Point of Entry Coordinates  
N: 14,352,201.47'  
E: 1,715,238.74'  
Bottom Hole Coordinates  
N: 14,337,292.86'  
E: 1,720,438.16'

	Bearing	Dist.
L1	S 10°09' E	1,524.8'
L2	S 21°45' W	1,789.7'
L3	N 89°17' W	929.3'
L4	N 18°02' W	1,340.5'
L5	S 62°30' W	3,229.1'



FILE NO: 329-34-G-17  
DRAWING NO: Orner 1H BHL MOD  
SCALE: 1" = 2000'  
MINIMUM DEGREE OF ACCURACY: Submeter  
PROVEN SOURCE OF ELEVATION: CORS, Monroe County, OH

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

DATE: October 1, 2021  
OPERATOR'S WELL NO. Orner Unit 1H  
API WELL NO. MW  
47 - 103 - 03428  
STATE COUNTY PERMIT

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

LOCATION: ELEVATION: 1,308' WATERSHED: Fishing Creek QUADRANGLE: TH: Pine Grove BH: Center Point

DISTRICT: Green Dallison SURFACE OWNER: Lumber, Inc. ROYALTY OWNER: Joan B. Hoge Trust; Waco Oil & Gas Co., Inc.; Terry Bartrug; Sandra D. Darby; LEASE NO: ACREAGE: 204.7505; 80.725;

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 27,300' MD

WELL OPERATOR: Antero Resources Corporation DESIGNATED AGENT: Dianna Stamper - CT Corporation System  
ADDRESS: 1615 Wynkoop Street ADDRESS: 5400 D Big Tyler Road  
Denver, CO 80202 Charleston, WV 25313

COUNTY: Wayne  
11/05/2021

ACREAGE: 208  
76; 47.5; 25; 38.5; 89;  
9.25; 39; 244; 68.9563;

**Antero Resources**  
**Well No. Orner 1H**  
**BHL MOD**

Antero Resources Corporation



Leases	
A	Joan B. Hoge Trust
B	Waco Oil & Gas Company Inc.
C	BRC Appalachian Minerals I, LLC
D	Terry Bartrug
E	BRC Appalachian Minerals I, LLC
F	BRC Appalachian Minerals I, LLC
G	Sandra D. Derby
H	William J. Walker
I	J.M. Mayfield, et al
J	Shiben Estates, Inc.
K	Shiben Estates, Inc.
L	BRC Appalachian Minerals I, LLC
M	J.W. & A.B. Haught
N	Christian Engle, et ux
O	Tribune Resources Minerals, LLC
P	BRC Appalachian Minerals I, LLC
Q	Tribune Resources Minerals, LLC
R	Tribune Resources Minerals, LLC
S	Kimberly A. Hoskins, et vir
T	Sharon Hosey Seckman
U	Tribune Resources Minerals, LLC
V	Tribune Resources Minerals, LLC
W	BRC Appalachian Minerals I LLC

ID	TM/Par	Owner	Bk/Pg	Acres
1	20-13	Dallison Lumber Inc.	440/243	208.00
2	20-12	Terry Bartrug	361/465	92.90
3	20-24	Lloyd Conley	355/553	89.00
4	20-16	Coastal Forest Resources Co.	444/105	75.50
5	20-30	Sandra D. Derby	384/585	21.50
6	20-40	Sandra D. Derby	384/585	3.50
7	20-31	Tony E. & Marion L. Crabtree	365/337	68.95
8	20-41	Sandra D. Derby	384/585	7.96
9	20-42	Sandra D. Derby	384/585	21.80
10	22-40	Robert L. Jr. & Donna Jones	436/692	16.00
11	22-5	Robert L. Jr. & Donna K. Jones	297/500	76.00
12	22-14.1	Tony E. & Marion L. Crabtree	365/337	41.80
13	22-6	Denzil W. Sloan	305/582	21.23
14	22-14	Denzil W. Sloan	305/582	9.47
15	22-18	Timothy L. & Vicki L. Glasscock	370/425	99.89
16	22-19	Coastal Forest Resources Co.	444/105	155.30
17	22-20	Lawrence J. Bish, et al	420/736	63.23
18	22-21.1	Thomas & Shawn Pratt	429/66	6.80
19	22-21.2	Thomas R. & Shen T. Pratt	312/697	23.00
20	22-34	Coastal Forest Resources Co.	444/105	172.91
21	22-28	Coastal Forest Resources Co.	444/105	77.10
22	22-27	Dominic J. & Delmer M. Kowalski	353/533	20.30
23	22-33	Dominic J. & Delmer M. Kowalski	353/533	20.30
24	3-11	Dominic J. & Delmer M. Kowalski	317/307	106.94
25	25-3	Coastal Forest Resources Co.	444/105	32.00
26	25-5	Christopher & Dennis Doyle	410/80	39.36
27	3-12	David Schulte, et al	WB14/440	60.73
28	25-12	Christopher & Dennis Doyle	410/80	9.50
29	25-13	Christopher & Dennis Doyle	410/80	38.50
30	25-10	Christopher & Dennis Doyle	410/80	13.00
31	25-14	Christopher & Dennis Doyle	410/80	11.00
32	25-15	Coastal Forest Resources Co.	444/105	2.30
33	25-16	Coastal Forest Resources Co.	444/105	139.57
34	3-13	William Blankenship	292/155	83.47

FILE NO: 329-34-G-17  
 DRAWING NO: Orner 1H BHL MOD  
 SCALE: 1" = 2000'  
 MINIMUM DEGREE OF ACCURACY:  
 Submeter  
 PROVEN SOURCE OF ELEVATION:  
 CORS, Monroe County, OH

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

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 API WELL NO **MOD**  
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 STATE COUNTY PERMIT

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DISTRICT: Green Dallison COUNTY: Wetzel 11/05/2021

SURFACE OWNER: Lumber, Inc. Sharon Hosey Seckman; Edward William Schulte; ACREAGE: 208 76; 47.5; 25; 38.5; 89;

ROYALTY OWNER: Joan B. Hoge Trust; Waco Oil & Gas Co. Inc.; Terry Bartrug; Sandra D. Derby; LEASE NO: ACREAGE: 204.7505; 80.725; 9.25; 39; 244; 88.9563;

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2,278' to Bottom Hole

4,587' to Top Hole

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BTM HOLE LATITUDE 39 - 30 - 00

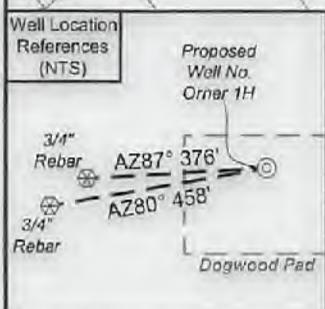
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LONGITUDE 80 - 42 - 30

5,537' to Top Hole

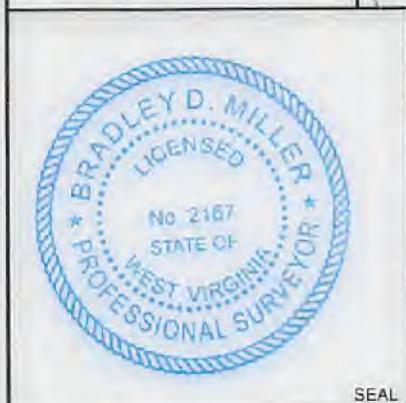
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**Antero Resources**  
**Well No. Orner 1H**  
**BHL MOD**  
Antero Resources Corporation

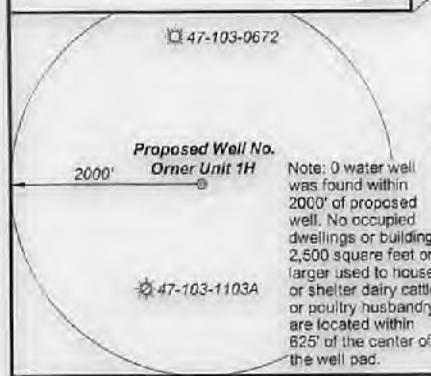


I, the undersigned, hereby certify that this plat is correct to the best of my knowledge and belief and shows all the information required by law and the rules issued and prescribed by the Department of Environmental Protection.

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



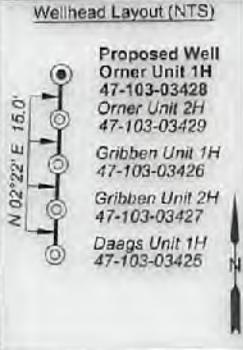
SEAL



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.)

Bearing	Dist.
L1 S 10°09' E	1,524.8'
L2 S 21°45' W	1,789.7'
L3 N 69°17' W	929.3'
L4 N 18°02' W	1,340.5'
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DISTRICT: Green Dallison Sharon Hosey Seckman; Christian Engle, et ux; Tribune Resources Minerals, LLC (3); J.M. Mayfield, et al; Shiben Estates, Inc. (2); BRC Appalachian Minerals I, LLC (5)  
SURFACE OWNER: Lumber, Inc. COUNTY: Wayne  
ROYALTY OWNER: Joan B. Hoge Trust; Waco Oil & Gas Co. Inc.; Terry Bartrug, Sandra D. Derby, LEASE NO: ACREAGE: 208  
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**Antero Resources**  
**Well No. Orner 1H**  
**BHL MOD**

Antero Resources Corporation



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L	BRC Appalachian Minerals I, LLC
M	J.W. & A.B. Haught
N	Christian Engle, et ux
O	Tribune Resources Minerals, LLC
P	BRC Appalachian Minerals I, LLC
Q	Tribune Resources Minerals, LLC
R	Tribune Resources Minerals, LLC
S	Kimberly A. Hoskins, et vir
T	Sharon Hosey Seckman
U	Tribune Resources Minerals, LLC
V	Tribune Resources Minerals, LLC
W	BRC Appalachian Minerals I, LLC

ID	TM/Par	Owner	Bk/Pg	Acres
1	20-13	Dallison Lumber Inc.	440/243	208.00
2	20-12	Terry Bartrug	361/485	92.90
3	20-24	Lloyd Conley	355/553	89.00
4	20-16	Coastal Forest Resources Co.	444/105	75.50
5	20-30	Sandra D. Derby	384/585	21.50
6	20-40	Sandra D. Derby	384/585	3.50
7	20-31	Tony E. & Marion L. Crabtree	365/337	68.95
8	20-41	Sandra D. Derby	384/585	7.96
9	20-42	Sandra D. Derby	384/585	21.80
10	22-40	Robert L. Jr. & Donna Jones	436/692	16.00
11	22-5	Robert L. Jr. & Donna K. Jones	297/500	76.00
12	22-14.1	Tony E. & Marion L. Crabtree	365/337	41.80
13	22-6	Denzil W. Sloan	305/582	21.23
14	22-14	Denzil W. Sloan	305/582	9.47
15	22-18	Timothy L. & Vicki L. Glasscock	370/425	99.89
16	22-19	Coastal Forest Resources Co.	444/105	155.30
17	22-20	Lawrence J. Bish, et al	420/736	63.23
18	22-21.1	Thomas & Shawn Pratt	429/66	6.80
19	22-21.2	Thomas R. & Shon T. Pratt	312/697	23.00
20	22-34	Coastal Forest Resources Co.	444/105	172.91
21	22-28	Coastal Forest Resources Co.	444/105	77.10
22	22-27	Dominic J. & Delmer M. Kowalski	353/533	20.30
23	22-33	Dominic J. & Delmer M. Kowalski	353/533	20.30
24	3-11	Dominic J. & Delmer M. Kowalski	317/307	106.94
25	25-3	Coastal Forest Resources Co.	444/105	32.00
26	25-5	Christopher & Dennis Doyle	410/80	39.96
27	3-12	David Schulte, et al	WB14/440	80.73
28	25-12	Christopher & Dennis Doyle	410/80	9.50
29	25-13	Christopher & Dennis Doyle	410/80	38.50
30	25-10	Christopher & Dennis Doyle	410/80	13.00
31	25-14	Christopher & Dennis Doyle	410/80	11.00
32	25-15	Coastal Forest Resources Co.	444/105	2.30
33	25-16	Coastal Forest Resources Co.	444/105	139.57
34	3-13	William Blankenship	292/155	83.47

FILE NO: 329-34-G-17  
 DRAWING NO: Orner 1H BHL MOD  
 SCALE: 1" = 2000'  
 MINIMUM DEGREE OF ACCURACY:  
 Submeter  
 PROVEN SOURCE OF ELEVATION:  
 CORS, Monroe County, OH

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

DATE: October 1 2021  
 OPERATOR'S WELL NO. Orner Unit 1H  
 API WELL NO **MAP**  
 47 - 103 - 03428  
 STATE COUNTY PERMIT

WELL TYPE:  OIL  GAS  LIQUID INJECTION  WASTE DISPOSAL  
 (IF GAS) PRODUCTION:  STORAGE  DEEP  SHALLOW  
 LOCATION: ELEVATION: 1,308' WATERSHED: Fishing Creek QUADRANGLE: TH: Pine Grove BH: Center Point  
 DISTRICT: Green Dallison COUNTY: Wayne  
 SURFACE OWNER: Lumber, Inc. Sharon Hosey Seckman; Edward William Schulte; Christian Engle, et ux; Tribune Resources Minerals, LLC (2); J.M. Mayfield, et al; Shiben Estates, Inc. (2); BRC Appalachian Minerals I, LLC (5);  
 ROYALTY OWNER: Joan B. Hoge Trust; Waco Oil & Gas Co. Inc.; Terry Bartrug; Sandra D. Derby; LEASE NO: ACREAGE: 208  
 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 27,300' MD

WELL OPERATOR: Antero Resources Corporation DESIGNATED AGENT: Dianna Stamper - CT Corporation System  
 ADDRESS: 1615 Wynkoop Street ADDRESS: 5400 D Big Tyler Road  
 Denver, CO 80202 Charleston, WV 25313

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 –

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Grantor, lessor, etc.	Grantee, lessee, etc.	Royalty	Book/Page
<b>Waco Oil &amp; Gas, Inc. Lease</b>			
Waco Oil & Gas, Inc.	Antero Resources Corporation	1/8+	0184/0741
<b>Terry Bartrug Lease</b>			
Terry Bartrug	Antero Resources Corporation	1/8+	192A/0903
<b>BRC Appalachian Minerals I, LLC Lease</b>			
BRC Appalachian Minerals I, LLC	BRC Working Interest Company, LLC	1/8+	102A/0505
BRC Working Interest Company, LLC	Chesapeake Appalachia, LLC	Assignment	103A/0470
Chesapeake Appalachia, LLC	Statoil USA Onshore Properties, Inc.	Assignment	120A/0109
Statoil USA Onshore Properties, Inc.	SWN Exchange Title Holder LLC	Assignment	158A/0801
SWN Exchange Title Holder LLC	SWN Production Company, LLC	Merger	0013/0296
SWN Production Company, LLC	Antero Exchange Properties LLC	Assignment	177A/0533
Antero Exchange Properties LLC	Antero Resources Corporation	Merger	0013/0311
<b>BRC Appalachian Minerals I, LLC Lease</b>			
BRC Appalachian Minerals I, LLC	BRC Working Interest Company, LLC	1/8+	102A/0505
BRC Working Interest Company, LLC	Chesapeake Appalachia, LLC	Assignment	103A/0470
Chesapeake Appalachia, LLC	Statoil USA Onshore Properties, Inc.	Assignment	120A/0109
Statoil USA Onshore Properties, Inc.	SWN Exchange Title Holder LLC	Assignment	158A/0801
SWN Exchange Title Holder LLC	SWN Production Company, LLC	Merger	0013/0296
SWN Production Company, LLC	Antero Exchange Properties LLC	Assignment	177A/0533
Antero Exchange Properties LLC	Antero Resources Corporation	Merger	0013/0311
<b>Sandra D. Derby Lease</b>			
Sandra D. Derby	Antero Resources Corporation	1/8+	232A/0202
<b>J. M. Mayfield and Sarah E. Mayfield, and R. E. West Lease</b>			
J. M. Mayfield and Sarah E. Mayfield, and R. E. West	Carnegie Natural Gas Company	1/8	0012A/0529
Carnegie Natural Gas Company	Perkins Oil and Gas Inc	Assignment	0074A/0277
Perkins Oil and Gas Inc	Stone Energy Corporation	Assignment	126A/0958
Stone Energy Corporation	EQT Production Company	Assignment	183A/0305
EQT Production Company	Antero Resources Corporation	Assignment	203A/0783
<b>Shiben Estates, Inc Lease</b>			
Shiben Estates, Inc	Antero Resources Corporation	1/8+	257A/0029
<b>Shiben Estates, Inc Lease</b>			
Shiben Estates, Inc	Antero Resources Corporation	1/8+	257A/0049
<b>BRC Appalachian Minerals I, LLC Lease</b>			

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BRC Appalachian Minerals I, LLC	BRC Working Interest Company, LLC	1/8+	102A/0505
BRC Working Interest Company, LLC	Chesapeake Appalachia, LLC	Assignment	103A/0470
Chesapeake Appalachia, LLC	Statoil USA Onshore Properties, Inc.	Assignment	120A/0109
Statoil USA Onshore Properties, Inc.	SWN Exchange Title Holder LLC	Assignment	158A/0801
SWN Exchange Title Holder LLC	SWN Production Company, LLC	Merger	0013/0296
SWN Production Company, LLC	Antero Exchange Properties LLC	Assignment	177A/0533
Antero Exchange Properties LLC	Antero Resources Corporation	Merger	0013/0311
<b><u>Christian Engle, et ux Lease</u></b>			
Christian Engle and Amy Engle his wife	C.B. Shaffer	1/8	0055/0082
C.B. Shaffer	South Penn Oil Company	Assignment	UNKNOWN
South Penn Oil Company	Tri State Gas Company	Assignment	0059/0429
Tri State Gas Company	Manufacturers Light and Heat Company	Assignment	009A/0141
Manufacturers Light and Heat Company	A.M Snider and Duane M Snider and Kathleen Rhinehart partners dba Hundred Gas Company	Assignment	048A/0109
A.M Snider and Duane M Snider and Kathleen Rhinehart partners dba Hundred Gas Company	Hundred Gas Company	Assignment	0256/0189
Hundred Gas Company	Carl D Perkins	Assignment	055A/0062
Carl D Perkins	Perkins Oil and Gas Inc	Assignment	075A/0621
Perkins Oil and Gas Inc	Stone Energy Corporation	Assignment	126A/0958
Stone Energy Corporation	EQT Production Company	Assignment	183A/0305
EQT Production Company	Antero Resources Corporation	Assignment	203A/0783
<b><u>BRC Appalachian Minerals I, LLC Lease</u></b>			
BRC Appalachian Minerals I, LLC	BRC Working Interest Company, LLC	1/8+	102A/0505
BRC Working Interest Company, LLC	Chesapeake Appalachia, LLC	Assignment	103A/0470
Chesapeake Appalachia, LLC	Statoil USA Onshore Properties, Inc.	Assignment	120A/0109
Statoil USA Onshore Properties, Inc.	SWN Exchange Title Holder LLC	Assignment	158A/0801
SWN Exchange Title Holder LLC	SWN Production Company, LLC	Merger	0013/0296
SWN Production Company, LLC	Antero Exchange Properties LLC	Assignment	177A/0533
Antero Exchange Properties LLC	Antero Resources Corporation	Merger	0013/0311
<b><u>Tribune Resources Minerals, LLC Lease</u></b>			
Tribune Resources Minerals, LLC	Antero Resources Corporation	1/8+	0059/0325
<b><u>Sharon Hosey Seckman Lease</u></b>			
Sharon Hosey Seckman	Antero Resources Corporation	1/8+	226A/0623
<b><u>Tribune Resources Minerals, LLC Lease</u></b>			
Tribune Resources Minerals, LLC	Antero Resources Corporation	1/8+	0059/0325

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Grantor, lessor, etc.	Grantee, lessee, etc.	Royalty	Book/Page
✓ <u>Tribune Resources Minerals, LLC Lease</u> Tribune Resources Minerals, LLC	Antero Resources Corporation	1/8+	0059/0325

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Lease Name or Number	Grantor, Lessor, etc.	Grantee, Lessee, etc.	Royalty	Book/Page
BRC Appalachian Minerals I, LLC	BRC Appalachian Minerals I, LLC	BRC Working Interest Company, LLC	1/8+	102A/0505
	BRC Working Interest Company, LLC	Chesapeake Appalachia, LLC	Assignment	103A/0470
	Chesapeake Appalachia, LLC	Statoil USA Onshore Properties, Inc.	Assignment	120A/0109
	Statoil USA Onshore Properties, Inc.	SWN Exchange Title Holder LLC	Assignment	158A/0801
	SWN Exchange Title Holder LLC	SWN Production Company, LLC	Merger	0013/0296
	SWN Production Company, LLC	Antero Exchange Properties LLC	Assignment	177A/0533
Antero Exchange Properties LLC	Antero Resources Corporation	Merger	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.

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: VP of Land



Stansberry, Wade A <wade.a.stansberry@wv.gov>

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## Modification Horizontal H6A Well Work Permit (API: 47-103-03428)

1 message

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**Stansberry, Wade A** <wade.a.stansberry@wv.gov>

Tue, Nov 2, 2021 at 9:01 AM

To: mhamsher@anteroresources.com, Dani DeVito <ddevito@shalepro.com>, Scott Lemley <slemley@wvassessor.com>, "Harris, Bryan O" <bryan.o.harris@wv.gov>

I have attached a copy of the newly issued well [permit](#) number "**ORNER UNIT 1H**". This will serve as your copy.

If you have any questions, then [please](#) contact us here at the Office of Oil and Gas.

Thank you,

**Wade A. Stansberry**

**Environmental Resource Specialist 3**

**West Virginia Department of Environmental Protection**

**Office of Oil & Gas**

**601 57th St. SE**

**Charleston, WV 25304**

**(304) 926-0499 ext. 41115**

**(304) 926-0452 fax**

**[Wade.A.Stansberry@wv.gov](mailto:Wade.A.Stansberry@wv.gov)**

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 **47-103-03428 - mod.pdf**  
1353K

11/05/2021