



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, June 22, 2022
PERMIT MODIFICATION APPROVAL
Horizontal 6A / New Drill

ANTERO RESOURCES CORPORATION
1615 WYNKOOP STREET

DENVER, CO 80202

Re: Permit Modification Approval for FOLGER UNIT 2H
47-095-02784-00-00

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: FOLGER UNIT 2H
Farm Name: ELDON J & RUTH A HELMAN
U.S. WELL NUMBER: 47-095-02784-00-00
Horizontal 6A New Drill
Date Modification Issued: 6/22/2022

Promoting a healthy environment.

06/24/2022

WW-6B
(04/15)

API NO. 47-095 - 02784
OPERATOR WELL NO. Folger Unit 2H MOD
Well Pad Name: Eldon Pad

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

1) Well Operator: Antero Resources Corporation 494507062 095 - Tyler Ellsworth Middlebourne 7.5'
Operator ID County District Quadrangle

2) Operator's Well Number: Folger Unit 2H MOD Well Pad Name: Eldon Pad

3) Farm Name/Surface Owner: Eldon J. & Ruth A Helman Public Road Access: Allen Run Rd

4) Elevation, current ground: 880' as built 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: 6400' TVD, Anticipated Thickness- 55 feet, Associated Pressure- 2850#

8) Proposed Total Vertical Depth: 6400' TVD

9) Formation at Total Vertical Depth: Marcellus

10) Proposed Total Measured Depth: 24,300'

11) Proposed Horizontal Leg Length: 15,113'

12) Approximate Fresh Water Strata Depths: 156'

13) Method to Determine Fresh Water Depths: 47095009120000 Offset well records. Depths have been adjusted according to surface elevations.

14) Approximate Saltwater Depths: 1676'

15) Approximate Coal Seam Depths: None Anticipated

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: _____

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JUN 06 2022
WV Department of
Environmental Protection

DMH 6-3-22

WW-6B
(04/15)

API NO. 47- 095 - 02784
 OPERATOR WELL NO. Folger Unit 2H MOD
 Well Pad Name: Eldon Pad

18)

CASING AND TUBING PROGRAM

<u>TYPE</u>	<u>Size (in)</u>	<u>New or Used</u>	<u>Grade</u>	<u>Weight per ft. (lb/ft)</u>	<u>FOOTAGE: For Drilling (ft)</u>	<u>INTERVALS: Left in Well (ft)</u>	<u>CEMENT: Fill-up (Cu. Ft.)/CTS</u>
Conductor	20"	New	H-40	79#	80'	80'	CTS, 77 Cu. Ft.
Fresh Water	13-3/8"	New	J/K-55	54.5#	300'	300'	CTS, 313Cu. Ft.
Coal	9-5/8"	New	J-/K55	36#	2500'	2500'	CTS, 1018 Cu. Ft.
Intermediate							
Production	5-1/2"	New	P-110CY	20#	24300'	24300'	CTS, 5195 Cu. Ft.
Tubing	2-3/8"	New	N-80	4.7#			
Liners							

<u>TYPE</u>	<u>Size (in)</u>	<u>Wellbore Diameter (in)</u>	<u>Wall Thickness (in)</u>	<u>Burst Pressure (psi)</u>	<u>Anticipated Max. Internal Pressure (psi)</u>	<u>Cement Type</u>	<u>Cement Yield (cu. ft./k)</u>
Conductor	20"	24"	0.375"	2250	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"	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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JUN 06 2022

WV Department of
Environmental Protection

MEG 6-3-22

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): 35.04 acres

22) Area to be disturbed for well pad only, less access road (acres): 12.65 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 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

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Environmental Protection

25) Proposed borehole conditioning procedures:

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

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

Intermediate: blowhole clean with air, trip to surface casing shoe, trip to bottom, blowhole clean with air, trip out, run casing, circulate 40 bbls brine water followed by 10 bbls fresh water and 25 bbls bentonite mud, pump 10 bbls fresh water.

Production: circulate with 14 lb/gal NaCl mud, trip to middle of lateral, circulate, pump high viscosity sweep, trip to base of curve, pump high viscosity sweep, trip to top of curve, trip to bottom, circulate, pump high viscosity sweep, trip out, run casing, circulate 10 bbls fresh water, pump 48 bbls barite pill, pump 10 bbls fresh water followed by 48 bbls mud flush and 10 bbls water.

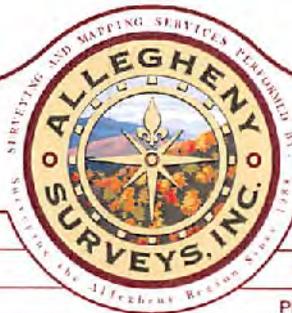
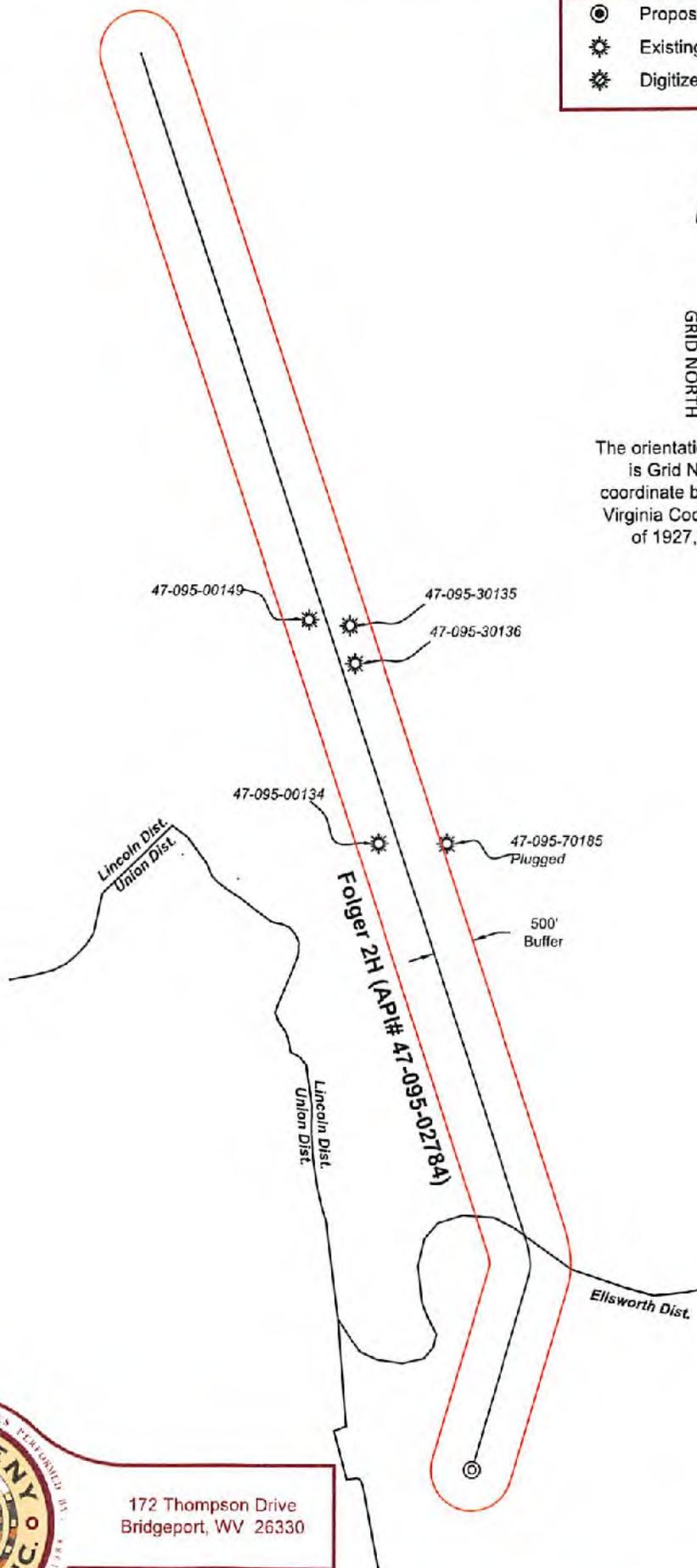
*Note: Attach additional sheets as needed.

LEGEND

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



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



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: June 13, 2022
SURVEYED: Dec, 2016	PROJECT NO: 02-54-U-20
FIELD CREW: C.L., K.M.	DRAWING NO: Folger 2H Well Exhibit

Sheet 1 of 1



Scale: 1 inch = 2000 feet

06/24/2022

UWI (API Num)	Well Name	Well Number	Operator	Hist Oper	TD	Perforated Interval (shallowest, deepest)	Perforated Formation(s)	Producible Formation(s) not perf'd
47095001490000	DAVID GARMAN HEIRS	2	TRIAD HUNTER LLC	BEREN I H	1,642	1629 - 1642	Big Injun	Weir, Alexander, Berea
47095001340000	J W KILE	7	BEREN I H	BEREN I H	1,730			
47095301350000	J H MEREDITH	8	BEREN I H	BEREN I H	1,922		Keener	Weir, Alexander, Berea
47095301360000	J W KILE	2	BEREN I H	BEREN I H	1,729		Keener	Weir, Alexander, Berea
47095701850000	J H MEREDITH	6	PURE OIL CO THE	PURE OIL CO THE				

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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
A: <u>Eldon J. & Ruth A. Helman Lease</u> Eldon J. Helman, et ux	Antero Resources Corporation	1/8+	0427/0610
C: <u>Ruth H Wells Lease</u> Ruth H Wells Antero Resources Appalachian Corporation	Antero Resources Appalachian Corporation Antero Resources Corporation	1/8+ Name Change	417/706 557/430
E: <u>WVDNR Lease</u> WVDNR	Antero Resources Corporation	1/8+	175/713
F: <u>Debra Lynn Warner Lease</u> Debra Lynn Warner	Antero Resources Corporation	1/8+	127/334
G: <u>Mary Ann Devine Lease</u> Mary Ann Devine	Antero Resources Corporation	1/8+	21/88
K: <u>William P Ingram et ux Lease</u> William P Ingram et ux	Antero Resources Corporation	1/8+	148/145
M: <u>Timothy B Ingram Lease</u> Timothy B Ingram	Antero Resources Corporation	1/8+	148/156
L: <u>William Michael Wells et ux Lease</u> William Michael Wells et ux	Antero Resources Corporation	1/8+	148/173
N: <u>Myrtle Liva Tucker Lease</u> Myrtle Liva Tucker	Antero Resources Corporation	1/8+	148/170
R: <u>Beverly J Lamp Lease</u> Beverly J Lamp	Antero Resources Corporation	1/8+	117/164
S: <u>Larry A Wells et ux Lease</u> Larry A Wells et ux	Antero Resources Corporation	1/8+	136/61
T: <u>George C Riddle et ux Lease</u> George C Riddle et ux	Antero Resources Corporation	1/8+	616/556

**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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- (1) the tract of land is the same tract described in this Application, partly or wholly depicted in the accompanying plat, and described in the Construction and Reclamation Plan;
- (2) the parties and recordation data (if recorded) for lease(s) or other continuing contract(s) by which the Applicant claims the right to extract, produce or market the oil or gas are as follows:

Lease Name or Number	Grantor, Lessor, etc.	Grantee, Lessee, etc.	Royalty	Book/Page
U: <u>Harold L. Marshall, Jr., et ux Lease</u>	Harold L. Marshall, Jr., et ux	<i>Antero Resources Corporation</i>	1/8+	0427/0610

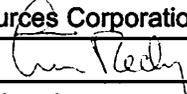
*Partial Assignments to Antero Resources Corporation include 100% rights to extract, produce and market the oil and gas from the Marcellus and any other formations completed with this well.

**Acknowledgement of Possible Permitting/Approval
In Addition to the Office of Oil and Gas**

The permit applicant for the proposed well work addressed in this application hereby acknowledges the possibility of the need for permits and/or approvals from local, state, or federal entities in addition to the DEP, Office of Oil and Gas, including but not limited to the following:

- WV Division of Water and Waste Management
- WV Division of Natural Resources WV Division of Highways
- U.S. Army Corps of Engineers
- U.S. Fish and Wildlife Service
- County Floodplain Coordinator

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

Well Operator: Antero Resources Corporation
 By: Tim Rady 
 Its: Senior VP of Land

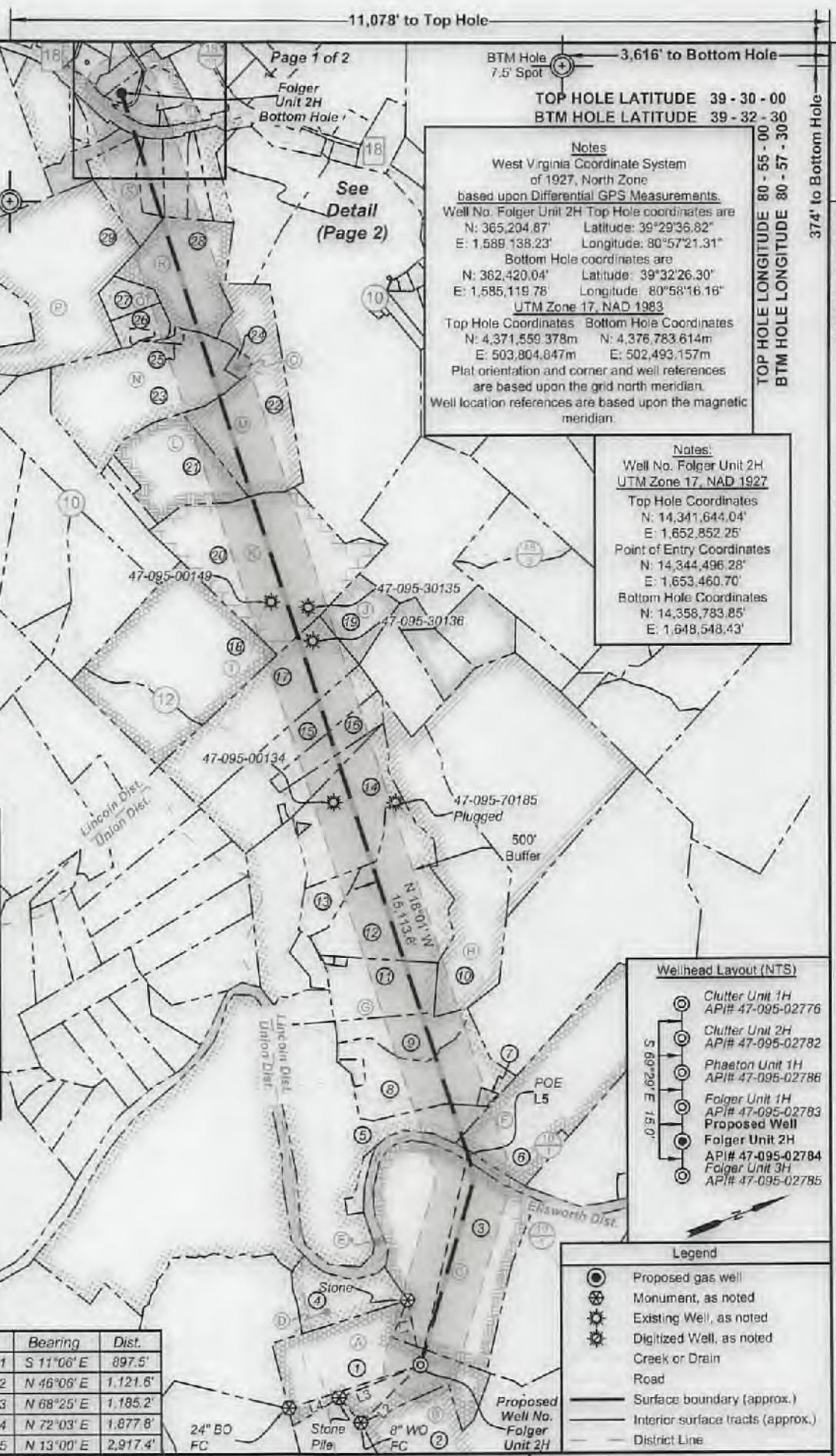
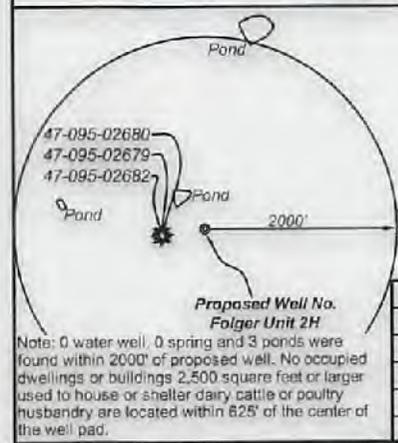
Antero Resources
Well No. Folger 2H
BHL MOD
 Antero Resources Corporation



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



11,078' to Top Hole

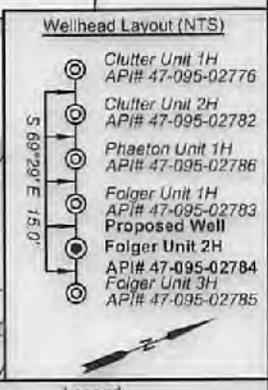
BTM Hole 7.5' Spot

3,616' to Bottom Hole

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

Notes
 West Virginia Coordinate System of 1927, North Zone
 based upon Differential GPS Measurements.
 Well No. Folger Unit 2H Top Hole coordinates are
 N: 365,204.87' Latitude: 39°29'36.82"
 E: 1,589,138.23' Longitude: 80°57'21.31"
 Bottom Hole coordinates are
 N: 362,420.04' Latitude: 39°32'26.30"
 E: 1,585,119.78' Longitude: 80°58'16.16"
 UTM Zone 17, NAD 1983
 Top Hole Coordinates Bottom Hole Coordinates
 N: 4,371,559.378m N: 4,376,783.614m
 E: 503,804.847m E: 502,493.157m
 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. Folger Unit 2H
 UTM Zone 17, NAD 1927
 Top Hole Coordinates
 N: 14,341,644.04'
 E: 1,652,852.25'
 Point of Entry Coordinates
 N: 14,344,496.28'
 E: 1,653,460.70'
 Bottom Hole Coordinates
 N: 14,358,783.85'
 E: 1,648,548.43'



- 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.)
 - District Line

FILE NO: 02-54-U-20
 DRAWING NO: Folger Unit 2H Well Plat
 SCALE: 1" = 2000'
 MINIMUM DEGREE OF ACCURACY: Submeter
 PROVEN SOURCE OF ELEVATION: WVDOT, Harrisville, WV

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

DATE: June 13 2022
 OPERATOR'S WELL NO. Folger Unit 2H
 API WELL NO. ~~47-095-02784~~
 47 - 095 - 02784
 STATE COUNTY PERMIT

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

LOCATION: ELEVATION: As-Built 880' WATERSHED: Middle Island Creek QUADRANGLE: BH, Padon City

DISTRICT: Lincoln Ellsworth ELSON J. & HAROLD L. MARSHALL, JR., ET UX; BEVERLY J. LAMP, LARRY A. WELLS, ET UX; GEORGE C. RIDDLE, ET UX; WVDNR; WILLIAM P. INGRAM, ET UX; TIMOTHY B. INGRAM; MYRTLE LIVA TUCKER. COUNTY: Tyler 06/24/2022

SURFACE OWNER: Ruth A. Helman ACREAGE: 61.83 406.69; 88; 56.5; 97.5; 71.93152;

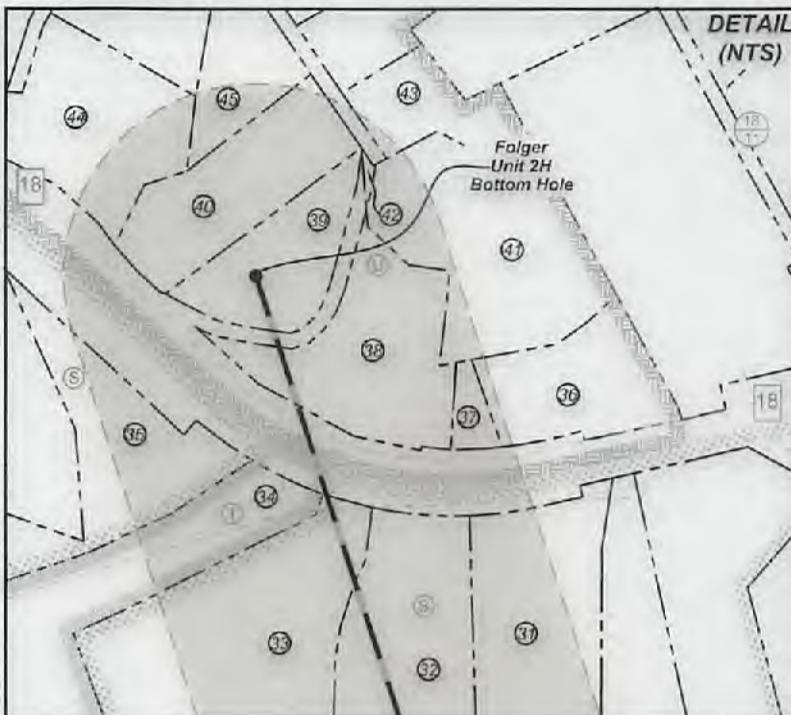
ROYALTY OWNER: ELSON J. & RUTH A. HELMAN; RUTH H. WELLS; DEBRA LYNN WARNER; MARY ANN DEVINE. LEASE NO: ACREAGE: 177.67900; 6.80; 62.5; 42.75; 34.3;

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: 24,300' MD

PLUG AND ABANDON CLEAN OUT AND REPLUG TARGET FORMATION: Marcellus Shale ESTIMATED DEPTH: 24,300' 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

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



ID	TM/Par	Owner	Bk/Pg	Acres
1	19-1	Eldon J. & Ruth A. Helman	383/761	61.83
2	19-42	Carol J. Cox	334/298	142.00
3	13-10	Eldon J. & Ruth A. Helman	383/761	96.82
4	8-1-1	Eldon J. & Ruth A. Helman	383/761	21.00
5	15-18	B F. Kile	174/412	70.00
6	15-16	Mary Ann Devine, et al	W36/282	61.67
7	15-15.1	Bruce B. Seckman	346/100	0.99
8	15-15	Jack B. & Bennie H. Kile, Jr.	155/195	39.64
9	15-15.2	Ridgetop Capital, LP	375/206	17.54
10	15-8	Ridgetop Capital, LP	375/206	68.20
11	15-10	Doris E. Haught	364/544	55.71
12	15-7.1	John Preston Litten	391/769	56.00
13	15-7.2	John P. Litten	500/466	8.90
14	15-7	Ivan W. & Karen L. Makely	281/498	35.10
15	15-4	Ivan W. & Karen L. Makely	337/639	41.29
16	15-4.1	Ivan W. & Karen L. Makely	404/130	12.00
17	15-2	Stephen E. Surface, et al	365/302	54.00
18	12-55.1	Nathaniel V. & Tamela Frum	428/604	75.00
19	12-56	Gerald C. & Mary Lou Clutter	247/307	17.87
20	12-50	William P. Ingram	605/159	88.00
21	12-48	William Michael & Mary Ann Wells	314/416	34.82
22	12-45	Timothy B. Ingram	326/353	56.35
23	12-44	William P. Ingram	455/477	62.50
24	12-45.1	Timothy B. Ingram	326/353	1.98
25	12-25	Kenneth W. Hammond	363/204	0.75
26	12-24	Timothy Ingram	335/837	4.90
27	12-23	Timothy Ingram	335/837	6.00
28	12-26	Kenneth W. Hammond	393/592	41.25
29	12-22	William & Joanne Ingram	140/502	84.30
30	12-4.3	Judith L. Ashcraft	344/896	5.70
31	12-4.2	Kelley R. Stewart	325/921	8.30
32	12-4	Jean Ashcraft	294/666	7.10
33	12-3	Carl W. & Wanda L. Lemley	175/179	13.50
34	12-2	George C. & Stephanie D. Riddle	334/543	8.80
35	12-1	Ralph E. & Constance L. Heinizman	167/419	20.60
36	12-73	Larry H. & Elizabeth A. Helmick	351/153	2.80
37	12-73.1	Larry H. & Elizabeth A. Helmick	351/153	0.45
38	12-76	Timothy & Sandra Miller	352/12	4.17
39	8-46.18	William R. Romine	374/7	2.53
40	8-46.14	William R. Romine	W35/444	3.50
41	12-75	Frank L. & Connie S. Fluharty	392/547	5.34
42	12-74	Harold L. Jr. & Linda K. Marshall	337/658	0.06
43	8-46.8	Brian J. & Christine L. Pfohl	323/798	2.01
44	8-46.16	David A. & Diana S. Palmer	349/746	4.12
45	8-46.15	William R. Romine	W35/444	2.01

Leases	
A	Eldon J. & Ruth A. Helman
B	Carol J. Cox
C	Ruth H. Wells
D	Norma R. Spencer
E	WVDNR
F	Debra Lynn Warner
G	Mary Ann Devine
H	Ridgetop Capital, LP
I	Karen Moore Hwilka
J	Gerald C. Clutter, et ux
K	William P. Ingram, et ux
L	William Michael Wells, et ux
M	Timothy B. Ingram
N	Myrtle Liva Tucker
O	Timothy B. Ingram
P	William P. Ingram
Q	Timothy B. Ingram
R	Beverly J. Lamp
S	Larry A. Wells, et ux
T	George C. Riddle, et ux
U	Harold L. Marshall, Jr., et ux

FILE NO: 02-54-U-20
 DRAWING NO: Folger Unit 2H Well Plat
 SCALE: 1" = 2000'
 MINIMUM DEGREE OF ACCURACY:
 Submeter
 PROVEN SOURCE OF ELEVATION:
 WVDOT, Harrisville, WV

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

DATE: June 13 2022
 OPERATOR'S WELL NO. Folger Unit 2H
 API WELL NO. **4709502784**
 STATE COUNTY PERMIT

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

LOCATION: ELEVATION: As-Built 880' WATERSHED: Outlet Middle Island Creek QUADRANGLE: TH: Middlebourne BH: Paden City
 DISTRICT: Lincoln Elsworth COUNTY: Tyler 06/24/2022
 SURFACE OWNER: Eldon J. & Ruth A. Helman Harold L. Marshall, Jr. et ux; Beverly J. Lamp; Larry A. Wells, et ux; George C. Riddle, et ux ACREAGE: 61.83 406.69; 88; 56.5; 97.5; 71; 301.52;
 ROYALTY OWNER: Eldon J. & Ruth A. Helman; Ruth H. Wells; Dabra Lynn Warner; Mary Ann Devine; WVDNR; William P. Ingram, et ux; Timothy B. Ingram; Myrtle Liva Tucker; LEASE NO: ACREAGE: 177.67900; 6.80;
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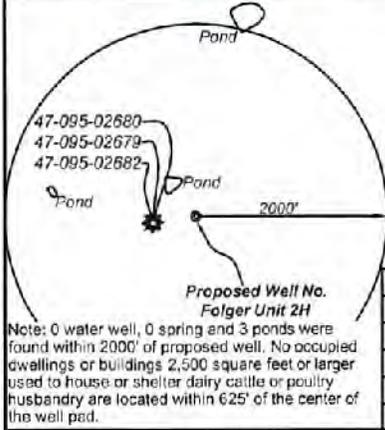
WELL OPERATOR: Antero Resources Corporation DESIGNATED AGENT: Dianna Stamper - CT Corporation System
 ADDRESS: 1615 Wynkoop Street ADDRESS: 5400 D Big Tyler Road
 Denver, CO 80202 Charleston, WV 25313

**Antero Resources
Well No. Folger 2H
BHL MOD**
Antero Resources Corporation

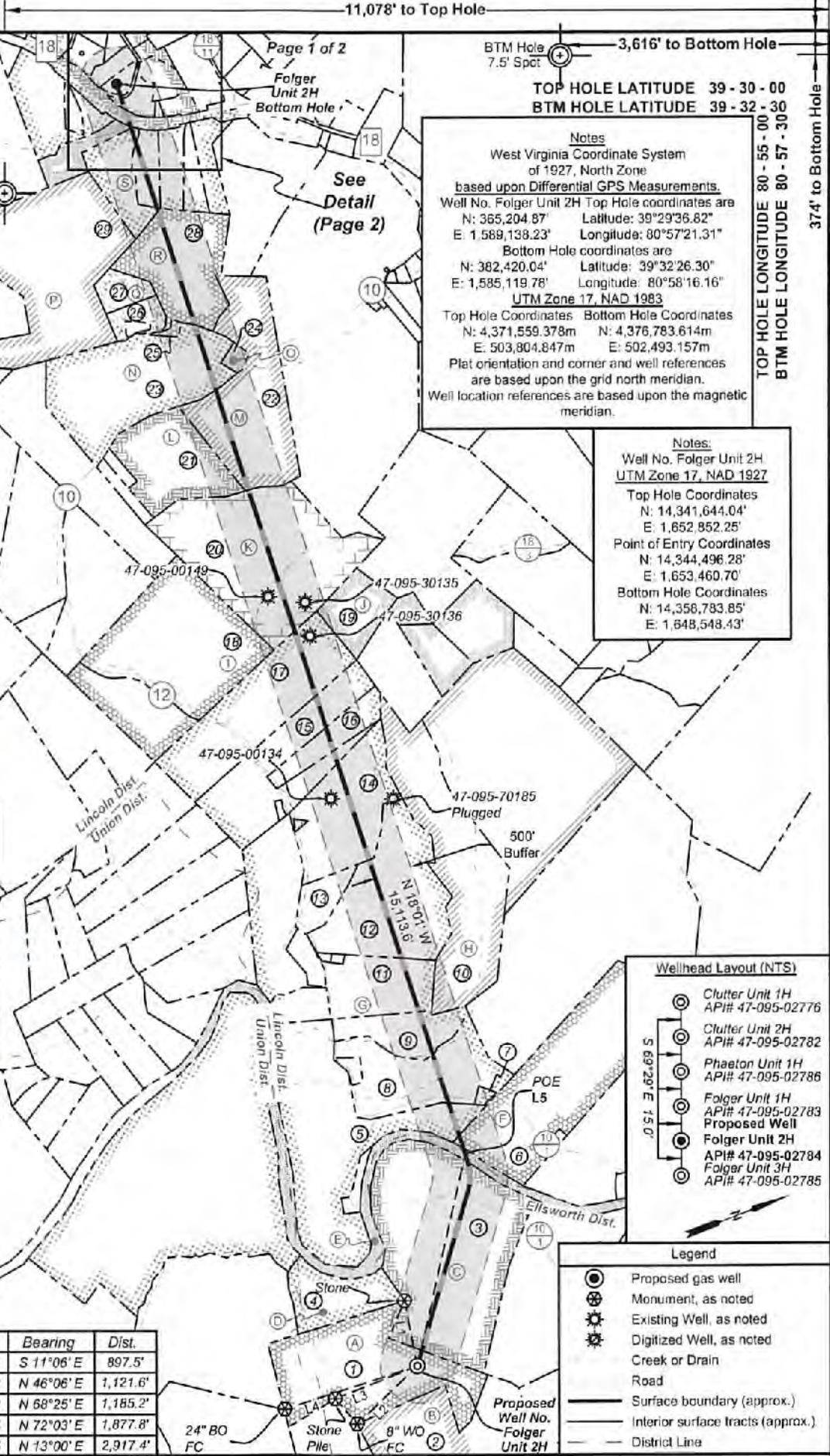


I, the undersigned, hereby certify that this plat is correct to the best of my knowledge and belief and shows all the information required by law and the rules issued and prescribed by the Department of Environmental Protection.

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

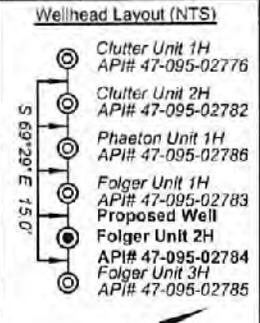


	Bearing	Dist.
L1	S 11°08' E	897.5'
L2	N 46°06' E	1,121.6'
L3	N 68°25' E	1,185.2'
L4	N 72°03' E	1,877.8'
L5	N 13°00' E	2,917.4'



Notes
West Virginia Coordinate System of 1927, North Zone
based upon Differential GPS Measurements.
Well No. Folger Unit 2H Top Hole coordinates are
N: 365,204.87' Latitude: 39°29'36.82"
E: 1,589,138.23' Longitude: 80°57'21.31"
Bottom Hole coordinates are
N: 382,420.04' Latitude: 39°32'26.30"
E: 1,585,119.78' Longitude: 80°58'16.16"
UTM Zone 17, NAD 1983
Top Hole Coordinates: Bottom Hole Coordinates
N: 4,371,559.378m N: 4,376,783.614m
E: 503,804.847m E: 502,493.157m
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. Folger Unit 2H
UTM Zone 17, NAD 1927
Top Hole Coordinates
N: 14,341,644.04'
E: 1,852,852.25'
Point of Entry Coordinates
N: 14,344,496.28'
E: 1,653,460.70'
Bottom Hole Coordinates
N: 14,358,783.85'
E: 1,648,548.43'



- 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.)
 - District Line

FILE NO: 02-54-U-20
DRAWING NO: Folger Unit 2H Well Plat
SCALE: 1" = 2000'
MINIMUM DEGREE OF ACCURACY: Submeter
PROVEN SOURCE OF ELEVATION: WVDOT, Harrisville, WV

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

DATE: June 13 20 22
OPERATOR'S WELL NO. Folger Unit 2H
API WELL NO **MAD**
47 — 095 — 02784
STATE COUNTY PERMIT

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

LOCATION: ELEVATION: As-Built 880' WATERSHED: Outlet Middle Island Creek QUADRANGLE: BH: Paden City TH: Middlebourne

DISTRICT: Lincoln Ellsworth SURFACE OWNER: Ruth A. Helman Harold L. Marshall, Jr, et ux; Beverly J. Lamp; Larry A. Wells, et ux; George C. Riddle, et ux COUNTY: Tyler **06/24/2022**
Eldon J. & Ruth A. Helman WVDNR; William P. Ingram, et ux; Timothy B. Ingram; Myrtle Liva Tucker ACREAGE: 61.83 97.5; 71.93152;

ROYALTY OWNER: Eldon J. & Ruth A. Helman; Ruth H. Wells; Debra Lynn Warner; Mary Ann Devine; LEASE NO: _____ ACREAGE: 177.67900; 6.80;
406.69; 88; 56.5;

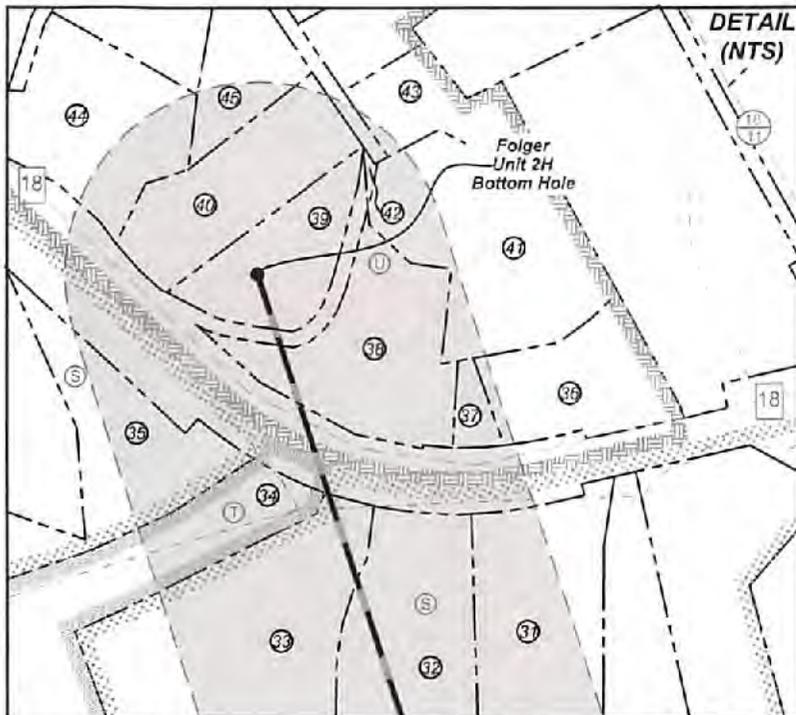
PROPOSED WORK: DRILL CONVERT DRILL DEEPER FRACTURE OR STIMULATE PLUG OFF OLD FORMATION
 PERFORATE NEW FORMATION OTHER PHYSICAL CHANGE IN WELL (SPECIFY) BHL MOD

PLUG AND ABANDON CLEAN OUT AND REPLUG TARGET FORMATION: Marcellus Shale ESTIMATED DEPTH: 24,300' 6,400' TVD

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

Antero Resources
Well No. Folger 2H
BHL MOD

Antero Resources Corporation



ID	TM/Par	Owner	Bk/Pg	Acres
1	19-1	Eldon J. & Ruth A. Helman	383/761	61.83
2	19-42	Carol J. Cox	334/298	142.00
3	13-10	Eldon J. & Ruth A. Helman	383/761	96.82
4	6-1.1	Eldon J. & Ruth A. Helman	383/761	21.00
5	15-18	B.F. Kile	174/412	70.00
6	15-16	Mary Ann Devine, et al	W36/282	81.67
7	15-15.1	Bruce B. Seckman	348/100	0.99
8	15-15	Jack B. & Bennie H. Kile, Jr.	155/195	39.64
9	15-15.2	Ridgetop Capital, LP	375/206	17.54
10	15-8	Ridgetop Capital, LP	375/206	68.20
11	15-10	Doris E. Haught	364/544	55.71
12	15-7.1	John Preston Litten	391/769	56.00
13	15-7.2	John P. Litten	500/466	8.90
14	15-7	Ivan W. & Karen L. Makely	281/498	35.10
15	15-4	Ivan W. & Karen L. Makely	337/639	41.29
16	15-4.1	Ivan W. & Karen L. Makely	404/130	12.00
17	15-2	Stephen E. Surface, et al	365/302	54.00
18	12-55.1	Nathaniel V. & Tamela Frum	428/604	75.00
19	12-56	Gerald C. & Mary Lou Clutter	247/307	17.87
20	12-50	William P. Ingram	605/159	88.00
21	12-48	William Michael & Mary Ann Wells	314/416	34.62
22	12-45	Timothy B. Ingram	326/353	56.35
23	12-44	William P. Ingram	455/477	62.50
24	12-45.1	Timothy B. Ingram	326/353	1.98
25	12-25	Kenneth W. Hammond	363/204	0.75
26	12-24	Timothy Ingram	335/837	4.90
27	12-23	Timothy Ingram	335/837	6.00
28	12-26	Kenneth W. Hammond	393/692	41.25
29	12-22	William & Joanne Ingram	140/502	84.30
30	12-4.3	Judith L. Ashcraft	344/396	5.70
31	12-4.2	Kelley R. Stewart	325/921	8.30
32	12-4	Jean Ashcraft	294/666	7.10
33	12-3	Carl W. & Wanda L. Lemley	175/179	13.50
34	12-2	George C. & Stephanie D. Riddle	334/543	8.80
35	12-1	Ralph E. & Constance L. Heintzman	167/419	20.60
36	12-73	Larry H. & Elizabeth A. Helmick	351/153	2.80
37	12-73.1	Larry H. & Elizabeth A. Helmick	351/153	0.45
38	12-76	Timothy & Sandra Miller	352/12	4.17
39	8-46.18	William R. Romine	374/7	2.53
40	8-46.14	William R. Romine	W35/444	3.50
41	12-75	Frank L. & Connie S. Fluharty	392/547	5.34
42	12-74	Harold L. Jr. & Linda K. Marshall	337/658	0.06
43	8-46.8	Brian J. & Christine L. Pfohl	323/798	2.01
44	8-46.16	David A. & Diana S. Palmer	349/746	4.12
45	8-46.15	William R. Romine	W35/444	2.01

Leases	
A	Eldon J. & Ruth A. Helman
B	Carol J. Cox
C	Ruth H. Wells
D	Norma R. Spencer
E	WVDNR
F	Debra Lynn Warner
G	Mary Ann Devine
H	Ridgetop Capital, LP
I	Karen Moore Hwilka
J	Gerald C. Clutter, et ux
K	William P. Ingram, et ux
L	William Michael Wells, et ux
M	Timothy B. Ingram
N	Myrtle Liva Tucker
O	Timothy B. Ingram
P	William P. Ingram
Q	Timothy B. Ingram
R	Beverly J. Lamp
S	Larry A. Wells, et ux
T	George C. Riddle, et ux
U	Harold L. Marshall, Jr., et ux

FILE NO: 02-54-U-20
 DRAWING NO: Folger Unit 2H Well Plat
 SCALE: 1" = 2000'
 MINIMUM DEGREE OF ACCURACY:
 Submeter
 PROVEN SOURCE OF ELEVATION:
 WVDOT, Harrisville, WV

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

DATE: June 13 2022
 OPERATOR'S WELL NO. Folger Unit 2H
 API WELL NO **MOD**
 47 - 095 - 02784
 STATE COUNTY PERMIT

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

LOCATION: ELEVATION: As-Built 880' WATERSHED: Outlet Middle Island Creek QUADRANGLE: BH: Paden City TH: Middlebourne
 DISTRICT: Lincoln Ellsworth COUNTY: Tyler 06/24/2022
 SURFACE OWNER: Eldon J. & Ruth A. Helman; Harold L. Marshall, Jr, et ux; Beverly J. Lamp; Larry A. Wells, et ux; George C. Riddle, et ux ACREAGE: 61.83 406.69; 88; 56.5; 97.3; 71.33; 152.
 ROYALTY OWNER: Eldon J. & Ruth A. Helman; Ruth H. Wells; Debra Lynn Warner; Mary Ann Devine; WVDNR; William P. Ingram, et ux; Timothy B. Ingram; Myrtle Liva Tucker; LEASE NO: ACREAGE: 177.67900; 8.80; 62.5; 42.75; 34.3;

PROPOSED WORK: DRILL CONVERT DRILL DEEPER FRACTURE OR STIMULATE PLUG OFF OLD FORMATION
 PERFORATE NEW FORMATION OTHER PHYSICAL CHANGE IN WELL (SPECIFY) BHL MOD 6.400' TVD
 PLUG AND ABANDON CLEAN OUT AND REPLUG TARGET FORMATION: Marcellus Shale ESTIMATED DEPTH: 24,300' 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 –

- (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>A: Eldon J. & Ruth A. Helman Lease</u> Eldon J. Helman, et ux	Antero Resources Corporation	1/8+	0427/0610
<u>C: Ruth H Wells Lease</u> Ruth H Wells Antero Resources Appalachian Corporation	Antero Resources Appalachian Corporation Antero Resources Corporation	1/8+ Name Change	417/706 557/430
<u>E: WVDNR Lease</u> WVDNR	Antero Resources Corporation	1/8+	175/713
<u>F: Debra Lynn Warner Lease</u> Debra Lynn Warner	Antero Resources Corporation	1/8+	127/334
<u>G: Mary Ann Devine Lease</u> Mary Ann Devine	Antero Resources Corporation	1/8+	21/88
<u>K: William P Ingram et ux Lease</u> William P Ingram et ux	Antero Resources Corporation	1/8+	148/145
<u>M: Timothy B Ingram Lease</u> Timothy B Ingram	Antero Resources Corporation	1/8+	148/156
<u>L: William Michael Wells et ux Lease</u> William Michael Wells et ux	Antero Resources Corporation	1/8+	148/173
<u>N: Myrtle Liva Tucker Lease</u> Myrtle Liva Tucker	Antero Resources Corporation	1/8+	148/170
<u>R: Beverly J Lamp Lease</u> Beverly J Lamp	Antero Resources Corporation	1/8+	117/164
<u>S: Larry A Wells et ux Lease</u> Larry A Wells et ux	Antero Resources Corporation	1/8+	136/61
<u>T: George C Riddle et ux Lease</u> George C Riddle et ux	Antero Resources Corporation	1/8+	616/556

RECEIVED
Office of Oil and Gas

JUN 06 2022

WV Department of
Environmental Protection

06/24/2022

**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: <u>Harold L. Marshall, Jr., et ux Lease</u>	Harold L. Marshall, Jr., et ux	<i>Antero Resources Corporation</i>	1/8+	0427/0610

**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.*

**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

RECEIVED
Office of Oil and Gas

JUN 06 2022

WV Department of
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 VP of Land