



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, December 11, 2023
PERMIT MODIFICATION APPROVAL
Horizontal 6A / New Drill

ANTERO RESOURCES CORPORATION
1615 WYNKOOP STREET

DENVER, CO 80202

Re: Permit Modification Approval for Gunto 2H
47-103-03617-00-00

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.

A handwritten signature in blue ink, appearing to read 'James A. Martin', is positioned above the printed name and title.

James A. Martin
Chief

Operator's Well Number: Gunto 2H
Farm Name: Kenneth E & Vicky A VanDyne
U.S. WELL NUMBER: 47-103-03617-00-00
Horizontal 6A New Drill
Date Modification Issued: 12/11/2023

Promoting a healthy environment.

12/15/2023

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

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

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

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

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

5) Well Type (a) Gas X Oil _____ Underground Storage _____
Other _____

(b) If Gas Shallow X Deep _____
Horizontal X

6) Existing Pad: Yes or No No

7) Proposed Target Formation(s), Depth(s), Anticipated Thickness and Expected Pressure(s):
Marcellus Shale: 7600' TVD, Anticipated Thickness- 55 feet, Associated Pressure- 2850#

8) Proposed Total Vertical Depth: 7600' TVD

9) Formation at Total Vertical Depth: Marcellus

10) Proposed Total Measured Depth: 28700' MD

11) Proposed Horizontal Leg Length: 17726'

12) Approximate Fresh Water Strata Depths: 612'

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

14) Approximate Saltwater Depths: 2193'

15) Approximate Coal Seam Depths: 1010'

16) Approximate Depth to Possible Void (coal mine, karst, other): None Anticipated

17) Does Proposed well location contain coal seams directly overlying or adjacent to an active mine? Yes _____ No X

(a) If Yes, provide Mine Info: Name: _____

Depth: _____

Seam: _____

Owner: _____

CK#4025746
\$7500⁰⁰
11/14/2023

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[Signature]
12/6/23

18)

CASING AND TUBING PROGRAM

TYPE	Size (in)	New or Used	Grade	Weight per ft. (lb/ft)	FOOTAGE: For Drilling (ft)	INTERVALS: Left in Well (ft)	CEMENT: Fill-up (Cu. Ft.)/CTS
Conductor	20"	New	J-55	94#	100'	100' ✓	CTS, 96 Cu. Ft.
Fresh Water	13-3/8"	New	J-55	54.5#	662'	662' ✓	CTS, 690 Cu. Ft. ✓
Coal	9-5/8"	New	J-55	36#	3450'	3450' ✓	CTS, 1405 Cu. Ft.
Intermediate							
Production	5-1/2"	New	P110-ICY	23#	28700'	28700' ✓	CTS, 7483Cu. 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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Smiley
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12/15/2023

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

Drill a new horizontal shallow well into the Marcellus Shale.

*Antero will be air drilling the fresh water string which makes it difficult to determine when fresh water is encountered. Therefore, we have built in a buffer for the casing setting depth which helps to ensure that all fresh water zones are covered.

20) Describe fracturing/stimulating methods in detail, including anticipated max pressure and max rate:

Antero plans to pump Slickwater into the Marcellus Shale formation in order to ready the well for production. The fluid will be comprised of approximately 99 percent water and sand, with less than 1 percent special-purpose additives as shown in the attached "List of Anticipated Additives Used for Fracturing or Stimulating Well."

Anticipated Max Pressure - 9300 lbs
Anticipated Max Rate - 80 bpm

21) Total Area to be disturbed, including roads, stockpile area, pits, etc., (acres): 71.85 acres

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

23) Describe centralizer placement for each casing string:

Conductor: no centralizers
Surface Casing: one centralizer 10' above the float shoe, one on the insert float collar and one every 4th joint spaced up the hole to surface.
Intermediate Casing: one centralizer above float joint, one centralizer 5' above float collar and one every 4th collar to surface.
Production Casing: one centralizer at shoe joint and one every 3 joints to top of cement in intermediate casing.

24) Describe all cement additives associated with each cement type:

Conductor: no additives, Class A/L cement.
Surface: Class A/L cement with 2-3% calcium chloride and 1/4 lb of flake
Intermediate: Class A/L cement with 1/4 lb of flake, 5 gallons of clay treat
Production: Lead cement- 50/50 Class H/Poz + 1.5% salt + 1% C-45 + 0.5% C-16a + 0.2% C-12 + 0.45% C-20 + 0.05% C-51
Production: Tail cement- Class G/H + 45 PPS Calcium Carbonate + 1.0% FL-160 + 0.2% ACGB-47 + 0.05% ACSA-51 + 0.2% ACR-20

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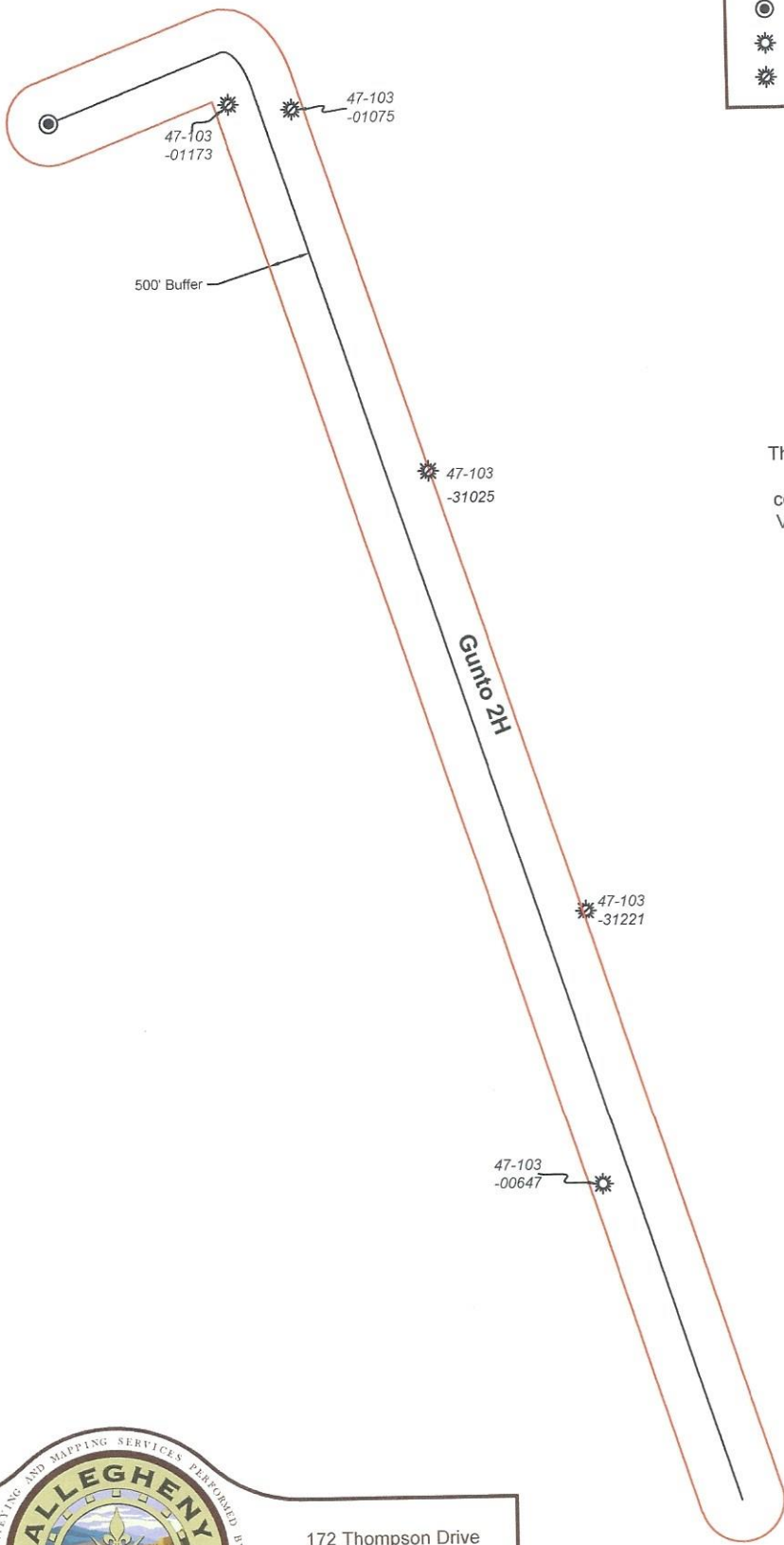
25) Proposed borehole conditioning procedures:

Conductor: blowhole clean with air, run casing, 10 bbls fresh water.
Surface: blowhole clean with air, trip to conductor shoe, trip to bottom, blowhole clean with air, trip out, run casing, circulate pipe capacity + 40 bbls fresh water followed by 25 bbls bentonite mud, 10 bbls fresh water spacer.
Intermediate: blowhole clean with air, trip to surface casing shoe, trip to bottom, blowhole clean with air, trip out, run casing, circulate 40 bbls brine water followed by 10 bbls fresh water and 25 bbls bentonite mud, pump 10 bbls fresh water.
Production: circulate with 14 lb/gal NaCl mud, trip to middle of lateral, circulate, pump high viscosity sweep, trip to base of curve, pump high viscosity sweep, trip to top of curve, trip to bottom, circulate, pump high viscosity sweep, trip out, run casing, circulate 10 bbls fresh water, pump 48 bbls barite pill, pump 10 bbls fresh water followed by 48 bbls mud flush and 10 bbls water.

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*Note: Attach additional sheets as needed.

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12/16/23

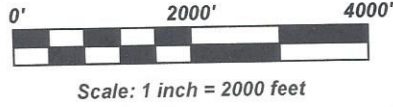


LEGEND	
●	Proposed gas well
⊛	Existing Well, as noted
⊛	Digitized Well, as noted



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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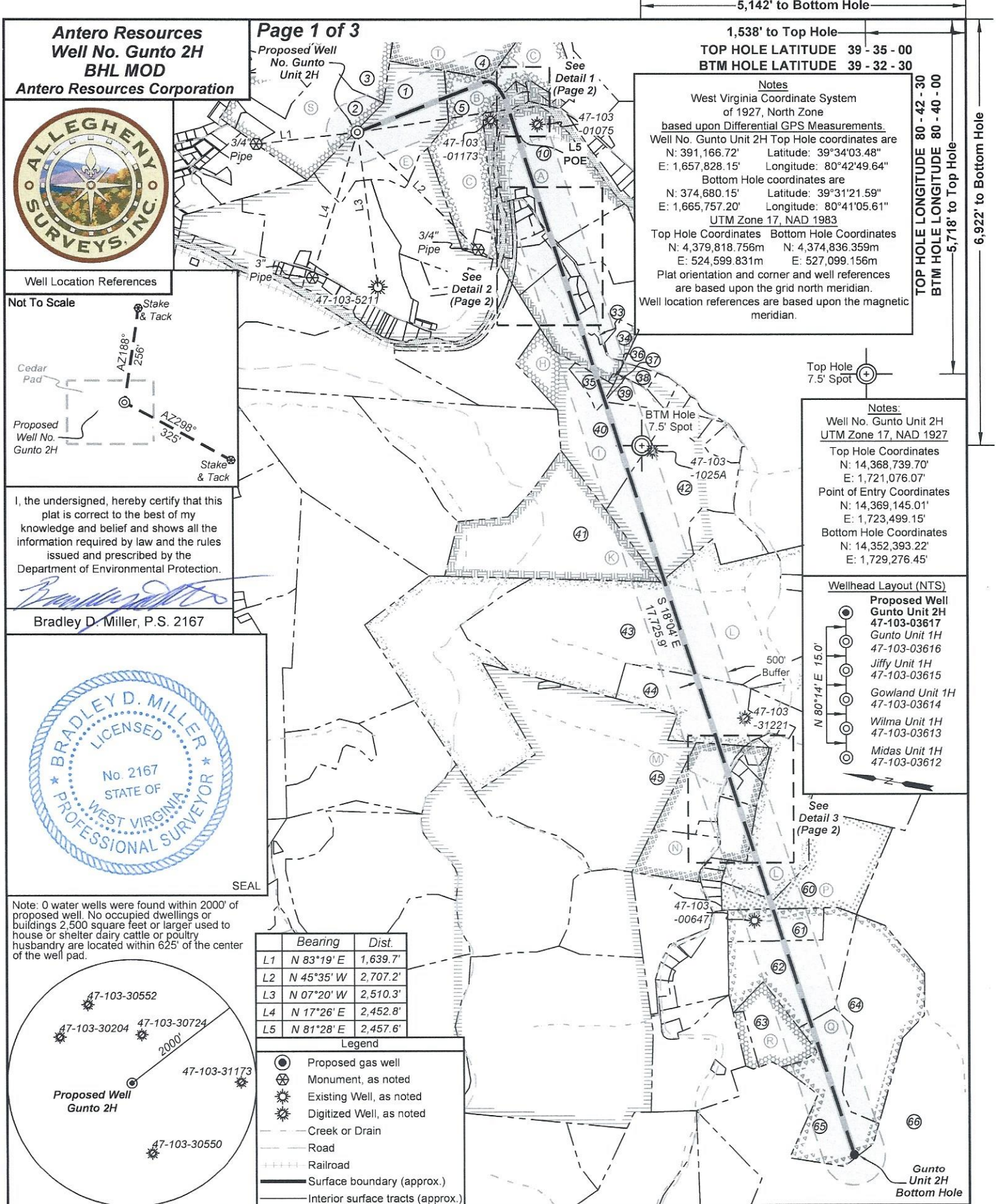
		172 Thompson Drive Bridgeport, WV 26330	
Bridgeport Office Phone: (304) 848-5035 Fax: (304) 848-5037		DRAWN BY: J. Smith	
PARTY CHIEF: C. Lynch		PREPARED: October 23, 2023	
RESEARCH: J. Miller		PROJECT NO: 123-34-G-18	
SURVEYED: Dec. 2016		DRAWING NO: Gunto 2H AOR	
FIELD CREW: C.L., K.M.		Sheet 1 of 1	

12/15/2023

UWI (API Num)	Well Name	Well Number	Operator	Historical Operator	TD	Perforated Interval (shallowest, deepest)	Perforated Formations(s)	Producible Formations(s) not perf'd
47103011730000	K MORGAN	1739	A.V.CO INC	A.V.CO INC	2,815		Hamshire Group	Weir, Berea, Benson, Alexander
47103010750000	E V NORRIS	3	DIVERSIFIED PRODUCTION LLC	PENNZOIL CO INC	2,558		Big Injun	Weir, Berea, Benson, Alexander
471030312210000	LS HOYT	34	EAST RESOURCES	JAM OIL & GAS CO	2,705			
47103006470000	T CUNNINGHAM	5	DIVERSIFIED PRODUCTION LLC	CONSOL GAS SUPPLY GRP	2,593		Hamshire Group	Weir, Berea, Benson, Alexander
471030310250000	PLEASTHAUGHT	5243	HOPE NATURAL GAS	HOPE NATURAL GAS	2,957		Maxton, Big Injun, Fourth	Weir, Berea, Benson, Alexander

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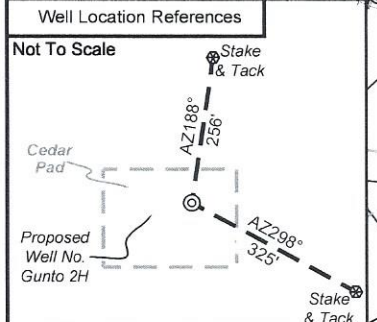
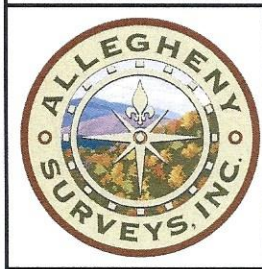


Antero Resources
Well No. Gunto 2H
BHL MOD
Antero Resources Corporation

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5,142' to Bottom Hole
 1,538' to Top Hole
TOP HOLE LATITUDE 39 - 35 - 00
BTM HOLE LATITUDE 39 - 32 - 30

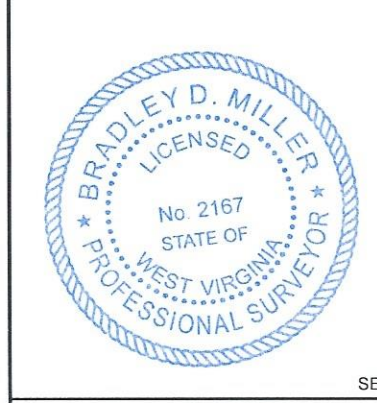
Notes
 West Virginia Coordinate System of 1927, North Zone based upon Differential GPS Measurements.
 Well No. Gunto Unit 2H Top Hole coordinates are
 N: 391,166.72' Latitude: 39°34'03.48"
 E: 1,657,828.15' Longitude: 80°42'49.64"
 Bottom Hole coordinates are
 N: 374,680.15' Latitude: 39°31'21.59"
 E: 1,665,757.20' Longitude: 80°41'05.61"
 UTM Zone 17, NAD 1983
 Top Hole Coordinates Bottom Hole Coordinates
 N: 4,379,818.756m N: 4,374,836.359m
 E: 524,599.831m E: 527,099.156m
 Plat orientation and corner and well references are based upon the grid north meridian.
 Well location references are based upon the magnetic meridian.



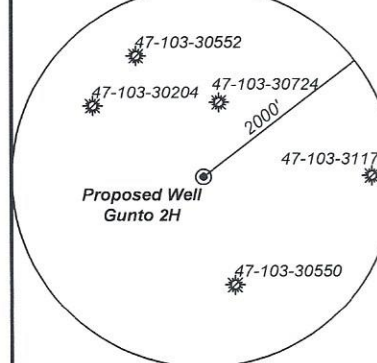
I, the undersigned, hereby certify that this plat is correct to the best of my knowledge and belief and shows all the information required by law and the rules issued and prescribed by the Department of Environmental Protection.

Bradley D. Miller

Bradley D. Miller, P.S. 2167



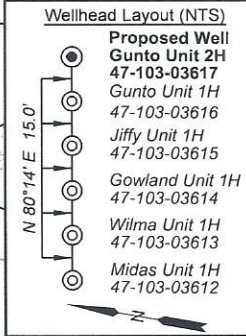
Note: 0 water wells were found within 2000' of proposed well. No occupied dwellings or buildings 2,500 square feet or larger used to house or shelter dairy cattle or poultry husbandry are located within 625' of the center of the well pad.



	Bearing	Dist.
L1	N 83°19' E	1,639.7'
L2	N 45°35' W	2,707.2'
L3	N 07°20' W	2,510.3'
L4	N 17°26' E	2,452.8'
L5	N 81°28' E	2,457.6'

- 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.)

Notes:
 Well No. Gunto Unit 2H
 UTM Zone 17, NAD 1927
 Top Hole Coordinates
 N: 14,368,739.70'
 E: 1,721,076.07'
 Point of Entry Coordinates
 N: 14,369,145.01'
 E: 1,723,499.15'
 Bottom Hole Coordinates
 N: 14,352,393.22'
 E: 1,729,276.45'



FILE NO: 123-34-G-18
 DRAWING NO: Gunto 2H BHL MOD 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: November 16 2023
 OPERATOR'S WELL NO. Gunto 2H
 API WELL NO
 47 - 103 - 03617
 STATE COUNTY PERMIT

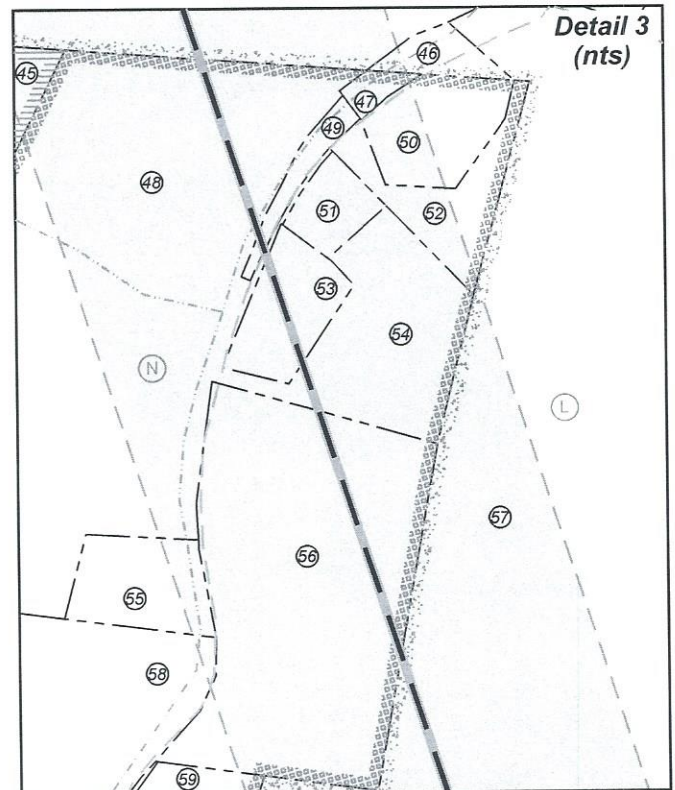
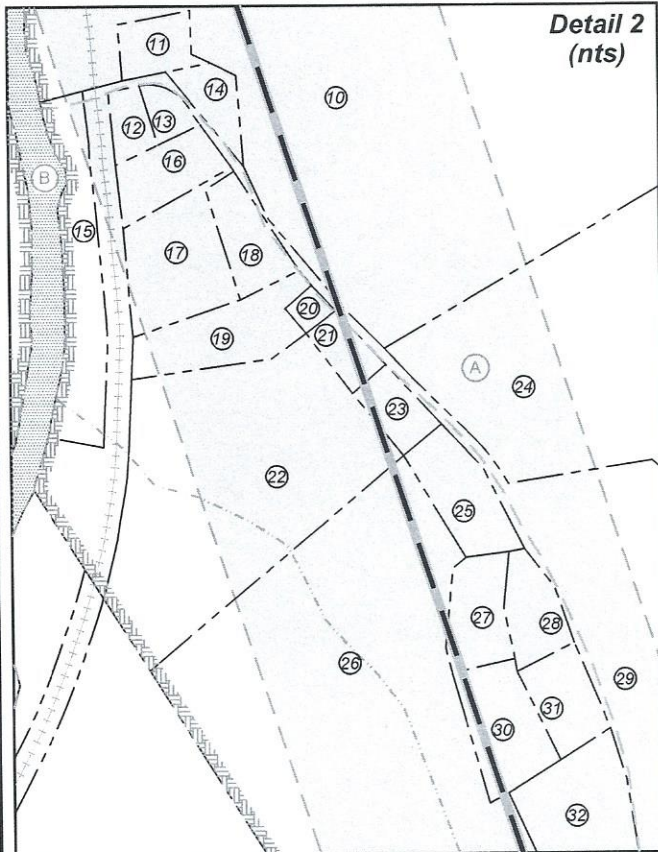
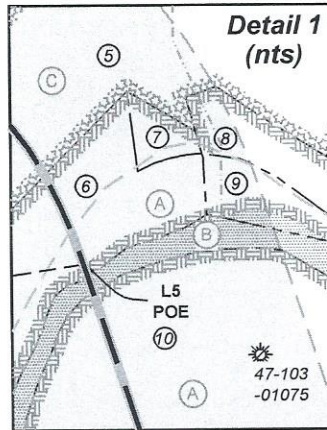
WELL TYPE: OIL GAS LIQUID INJECTION WASTE DISPOSAL
 (IF GAS) PRODUCTION: STORAGE DEEP SHALLOW

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

PROPOSED WORK: DRILL CONVERT DRILL DEEPER FRACTURE OR STIMULATE PLUG OFF OLD FORMATION
 PERFORATE NEW FORMATION OTHER PHYSICAL CHANGE IN WELL (SPECIFY) BHL MOD
 PLUG AND ABANDON CLEAN OUT AND REPLUG TARGET FORMATION: Marcellus Shale ESTIMATED DEPTH: 7,600' TVD 28,700' MD

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

12/15/2023



FILE NO: 123-34-G-18
DRAWING NO: Gunto 2H BHL MOD 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: November 16 2023
OPERATOR'S WELL NO. Gunto 2H
API WELL NO
47 - 103 - 03617
STATE COUNTY PERMIT

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

LOCATION: ELEVATION: Proposed: 1,248' WATERSHED: Fishing Creek

QUADRANGLE: Pine Grove

DISTRICT: Green Dallison Lumber Company

COUNTY: Wetzel

SURFACE OWNER: Jenkins Miller

ACREAGE: 51.5

ROYALTY OWNER: Jenkins Miller

LEASE NO: _____ ACREAGE: 200

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

PLUG AND ABANDON CLEAN OUT AND REPLUG TARGET FORMATION: Marcellus Shale ESTIMATED DEPTH: 7,600' TVD 28,700' MD

WELL OPERATOR: Antero Resources Corporation

DESIGNATED AGENT: Kevin Ellis

ADDRESS: 1615 Wynkoop Street
Denver, CO 80202


ADDRESS: 535 White Oaks Blvd
Bridgeport, WV 26330

12/15/2023



Leases	
A	Chesapeake Appalachia, LLC
B	WVDNR
C	Eddie D. Dallison
E	Jenkins Miller
H	Chesapeake Appalachia, LLC
I	Three Rivers Royalty II, LLC
K	Tribune Resources Minerals, LLC
L	Thomas Cunningham, et ux
M	Shiben Estates Inc.
N	BRC Appalachian Minerals I, LLC
P	George H. & A. A. Umstead
Q	T.M. Cunningham, et ux
R	Clay D.C. Dallison, et al
S	Antero Minerals, LLC
T	James E. Coen

ID	TM-Par	Owner	Bk/Pg	Acres
1	14-19	Dallison Lumber Company	357/267	51.50
2	13-40	Kenneth E. & Vicky A. VanDyne	357/204	42.33
3	13-26.7	John M. & Stanley D. Pittman	458/837	55.00
4	14-16	Antero Midstream, LLC	491/484	54.00
5	14-20	Dallison Lumber Co.	357/270	109.91
6	14-21	Dominion Gathering & Processing, Inc.	460/781	3.20
7	14-69	Lana R. & F. S. Null	410/472	0.50
8	14-23	Ren Realty LLC	447/844	1.40
9	14-22	Ren Realty LLC	447/844	1.25
10	14-36	Dominion Gathering & Processing, Inc.	460/781	57.41
11	14-64	Kathy Sue Phillips	436/126	0.50
12	14-64.13	Andrew C. Brown, Sr.	424/774	0.34
13	14-64.14	Roger A. & Shelby Kay Warner	299/243	0.33
14	14-35	Kenneth P. Brown & Darlene Dae Fluharty	341/516	0.75
15	14-64.16	Kathy Sue Phillips	364/667	3.00
16	14-64.12	Jaclyn S. Lively	M98/648	0.99
17	14-64.9	Timothy & Kimberly Bates Revocable Trust	486/525	1.84
18	14-64.4	Timothy & Kimberly Bates Revocable Trust	486/525	0.90
19	14-64.8	Sandra J. Fortney	295/301	1.64
20	14-64.3	Sandra J. Fortney	WB59/137	0.27
21	14-64.7	Clara M. Haught	462/594	0.44
22	14-64.10	Clara M. Haught	462/594	8.33
23	14-45	Clara M. Haught	462/594	0.58
24	14-65	Hornet Midstream Pipeline, LLC	453/326	23.45
25	14-64.5	Pansy I. Rush	304/45	1.25
26	14-64.11	Clara M. Haught	462/594	25.26
27	14-64.15	Christina A. Shepherd	380/358	1.03
28	14-64.1	Thomas Ralph Fluharty	455/558	0.85
29	14-73	Tina D. Dallison	452/207	59.17
30	14-64.17	Arnim D. Jr. & Tammy C. Dudgeon	378/321	1.32
31	14-64.2	Ricky J. & Carolyn Sure Yoho	404/694	0.93
32	14-64.6	William B. & Ethel Yvonne Crawford	344/565	2.56
33	17-52.1	Clara M. Haught	462/594	0.44
34	17-53	Robert & Toni Shaver	304/625	5.00
35	18-2.10	Michael & Cheryl Adams	350/398	5.08
36	17-55	Michael & Cheryl Adams	350/359	0.36
37	18-2.11	Michael & Cheryl Adams	350/402	0.80
38	18-2.3	Heath L. Tennant	403/77	3.09
39	18-2.9	Darren P. Brown	383/436	7.45
40	18-2.1	Heath L. Tennant	404/26	56.85
41	17-32	Pauline E. Hayes	420/626	79.25
42	18-2.7	Howard B. & Roxie J. Rice	335/520	67.70
43	18-4	Barbara D. Cunningham	291/112	212.60
44	18-6	Barbara D. Cunningham	291/112	56.80
45	17-51	Linda K. Ice & Harry G. Wichterman Jr.	WB66/545	156.00
46	18-9.4	Brooks H. & Donna J. Hinerman	335/447	0.66
47	18-8.6	LBrooks H. & Donna J. Hinerman	335/444	0.29
48	18-8	Linda K. Ice & Harry G. Wichterman Jr.	W66/545	23.40
49	18-8.7	Brooks H. & Donna J. Hinerman	369/29	0.58
50	18-8.5	Brooks H. Hinerman	303/425	1.94
51	18-8.3	Shar-Lee R. Rogers, et al	418/719	0.89
52	18-8.1	Brooks H. Hinerman	369/135	1.95
53	18-8.10	Brooke Hinerman	444/80	1.71
54	18-8.8	Brooks H. & Donna J. Hinerman	369/135	5.02
55	18-8.9	Linda Ice Long	431/249	1.75
56	18-8.2	Harry Glenn Wichterman, Jr.	437/425	13.35
57	18-9	Gordon F. Yost, et al	405/237	74.47
58	21-24	Linda Ice Long	431/249	17.95
59	21-23	Harry Glenn Wichterman	429/560	1.24
60	21-3	Dallison Lumber	419/596	50.00
61	21-6	Olga Lucille Nolan	260/264	18.20
62	21-8	Coastal Forest Resources Co.	444/105	60.70
63	21-12	Dallison Lumber Co.	372/1	21.72
64	21-14	Coastal Forest Resources Co.	444/105	60.00
65	21-13	Coastal Forest Resources Co.	444/105	27.70
66	21-3	State of WV	207/239	5228.5

FILE NO: <u>123-34-G-18</u> DRAWING NO: <u>Gunto 2H BHL MOD Plat</u> SCALE: <u>1" = 2000'</u> MINIMUM DEGREE OF ACCURACY: <u>Submeter</u> PROVEN SOURCE OF ELEVATION: <u>WVDOT, Harrisville, WV</u>	 STATE OF WEST VIRGINIA DEPARTMENT OF ENVIRONMENTAL PROTECTION OIL AND GAS DIVISION	DATE: <u>November 16</u> 20 <u>23</u> OPERATOR'S WELL NO. <u>Gunto 2H</u> API WELL NO <u>47</u> - <u>103</u> - <u>03617</u> STATE COUNTY PERMIT
WELL TYPE: <input type="checkbox"/> OIL <input checked="" type="checkbox"/> GAS <input type="checkbox"/> LIQUID INJECTION <input type="checkbox"/> WASTE DISPOSAL (IF GAS) PRODUCTION: <input type="checkbox"/> STORAGE <input type="checkbox"/> DEEP <input checked="" type="checkbox"/> SHALLOW		
LOCATION: ELEVATION: <u>Proposed: 1,248'</u> WATERSHED: <u>Fishing Creek</u> QUADRANGLE: <u>Pine Grove</u> DISTRICT: <u>Green</u> Dallison Lumber COMPANY: <u>Wetzel</u> SURFACE OWNER: <u>Company</u> ACREAGE: <u>51.5</u> 12/15/2023 ROYALTY OWNER: <u>Jenkins Miller</u> LEASE NO: _____ ACREAGE: <u>200</u>		
PROPOSED WORK: <input checked="" type="checkbox"/> DRILL <input type="checkbox"/> CONVERT <input checked="" type="checkbox"/> DRILL DEEPER <input type="checkbox"/> FRACTURE OR STIMULATE <input type="checkbox"/> PLUG OFF OLD FORMATION <input type="checkbox"/> PERFORATE NEW FORMATION <input checked="" type="checkbox"/> OTHER PHYSICAL CHANGE IN WELL (SPECIFY) <u>BHL MOD</u> 7,600' TVD <input type="checkbox"/> PLUG AND ABANDON <input type="checkbox"/> CLEAN OUT AND REPLUG TARGET FORMATION: <u>Marcellus Shale</u> ESTIMATED DEPTH: <u>28,700'</u> MD		
WELL OPERATOR: <u>Antero Resources Corporation</u> DESIGNATED AGENT: <u>Kevin Ellis</u> ADDRESS: <u>1615 Wynkoop Street</u> ADDRESS: <u>535 White Oaks Blvd.</u> <u>Denver, CO 80202</u> <u>Bridgeport, WV 26330</u>		

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

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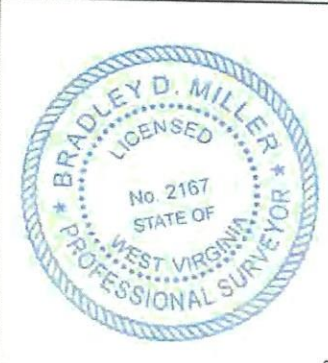


Well Location References

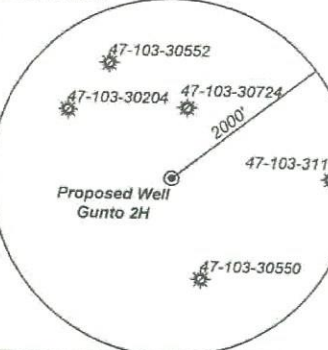


I, the undersigned, hereby certify that this plat is correct to the best of my knowledge and belief and shows all the information required by law and the rules issued and prescribed by the Department of Environmental Protection.

Bradley D. Miller, P.S. 2167



Note: 0 water wells were found within 2000' of proposed well. No occupied dwellings or buildings 2,500 square feet or larger used to house or shelter dairy cattle or poultry husbandry are located within 625' of the center of the well pad.



Bearing	Dist.
L1 N 83°19' E	1,639.7'
L2 N 45°35' W	2,707.2'
L3 N 07°20' W	2,510.3'
L4 N 17°26' E	2,452.8'
L5 N 81°28' E	2,457.6'

- 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.)

5,142' to Bottom Hole

1,538' to Top Hole

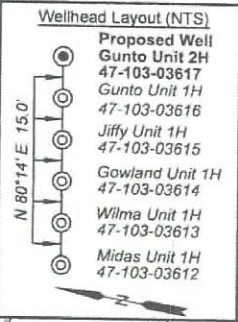
TOP HOLE LATITUDE 39 - 35 - 00
 BTM HOLE LATITUDE 39 - 32 - 30

Notes
 West Virginia Coordinate System of 1927, North Zone based upon Differential GPS Measurements
 Well No. Gunto Unit 2H Top Hole coordinates are
 N: 391,166.72' Latitude: 39°34'03.48"
 E: 1,657,828.15' Longitude: 80°42'49.64"
 Bottom Hole coordinates are
 N: 374,680.15' Latitude: 39°31'21.59"
 E: 1,665,757.20' Longitude: 80°41'05.61"
 UTM Zone 17, NAD 1983
 Top Hole Coordinates Bottom Hole Coordinates
 N: 4,379,818.756m N: 4,374,836.359m
 E: 524,599.831m E: 527,099.156m
 Plat orientation and corner and well references are based upon the grid north meridian.
 Well location references are based upon the magnetic meridian.

TOP HOLE LONGITUDE 80 - 42 - 30
 BTM HOLE LONGITUDE 80 - 40 - 00

6,922' to Bottom Hole

Notes:
 Well No. Gunto Unit 2H UTM Zone 17, NAD 1927
 Top Hole Coordinates
 N: 14,368,739.70'
 E: 1,721,076.07'
 Point of Entry Coordinates
 N: 14,369,145.01'
 E: 1,723,499.15'
 Bottom Hole Coordinates
 N: 14,352,393.22'
 E: 1,729,276.45'



FILE NO: 123-34-G-18
 DRAWING NO: Gunto 2H BHL MOD 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: November 16 2023
 OPERATOR'S WELL NO. Gunto 2H
 API WELL NO
 47 - 103 - 03617
 STATE COUNTY PERMIT

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

LOCATION: ELEVATION: Proposed, 1,248' WATERSHED: Fishing Creek QUADRANGLE: Pine Grove
 DISTRICT: Green Dallison Lumber COMPANY COUNTY: Wetzel
 SURFACE OWNER: Company ACREAGE: 51.5
 ROYALTY OWNER: Jenkins Miller LEASE NO: _____ ACREAGE: 299

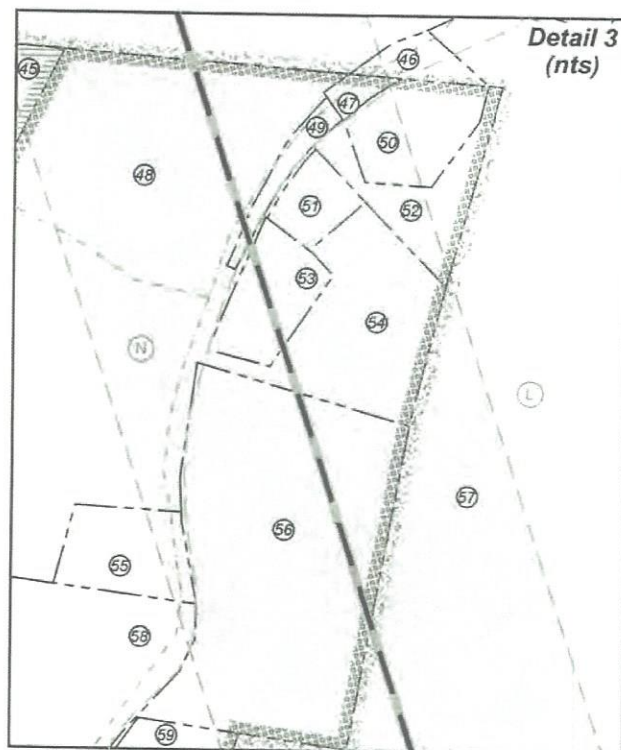
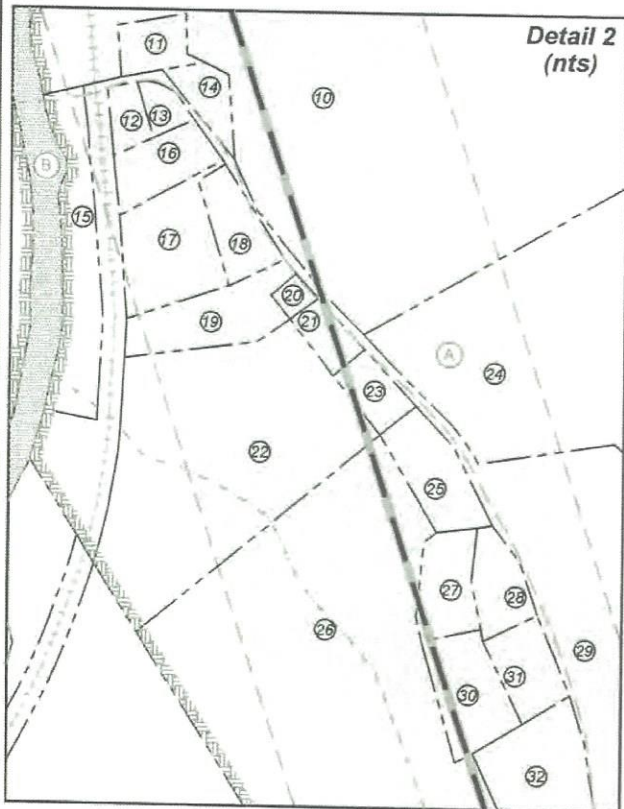
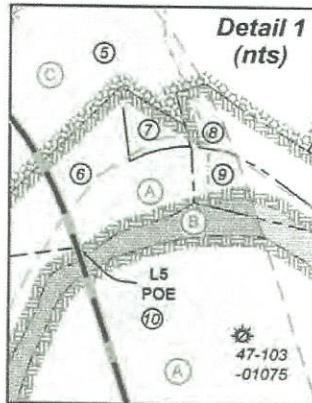
PROPOSED WORK: DRILL CONVERT DRILL DEEPER FRACTURE OR STIMULATE PLUG OFF OLD FORMATION
 PERFORATE NEW FORMATION OTHER PHYSICAL CHANGE IN WELL (SPECIFY) BHL MOD 12/15/2023
 PLUG AND ABANDON CLEAN OUT AND REPLUG TARGET FORMATION: Marcellus Shale ESTIMATED DEPTH: 7,600' TVD 28,700' MD

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

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



Page 2 of 3



FILE NO: 123-34-G-18
DRAWING NO: Gunto 2H BHL MOD 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: November 16 2023
OPERATOR'S WELL NO. Gunto 2H
API WELL NO
47 - 103 - 03617
STATE COUNTY PERMIT

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(IF GAS) PRODUCTION: STORAGE DEEP SHALLOW

LOCATION: ELEVATION: Proposed: 1,248' WATERSHED: Fishing Creek

DISTRICT: Green
SURFACE OWNER: Dallison Lumber Company

QUADRANGLE: Pine Grove
COUNTY: Wetzel
ACREAGE: 51.5

ROYALTY OWNER: Jenkins Miller LEASE NO: _____ ACREAGE: 500
PROPOSED WORK: DRILL CONVERT DRILL DEEPER FRACTURE OR STIMULATE PLUG OFF OLD FORMATION
 PERFORATE NEW FORMATION OTHER PHYSICAL CHANGE IN WELL (SPECIFY) BHL MOD

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WELL OPERATOR: Antero Resources Corporation
ADDRESS: 1615 Wynkoop Street
Denver, CO 80202

DESIGNATED AGENT: Kevin Ellis
ADDRESS: 535 White Oaks Blvd
Bridgeport, WV 26330

12/15/2023

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



Page 3 of 3

Leases	
A	Chesapeake Appalachia, LLC
B	WVDNR
C	Eddie D. Dallison
E	Jenkins Miller
H	Chesapeake Appalachia, LLC
I	Three Rivers Royalty II, LLC
K	Tribune Resources Minerals, LLC
L	Thomas Cunningham, et ux
M	Shiben Estates Inc.
N	BRC Appalachian Minerals I, LLC
P	George H. & A. A. Umstead
Q	T.M. Cunningham, et ux
R	Clay D.C. Dallison, et al
S	Antero Minerals, LLC
T	James E. Coen

ID	TM-Par	Owner	Bk/Pg	Acres
1	14-19	Dallison Lumber Company	357/267	51.50
2	13-40	Kenneth E. & Vicky A. VanDyne	357/204	42.33
3	13-26.7	John M. & Stanley D. Pittman	458/837	55.00
4	14-16	Antero Midstream, LLC	491/484	54.00
5	14-20	Dallison Lumber Co.	357/270	109.91
6	14-21	Dominion Gathering & Processing, Inc.	460/781	3.20
7	14-69	Lana R. & F. S. Null	410/472	0.50
8	14-23	Ren Realty LLC	447/844	1.40
9	14-22	Ren Realty LLC	447/844	1.25
10	14-36	Dominion Gathering & Processing, Inc.	460/781	57.41
11	14-64	Kathy Sue Phillips	436/126	0.50
12	14-64.13	Andrew C. Brown, Sr	424/774	0.34
13	14-64.14	Roger A. & Shelby Kay Warner	299/243	0.33
14	14-35	Kenneth P. Brown & Darlene Dae Fluharty	341/516	0.75
15	14-64.16	Kathy Sue Phillips	364/667	3.00
16	14-64.12	Jaclyn S. Lively	M98/648	0.99
17	14-64.9	Timothy & Kimberly Bates Revocable Trust	486/525	1.84
18	14-64.4	Timothy & Kimberly Bates Revocable Trust	486/525	0.90
19	14-64.8	Sandra J. Fortney	295/301	1.64
20	14-64.3	Sandra J. Fortney	WB59/137	0.27
21	14-64.7	Clara M. Haught	462/594	0.44
22	14-64.10	Clara M. Haught	462/594	8.33
23	14-45	Clara M. Haught	462/594	0.58
24	14-65	Homet Midstream Pipeline, LLC	453/326	23.45
25	14-64.5	Pansy I. Rush	304/45	1.25
26	14-64.11	Clara M. Haught	462/594	25.26
27	14-64.15	Christina A. Shepherd	380/358	1.03
28	14-64.1	Thomas Ralph Fluharty	455/558	0.85
29	14-73	Tina D. Dallison	452/207	59.17
30	14-64.17	Arnim D. Jr. & Tammy C. Dudgeon	378/321	1.32
31	14-64.2	Ricky J. & Carolyn Sure Yoho	404/694	0.93
32	14-64.6	William B. & Ethel Yvonne Crawford	344/565	2.56
33	17-52.1	Clara M. Haught	462/594	0.44
34	17-53	Robert & Toni Shaver	304/625	5.00
35	18-2.10	Michael & Cheryl Adams	350/398	5.08
36	17-55	Michael & Cheryl Adams	350/359	0.36
37	18-2.11	Michael & Cheryl Adams	350/402	0.80
38	18-2.3	Heath L. Tennant	403/77	3.09
39	18-2.9	Darren P. Brown	383/436	7.45
40	18-2.1	Heath L. Tennant	404/26	56.85
41	17-32	Pauline E. Hayes	420/626	79.25
42	18-2.7	Howard B. & Roxie J. Rice	335/520	67.70
43	18-4	Barbara D. Cunningham	291/112	212.80
44	18-6	Barbara D. Cunningham	291/112	56.80
45	17-51	Linda K. Ice & Harry G. Witcherman Jr.	WB66/545	156.00
46	18-9.4	Brooks H. & Donna J. Hinerman	335/447	0.66
47	18-8.6	LBrooks H. & Donna J. Hinerman	335/444	0.29
48	18-8	Linda K. Ice & Harry G. Wichterman Jr.	W66/545	23.40
49	18-8.7	Brooks H. & Donna J. Hinerman	369/29	0.58
50	18-8.5	Brooks H. Hinerman	303/425	1.94
51	18-8.3	Shar-Lee R. Rogers, et al	418/719	0.89
52	18-8.1	Brooks H. Hinerman	369/135	1.95
53	18-8.10	Brooke Hinerman	444/80	1.71
54	18-8.8	Brooks H. & Donna J. Hinerman	369/135	5.02
55	18-8.9	Linda Ice Long	431/249	1.75
56	18-8.2	Harry Glenn Wichterman, Jr.	437/425	13.35
57	18-9	Gordon F. Yost, et al	405/237	74.47
58	21-24	Linda Ice Long	431/249	17.95
59	21-23	Harry Glenn Wichterman	429/560	1.24
60	21-3	Dallison Lumber	419/596	50.00
61	21-6	Olga Lucille Nolan	260/264	18.20
62	21-8	Coastal Forest Resources Co.	444/105	60.70
63	21-12	Dallison Lumber Co.	372/1	21.72
64	21-14	Coastal Forest Resources Co.	444/105	60.00
65	21-13	Coastal Forest Resources Co.	444/105	27.70
66	21-3	State of WV	207/239	5228.5

FILE NO: 123-34-G-18
DRAWING NO: Gunto 2H BHL MOD Plat
SCALE: 1" = 2000'
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Submeter
PROVEN SOURCE OF ELEVATION:
WVDOT, Harrisville, WV

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

DATE: November 16 2023
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API WELL NO
47 - 103 - 03617
STATE COUNTY PERMIT

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

LOCATION: ELEVATION: Proposed: 1,248' WATERSHED: Fishing Creek

QUADRANGLE: Pine Grove

DISTRICT: Green
Dallison Lumber Company

COUNTY: Wetzel

SURFACE OWNER: Jenkins Miller

ACREAGE: 51.5

ROYALTY OWNER: _____ LEASE NO: _____ ACREAGE: 299
PROPOSED WORK: DRILL CONVERT DRILL DEEPER FRACTURE OR STIMULATE PLUG OFF OLD FORMATION
 PERFORATE NEW FORMATION OTHER PHYSICAL CHANGE IN WELL (SPECIFY) BHL MOD

12/15/2023

PLUG AND ABANDON CLEAN OUT AND REPLUG TARGET FORMATION: Marcellus Shale ESTIMATED DEPTH: 7,600' TVD 28,700' MD

WELL OPERATOR: Antero Resources Corporation

DESIGNATED AGENT: Kevin Ellis

ADDRESS: 1615 Wynkoop Street
Denver, CO 80202

ADDRESS: 535 White Oaks Blvd
Bridgeport, WV 26330

INFORMATION SUPPLIED UNDER WEST VIRGINIA CODE
Chapter 22, Article 6A, Section 5(a)(5)
IN LIEU OF FILING LEASE(S) AND OTHER CONTINUING CONTRACT(S)

Under the oath required to make the verification on page 1 of this Notice and Application, I depose and say that I am the person who signed the Notice and Application for the Applicant, and that –

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

Grantor, lessor, etc.	Grantee, lessee, etc.	Royalty	Book/Page
E: Jenkins Miller Lease			
Jenkins Miller	Hope Natural Gas Company	1/8	0107/0056
Hope Natural Gas Company	Consolidated Gas Supply Corporation	Assignment	0233/0387
Consolidated Gas Supply Corporation	Consolidated Gas Transmission Corporation	Assignment	066A/0069
Consolidated Gas Transmission Corporation	Eastern States Oil & Gas Inc.	Assignment	076A/0232
Eastern States Oil & Gas Inc.	Blazer Energy Corp.	Merger	0012/0253
Blazer Energy Corp.	Eastern States Oil & Gas Inc.	Name Change	0012/0259
Eastern States Oil & Gas Inc.	Equitable Production – Eastern States Inc.	Name Change	WVSOS
Equitable Production – Eastern States Inc.	Appalachian Natural Gas Trust	Assignment	079A/0244
Appalachian Natural Gas Trust	EQT Production Company	Merger	0096/0505
EQT Production Company	Antero Resources Corporation	Assignment	230A/0801
C: Eddie D. Dallison Lease			
Eddie D. Dallison	Antero Resources Corporation	1/8+	307A/0447
A: Chesapeake Appalachia LLC Lease			
Chesapeake Appalachia LLC	SWN Production Company LLC	1/8	157A/640
SWN Production Company LLC	Antero Exchange Properties LLC	Assignment	177A/533
Antero Exchange Properties LLC	Antero Resources Corporation	Merger	13/311
B: WVDNR Lease			
WVDNR	Antero Resources Corporation	1/8+	323A/541
A: Chesapeake Appalachia LLC Lease			
Chesapeake Appalachia LLC	SWN Production Company LLC	1/8	157A/640
SWN Production Company LLC	Antero Exchange Properties LLC	Assignment	177A/533
Antero Exchange Properties LLC	Antero Resources Corporation	Merger	13/311
I: Three Rivers Royalty II, LLC Lease			
Three Rivers Royalty II, LLC	CNX Gas Company LLC	1/8+	293A/373
CNX Gas Company LLC	Antero Resources Corporation	Assignment	300A/159
L: Thomas Cunningham et ux Lease			
Thomas Cunningham et ux	L.G. Robinson	1/8	48/569
L.G. Robinson	South Penn Oil Company	Assignment	49/659
South Penn Oil Company	Hope Natural Gas Company	Assignment	9A/230
Hope Natural Gas Company	Consolidated Gas Supply Corporation	Assignment	233/387
Consolidated Gas Supply Corporation	Consolidated Gas Transmission Corporation	Assignment	66A/69
Consolidated Gas Transmission Corporation	CNG Transmission Corporation	Name Change	13/151
Eastern States Oil & Gas Inc	Eastern States Oil & Gas Inc	Assignment	76A/232
Equitable Production Eastern States Inc	Equitable Production Eastern States Inc	Name Change	13/14
Equitable Production Company	Equitable Production Company	Merge	13/14
Equitable Production Company	EQT Production Company	Name Change	13/14
EQT Production Company	Antero Resources Corporation	Assignment	230A/801
N: BRC Appalachian Minerals I, LLC Lease			
BRC Appalachian Minerals I, LLC	BRC Working Interest Company	1/8	102A/505
BRC Working Interest Company	Chesapeake Appalachia LLC	Assignment	103A/470
Chesapeake Appalachia LLC	SWN Production Company	Assignment	157A/540
SWN Production Company	Antero Exchange Properties LLC	Assignment	177A/533
Antero Exchange Properties LLC	Antero Resources Corporation	Merge	13/311

RECEIVED
Office of Oil and Gas
DEC 11 2023
WV Department of
Environmental Protection

12/15/2023

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Grantor, lessor, etc.	Grantee, lessee, etc.	Royalty	Book/Page
L: Thomas Cunningham et ux Lease			
Thomas Cunningham et ux	L.G. Robinson	1/8	48/569
L.G. Robinson	South Penn Oil Company	Assignment	49/659
South Penn Oil Company	Hope Natural Gas Company	Assignment	9A/230
Hope Natural Gas Company	Consolidated Gas Supply Corporation	Assignment	233/387
Consolidated Gas Supply Corporation	Consolidated Gas Transmission Corporation	Assignment	66A/69
Consolidated Gas Transmission Corporation	CNG Transmission Corporation	Name Change	13/151
CNG Transmission Corporation	Eastern States Oil & Gas Inc	Assignment	76A/232
Eastern States Oil & Gas Inc	Equitable Production Eastern States Inc	Name Change	13/14
Equitable Production Eastern States Inc	Equitable Production Company	Merge	13/14
Equitable Production Company	EQT Production Company	Name Change	13/14
EQT Production Company	Antero Resources Corporation	Assignment	230A/801
P: George H. & A. A. Umstead Lease			
George H. & A. A. Umstead	George E Foster	1/8	49/213
George E Foster	South Penn Oil Company	Assignment	55/2
South Penn Oil Company	Hope Natural Gas Company	Assignment	138A/641
Hope Natural Gas Company	Consolidated Gas Supply Corporation	Assignment	233/387
Consolidated Gas Supply Corporation	Consolidated Gas Transmission Corporation	Assignment	66A/69
Consolidated Gas Transmission Corporation	CNG Transmission Corporation	Name Change	13/151
CNG Transmission Corporation	Eastern States Oil & Gas Inc	Assignment	76A/232
Eastern States Oil & Gas Inc	Equitable Production Eastern States Inc	Name Change	13/14
Equitable Production Eastern States Inc	Equitable Production Company	Name Change	13/14
Equitable Production Company	EQT Production Company	Name Change	13/14
EQT Production Company	Antero Resources Corporation	Assignment	230A/801

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

*Co-tenancy utilization – Antero is utilizing the Co-tenancy Modernization and Majority Protection Act to proceed with development of certain royalty owners' interests in this tract.

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

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Lease Name or Number	Grantor, Lessor, etc.	Grantee, Lessee, etc.	Royalty	Book/Page
Q: <u>T.M. Cunningham, et ux Lease</u>	T.M. Cunningham, et ux M.A. Brast South Penn Oil Company Hope Natural Gas Company Consolidated Gas Supply Corporation Consolidated Gas Transmission Corporation CNG Transmission Corporation Eastern States Oil & Gas Inc. Blazer Energy Corp. Equitable Production - Eastern States Inc. Equitable Production Company EQT Production Company	M.A. Brast South Penn Oil Company Hope Natural Gas Company Consolidated Gas Supply Corporation Consolidated Gas Transmission Corporation CNG Transmission Corporation Eastern States Oil & Gas Inc. Blazer Energy Corp. Eastern States Oil & Gas Inc. Equitable Production Company EQT Production Company Antero Resources Corporation	1/8 Assignment Assignment Assignment Assignment Merger Assignment Name Change Name Change Merger Assignment	0049/0222 0053/0262 009A/0230 0233/0387 066A/0069 0013/0151 076A/0232 0012/0253 0013/0014 0013/0014 0013/0014 230A/0801

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

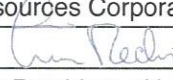
The permit applicant for the proposed well work addressed in this application hereby acknowledges the possibility of the need for permits and/or approvals from local, state, or federal entities in addition to the DEP, Office of Oil and Gas, including but not limited to the following:

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

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Environmental Protection

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

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