



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, March 20, 2024
PERMIT MODIFICATION APPROVAL
Horizontal 6A / New Drill

ANTERO RESOURCES CORPORATION
1615 WYNKOOP STREET

DENVER, CO 80202

Re: Permit Modification Approval for HOWELL UNIT 1H
47-103-03636-00-00

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.

A blue ink signature of James A. Martin, written in a cursive style.

James A. Martin
Chief

Operator's Well Number: HOWELL UNIT 1H
Farm Name: ANTERO RESOURCES CORPORATION
U.S. WELL NUMBER: 47-103-03636-00-00
Horizontal 6A New Drill
Date Modification Issued: 3/20/2024

Promoting a healthy environment.

03/22/2024

WW-6B
(04/15)

API NO. 47-103 - 03636
OPERATOR WELL NO. Howell Unit 1H MOD
Well Pad Name: Fluharty 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 103 - Wetzel Green Porter Falls 7.5'
Operator ID County District Quadrangle

2) Operator's Well Number: Howell Unit 1H MOD Well Pad Name: Fluharty Pad

3) Farm Name/Surface Owner: Antero Resources Corporation Public Road Access: Co Rd 28

4) Elevation, current ground: 1214' Elevation, proposed post-construction: 1181' - PROPOSED

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: 7300' TVD, Anticipated Thickness- 55 feet, Associated Pressure- 2850#

8) Proposed Total Vertical Depth: 7300' TVD

9) Formation at Total Vertical Depth: Marcellus

10) Proposed Total Measured Depth: 25600' MD

11) Proposed Horizontal Leg Length: 17001' *Open to modification at a later date

12) Approximate Fresh Water Strata Depths: 307'

13) Method to Determine Fresh Water Depths: 47103012450000 Offset well records. Depths have been adjusted according to surface elevations.

14) Approximate Saltwater Depths: 2289'

15) Approximate Coal Seam Depths: N/A

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

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

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Office of Oil and Gas

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

Depth: _____

Seam: _____

Owner: _____

MAR 18 2024

WV District
Environmental Protection

03/22/2024
3-15-24

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API NO. 47- 103 - 03636
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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	J-55	94#	100'	100'	CTS, 96 Cu. Ft.
Fresh Water	13-3/8"	New	J-55	54.5#	357'	357'	CTS, 372 Cu. Ft.
Coal	9-5/8"	New	J-55	36#	2900'	2900'	CTS, 1181 Cu. Ft.
Intermediate							
Production	5-1/2"	New	P110-ICY	23#	25600'	25600'	CTS, 5523 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/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				RECEIVED Office of Oil and Gas MAR 18 2024 West Department Environmental Services
Sizes:	N/A				
Depths Set:	N/A				

[Signature]
 03/22/2024
 3-15-24

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."

MAR 18 2024

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

WV Department of
Environmental Protection

21) Total Area to be disturbed, including roads, stockpile area, pits, etc., (acres): 45.48 acres

22) Area to be disturbed for well pad only, less access road (acres): 11.67 acres

23) Describe centralizer placement for each casing string:

Conductor: no centralizers

Surface Casing: one centralizer 10' above the float shoe, one on the insert float collar and one every 4th joint spaced up the hole to surface.

Intermediate Casing: one centralizer above float joint, one centralizer 5' above float collar and one every 4th collar to surface.

Production Casing: one centralizer at shoe joint and one every 3 joints to top of cement in intermediate casing.

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

Conductor: no additives, Class A/L cement.

Surface: Class A/L cement with 2-3% calcium chloride and 1/4 lb of flake

Intermediate: Class A/L cement with 1/4 lb of flake, 5 gallons of clay treat

Production: Lead cement- 50/50 Class H/Poz + 1.5% salt + 1% C-45 + 0.5% C-16a + 0.2% C-12 + 0.45% C-20 + 0.05% C-51

Production: Tail cement- Class G/H + 45 PPS Calcium Carbonate + 1.0% FL-160 + 0.2% ACGB-47 + 0.05% ACSA-51 + 0.2% ACR-20

25) Proposed borehole conditioning procedures:

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

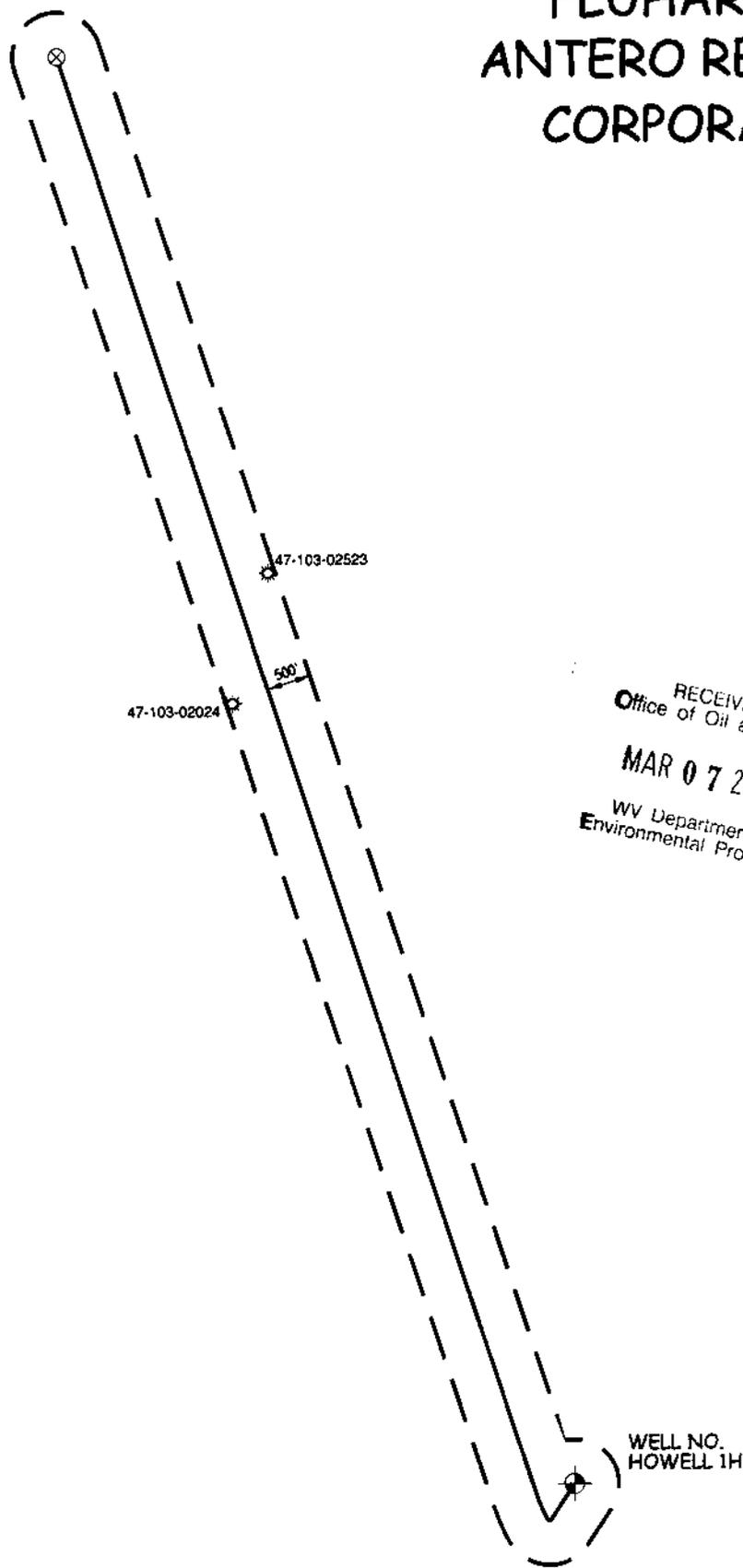
Surface: blowhole clean with air, trip to conductor shoe, trip to bottom, blowhole clean with air, trip out, run casing, circulate pipe capacity + 40 bbls fresh water followed by 25 bbls bentonite mud, 10 bbls fresh water spacer.

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

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

*Note: Attach additional sheets as needed.

FLUHARTY PAD ANTERO RESOURCES CORPORATION



RECEIVED
Office of Oil and Gas
MAR 07 2024
WV Department of
Environmental Protection

WELL NO.
HOWELL 1H

WILLOW LAND SURVEYING, PLLC
P.O. BOX 17, PENNSBORO, WV 26415
(304) 659-1717

JOB #: 23-015WA

SCALE: 1-INCH = 2000-FEET



DATE: 01/09/24

DRAWN BY: D.R.R.

FILE: HOWELL1HAOR.DWG

03/22/2024

UWI (API Num)	Well Name	Well Number	Operator	Historical Operator	TD	Perforated Interval (shallowest, deepest)	Perforated Formation(s)	Producible Formation(s) not perf'd
47103020240000	YOHO	1	ESPERADA EN PART LLC	ESPERADA EN PART LLC	1,900			
47103025230000	YOHO JAMES	1	BLACKROCK ENTERPRISES LLC	GASTAR EXPL USA INC	6,494		Marcellus	

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 MAR 07 2024
 WV Department of
 Environmental Protection

LATITUDE 39°35'00"

6,451'

LATITUDE 39°37'30"

648' TO BOTTOM HOLE

Antero Resources Corporation Well No. Howell #1H

NOTE
NO OCCUPIED DWELLINGS OR BUILDINGS TWO THOUSAND FIVE HUNDRED (2,500) SQUARE FEET OR LARGER USED TO HOUSE OR SHELTER DAIRY CATTLE OR POULTRY HUSBANDRY ARE LOCATED WITHIN SIX HUNDRED TWENTY-FIVE (625) FEET OF THE CENTER OF THE WELL PAD.

A1	HRC APPALACHIAN MINERALS I, LLC.	H	CSX TRANSPORTATION, INC.
A2	HRC APPALACHIAN MINERALS I, LLC.	I1	J. WELLS KATIN, BY AL
A3	HRC APPALACHIAN MINERALS I, LLC.	I2	J. WELLS KATIN, BY AL
B1	PATRICIA HADDIX	J	DAVID R. THOMAS BY UX
B2	PATRICIA HADDIX	K	BENJAMIN E. YOHO
C	WVDR	L	COASTAL FOREST RESOURCES COMPANY
D	SHIBEN ESTATES, INC.	M	BENJAMIN E. YOHO
E	JACOB P. MORGAN, III AND SYLVIA A. MORGAN	N	ABRAHAM C. CAYTHROP AND MARY K. CAYTHROP
F	NANCY LOU O'NEIL LASURE	O	JOHN MATHEW STALRY
G1	WILL E. MORRIS HEIRS TRUST	P	DAVID LEE SMITH
G2	WILL E. MORRIS HEIRS TRUST	Q	DAVID LEE SMITH
		AA	MICHAEL EUGENE SMITH
		AB	ROBERT BARRY MYERS, SR.

NOTES:
WELL 1H TOP HOLE INFORMATION:
N: 392,941ft E: 1,629,444ft
LAT: 39°34'17.07" LON: 80°48'52.39"
BOTTOM HOLE INFORMATION:
N: 409,107ft E: 1,623,741ft
LAT: 39°36'56.00" LON: 80°50'08.29"
WEST VIRGINIA COORDINATE SYSTEM OF 1927 NORTH ZONE. ZONE WAS DERIVED FROM MEASUREMENTS TAKEN WITH TRIMBLE GEOXT SUBMETER

1H BOTTOM HOLE
MAPPING GRADE GPS UNIT. HOLE PLAT ORIENTATION, CORNER, AND WELL REFERENCE TIE LINES ARE BASED ON GRID NORTH.

(NAD) 83 (UTM) ZONE 17 COORDS:
WELL 1H TOP HOLE INFORMATION:
N: 4,380,215m E: 515,943m
BOTTOM HOLE INFORMATION:
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(NAD) 27 (UTM) ZONE 17 COORDS:
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BOTTOM HOLE INFORMATION:
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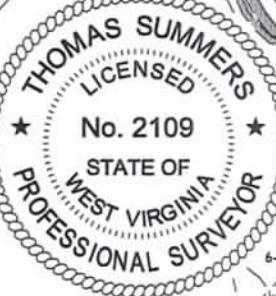
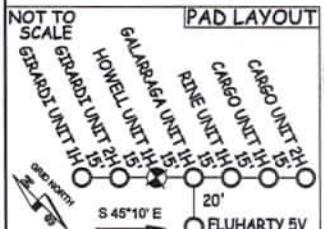
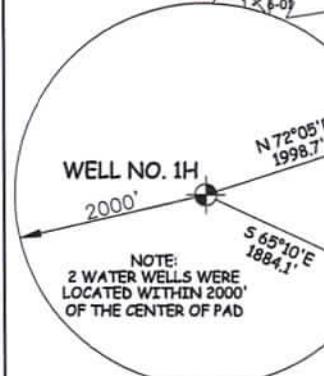
MAGNOLIA DISTRICT	
12-104.1	TERRY SANDS
12-105	MARSHALL CO. COOPERATIVE INC.
12-119	NANCY LASURE
12-128	JACOB MORGAN
13-13	RUTH BLAKE
13-13.1	WSD PROPERTIES LLC
13-14	WVDOH
13-21	WSD PROPERTIES LLC
13-21.1	WVDOH
13-22	NANCY LASURE
GREEN DISTRICT	
1-21	JEFFERY BROWN
1-22	GREGORY GRIFFITH
1-30	ROSEMARY YOHO
1-30.8	CHRISTOPHER BATES
1-30.9	KATHLYN MARCEL
6-2.4	YODELL RITCHEA
6-8.6	DAVID THOMAS
6-19.1	BENJAMIN YOHO
6-19.2	BENJAMIN YOHO
6-19.3	BENJAMIN YOHO
6-23	COASTAL FOREST RESOURCES CO.
6-28	COASTAL FOREST RESOURCES CO.
11-12	KEITH PYLES
11-13	KENNETH REINE EST.
11-16	MICHAEL SMITH
11-21	FLUHARTY FAMILY TRUST

NORTH ZONE NORTH GRID NORTH

LONGITUDE 80°47'30"

LONGITUDE 80°50'00"

COUNTY NAME PERMIT



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 PERSCRIBED BY THE DEPARTMENT OF ENVIRONMENTAL PROTECTION.



STATE OF WEST VIRGINIA, DIVISION OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS

WILLOW LAND SURVEYING PLLC
220 MASONIC AVE. PENNSBORO WEST VIRGINIA 26415

JOB # 21-011WA
DRAWING # HOWELL1HR
SCALE 1" = 2000'
MINIMUM DEGREE OF ACCURACY SUBMETER
PROVEN SOURCE OF ELEV. SUBMETER MAPPING GRADE GPS
STATE OF WEST VIRGINIA DEPARTMENT OF ENERGY DIVISION OF OIL AND GAS

LEGEND
— Surface Owner Boundary Lines +/-
- - - Adjoining Surface Tracts +/-
⊕ Found monument, as noted
THOMAS SUMMERS P.S. 2109
DATE 02/21/24
OPERATOR'S WELL# HOWELL UNIT #1H
47 - 103 - 03636
STATE COUNTY PERMIT



DATE 02/22/2024

WELL TYPE: OIL GAS LIQUID INJECTION WASTE DISPOSAL
(IF "GAS") PRODUCTION STORAGE DEEP SHALLOW
LOCATION: ELEVATION PROPOSED -1,181' WATERSHED FISHING CREEK 1" = 200'
QUADRANGLE PORTER FALLS 7.5' DISTRICT GREEN COUNTY WETZEL
SURFACE OWNER ANTERO RESOURCES CORPORATION ACREAGE 46.95 ACRES±
OIL & GAS ROYALTY OWNER DAVID L. SMITH LEASE ACREAGE 67 ACRES±
PROPOSED WORK: DRILL CONVERT DRILL DEEPER REDRILL FRACTURE OR STIMULATE
PLUG OFF OLD FORMATION PERFORATE NEW FORMATION OTHER PHYSICAL CHANGE IN WELL
(SPECIFY) MOD-BHL PLUG & ABANDON CLEAN OUT & REPLUG
TARGET FORMATION MARCELLUS ESTIMATED DEPTH 7,300' TVD 25.60' MD
WELL OPERATOR ANTERO RESOURCES CORP. DESIGNATED AGENT KEVIN ELLIS
ADDRESS 1615 WYNKOOP ST. DENVER, CO 80202 ADDRESS 535 WHITE OAK BLVD. BRIDGEPORT, WV 26330

LATITUDE 39°35'00"

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648' TO BOTTOM HOLE

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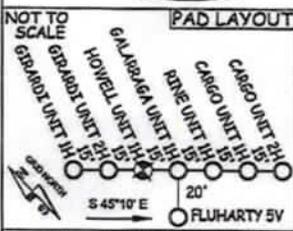
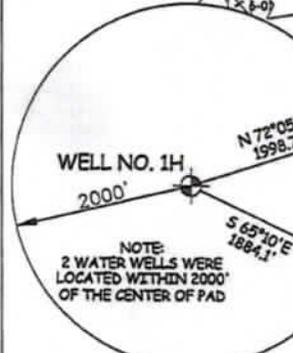
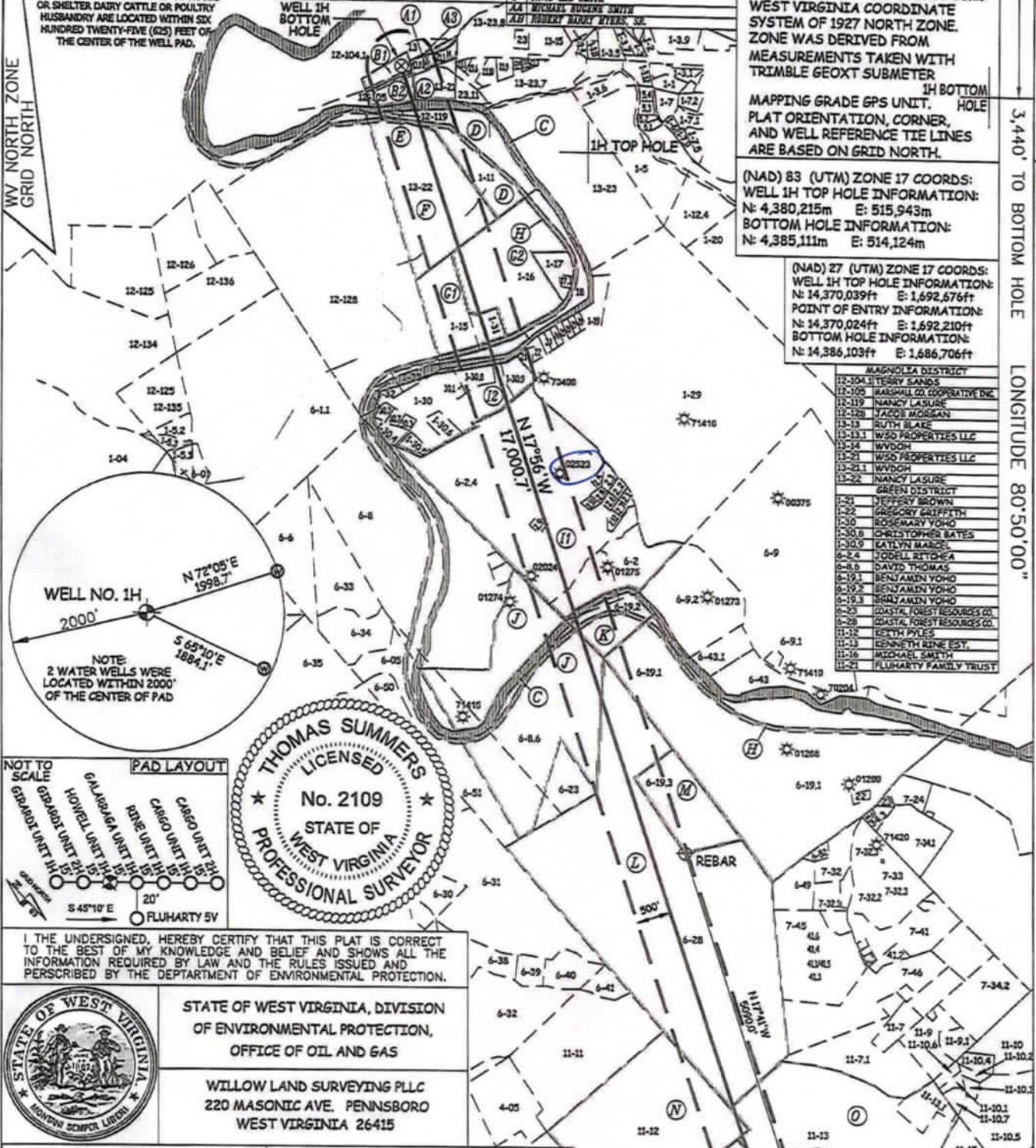
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THOMAS SUMMERS
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No. 2109
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PROFESSIONAL SURVEYOR

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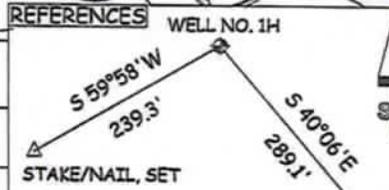
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--- Surface Owner Boundary Lines +/-
--- Adjoining Surface Tracts +/-
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STATE OF WEST VIRGINIA DEPARTMENT OF ENERGY DIVISION OF OIL AND GAS

DATE 02/21/24
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47 - 103 - 03636
STATE COUNTY PERMIT

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(IF "GAS") PRODUCTION X STORAGE ___ DEEP ___ SHALLOW X
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OIL & GAS ROYALTY OWNER DAVID L. SMITH LEASE ACREAGE 87 ACRES±
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PLUG OFF OLD FORMATION ___ PERFORATE NEW FORMATION X OTHER PHYSICAL CHANGE IN WELL
(SPECIFY) MOD-BHL PLUG & ABANDON ___ CLEAN OUT & REPLUG ___
TARGET FORMATION MARCELLUS ESTIMATED DEPTH 7,300' TVD 25,600' MD
WELL OPERATOR ANTERO RESOURCES CORP. DESIGNATED AGENT KEVIN ELLIS
ADDRESS 1615 WYNKOOP ST. DENVER, CO 80202 ADDRESS 535 WHITE OAK BLVD. BRIDGEPORT, WV 26330



03/22/2024

COUNTY NAME PERMIT

Handwritten signature/initials.

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>P: David Lee Smith Lease</u> David Lee Smith	Antero Resources Corporation	1/8+	273A/0442
<u>AB: Robert Barry Myers, Sr. Lease</u> Robert Barry Myers, Sr. Gastar Exploration USA, Inc. Stone Energy Corporation EQT Production Company	Gastar Exploration USA, Inc. Stone Energy Corporation EQT Production Company Antero Resources Corporation	1/8 Assignment Assignment Assignment	103A/0273 152A/0521 183A/0305 230A/0783
<u>Q: David Lee Smith Lease</u> David Lee Smith	Antero Resources Corporation	1/8+	273A/0442
<u>O: John Mathew Staley Lease</u> John Mathew Staley	Antero Resources Corporation	1/8+	266A/0026
<u>N: Abraham C. Gawthrop and Nancy K. Gawthrop Lease</u> Abraham C. Gawthrop and Nancy K. Gawthrop	Antero Resources Corporation	1/8+	188A/0349
<u>O: John Mathew Staley Lease</u> John Mathew Staley	Antero Resources Corporation	1/8+	266A/0349
<u>L: Coastal Forest Resources Company Lease</u> Coastal Forest Resources Company Drilling Appalachian Corporation	Drilling Appalachian Corporation Antero Resources Corporation	1/8+ Assignment	092A/0906 177A/0451
<u>J: David R. Thomas Et Ux Lease</u> David R. Thomas Et Ux	Antero Resources Corporation	1/8+	335A/0920
<u>K: Benjamin R. Yoho Lease</u> Benjamin R. Yoho	Antero Resources Corporation	1/8+	290A/0332
<u>H: CSX Transportation Lease</u> CSX Transportation	Antero Resources Corporation	1/8+	275A/0895
<u>K: Benjamin R. Yoho Lease</u> Benjamin R. Yoho	Antero Resources Corporation	1/8+	290A/0332
<u>C: WVDNR Lease</u> WVDNR	Antero Resources Corporation	1/8+	323A/0531
<u>I: J. Wells Eakin, Et Al Lease</u> J. Wells Eakin, Et Al Sutton's Exploration & Production Company, LLC Gastar Exploration USA, Inc. Gastar Exploration Inc. Gastar Exploration Inc. TH Exploration II, LLC	Sutton's Exploration & Production Company, LLC Gastar Exploration USA, Inc. Gastar Exploration Inc. TH Exploration II, LLC Antero Resources Corporation	1/8 Assignment Merger Assignment Assignment	090A/0234 102A/0524 0013/0270 173A/0431 270A/0067

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>I2: J. Wells Eakin, Et Al Lease</u>			
J. Wells Eakin, Et Al	Sutton's Exploration & Production Company, LLC	1/8	090A/0234
Sutton's Exploration & Production Company, LLC	Gastar Exploration USA, Inc.	Assignment	102A/0524
Gastar Exploration USA, Inc.	Gastar Exploration Inc.	Merger	0013/0270
Gastar Exploration Inc.	TH Exploration II, LLC	Assignment	173A/0431
TH Exploration II, LLC	Antero Resources Corporation	Assignment	270A/0067
<u>C: WVDNR Lease</u>			
WVDNR	Antero Resources Corporation	1/8+	323A/0531
<u>G1: Will E. Morris Heirs Trust Lease</u>			
Will E. Morris Heirs Trust	Antero Resources Corporation	1/8+	328A/0541
<u>H: CSX Transportation Lease</u>			
CSX Transportation	Antero Resources Corporation	1/8+	275A/0895
<u>G1: Will E. Morris Heirs Trust Lease</u>			
Will E. Morris Heirs Trust	Antero Resources Corporation	1/8+	328A/0541
<u>G2: Will E. Morris Heirs Trust Lease</u>			
Will E. Morris Heirs Trust	Antero Resources Corporation	1/8+	328A/0541
<u>F: Nancy Lou O'Neil Lasure Lease</u>			
Nancy Lou O'Neil Lasure	TH Exploration, LLC	1/8+	216A/0381
TH Exploration, LLC	Antero Resources Corporation	Assignment	318A/0035
<u>H: CSX Transportation Lease</u>			
CSX Transportation	Antero Resources Corporation	1/8+	275A/0895
<u>D: Shiben Estates, Inc. Lease</u>			
Shiben Estates, Inc.	Antero Resources Corporation	1/8+	307A/0680
<u>C: WVDNR Lease</u>			
WVDNR	Antero Resources Corporation	1/8+	323A/0531
<u>B2: Patricia Haddix Lease</u>			
Patricia Haddix	Antero Resources Corporation	1/8+	329A/0236

*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.

03/22/2024

**INFORMATION SUPPLIED UNDER WEST VIRGINIA CODE
Chapter 22, Article 6A, Section 5(a)(5)
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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
B1: Patricia Haddix Lease	Patricia Haddix	Antero Resources Corporation	1/8+	329A/0236

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

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

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

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

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

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

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Office of Oil and Gas
MAR 07 2024
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 Vice President of Land