



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, August 26, 2024
PERMIT MODIFICATION APPROVAL
Horizontal 6A / New Drill

ANTERO RESOURCES CORPORATION
1615 WYNKOOP STREET

DENVER, CO 80202


Re: Permit Modification Approval for Glaspell Unit 1H
47-017-06981-00-00

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, Chief, is written over a white background. The signature is stylized and cursive.

James A. Martin
Chief

Operator's Well Number: Glaspell Unit 1H
Farm Name: Shawn A Glaspell
U.S. WELL NUMBER: 47-017-06981-00-00
Horizontal 6A New Drill
Date Modification Issued: 8/26/2024

Promoting a healthy environment.

08/30/2024

*Ch#4033641
756000*

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

1) Well Operator: Antero Resources Corporation 494507062 017-Doddrick McLellan Center Point 7.5'
Operator ID County District Quadrangle

2) Operator's Well Number: Glaspell Unit 1H MOD Well Pad Name: Crimson Pad

3) Farm Name/Surface Owner: Shawn A. Glaspell Public Road Access: Riggins Run

4) Elevation, current ground: 1249' Elevation, proposed post-construction: 1222'

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: 7700' TVD, Anticipated Thickness- 55 feet, Associated Pressure- 2800#

8) Proposed Total Vertical Depth: 7700' TVD

9) Formation at Total Vertical Depth: Marcellus

10) Proposed Total Measured Depth: 26600' MD

11) Proposed Horizontal Leg Length: 17131'

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12) Approximate Fresh Water Strata Depths: 303', 953'

AUG 7 2024

13) Method to Determine Fresh Water Depths: 47-017-00483

14) Approximate Saltwater Depths: 2123'

WV Department
Environmental Protection

15) Approximate Coal Seam Depths: None Identified

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: _____

*Jimmy Hill
8-4-24*

18) **CASING AND TUBING PROGRAM**

TYPE	<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	94#	100	100	CTS, 89 Cu. Ft.
Fresh Water	13-3/8"	New	J-55	54.5#	1003	1003	CTS, 1045 Cu. Ft.
Coal	9-5/8"	New	J-55	36#	2500	2500	CTS, 1018 Cu. Ft.
Intermediate							
Production	5-1/2"	New	P-110	23#	26600	26600	5775 Cu. Ft
Tubing	2-3/8"	New	N-80	4.7#			
Liners							

TYPE	<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"	0.438"	1530	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"	12,630	2500	Lead-H/POZ & Tail - H	H/POZ-1.44 & H-1.8
Tubing	2-3/8"	4.778"	0.19"	11,200			
Liners							

PACKERS

Kind:	N/A				RECEIVED Office of Oil and Gas AUG 7 2024
Sizes:	N/A				ENVIRONMENTAL PROTECTION
Depths Set:	N/A				

Spencer
8-4-24

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

Drill, perforate, fracture a new shallow well and complete Marcellus Shale.

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): 36.89 acres

22) Area to be disturbed for well pad only, less access road (acres): 14.46 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.

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Environmental Protection

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 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.

James M. ...
8-4-24

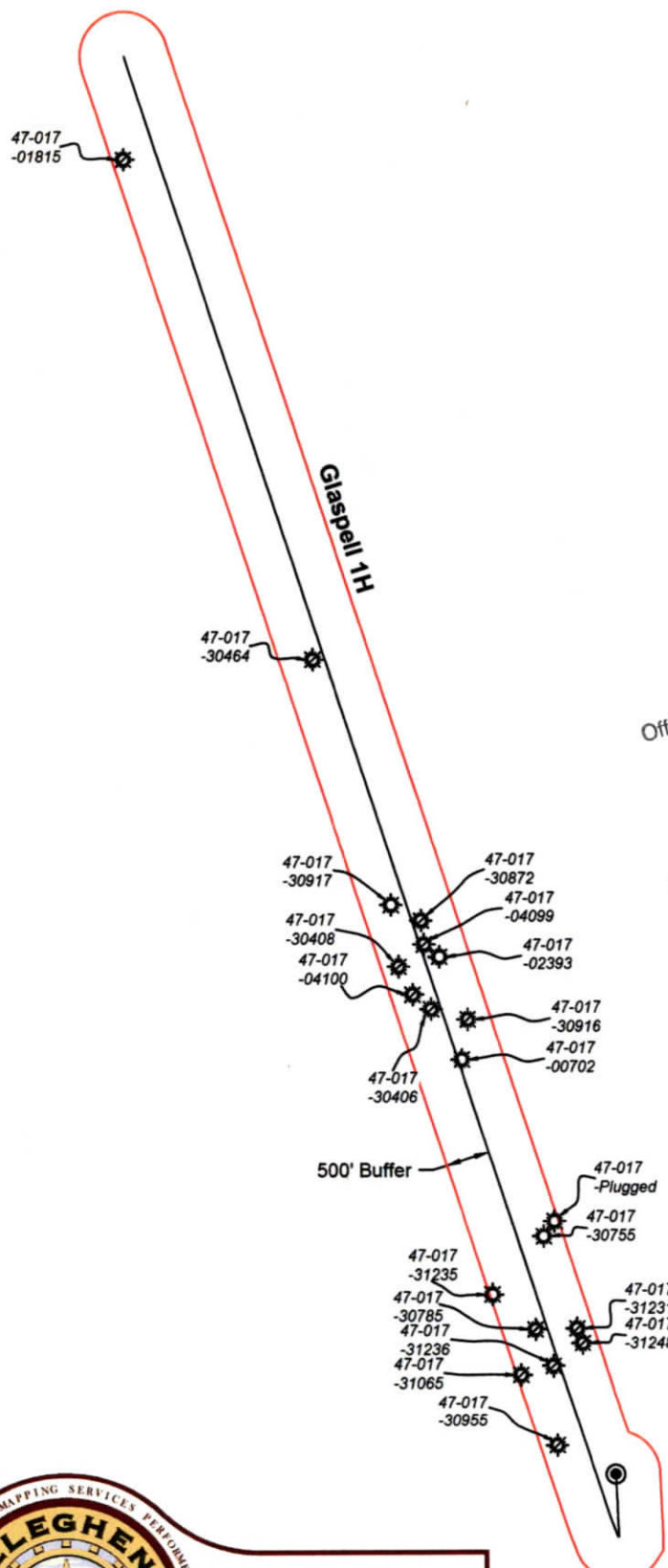
LEGEND

- ⊙ 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

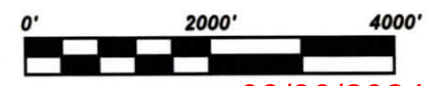
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Office of Oil and Gas
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WV Department of
Environmental Protection



Bridgeport Office
Phone: (304) 848-5035
Fax: (304) 848-5037

172 Thompson Drive
Bridgeport, WV 26330

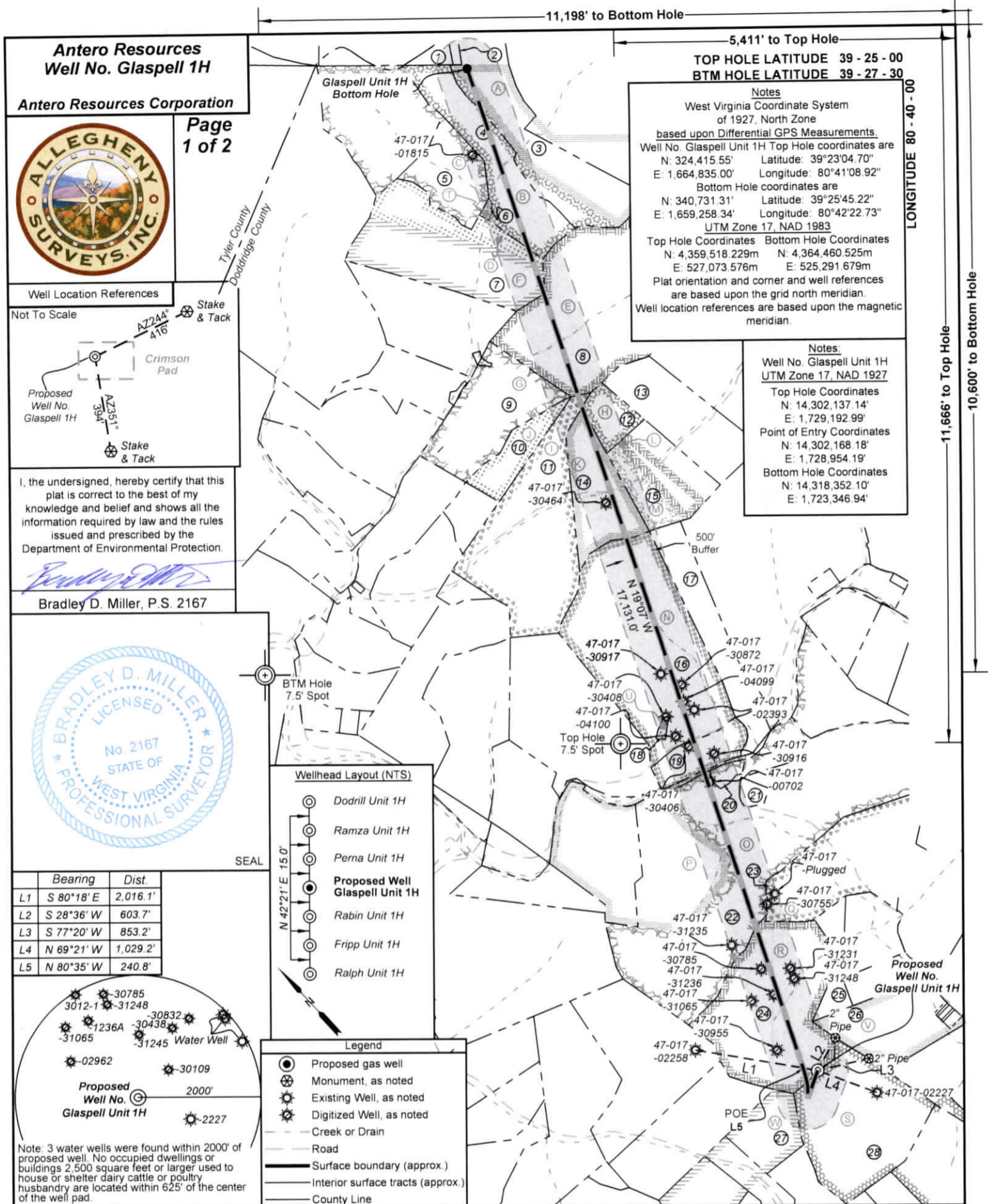
PARTY CHIEF: C. Lynch	DRAWN BY: J. Smith
RESEARCH: J. Miller	PREPARED: October 12, 2023
SURVEYED: Dec. 2016	PROJECT NO: 146-30-M-23
FIELD CREW: C.L., K.M.	DRAWING NO: Gaspell 1H AOR



Scale: 1 Inch = 2000 Feet

08/20/2024

UWI (API Num)	Well Name	Well Number	Operator	Historical Operator	TD	Perforated Interval (shallowest, deepest)	Perforated Formation(s)	Producible Formation(s) not perf'd
47017309550000	M V UNDERWOOD	2	QUAKER STATE OIL RFG	QUAKER STATE OIL RFG	2,840		Big Injun, Gordon	Weir, Fifth, Warren, Alexander
47017310650000	I N UNDERWOOD	3	MACKEY & WHITE	MACKEY & WHITE	2,310		Big Injun	Weir, Fifth, Warren, Alexander
47017312360000	MINDA ALLEN	7	SPENCER HUGH K ET AL	SPENCER HUGH K ET AL	2,295		Big Injun	Weir, Fifth, Warren, Alexander
47017307850000								
47017312350000	MINDA ALLEN	5	SPENCER HUGH K ET AL	SPENCER HUGH K ET AL	2,249		Big Injun	Weir, Fifth, Warren, Alexander
47017307550000	MAUDE GEORGE	3	BROADWATER WELCH&TRA	BROADWATER WELCH&TRA	2,315		Big Injun	Weir, Fifth, Warren, Alexander
47017312310000	MINDA ALLEN	4	SPENCER HUGH K ET AL	SPENCER HUGH K ET AL			Big Injun	Weir, Fifth, Warren, Alexander
47017312480000	CLYDE GEORGE	2	SPENCER HUGH K ET AL	SPENCER HUGH K ET AL	1,943		Big Injun	Weir, Fifth, Warren, Alexander
47017304060000	RUTH UNDERWOOD	3	WURTZ BROTHERS	WURTZ BROTHERS	2,007		Big Injun	Weir, Fifth, Warren, Alexander
47017041000000	ZED UNDERWOOD	7	COMMONWEALTH ENERGY USA INC	MUTSCHELKNAUS C W	1,971		Big Injun	Weir, Fifth, Warren, Alexander
47017304080000	RUTH UNDERWOOD	10	WURTZ BROTHERS	WURTZ BROTHERS	2,051		Big Lime	Weir, Fifth, Warren, Alexander
47017309170000			UNKNOWN	UNKNOWN				
47017308720000	ZED & MARY UNDERWOOD	1	WURTZ BROTHERS	WURTZ BROTHERS	2,023		Big Injun	Weir, Fifth, Warren, Alexander
47017040990000	ZED UNDERWOOD	5	COMMONWEALTH ENERGY USA INC	MUTSCHELKNAUS C W	1,908		Big Injun	Weir, Fifth, Warren, Alexander
47017023930000	MILTON UNDERWOOD	1	JET OIL CO	JET OIL CO	2,824		Big Injun	Weir, Fifth, Warren, Alexander
47017309160000			UNKNOWN	UNKNOWN	1,959			
47017007020000	WILBUR COLE ET AL	1	PETROLEUM PROMOTIONS	PETROLEUM PROMOTIONS	2,327		Berea	Weir, Fifth, Warren, Alexander
47017304640000	W S FERRIBEE 1	620	CARNEGIE NATURAL GAS	CARNEGIE NATURAL GAS	2,743		Gordon Stray	Weir, Fifth, Warren, Alexander
47017018150000	W MUTSCHELKNAUS	2	TARGA DEVELOPMENT INC	STONESTREET LANDS	2,376		Big Injun	Weir, Fifth, Warren, Alexander



Notes
 West Virginia Coordinate System of 1927, North Zone based upon Differential GPS Measurements.
 Well No. Glaspell Unit 1H Top Hole coordinates are
 N: 324,415.55' Latitude: 39°23'04.70"
 E: 1,664,835.00' Longitude: 80°41'08.92"
 Bottom Hole coordinates are
 N: 340,731.31' Latitude: 39°25'45.22"
 E: 1,659,258.34' Longitude: 80°42'22.73"
 UTM Zone 17, NAD 1983
 Top Hole Coordinates Bottom Hole Coordinates
 N: 4,359,518.229m N: 4,364,460.525m
 E: 527,073.576m E: 525,291.679m
 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. Glaspell Unit 1H UTM Zone 17, NAD 1927
 Top Hole Coordinates
 N: 14,302,137.14'
 E: 1,729,192.99'
 Point of Entry Coordinates
 N: 14,302,168.18'
 E: 1,728,954.19'
 Bottom Hole Coordinates
 N: 14,318,352.10'
 E: 1,723,346.94'

Antero Resources Well No. Glaspell 1H
Antero Resources Corporation
Page 1 of 2

Well Location References
 Not To Scale
 Stake & Tack
 Crimson Pad
 Proposed Well No. Glaspell 1H
 Stake & Tack

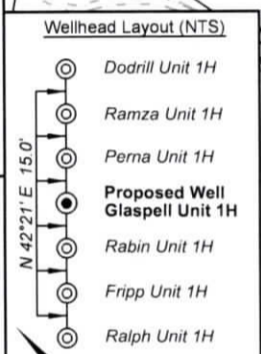
I, the undersigned, hereby certify that this plat is correct to the best of my knowledge and belief and shows all the information required by law and the rules issued and prescribed by the Department of Environmental Protection.

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

SEAL

	Bearing	Dist.
L1	S 80°18' E	2,016.1'
L2	S 28°36' W	603.7'
L3	S 77°20' W	853.2'
L4	N 69°21' W	1,029.2'
L5	N 80°35' W	240.8'

Note: 3 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.



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.)
- County Line

FILE NO: 146-30-M-23
 DRAWING NO: Glaspell 1H 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

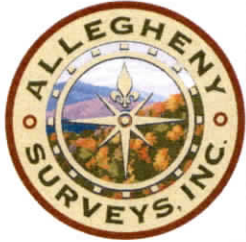
DATE: April 25 2024
 OPERATOR'S WELL NO. Glaspell 1H
 API WELL NO
 47 - 017 -
 STATE COUNTY PERMIT

WELL TYPE: OIL GAS LIQUID INJECTION WASTE DISPOSAL
 (IF GAS) PRODUCTION: STORAGE DEEP SHALLOW
 LOCATION: ELEVATION: Proposed: 1,222' Existing: 1,249' WATERSHED: McElroy Creek QUADRANGLE: Center Point
 DISTRICT: McClellan Shawn A. COUNTY: Doddridge
 SURFACE OWNER: Glaspell ACREAGE: 100
 ROYALTY OWNER: Minda Allen LEASE NO: ACREAGE: 100
 PROPOSED WORK: DRILL CONVERT DRILL DEEPER FRACTURE OR STIMULATE PLUG OFF OLD FORMATION
 PERFORATE NEW FORMATION OTHER PHYSICAL CHANGE IN WELL (SPECIFY)
 PLUG AND ABANDON CLEAN OUT AND REPLUG TARGET FORMATION: Marcellus Shale ESTIMATED DEPTH: 7,700' TVD 26,600' 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. Glaspell 1H**

Antero Resources Corporation



Page
2 of 2

Leases	
A	Larry M. Hutson
B	Carole Hanlon
C	Robert L. Wolfe
D	Deborah Ann Cox
E	O.W.O Hardman, et al
F	Jefferson Minerals, LLC
G	N.M. Laughery
H	Robert D. Orr
I	Jay Bee Production Company, et al
J	Jacqueline L. Wichman Trust
K	Sandra S. Riffle
L	Carole O. Hyre
M	XTO Energy, Inc.
N	Antero Minerals, LLC
O	Donald R. Reynolds
P	Donald R. Reynolds
Q	Jacqueline L. Wichman Trust
R	Minda Allen
S	Morris Mountaineer Oil & Gas, LLC
T	Robert L. Wolfe
U	Chris Underwood
V	Antero Minerals, LLC
W	Robert O. Hopkins

ID	TM-Par	Owner	Bk/Pg	Acres
1	12-28	Garnett M. Ferreebee	WB24/333	107.00
2	5-16	James M. & Martha J. Cerullo	243/376	2.50
3	5-3	Brandon M. Cerullo	271/97	59.50
4	5-2	Robert L. Wolfe	274/668	56.71
5	5-9	Robert L. Wolfe	231/560	32.75
6	5-2.1	Robert L. Wolfe	231/464	1.09
7	5-10	Kevin E. & Elizabeth A. Denny	287/49	88.89
8	5-8	Coastal Forest Resources Co.	260/135	175.00
9	5-11.1	Grace Olive Rudder	WB42/130	60.63
10	11-5.2	James B. & Hazel I. Lemasters	143/118	21.50
11	11-5	James B. & Hazel I. Lemasters	143/118	108.00
12	11-7.1	Jasin B. Gamble	319/325	13.27
13	11-2	Ralph E. Ferreebee Jr	198/336	58.00
14	11-6	W.I. & Martha Ferreebee & Mary K. & Paul Baker	28/375	39.93
15	11-17	Jasin B. Gamble	319/325	39.78
16	11-14	Charles W. Yeager III	312/354	150.00
17	11-15	Charles W. Yeager III	312/354	37.00
18	11-14.1	Underwood Cemetery	---/---	0.23
19	11-14.2	Jason Lee Travis	310/280	18.66
20	11-34.1	Michael W. & Jodi A. Swiger	261/653	4.50
21	11-34.2	Shawn A. Glaspell	250/10	3.71
22	11-34	Shawn A. Glaspell	271/230	254.51
23	17-3.7	Treasa M. Bonnell	470/409	60.71
24	17-3.3	Shawn A. Glaspell	283/601	100.00
25	17-3.6	Shawn A. Glaspell	283/601	13.05
26	17-10	Kathryn Renee Blessing, et al	WB39/506	48.50
27	17-16	Faith L. Fry	238/167	36.84
28	17-3.2	Shawn A. Glaspell	283/601	135.00

FILE NO: 146-30-M-23
 DRAWING NO: Glaspell 1H Well Plat
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 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: April 25 2024
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 ADDRESS: 1615 Wynkoop Street ADDRESS: 535 White Oaks Blvd.
Denver, CO 80202 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:

<u>Lease Name or Number</u>	<u>Grantor, Lessor, etc.</u>	<u>Grantee, Lessee, etc.</u>	<u>Royalty</u>	<u>Book/Page</u>
<u>A: Larry M. Hutson Lease</u>	Larry M. Hutson	Antero Resources Corporation	1/8+	459/190

**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 Vice President of Land

INFORMATION SUPPLIED UNDER WEST VIRGINIA CODE
 Chapter 22, Article 6A, Section 5(a)(5)
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Grantor, lessor, etc.	Grantee, lessee, etc.	Royalty	Book/Page
R: Minda Allen Lease			
Minda Allen	W. B. Allen	1/8	7/357
W. B. Allen	South Penn Oil Company	Assignment	7/359
South Penn Oil Company	Pennzoil Company	Name Change	WVSOS
Pennzoil Company	Pennzoil Products Company	Deed	203/621
Pennzoil Products Company	Pennzoil Exploration and Production Company	Deed	239/355
Pennzoil Exploration and Production Company	Pennz Energy Exploration and Production LLC	Deed	240/702
Pennz Energy Exploration and Production LLC	Devon Energy Production Company LP	Merger	244/399
Devon Energy Production Company LP	East Resources Inc	Assignment	247/337
East Resources Inc	East Resources Inc and HG Energy LLC	Assignment	253/31
East Resources Inc and HG Energy LLC	American Energy Marcellus LLC	Assignment	361/1
American Energy Marcellus LLC	Ascent Resources – Marcellus LLC	Name Change	36/455
Ascent Resources – Marcellus LLC	Tribune Resources, LLC	Merger	431/260
Tribune Resources, LLC	Antero Resources Corporation	Assignment	
S: Morris Mountaineer Oil & Gas, LLC Lease			
Morris Mountaineer Oil & Gas, LLC	Antero Resources Corporation	1/8+	510/376
R: Minda Allen Lease			
Minda Allen	W. B. Allen	1/8	7/357
W. B. Allen	South Penn Oil Company	Assignment	7/359
South Penn Oil Company	Pennzoil Company	Name Change	WVSOS
Pennzoil Company	Pennzoil Products Company	Deed	203/621
Pennzoil Products Company	Pennzoil Exploration and Production Company	Deed	239/355
Pennzoil Exploration and Production Company	Pennz Energy Exploration and Production LLC	Deed	240/702
Pennz Energy Exploration and Production LLC	Devon Energy Production Company LP	Merger	244/399
Devon Energy Production Company LP	East Resources Inc	Assignment	247/337
East Resources Inc	East Resources Inc and HG Energy LLC	Assignment	253/31
East Resources Inc and HG Energy LLC	American Energy Marcellus LLC	Assignment	361/1
American Energy Marcellus LLC	Ascent Resources – Marcellus LLC	Name Change	36/455
Ascent Resources – Marcellus LLC	Tribune Resources, LLC	Merger	431/260
Tribune Resources, LLC	Antero Resources Corporation	Assignment	
O: Donald R. Reynolds Lease			
Donald R. Reynolds	Tribune Resources, LLC	1/8	501/249
Tribune Resources, LLC	Antero Resources Corporation	Assignment	530/325
N: Antero Minerals, LLC Lease			
Antero Minerals, LLC	Antero Resources Corporation	1/8+	526/654
K: Sandra S. Riffle Lease			
Sandra S. Riffle	Antero Resources Corporation	1/8+	454/263
H: Robert D. Orr Lease			
Robert D. Orr	Antero Resources Corporation	1/8+	517/312
I: Jay Bee Production Company, et al Lease			
Jay Bee Production Company, et al	Antero Resources Corporation	1/8+	498/473

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>E: O. W. O Hardman, et al Lease</u>			
O. W. O. Hardman, et al	Michael Murphy and S. H. Bradley	1/8	9/13
Michael Murphy and S. H. Bradley	E. H. Jennings and Brothers	Assignment	24/184
E. H. Jennings and Brothers	Jennings Oil Company Corporation	Assignment	24/184
Jennings Oil Company Corporation	John A. Murphy, Joseph L. Murphy and Michael E Murphy Trustees	Assignment	36/415
John A. Murphy, Joseph L. Murphy and Michael E Murphy Trustees	Murphy Oil Company	Assignment	40/123
Murphy Oil Company	Dilmur Oil Company	Assignment	91/730
Dilmur Oil Company	Targa Development	Assignment	257/362
Targa Development	Antero Resources Appalachian Corporation	Assignment	257/362
Antero Resources Appalachian Corporation	Antero Resources Corporation	Merger	46/523
<u>F: Jefferson Minerals, LLC Lease</u>			
Jefferson Minerals, LLC	Antero Resources Corporation	1/8+	469/427
<u>D: Deborah Ann Cox Lease</u>			
Deborah Ann Cox	Antero Resources Corporation	1/8+	517/131
<u>B: Carole Hanlon Lease</u>			
Carole Hanlon	Antero Resources Corporation	1/8+	339/150

***Cotenancy 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

*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.