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west virginia department of environmental protection

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Office of Oil and Gas  
601 57<sup>th</sup> Street, S.E.  
Charleston, WV 25304  
(304) 926-0450  
fax: (304) 926-0452

Austin Caperton, Cabinet Secretary  
[www.dep.wv.gov](http://www.dep.wv.gov)

Friday, April 26, 2019  
PERMIT MODIFICATION APPROVAL  
Horizontal 6A / New Drill

ANTERO RESOURCES CORPORATION  
1615 WYNKOOP STREET

DENVER, CO 80202

Re: Permit Modification Approval for BUZZARD RUN UNIT 1H  
47-085-10379-00-00

**Modified Lateral Route and Bottom Hole**

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: BUZZARD RUN UNIT 1H  
Farm Name: TERRY LEE RICHARDS  
U.S. WELL NUMBER: 47-085-10379-00-00  
Horizontal 6A New Drill  
Date Modification Issued: April 26, 2019

WW-6B  
(04/15)

Permit Modification API# (47-085-10379) mo0  
API NO. 47-085 - 10379  
OPERATOR WELL NO. Buzzard Run Unit 1H  
Well Pad Name: Lynn Camp 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 085 - Ritchie Clay Pullman 7.5'  
Operator ID County District Quadrangle

2) Operator's Well Number: Buzzard Run Unit 1H Well Pad Name: Lynn Camp Pad

3) Farm Name/Surface Owner: Terry Lee Richards Public Road Access: Buzzard Run

4) Elevation, current ground: 1162' Elevation, proposed post-construction: 1149'

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: 6800' TVD, Anticipated Thickness- 50 feet, Associated Pressure- 3000#

8) Proposed Total Vertical Depth: 6800' TVD

9) Formation at Total Vertical Depth: Marcellus

10) Proposed Total Measured Depth: 19500' MD

11) Proposed Horizontal Leg Length: 11497'

12) Approximate Fresh Water Strata Depths: 89', 216', 222', 459'

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

14) Approximate Saltwater Depths: 1221', 1247'

15) Approximate Coal Seam Depths: 210', 694', 784'

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: \_\_\_\_\_

Michael Staff  
3/27/19

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WV Department of  
Environmental Protection

04/26/2019

WW-6B  
(04/15)

Permit Modification API# (47-085-10379) *MOD*  
 API NO. 47- 085 - 10379  
 OPERATOR WELL NO. Buzzard Run Unit 1H  
 Well Pad Name: Lynn Camp Pad

18)

**CASING AND TUBING PROGRAM**

<b>TYPE</b>	<b>Size (in)</b>	<b>New or Used</b>	<b>Grade</b>	<b>Weight per ft. (lb/ft)</b>	<b>FOOTAGE: For Drilling (ft)</b>	<b>INTERVALS: Left in Well (ft)</b>	<b>CEMENT: Fill-up (Cu. Ft.)/CTS</b>
Conductor	20"	New	H-40	94#	80'	80'	CTS, 77 Cu. Ft.
Fresh Water	13-3/8"	New	J-55/H-40	54.5#/48#	510' *see #19	510' *see #19	CTS, 708 Cu. Ft.
Coal	9-5/8"	New	J-55	36#	2500'	2500'	CTS, 1018 Cu. Ft.
Intermediate							
Production	5-1/2"	New	P-110	20#	19500'	19500'	4954 Cu. Ft.
Tubing	2-3/8"	New	N-80	4.7#		7100'	
Liners							

*MDC  
3/27/19*

<b>TYPE</b>	<b>Size (in)</b>	<b>Wellbore Diameter (in)</b>	<b>Wall Thickness (in)</b>	<b>Burst Pressure (psi)</b>	<b>Anticipated Max. Internal Pressure (psi)</b>	<b>Cement Type</b>	<b>Cement Yield (cu. ft./k)</b>
Conductor	20"	24"	0.438"	1530	50	Class A	1.18
Fresh Water	13-3/8"	17-1/2"	0.38"/0.33"	2730/1730	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"	0.361"	12,630	2500	Lead-HIPOZ & Tol - H	H/POZ-1.44 & H-1.8
Tubing	2-3/8"	4.778"	0.19"	11,200			
Liners							

**PACKERS**

Kind:	N/A			
Sizes:	N/A			
Depths Set:	N/A			

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WW-6B  
(10/14)

Permit Modification API# (47-085-10379) **MOD**  
 API NO. 47- 085 - 10379  
 OPERATOR WELL NO. Buzzard Run Unit 1H  
 Well Pad Name: Lynn Camp Pad

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

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

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

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

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

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

21) Total Area to be disturbed, including roads, stockpile area, pits, etc., (acres): 26.07 Acres

22) Area to be disturbed for well pad only, less access road (acres): 6.86 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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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.

WV Department of  
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\*Note: Attach additional sheets as needed.

MAG  
 3/27/19

04/26/2019

85-10379 MOO



Buzzard Run Unit 1H

47085057300000



47085076590000



47085084270001



47085084270000

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Antero Resources Corporation

Buzzard Run Unit 1H - AOR



WELL SYMBOLS  
Gas Well

October 31, 2018

85-10379 MON

04/12/2019

BUZZARD RUN UNIT 1H (LYNN CAMP PAD) - AREA OF REVIEW 35-8-5.11 PAGE 1

UIN (API/URN)	Well Name	Well Number	Operator	Historical Operator	ID	Perforated Interval (Shallowest, deepest)	Perforated Formation(s)	Productive Formation(s) not perf'd
US30803730000	KAYNELL E HENS	1-86	ENERGY CORP OF AMER	I & I ENTERPRISES	5,345	444 - 5172	Udey, Lower Huron	Benson, Alexander, Well, Warren, Speechley, Battown, Bradford, Riley, Elk
US30807659000	TUCKER WAINY & LAW	1101	ENERGY CORP OF AMER	EASTERN AMERICAN ENE	5,445	3476 - 5257	Keener, Big Injun, Well, Udey, Riley	Benson, Alexander, Warren, Speechley, Battown, Bradford, Elk
US30808427000	RICHARDS T ET AL	2	K PETROLEUM INC	GAS SEARCH INC	5,350	3855 - 5199	Riley, Benson	Alexander, Well, Speechley, Battown, Bradford, Elk

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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
<b><u>Miles H. Lamm et ux Lease</u></b> ✓			
Miles H. Lamm et ux	David J. Sheldon, D/B/A S&S, Inc.	1/8	0133/0366
David J. Sheldon, D/B/A S&S, Inc.	J & J Enterprises, Inc.	Assignment	0134/0316
J & J Enterprises, Inc.	Eastern American Energy Corporation	Assignment	0231/0732
Eastern American Energy Corporation	Energy Corporation of America	Assignment	0250/0393
Energy Corporation of America	Antero Resources Appalachian Corporation	Assignment	0257/0377
Antero Resources Appalachian Corporation	Antero Resources Corporation	Name Change	Exhibit 1
<b><u>Loretta K. Clark Bare et al Lease</u></b> ✓			
Loretta K. Clark Bare, et al	Canbe Exploration Company	1/8	0146/0788
Canbe Exploration Company	Oil Development Company	Assignment	0153/0716
Oil Development Company	Alan Gable Oil Development Energy Trust, et al	Assignment	0207/0623
Alan Gable Oil Development Energy Trust, et al	Gassearch Corporation, et al	Assignment	0207/0628
Gassearch Corporation, et al	Linn Energy Holdings, LLC	Assignment	0239/0118
Linn Energy Holdings, LLC	XTO Energy, Inc.	Assignment	0246/0814
XTO Energy, Inc.	Antero Resources Corporation	Assignment	0295/0836
<b><u>S.A. Smith &amp; C. Burke Morris Heirs Trust Lease</u></b> ✓			
S.A. Smith & C. Burke Morris Heirs Trust	Antero Resources Corporation	1/8+	0318/0976
<b><u>Mary A. Tucker et al Lease</u></b>			
Mary A. Tucker et al	Pittsburg & West Virginia Gas Company	1/8	0040/0529
Pittsburg & West Virginia Gas Company	Equitable Gas Company	Assignment	0126/0473
Equitable Gas Company	Equitrans Inc	Assignment	0201/0253
Equitrans Inc	Equitable Production-Eastern States Inc	Assignment	0234/0830
Equitable Production-Eastern States Inc	Equitable Production Company	Merge	Exhibit 2
Equitable Production Company	EQT Production Company	Name Change	0006/0443
EQT Production Company	Antero Resources Corporation	Assignment	0277/0836
<b><u>Lawrence E. Dotson, et ux Lease</u></b> ✓			
Lawrence E. Dotson, et ux	Antero Resources Corporation	1/8+	0313/0886
<b><u>Franklin Maxwell Heirs Lease</u></b> ✓			
Franklin Maxwell Heirs	Antero Resources Corporation	1/8	0321/0836

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\*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.

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
<b>A.C. Primm, et al Lease</b>			
A.C. Primm, et al	E. A. Ballengee	1/8	0094/0325
E. A. Ballengee	George L. Yaste	Assignment	0097/0363
George L. Yaste	D.L.Y. Inc	Assignment	0112/0302
D.L.Y. Inc	R & S Gas Company	Assignment	0132/0565
R & S Gas Company	Bet-ro Inc	Assignment	0147/0554
Bet-ro Inc	Eastern American Energy Corporation	Assignment	0201/0203
Eastern American Energy Corporation	Antero Resources Appalachian Corporation	Assignment	0257/0377
Antero Resources Appalachian Corporation	Antero Resources Corporation	Name Change	Exhibit 1
<b>Harry J. Taylor Lease</b>			
Harry J. Taylor	Kanawha Drilling Company	1/8	0121/0634
Kanawha Drilling Company	Industrial Gas Associates	Assignment	0124/0545
Industrial Gas Associates	Eastern American Energy Corporation	Assignment	0211/0287
Eastern American Energy Corporation	Energy Corporation of America	Assignment	0250/0393
Energy Corporation of America	Antero Resources Appalachian Corporation	Assignment	0257/0377
Antero Resources Appalachian Corporation	Antero Resources Corporation	Name Change	Exhibit 1
<b>Grover C. Taylor et al Lease</b>			
Grover C. Taylor, et al	G.L. Dudley, Jr.	1/8	0079/0304
G.L. Dudley, Jr.	The Central Company, Inc.	Assignment	0080/0280
The Central Company, Inc.	Chester A. Huff	Assignment	0081/0499
Chester A. Huff	Sarah Jackson Doyle	Assignment	0082/0423
Sarah Jackson Doyle	Anna M. Cunningham	Assignment	0113/0072
Anna M. Cunningham	French Creek Development, Inc.	Assignment	0151/0134
French Creek Development, Inc.	Comco Energy, Inc.	Assignment	0181/0040
Comco Energy, Inc.	Oil Investments, Ltd.	Assignment	0189/0130
Oil Investments, Ltd.	Trans-Capital Investment Group, Inc.	Assignment	0197/0643
Trans-Capital Investment Group, Inc.	P&D Resources, Inc.	Assignment	0231/0329
P&D Resources, Inc.	Shanley Oil Company	Assignment	0254/0353
Shanley Oil Company	DWD Resources, LLC	Assignment	0255/0077
DWD Resources, LLC	Whittle Corporation	Assignment	0255/0079
Whittle Corporation	Antero Resources Appalachian Corporation	Partial Assignment	0255/0257
Antero Resources Appalachian Corporation	Antero Resources Corporation	Name Change	Exhibit 1

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\*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.



WW-6A1  
(5/13)

Operator's Well No. Buzzard Run Unit 1H

**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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- (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
<b>Lena R. Carr et al Lease</b> ✓	Lena R. Carr, et al	F. E. Pritchard	1/8	0075/0107
	F. E. Pritchard	Maud G. Pritchard	Assignment	0006/0244
	Maud G. Pritchard	C.B. Wright	Assignment	0089/0537
	C. B. Wright	David A. Harrison	Assignment	0090/0350
	David A. Harrison	David M. Harrison & Elizabeth K. Harrison	Assignment	0098/0264
	David M. Harrison & Elizabeth K. Harrison	Willard H. McCloy, et al	Assignment	0126/0260
	Willard H. McCloy, et al	Warren H. Haught	Agreement	0127/0402
	Warren H. Haught	Smithville United Methodist Church	Assignment	0154/0584
	Smithville United Methodist Church	Mid Oil, Inc	Assignment	0190/0757
	Mid Oil, Inc	Antero Resources Appalachian Corporation	Assignment	0262/0192
	<b>Antero Resources Appalachian Corporation</b>	<b>Antero Resources Corporation</b>	<b>Name Change</b>	<b>Exhibit 1</b>

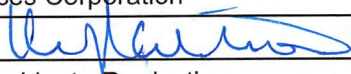
\*Partial Assignments to Antero Resources Corporation include 100% rights to extract, produce and market the oil and gas from the Marcellus and any other formations completed with this well.

**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: Kevin Kilstrom   
 Its: Senior Vice President - Production

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**MAR 12 2019**  
WV Department of  
Environmental Protection

04/26/2019

FORM WW-6A1  
EXHIBIT 2

# State of West Virginia



## Certificate

*I, Ken Hechler, Secretary of State of the  
State of West Virginia, hereby certify that*

originals of the Application for Amended Certificate of Authority of

**EASTERN STATES OIL & GAS, INC.**

are filed in my office, signed and verified, as required by the provisions of West Virginia Code §§31-1-57 and 59 and conform to law. Therefore, I issue this

### CERTIFICATE OF AMENDMENT TO THE CERTIFICATE OF AUTHORITY

changing the name of the corporation to

**EQUITABLE PRODUCTION - EASTERN STATES, INC.**

and I attach to this certificate a duplicate original of the Application for Amended Certificate of Authority.

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MAR 12 2019  
WV Department of  
Environmental Protection



*Given under my hand and the  
Great Seal of the State of  
West Virginia on this day of  
June 16, 2000*

*Ken Hechler*

Secretary of State

FORM WW-6A1  
EXHIBIT 1

FILED

JUN 10 2013

Natalie E. Tennant  
Secretary of State  
1909 Kanawha Blvd E  
Bldg 1, Suite 157-K  
Charleston, WV 25305



Penny Becker, Manager  
IN THE OFFICE OF Corporations Division  
SECRETARY OF STATE Tel: (304)538-8000  
Fax: (304)559-8381  
Website: www.wvnet.com  
E-mail: business@wvnet.com

FILE ONE ORIGINAL  
(Two if you want a filed  
stamped copy returned to you)  
FEE: \$25.00

APPLICATION FOR  
AMENDED CERTIFICATE  
OF AUTHORITY

Office Hours: Monday - Friday  
8:30 a.m. - 5:00 p.m. ET

\*\*\*\* In accordance with the provisions of the West Virginia Code, the undersigned corporation hereby \*\*\*\*  
applies for an Amended Certificate of Authority and submits the following statement:

- Name under which the corporation was authorized to transact business in WV: Antero Resources Appalachian Corporation
- Date Certificate of Authority was issued in West Virginia: 6/26/2008
- Corporate name has been changed to: Antero Resources Corporation  
(Attach one Certified Copy of Name Change as filed in home State of incorporation.)
- Name the corporation elects to use in WV: Antero Resources Corporation  
(due to home state name not being available)
- Other amendments: (attach additional pages if necessary)
- Name and phone number of contact person. (This is optional; however, if there is a problem with the filing, listing a contact person and phone number may avoid having to return or reject the document.)  
Alwyn A. Schopp (303) 367-7310  
Contact Name Phone Number
- Signature information (See below \*Important Legal Notice Regarding Signatures):  
Print Name of Signer: Alwyn A. Schopp Title/Capacity: Authorized Person  
Signature: [Handwritten Signature] Date: June 10, 2013

**\*Important Legal Notice Regarding Signatures:** For West Virginia Code §31D-1-123. Penalty for signing false document. Any person who signs a document he or she knows is false in any material respect and knows that the document is to be delivered to the secretary of state for filing is guilty of a misdemeanor and, upon conviction thereof, shall be fined not more than one thousand dollars or confined in the county or regional jail not more than one year, or both.

Form CF-1

Issued by the Office of the Secretary of State

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Office of Oil and Gas  
MAR 12 2019  
WV Department of  
Environmental Protection  
Revised 4/13

LATITUDE 39°15'00"

8,123'

10,910' TO BOTTOM HOLE

LATITUDE 39°15'00"

LONGITUDE 80°55'00"

13,184'

LONGITUDE 80°55'00"

### Antero Resources Corporation Well No. Buzzard Run Unit 1H

1H BOTTOM HOLE

#### NOTE

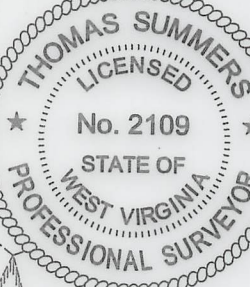
NO OCCUPIED DWELLINGS OR BUILDINGS TWO THOUSAND FIVE HUNDRED (2,500) SQUARE FEET OR LARGER USED TO HOUSE OR SHELTER DAIRY CATTLE OR POULTRY HUSBANDRY ARE LOCATED WITHIN SIX HUNDRED TWENTY-FIVE (625) FEET OF THE CENTER OF THE WELL PAD.

#### NOTES:

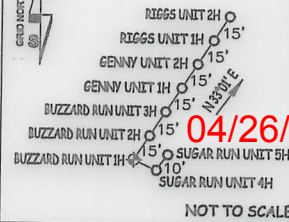
WELL 1H TOP HOLE INFORMATION:  
N: 263,276ft E: 1,590,486ft  
LAT: 39°12'49.69" LON: 80°56'43.20"  
BOTTOM HOLE INFORMATION:  
N: 274,521ft E: 1,587,876ft  
LAT: 39°14'40.41" LON: 80°57'18.68"  
WEST VIRGINIA COORDINATE SYSTEM OF 1927 NORTH ZONE. ZONE WAS DERIVED FROM MEASUREMENTS TAKEN WITH TRIMBLE GEOXT SUBMETER MAPPING GRADE GPS UNIT. 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: 4,340,514m E: 504,734m  
BOTTOM HOLE INFORMATION:  
N: 4,343,926m E: 503,881m

Clay District - Ritchie County	
31-12	Steven Stanley
31-16	Austin Jones
31-16.1	Jason Flanigan
31-17	E.L.F. LLC
31-17.2	Austin Jones
31-18	E.L.F. LLC
35-05	E.L.F. LLC
35-12	E.L.F. LLC
35-28	Brian Taylor
36-06	E.L.F. LLC
36-6.1	E.L.F. LLC
36-6.3	E.L.F. LLC
36-07	Suzanne Jenatha
36-14.1	Brian Taylor
36-15	Brian Taylor
36-26	Meghan Clovis
36-27	James Elder
36-28	James Masters
36-29	Brian Taylor
36-30	Terry Lee Richards
36-30.1	Terry Lee Richards
40-02	Scott Williams
40-03	Tommy Pastethwait
40-05	Terry Lee Richards
40-07	James Masters
40-7.1	Terry Lee Richards
40-08	Terry Lee Richards
40-8.1	Terry Lee Richards
40-09	Terry Lee Richards
40-10	Roger Richards
40-13	Tommy Pastethwait
40-14	Duane Riggs
40-18	Duane Riggs
40-19	Duane Riggs
40-20	Duane Riggs
40-20.1	Duane Riggs

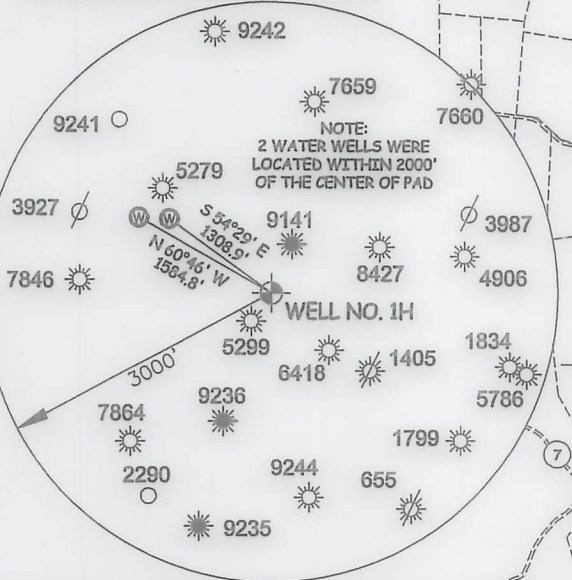


#### PAD LAYOUT



(NAD) 27 (UTM) ZONE 17 COORDS:  
WELL 1H TOP HOLE INFORMATION:  
N: 14,239,788ft E: 1,655,900ft  
POINT OF ENTRY INFORMATION:  
N: 14,240,108ft E: 1,656,820ft  
BOTTOM HOLE INFORMATION:  
N: 14,250,984ft E: 1,653,104ft

WV NORTH ZONE  
GRID NORTH



NOTE:  
2 WATER WELLS WERE LOCATED WITHIN 2000' OF THE CENTER OF PAD

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.

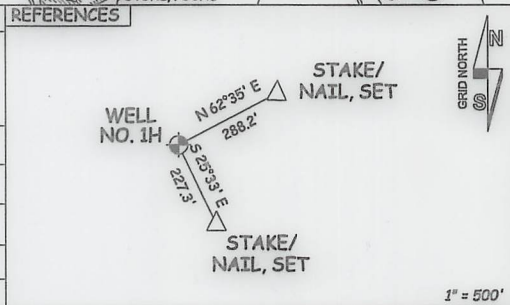


STATE OF WEST VIRGINIA, DIVISION OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS

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

JOB # 18-025WA  
DRAWING # BUZZARDRUN1H  
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 +/-  
----- Interior Surface Tracts +/-  
- - - - - Existing Fence  
⊕ Found monument, as noted  
*Thomas Summers*  
THOMAS SUMMERS P.S. 2109  
DATE 03/08/19  
OPERATOR'S WELL# BUZZARD RUN UNIT #1H



WELL TYPE: OIL \_\_\_ GAS X LIQUID INJECTION \_\_\_ WASTE DISPOSAL \_\_\_ 47 \_\_\_ 085 \_\_\_ 10379 MDP  
 (IF "GAS") PRODUCTION X STORAGE \_\_\_ DEEP \_\_\_ SHALLOW X STATE COUNTY PERMIT  
 LOCATION: ELEVATION 1,162' ORIGINAL - 1,149' PROPOSED WATERSHED NORTH FORK HUGHES RIVER QUADRANGLE PULLMAN 7.5' (SHL) PENNSBORO 7.5' (BHL)  
 SURFACE OWNER TERRY LEE RICHARDS ACREAGE 60 ACRES +/- DISTRICT CLAY COUNTY RICHIE  
 OIL & GAS ROYALTY OWNER LORETTA K. CLARK BARE ET AL; S. A. SMITH & C. BURKE MORRIS TRUST; LEASE ACREAGE 60 AC±; 46.48 AC±;  
MARY A TUCKER ET AL; LAWRENCE E. DOTSON ET UX; FRANKLIN MAXWELL HEIRS; A. C. PRIMM ET AL; 50 AC±; 57 AC±; 12 AC±; 174 AC±;  
HARRY J. TAYLOR; GROVER C. TAYLOR ET AL; LENA R. CARR ET AL 155 AC±; 577 AC±; 163 AC±;  
 PROPOSED WORK: DRILL \_\_\_ CONVERT \_\_\_ DRILL DEEPER X REDRILL \_\_\_ FRACTURE OR STIMULATE X  
 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 6,800' TVD 19,500' MD  
 WELL OPERATOR ANTERO RESOURCES CORP. DESIGNATED AGENT DIANNA STAMPER - CT CORPORATION SYSTEM  
 ADDRESS 1615 WYNKOOP ST. ADDRESS 5400 D BIG TYLER ROAD  
 DENVER, CO 80202 CHARLESTON, WV 25313