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west virginia department of environmental protection

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Office of Oil and Gas  
601 57th Street SE  
Charleston, WV 25304  
(304) 926-0450  
(304) 926-0452 fax

Earl Ray Tomblin, Governor  
Randy C. Huffman, Cabinet Secretary  
[www.dep.wv.gov](http://www.dep.wv.gov)

## PERMIT MODIFICATION APPROVAL

June 13, 2016

ANTERO RESOURCES CORPORATION  
1615 WYNKOOP STREET  
DENVER, CO 80202

Re: Permit Modification Approval for API Number 9502326, Well #: OWENS UNIT 3H

### Lateral Extension

Oil and Gas Operator:

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.

Please call James Martin at 304-926-0499, extension 1654 if you have any questions.

Sincerely,

for Gene Smith  
Assistant Chief of Permitting  
Office of Oil and Gas

Promoting a healthy environment.

06/17/2016

WW-6B  
(04/15)

API NO. 47- 095 - 02326 MOD  
OPERATOR WELL NO. Owens Unit 3H  
Well Pad Name: Weigle East Pad

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

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

2) Operator's Well Number: Owens Unit 3H Well Pad Name: Weigle East Pad

3) Farm Name/Surface Owner: Edwin C. Weigle Public Road Access: CR 18/14

4) Elevation, current ground: 812' Elevation, proposed post-construction: 812'

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: 6500' TVD, Anticipated Thickness- 55 feet, Associated Pressure- 2800#

8) Proposed Total Vertical Depth: 6500' TVD

9) Formation at Total Vertical Depth: Marcellus Shale

10) Proposed Total Measured Depth: 16,500' MD

11) Proposed Horizontal Leg Length: 9163'

12) Approximate Fresh Water Strata Depths: 9', 194', 366'

13) Method to Determine Fresh Water Depths: Scardina Unit 1H (API# 47-095-02169) on same pad.

14) Approximate Saltwater Depths: 1931', 1136'

15) Approximate Coal Seam Depths: 1380', 1461'

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: \_\_\_\_\_

 **Received**  
**Office of Oil & Gas**

MAY 23 2016

WW-6B  
(04/15)

API NO. 47-095 - 02326 MOD  
OPERATOR WELL NO. Owens Unit 3H  
Well Pad Name: Weigle East Pad

18) **CASING AND TUBING PROGRAM**

<b>TYPE</b>	<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#	60'	60'	CTS, 164 Cu. Ft.
Fresh Water	13-3/8"	New	J-55/H-40	54.5#/48#	440'	440'*see #19	CTS, 611 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#	16,500'	16,500'	4130 Cu. Ft.
Tubing	2-3/8"	New	N-80	4.7#		7100'	
Liners							

<b>TYPE</b>	<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	30"	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-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			
Sizes:	N/A			
Depths Set:	N/A			

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WW-6B  
(10/14)

API NO. 47-095 - 02326 MOD  
OPERATOR WELL NO. Owens Unit 3H  
Well Pad Name: Weigle East 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 freshwater 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): 22.17 acres

22) Area to be disturbed for well pad only, less access road (acres): 3.22 acres (\*expanded LOD)

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

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.

Received  
Office of Oil & Gas

\*Note: Attach additional sheets as needed.

MAY 23 2016  
Page 3 of 3  
06/17/2016

WW-6A1  
(5/13)

Operator's Well No. Owens Unit 3H

**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:

Lease Name or Number	Grantor, Lessor, etc.	Grantee, Lessee, etc.	Royalty	Book/Page
Ridgetop Capital, II Lease	Ridgetop Capital II, LP	Antero Resources Corporation	1/8+	0487/0204

\*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 VP of Production

Received  
Office of Oil & Gas

Page 1 of MAY 23 2016

06/17/2016

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Grantor, lessor, etc.	Grantee, lessee, etc.	Royalty	Book/Page
<u>Kathy Ann Seago Lease</u> ✓ Kathy Ann Seago, as a beneficiary of the Estate of Edwin C. Weigle, deceased	Antero Resources Appalachian Corporation	1/8+	0402/0448
Antero Resources Appalachian Corporation	Antero Resources Corporation	Name Change	Exhibit 1
<u>Richard L. Seago, et ux Lease</u> ✓ Richard L. Seago	Antero Resources Appalachian Corporation	1/8+	0403/0733
Antero Resources Appalachian Corporation	Antero Resources Corporation	Name Change	Exhibit 1
<u>Edwin C. Weigle Heirs Lease (TM 27-10)</u> ✓ Brian M. Weigle	Antero Resources Appalachian Corporation	1/8+	0402/0450
Antero Resources Appalachian Corporation	Antero Resources Corporation	Name Change	Exhibit 1
<u>Lynda Spellman Lease</u> ✓ Lynda Spellman	Antero Resources Appalachian Corporation	1/8+	0433/0269
Antero Resources Appalachian Corporation	Antero Resources Corporation	Name Change	Exhibit 1
<u>Edwin C. Weigle Heirs Lease (TM 27-18)</u> ✓ Brian M. Weigle	Antero Resources Appalachian Corporation	1/8+	0402/0450
Antero Resources Appalachian Corporation	Antero Resources Corporation	Name Change	Exhibit 1
<u>Edwin C. Weigle Heirs Lease (TM 27-11)</u> ✓ Brian M. Weigle	Antero Resources Appalachian Corporation	1/8+	0402/0450
Antero Resources Appalachian Corporation	Antero Resources Corporation	Name Change	Exhibit 1
<u>WVDNR Lease (Middle Island Creek)</u> ✓ West Virginia Division of Natural Resources	Antero Resources Corporation	1/8+	0483/0269
<u>Roger R. Jones Sr., et ux Lease</u> ✓ Ronald Ray Jones, Sr., et ux	Antero Resources Appalachian Corporation	1/8+	0417/0447
Antero Resources Appalachian Corporation	Antero Resources Corporation	Name Change	Exhibit 1
<u>Eugene R. Smith Lease</u> ✓ Eugene R. Smith	Antero Resources Corporation	1/8+	0449/0828
<u>Charles P. Baker, et ux Lease</u> ✓ Charles Paul Baker, et ux	Antero Resources Corporation	1/8+	0444/0154
<u>Mark Bradley Winn Lease</u> ✓ Mark Bradley Winn	Antero Resources Corporation	1/8+	0530/0719

Received  
Office of the Registrar  
Mar 23 2016

\*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.

**FORM WW-6A1  
EXHIBIT 1**

**FILED**

**JUN 10 2013**

Natalie E. Tennant,  
Secretary of State  
1900 Kanawha Blvd E  
Bldg 1, Suite 157-K  
Charleston, WV 25305



Penney Barker, Manager  
Corporations Division  
Tel: (304)558-8000  
Fax: (304)558-8381  
Website: [www.wvsos.com](http://www.wvsos.com)  
E-mail: [business@wvsos.com](mailto:business@wvsos.com)

**APPLICATION FOR  
AMENDED CERTIFICATE  
OF AUTHORITY**

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

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

\*\*\*\* 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: 6/25/2008
- 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.)  
Alvyn A. Schopp (304) 367-7310  
Contact Name Phone Number
- Signature information (See below Important Legal Notice Regarding Signature):  
Print Name of Signer: Alvyn A. Schopp Title/Capacity: Authorized Person  
Signature: [Signature] Date: June 10, 2013

**\*Important Legal Notice Regarding Signature:** Per West Virginia Code §311-1-129. 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.

Received  
Office of Oil & Gas

MAY 23 2016

LATITUDE 39°30'00"

5,453'

6,751' TO BOTTOM HOLE

LATITUDE 39°30'00"

LONGITUDE 80°50'00"

12,340'

LONGITUDE 80°50'00"

COUNTY NAME PERMIT

Antero Resources Corporation  
Well No. Owens Unit 3H  
API # 47-095-02326

RANDALL P. TOPE ET AL  
D.B. 385 PG. 781  
T.M. 21 PAR. 19  
20 AC. ±

RIDGETOP CAPITAL, II LEASE  
RANDALL P. TOPE ET AL  
D.B. 385 PG. 781  
T.M. 21 PAR. 18  
83.68 AC. ±

MARK BRADLEY WINN LEASE  
STEPHANIE HAVRANEK ET AL  
D.B. 254 PG. 153  
T.M. 21 PAR. 15  
45.48 AC. ±

CHARLES O. CONAWAY ET AL  
W.B. 17 PG. 354  
T.M. 21 PAR. 20  
95.5 AC. ±

(NAD) 27 (UTM) ZONE 17 COORDS:  
WELL 3H TOP HOLE INFORMATION:  
N: 14,331,687ft E: 1,682,004ft  
POINT OF ENTRY INFORMATION:  
N: 14,332,390ft E: 1,683,826ft  
BOTTOM HOLE INFORMATION:  
N: 14,340,996ft E: 1,680,688ft

NOTES:  
WELL 3H TOP HOLE INFORMATION:  
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LAT: 39°27'58.07" LON: 80°51'09.53"  
BOTTOM HOLE INFORMATION:  
N: 364,092ft E: 1,616,969ft  
LAT: 39°29'30.13" LON: 80°51'26.12"  
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.

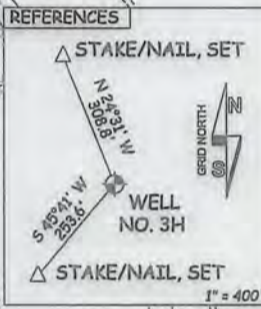
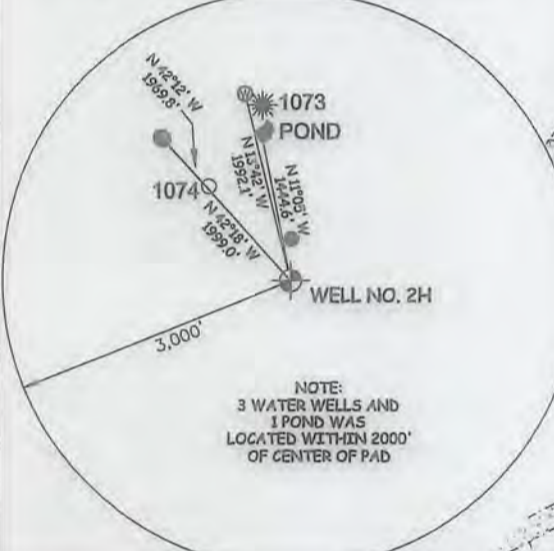
(NAD) 83 (UTM) ZONE 17 COORDS:  
WELL 3H TOP HOLE INFORMATION:  
N: 4,368,525m E: 512,690m  
BOTTOM HOLE INFORMATION:  
N: 4,371,362m E: 512,289m

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.  
TYLER COUNTY HOME  
D.B. 77 PG. 672  
T.M. 21 PAR. 44  
189.36 AC. ±

WV NORTH ZONE GRID NORTH

API 47 - 095 - 02326 MOD.  
STATE COUNTY PERMIT

- A - CLYDE E. YOST ET AL. D.B. 296 PG. 674 T.M. 21 PAR. 51.1 1.812 AC. ±
- B - PATRICIA KELLER D.B. 334 PG. 530 T.M. 21 PAR. 51.4 3.37 AC. ±
- C - THOMAS E. KELLER ET AL. D.B. 321 PG. 807 T.M. 21 PAR. 51.3 5.431 AC. ±
- D - RANDY S. WAGGONER D.B. 342 PG. 637 T.M. 21 PAR. 51.2 2.02 AC. ±
- E - BOARD OF EDUCATION D.B. 204 PG. 342 T.M. 21 PAR. 46 12.53 AC. ±
- F - BOARD OF EDUCATION D.B. 323 PG. 362 T.M. 21 PAR. 47.1 0.468 AC. ±
- G - TYLER CO. FAIR ASSOC. D.B. 189 PG. 455 T.M. 21 PAR. 47 26.20 AC. ±



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 # 15-052WA  
DRAWING # OWENS3HR1  
SCALE 1" = 1000'  
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 +/-  
X Existing Fence  
Found monument, as noted  
THOMAS SUMMERS P.S. 2109  
DATE 05/03/16  
OPERATOR'S WELL # OWENS UNIT #3H

WELL TYPE: OIL GAS X LIQUID INJECTION WASTE DISPOSAL  
(IF "GAS") PRODUCTION X STORAGE DEEP SHALLOW X  
LOCATION: ELEVATION 811' ORIGINAL - 812' AS-BUILT WATERSHED OUTLET MIDDLE ISLAND CREEK  
QUADRANGLE SHIRLEY 7.5' DISTRICT ELLSWORTH COUNTY TYLER  
SURFACE OWNER EDWIN C. WEIGLE ACREAGE 60.19 ACRES +/-  
OIL & GAS ROYALTY OWNER KATHY ANN SEAGO; RICHARD L. SEAGO ET UX; EDWIN C. WEIGLE HEIRS; EDWIN C. WEIGLE HEIRS;  
LYNDA SPELLMAN; EDWIN C. WEIGLE HEIRS; EDWIN C. WEIGLE HEIRS; WYONR; ROGER R. JONES, SR. ET UX; EUGENE R. SMITH; CHARLES P. BAKER ET UX; MARK BRADLEY WINN; RIDGETOP CAPITAL II  
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 6,500' TVD 16,500' MD  
WELL OPERATOR ANTERO RESOURCES CORP. DESIGNATED AGENT DIANNA STAMPER - CT CORPORATION SYSTEM  
ADDRESS 1615 WYNKOOP STREET ADDRESS 5400 D BIG TYLER ROAD  
FORM WW-6 DENVER, CO 80202 CHARLESTON, WV 25313



06/17/2016



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5,453'

6,751' TO BOTTOM HOLE

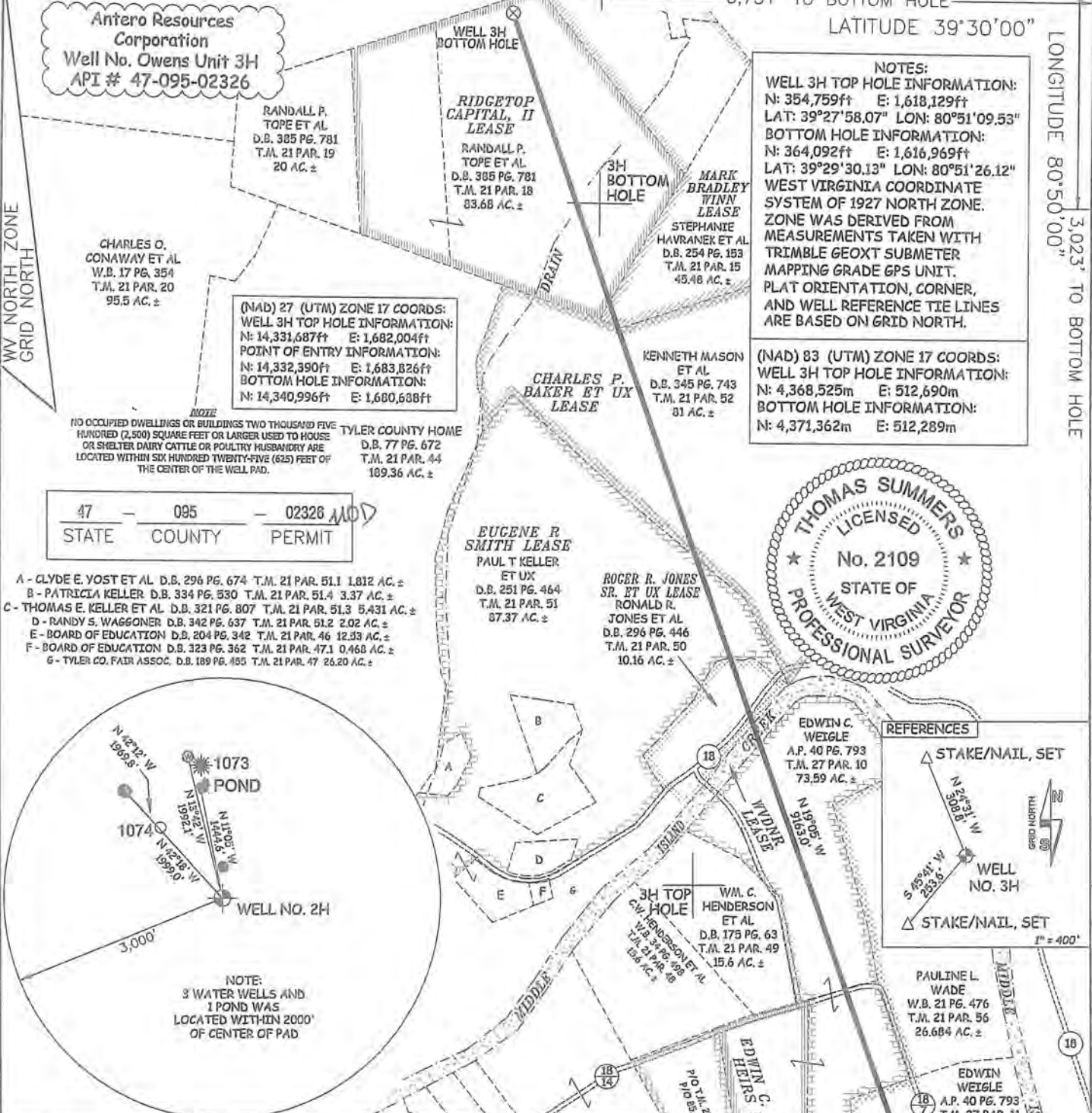
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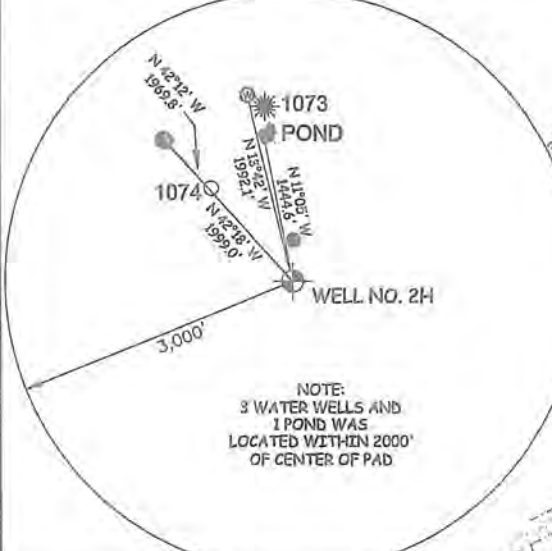
**EUGENE R. SMITH LEASE**  
 PAUL T. KELLER ET UX  
 D.B. 251 PG. 464  
 T.M. 21 PAR. 51  
 87.37 AC. ±

**ROGER R. JONES SR. ET UX LEASE**  
 RONALD R. JONES ET AL  
 D.B. 296 PG. 446  
 T.M. 21 PAR. 50  
 10.16 AC. ±

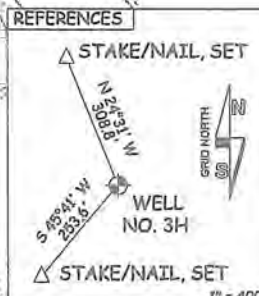


47 - 095 - 02326  
 STATE COUNTY PERMIT

- A - CLYDE E. YOST ET AL. D.B. 296 PG. 674 T.M. 21 PAR. 51.1 1.812 AC. ±
- B - PATRICIA KELLER D.B. 334 PG. 530 T.M. 21 PAR. 51.4 3.37 AC. ±
- C - THOMAS E. KELLER ET AL. D.B. 321 PG. 807 T.M. 21 PAR. 51.3 5.431 AC. ±
- D - RANDY S. WAGGONER D.B. 342 PG. 637 T.M. 21 PAR. 51.2 2.02 AC. ±
- E - BOARD OF EDUCATION D.B. 204 PG. 342 T.M. 21 PAR. 46 12.53 AC. ±
- F - BOARD OF EDUCATION D.B. 323 PG. 362 T.M. 21 PAR. 47.1 0.468 AC. ±
- G - TYLER CO. FAIR ASSOC. D.B. 189 PG. 485 T.M. 21 PAR. 47 26.20 AC. ±



**NOTE:**  
 3 WATER WELLS AND 1 POND WAS LOCATED WITHIN 2000' OF 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.

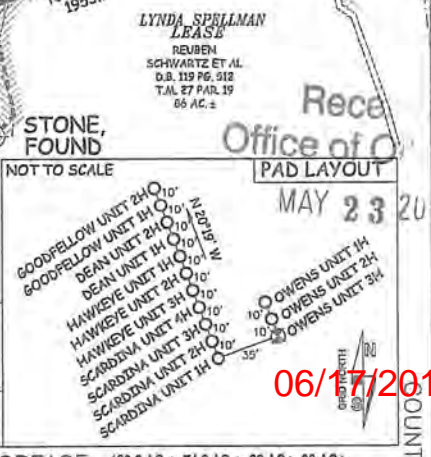


STATE OF WEST VIRGINIA, DIVISION OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS  
 WILLOW LAND SURVEYING PLLC  
 220 MASONIC AVE. PENNSBORO WEST VIRGINIA 26415

JOB # 15-052WA  
 DRAWING # OWENS3HR1  
 SCALE 1" = 1000'  
 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 P.S. 2109  
 DATE 05/03/16  
 OPERATOR'S WELL# OWENS UNIT #3H

WELL TYPE: OIL  GAS  LIQUID INJECTION  WASTE DISPOSAL   
 (IF "GAS") PRODUCTION  STORAGE  DEEP  SHALLOW   
 LOCATION: ELEVATION 811' ORIGINAL - 812' AS-BUILT WATERSHED OUTLET MIDDLE ISLAND CREEK  
 QUADRANGLE SHIRLEY 7.5' DISTRICT ELLSWORTH COUNTY TYLER  
 SURFACE OWNER EDWIN C. WEIGLE ACREAGE 60.19 ACRES +/-  
 OIL & GAS ROYALTY OWNER KATHY ANN SEAGO; RICHARD L. SEAGO ET UX; EDWIN C. WEIGLE HEIRS; EDWIN C. WEIGLE HEIRS;  
 LYLYDA SPELLMAN; EDWIN C. WEIGLE HEIRS; EDWIN C. WEIGLE HEIRS; WYNOR; ROGER R. JONES, SR. ET UX; EUGENE R. SMITH; CHARLES P. BAKER ET UX; MARK BRADLEY WINN; RIDGETOP CAPITAL, II  
 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  
 TARGET FORMATION MARCELLUS ESTIMATED DEPTH 6,500' TVD 16,500' MD  
 WELL OPERATOR ANTERO RESOURCES CORP. DESIGNATED AGENT DIANNA STAMPER - CT CORPORATION SYSTEM  
 ADDRESS 1615 WYNKOOP STREET ADDRESS 5400 D BIG TYLER ROAD  
 DENVER, CO 80202 CHARLESTON, WV 25313



06/17/2016



May 20, 2016

Antero Resources  
1615 Wynkoop Street  
Denver, CO 80202  
Office 303.357.7310  
Fax 303.357.7315

West Virginia Department of Environmental Protection  
Office of Oil and Gas  
Attn: Ms. Melanie Hankins  
601 57<sup>th</sup> Street  
Charleston, WV 25304

Ms. Hankins:

Antero Resources Corporation (Antero) would like to submit the following permit modification for one approved well on the Weigle East Pad. We are requesting to extend the horizontal lateral length which will change the bottom hole location of the Owens Unit 3H (API# 47-095-02326).

Attached you will find the following documents:

- REVISED Form WW-6B, which shows the revised lateral length, Measured Depth and Production Casing/Cement program
- REVISED Form WW-6A1, which shows the new leases we will be drilling into
- REVISED Mylar Plat, which shows the new bottom hole location

If you have any questions please feel free to contact me at (303) 357-7323.

Thank you in advance for your consideration.

Sincerely,

A handwritten signature in blue ink that reads "Ashlie Steele".

Ashlie Steele  
Permitting Supervisor  
Antero Resources Corporation

Received  
Office of Oil & Gas  
MAY 23 2016

Enclosures