



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

Earl Ray Tomblin, Governor
Randy C. Huffman, Cabinet Secretary
www.dep.wv.gov

PERMIT MODIFICATION APPROVAL
Horizontal 6A / Horizontal 6A Well - 1

ANTERO RESOURCES CORPORATION
1615 WYNKOOP STREET

DENVER, CO 80202

Re: Permit Modification Approval for EDWARDS UNIT 2H
47-095-02348-00-00

Lateral Extension

ANTERO RESOURCES CORPORATION

The Office of Oil and Gas has reviewed the attached permit modification for the above referenced permit. The attached modification has been approved and well work may begin. Please be reminded that the oil and gas inspector is to be notified twenty-four (24) hours before permitted well work is commenced.

If there are any questions, please feel free to contact me at (304) 926- 0450.



James A. Martin
Chief

Operator's Well Number: EDWARDS UNIT 2H
Farm Name: RITCHIE PETROLEUM INC.
U.S. WELL NUMBER: 47-095-02348-00-00
Horizontal 6A / Horizontal 6A Well - 1
Date Issued: 9/14/2016

Promoting a healthy environment.

09/16/2016



June 8, 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: Mr. Taylor Brewer
601 57th Street
Charleston, WV 25304

Mr. Brewer:

Antero Resources Corporation (Antero) would like to submit the following permit modification for one approved well on the Terry Snider Pad. We are requesting to extend the horizontal lateral length which will change the bottom hole location of the Edwards Unit 2H (API# 47-095-02348). Please note that the Measured Depth has not changed; therefore, the Production Casing/Cement program on the revised Form WW-6B will remain the same.

Attached you will find the following documents:

- REVISED Form WW-6B, which shows the revised lateral length program
- REVISED Form WW-6A1, which shows the new lease 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) 357-6820.

Thank you in advance for your consideration.

Sincerely,

A handwritten signature in blue ink that reads "Natalie Komp". The signature is fluid and cursive.

Natalie Komp
Permitting Agent
Antero Resources Corporation

Enclosures

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Office of Oil and Gas

JUN 09 2016

WV Department of
Environmental Protection

09/16/2016

WW-6B
(04/15)

API NO. 47-095 - 02348

OPERATOR WELL NO. Edwards Unit 2H

Well Pad Name: Existing Terry Snider Pad

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

1) Well Operator: Antero Resources Corporat 494507062 095 - Tyler Meade Pennsboro 7.5'
Operator ID County District Quadrangle

2) Operator's Well Number: Edwards Unit 2H Well Pad Name: Existing Terry Snider Pad

3) Farm Name/Surface Owner: Ritchie Petroleum, Inc. Public Road Access: CR 20

4) Elevation, current ground: 1147' Elevation, proposed post-construction: 1147'

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: 6700' TVD, Anticipated Thickness- 75 feet, Associated Pressure- 2800#

4709502348 MD

8) Proposed Total Vertical Depth: 6700' TVD

9) Formation at Total Vertical Depth: Marcellus Shale

10) Proposed Total Measured Depth: 16,900' MD

11) Proposed Horizontal Leg Length: 9201'

12) Approximate Fresh Water Strata Depths: 124', 376'

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

14) Approximate Saltwater Depths: 1968'

15) Approximate Coal Seam Depths: None identified

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

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17) Does Proposed well location contain coal seams directly overlying or adjacent to an active mine? Yes No JUN 09 '16

(a) If Yes, provide Mine Info: Name: WV Department of Environmental Protection
Depth: Environmental Protection
Seam: Environmental Protection
Owner: Environmental Protection

WW-6B
(04/15)

API NO. 47- 095 - 02348

OPERATOR WELL NO. Edwards Unit 2H

Well Pad Name: Existing Terry Snider Pad

18)

CASING AND TUBING PROGRAM

TYPE	Size (in)	New or Used	Grade	Weight per ft. (lb/ft)	FOOTAGE: For Drilling (ft)	INTERVALS: Left in Well (ft)	CEMENT: Fill-up (Cu. Ft.)/CTS
Conductor	20"	New	H-40	94#	40'	40'	CTS, 38 Cu. Ft.
Fresh Water	13-3/8"	New	J-55/H-40	54.5#/48#	430'	430'*see #19	CTS, 597 Cu. Ft.
Coal	9-5/8"	New	J-55	36#	2450'	2450'	CTS, 998 Cu. Ft.
Intermediate							
Production	5-1/2"	New	P-110	20#	16,900'	16,900'	4240 Cu. Ft
Tubing	2-3/8"	New	N-80	4.7#		7100'	
Liners							

4700502348 MOD

TYPE	Size (in)	Wellbore Diameter (in)	Wall Thickness (in)	Burst Pressure (psi)	Anticipated Max. Internal Pressure (psi)	Cement Type	Cement Yield (cu. ft./k)
Conductor	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-HIPOZ & 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			

WW-6B
(10/14)

API NO. 47-095 - 02348
OPERATOR WELL NO. Edwards Unit 2H
Well Pad Name: Existing Terry Snider 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

47-095-02348 NOV

21) Total Area to be disturbed, including roads, stockpile area, pits, etc., (acres): 38.07 acres with modification

22) Area to be disturbed for well pad only, less access road (acres): 6.64 existing 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% ACB-20
Production: Tail cement- Class H + 45 PPS Calcium Carbonate + 1.0% FL-160 + 0.2% ACGB-47 + 0.05% ACSA-51 + 0.2% ACB-20

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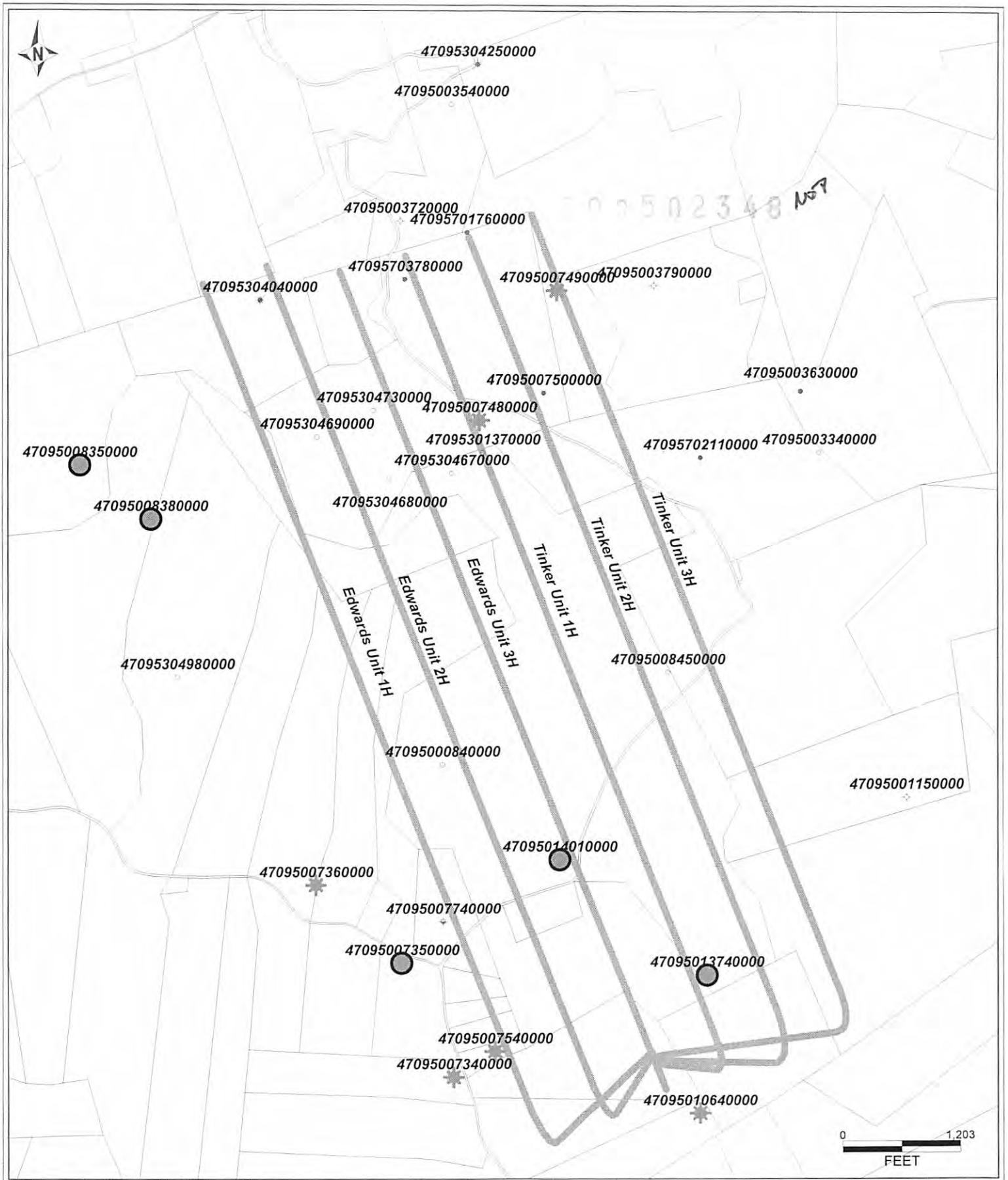
25) Proposed borehole conditioning procedures:

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 of 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.

JUN 09 2015

West Virginia Department of Environmental Protection

*Note: Attach additional sheets as needed.



09/16/2016

EDWARDS-TINKER UNIT (TERRY SNIDER PAD) - AREA OF REVIEW 35-8-5.11 PAGE 2

UWI (APNs)	Well Name	Well Number	Operator	Host Owner	TD	ELEV. GR	TD (ESTVD)	Perforated Interval (Shallowest - Deepest)	Perforated Formations	Productive Formations (not perfr)
47095027950001	DILLON C S & W H	2	DUPRE ROGER C OIL CO	SECURITY GAS INC	4533	798	-5735	6,700' - 6,432'	Zone Fm, Chicago	Zone Fm, Warren, Barre/L, Huron, Benzon
47095028300001	REGIS ET AL	3	DUPRE ROGER C OIL CO	SECURITY GAS INC	5281	1262	-4018	2,998' - 4,736'	Unit Perforated Bar/L Huron	Zone Fm, Warren, Barre/L, Huron, Benzon
47095028340001	REGIS ET AL	4	DUPRE ROGER C OIL CO	SECURITY GAS INC	5179	1023	-4096	NA	None reported on WVGIS	N/A
47095017400001	HELI PALMER	1	CONCOL GAS COMPANY	CHESTERFIELD EN COMP	5235	898	-4184	4,790' - 4,850'	Benzon	Zone Fm, Warren, Barre/L, Huron
47095018010002	HELI PALMER	2	DUPRE ROGER C OIL CO	CHESTERFIELD EN COMP	4887	817	-4074	2,151' - 4,736'	Benzon, Zone Fm, Warren, Benzon	Zone Fm, Warren, Barre/L, Huron
47095028340002	LOWTHER A B & HERS	15	L & M PETROLEUM	L & M PETROLEUM	3645	837	-1408	NA	N/A	N/A
47095027940003	WADSWORTH & TINKER	POE2	LANCHO OIL & GAS	LYDC W/T INC	3550	865	-2585	NA	N/A	N/A
47095027940004	DILLON CLINTON S & VIRGINIA H	3	DUPRE ROGER C OIL CO	SECURITY GAS INC	3530	657	-2833	NA	N/A	N/A
47095027940005	DILLON CLINTON & VIRGINIA H	5	DUPRE ROGER C OIL CO	SECURITY GAS INC	3491	905	-2584	NA	N/A	N/A
47095027940006	CLINTON W DILLON	6	DUPRE ROGER C OIL CO	SECURITY GAS INC	3470	830	-2640	NA	N/A	N/A
47095027940007	WADSWORTH & TINKER	3	LANCHO OIL & GAS	LYDC W/T INC	3466	892	-2544	NA	N/A	N/A
47095027940008	WADSWORTH & TINKER	3	LANCHO OIL & GAS	LYDC W/T INC	3466	892	-2544	NA	N/A	N/A
47095027940009	WARNER GLENNER F & TINKER C W	POE1	LYDC W/T INC	LYDC W/T INC	3425	1064	-2134	NA	N/A	N/A
47095027940010	DILLON CLINTON S & VIRGINIA H	5	DUPRE ROGER C OIL CO	SECURITY GAS INC	3339	805	-2554	NA	N/A	N/A
47095023340001	BLANCHET STEWART	1	UNKNOWN	UNKNOWN	2897	1098	-1795	NA	N/A	N/A
47095023340002	C W HAMM LON	3	WEBER E E	WEBER E E	2229	867	-1427	NA	N/A	N/A
47095023340003	EMMA MASTERS	1	CARTER OIL COMPANY	CARTER OIL COMPANY	2134	1094	-1040	NA	N/A	N/A
47095024000001	WALKER R	13	SMITH PIERSON FEICEL	SMITH PIERSON FEICEL	2133	880	-1155	NA	N/A	N/A
47095023760001	MOSSES JOHNSON	3	CARTER OIL COMPANY	CARTER OIL COMPANY	2101	1047	-1019	NA	N/A	N/A
47095023760002	BLANCHET STEWART	2	UNKNOWN	UNKNOWN	2094	1044	-1045	NA	N/A	N/A
47095023840001	GRACE & B & LOWTHER	1	LOWTHER A B & G E	LOWTHER A B & G E	2024	975	-1051	NA	N/A	N/A
47095023760003	DOFFEL ANKROW	2	UNKNOWN	UNKNOWN	1973	897	-1074	NA	N/A	N/A
47095024750001	B W BULLMAN	8	SMITH PIERSON FEICEL	SMITH PIERSON FEICEL	1951	937	-1028	NA	N/A	N/A
47095023110001	J L POE	3	CARTER OIL COMPANY	CARTER OIL COMPANY	1848	891	-1049	NA	N/A	N/A
47095024800001	J L POE	9	WOODYARD E S	WOODYARD E S	1254	1119	-113	NA	N/A	N/A
47095024800002	J L POE	13	WOODYARD E S	WOODYARD E S	1157	1023	-129	NA	N/A	N/A
47095024800003	B W HAMM LON	8	WEBER E E	WEBER E E	1090	954	-130	NA	N/A	N/A
47095024800004	J L POE	6	WOODYARD E S	WOODYARD E S	1081	943	-134	NA	N/A	N/A
47095024710001	J L POE	10	WOODYARD E S	WOODYARD E S	1075	999	-76	NA	N/A	N/A
47095024800005	HUGH SMITH	21	SMITH PIERSON FEICEL	SMITH PIERSON FEICEL	1042	965	-77	NA	N/A	N/A
47095021300001	J L POE	23	HOPE CONSTR & REFG	HOPE CONSTR & REFG	1035	879	-62	NA	N/A	N/A
47095021150001	MCCALLOUGH HERS	3	EMCOAD WATER R & J R	EMCOAD WATER R & J R	927	845	-77	NA	N/A	N/A

AP1 - reasonably expected to penetrate a depth that could be within range of fracture propagation
 AP2 - not reasonably expected to penetrate a depth that could be within range of fracture propagation; therefore no additional details (perforated formation and producing zones) are required as outlined in 35CSR-5.12
 **All reported data is correct to the best of our knowledge with the resources available

47095023400

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>Terry L. Snider Lease (TM 13-19)</u>			
Terry L. Snider	Antero Resources Appalachian Corporation	1/8+	0389/0217
Antero Resources Appalachian Corporation	Antero Resources Corporation	Name Change	Exhibit 1
<u>Ashford Broadwater Lease</u>			
Ashford Broadwater	South Penn Oil Company	Flate Rate	0030/0139
South Penn Oil Company	Carter Oil Company	Assignment	0030/0357
Carter Oil Company	Hope Construction and Refining Company	Assignment	0097/0332
Hope Construction and Refining Company	Hope Natural Gas Company	Confirmatory Deed	0119/0576
Hope Natural Gas Company	Consolidation Gas Supply Corporation	Confirmatory Deed	0169/0026
Consolidation Gas Supply Corporation	Consolidation Gas Transmission Corporation	Assignment	0249/0287
Consolidation Gas Transmission Corporation	CNG Development Company	Assignment	0253/0057
CNG Development Company	CNG Producing Company	Merger	Harrison County 1131/1015
CNG Producing Company	Dominion Exploration & Production, Inc.	Name Change	Exhibit 2
Dominion Exploration & Production, Inc.	CNX Gas Company, LLC	Affidavit of Name Changes and Mergers	0384/0191
CNX Gas Company, LLC	Antero Resources Corporation	Assignment	0501/0434
<u>Terry L. Snider Lease (TM 13-20)</u>			
Terry L. Snider	Antero Resources Appalachian Corporation	1/8+	0388/0601
Antero Resources Appalachian Corporation	Antero Resources Corporation	Name Change	Exhibit 1
<u>Kelly A. Beene Lease</u>			
Kelly Beene	Antero Resources Appalachian Corporation	1/8+	0406/0628
Antero Resources Appalachian Corporation	Antero Resources Corporation	Name Change	Exhibit 1
<u>Robert A. Lowther Lease</u>			
The Robert A. Lowther Irrevocable Trust dated June 25, 2012, by Robert A. Lowther and Curtis T. Tallman, acting as Trustees	Antero Resources Corporation	1/8+	0464/0584
<u>Charles O. Conaway Lease</u>			
Charles O. Conaway	Antero Resources Appalachian Corporation	1/8+	0401/0163
Antero Resources Appalachian Corporation	Antero Resources Corporation	Name Change	Exhibit 1
<u>Beryle Garnett Mayfield Lease</u>			
Beryle Garnett Mayfield	Antero Resources Appalachian Corporation	1/8+	0421/0731
Antero Resources Appalachian Corporation	Antero Resources Corporation	Name Change	Exhibit 1
<u>Elizabeth M. Lathey Lease</u>			
Elizabeth Lathey	Antero Resources Corporation	1/8+	0489/0603

*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)
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:

Grantor, lessor, etc.	Grantee, lessee, etc.	Royalty	Book/Page
<u>Elizabeth M. Lathey Lease</u> Elizabeth Lathey	Antero Resources Corporation	1/8+	0489/0603
<u>F & R Farms, LLC Lease</u> F & R Farms, LLC	Antero Resources Corporation	1/8+	0493/0550

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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.

WV Department of Environmental Protection
CONTINUED ON NEXT PAGE

WW-6A1
(5/13)

Operator's Well No. Edward Unit 2H

**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
J. Bradford Wells Lease	J. Bradford Wells	Antero Resources Corporation	1/8+	0480/0621

*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.

4709502348 Mod

**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

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 WV Department of
 Environmental Protection

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
E-mail: 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:

- 1. Name under which the corporation was authorized to transact business in WV: Antero Resources Appalachian Corporation
- 2. Date Certificate of Authority was issued in West Virginia: 6/25/2008
- 3. Corporate name has been changed to: Antero Resources Corporation
(Attach one Certified Copy of Name Change as filed in home State of incorporation.)
- 4. Name the corporation elects to use in WV: Antero Resources Corporation
(due to home state name not being available)
- 5. Other amendments: _____
(attach additional pages if necessary)

4700502348 Mo7

- 6. 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 (303) 367-7310
Contact Name Phone Number

- 7. Signature information (See below *Important Legal Notice Regarding Signature*):

Print Name of Signer: Alvyn A. Schopp Title/Capacity: Authorized Person
Signature: [Handwritten Signature] Date: June 10, 2013

*Important Legal Notice Regarding Signature: Per West Virginia Code §31D-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.

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JUN 09 2013

WV Department of
Environmental Protection

State of West Virginia



Certificate

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

originals of an application by

CNG PRODUCING COMPANY

for an amended certificate of authority to transact business in West Virginia are filed in my office,
as required by the provisions of Chapter 31, Article 1, Sections 57 and 59 of the West Virginia
Code and conform to law. Therefore, I issue this

AMENDED CERTIFICATE OF AUTHORITY

to transact business in West Virginia under the name of

4709502348 MOD

DOMINION EXPLORATION & PRODUCTION, INC.

and I attach to this certificate a duplicate original of the application.



*Given under my hand and the
Great Seal of the State of
Office of Oil and Gas
West Virginia on*

May 10, 2000

Ken Hechler
WV Department of
Environmental Protection

Secretary of State
09/16/2016

WW-60
(7-01)

DATE: June 8, 20 16
OPERATOR'S
WELL NO. Edwards Unit 2H

API NO: 47- 095 02348
State County Permit No.

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

A F F I D A V I T

State of West Virginia
County of Tyler

09502348 NOT

I, Tom Kuhn (the designated owner or operator, or authorized representative thereof), after being duly sworn, do declare that the undersigned is authorized by the owner of the working interest in the well permit application to which this affidavit is attached to state that (he, she, or it) shall tender to the owner of the oil and gas in place not less than one-eighth of the total amount paid to or received by or allowed to the owner of the working interest at the wellhead for the oil or gas so extracted, produced, or marketed before deducting the amount to be paid or set aside for the owner of the oil or gas in place, or all such oil or gas to be extracted, produced, or marketed from the well. West Virginia Code 22-6-8(e).

Signed: _____

NATALIE KOMP
NOTARY PUBLIC
STATE OF COLORADO
NOTARY ID # 20144028170
MY COMMISSION EXPIRES JULY 18, 2018

Taken, subscribed and sworn to before me this 8th day of June, 20 16.

Notary Public

My Commission expires: _____

June 18, 2018

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Office of Oil and Gas

JUN 09 2016

WV Department of
Environmental Protection

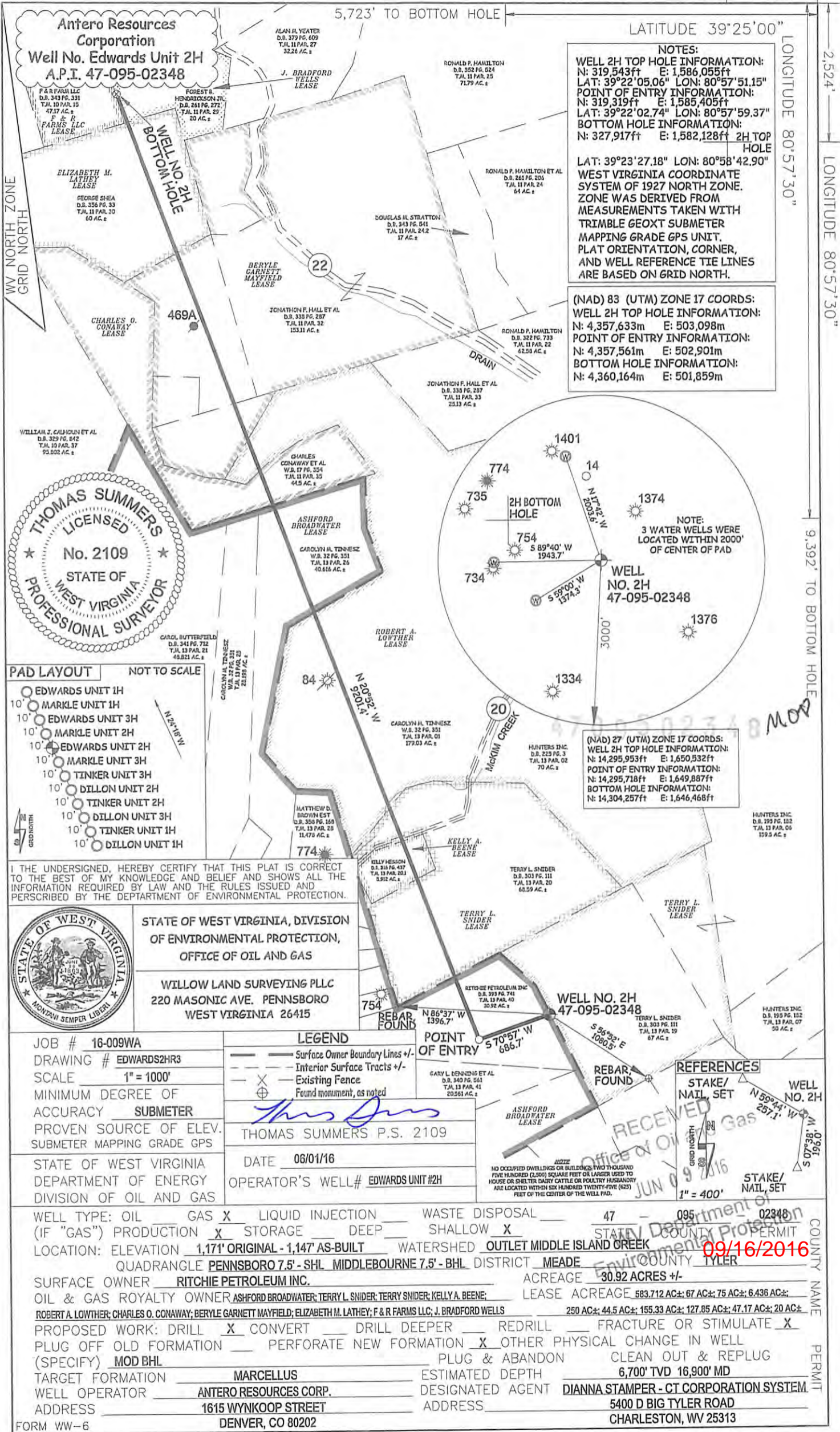
09/16/2016

LATITUDE 39°22'30" 1,661'

LATITUDE 39°25'00" LONGITUDE 80°57'30"

2,524' LONGITUDE 80°57'30"

9,392' TO BOTTOM HOLE



NOTES:
 WELL 2H TOP HOLE INFORMATION:
 N: 319,543ft E: 1,586,055ft
 LAT: 39°22'05.06" LON: 80°57'51.15"
 POINT OF ENTRY INFORMATION:
 N: 319,319ft E: 1,585,405ft
 LAT: 39°22'02.74" LON: 80°57'59.37"
 BOTTOM HOLE INFORMATION:
 N: 327,917ft E: 1,582,128ft 2H TOP HOLE
 LAT: 39°23'27.18" LON: 80°58'42.90"
 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 2H TOP HOLE INFORMATION:
 N: 4,357,633m E: 503,098m
 POINT OF ENTRY INFORMATION:
 N: 4,357,561m E: 502,901m
 BOTTOM HOLE INFORMATION:
 N: 4,360,164m E: 501,859m

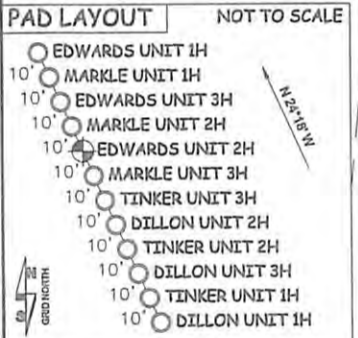
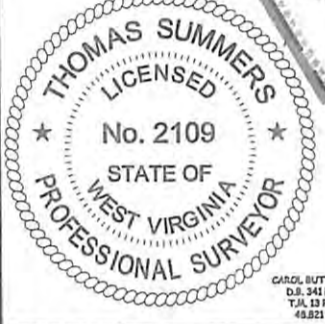
(NAD) 27 (UTM) ZONE 17 COORDS:
 WELL 2H TOP HOLE INFORMATION:
 N: 14,295,953ft E: 1,650,532ft
 POINT OF ENTRY INFORMATION:
 N: 14,295,718ft E: 1,649,887ft
 BOTTOM HOLE INFORMATION:
 N: 14,304,257ft E: 1,646,468ft

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

(NAD) 27 (UTM) ZONE 17 COORDS:
 WELL 2H TOP HOLE INFORMATION:
 N: 14,295,953ft E: 1,650,532ft
 POINT OF ENTRY INFORMATION:
 N: 14,295,718ft E: 1,649,887ft
 BOTTOM HOLE INFORMATION:
 N: 14,304,257ft E: 1,646,468ft

Antero Resources Corporation
 Well No. Edwards Unit 2H
 A.P.I. 47-095-02348

WV NORTH ZONE GRID NORTH



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 # 16-009WA
 DRAWING # EDWARDS2HR3
 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
 THOMAS SUMMERS P.S. 2109
 DATE 06/01/16
 OPERATOR'S WELL# EDWARDS UNIT #2H

REFERENCES
 STAKE/ NAIL SET
 WELL NO. 2H
 N 59°44' W 257.1'
 W 1°08' S 40.5'
 1" = 400'

RECEIVED
 Office of Oil & Gas
 JUN 09 2016
 STAKE/ NAIL SET

WELL TYPE: OIL GAS LIQUID INJECTION WASTE DISPOSAL 47 - 095 - 02348
 (IF "GAS") PRODUCTION STORAGE DEEP SHALLOW
 LOCATION: ELEVATION 1,171' ORIGINAL - 1,147' AS-BUILT WATERSHED OUTLET MIDDLE ISLAND CREEK
 QUADRANGLE PENNSBORO 7.5' - SHL MIDDLEBOURNE 7.5' - BHL DISTRICT MEADE COUNTY TYLER
 SURFACE OWNER RITCHEE PETROLEUM INC. ACREAGE 30.92 ACRES +/-
 OIL & GAS ROYALTY OWNER ASHFORD BROADWATER; TERRY L. SNIDER; TERRY SNIDER; KELLY A. BEENE; LEASE ACREAGE 683.712 AC±; 67 AC±; 75 AC±; 6.436 AC±;
 ROBERT A. LOWTHER; CHARLES O. CONAWAY; BERYLE GARNETT MAYFIELD; ELIZABETH M. LATHEY; F & R FARMS LLC; J. BRADFORD WELLS 250 AC±; 44.5 AC±; 155.33 AC±; 127.85 AC±; 47.17 AC±; 20 AC±
 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 6,700' TVD 16,900' 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

LATITUDE 39°22'30" 1,661'

LATITUDE 39°25'00"

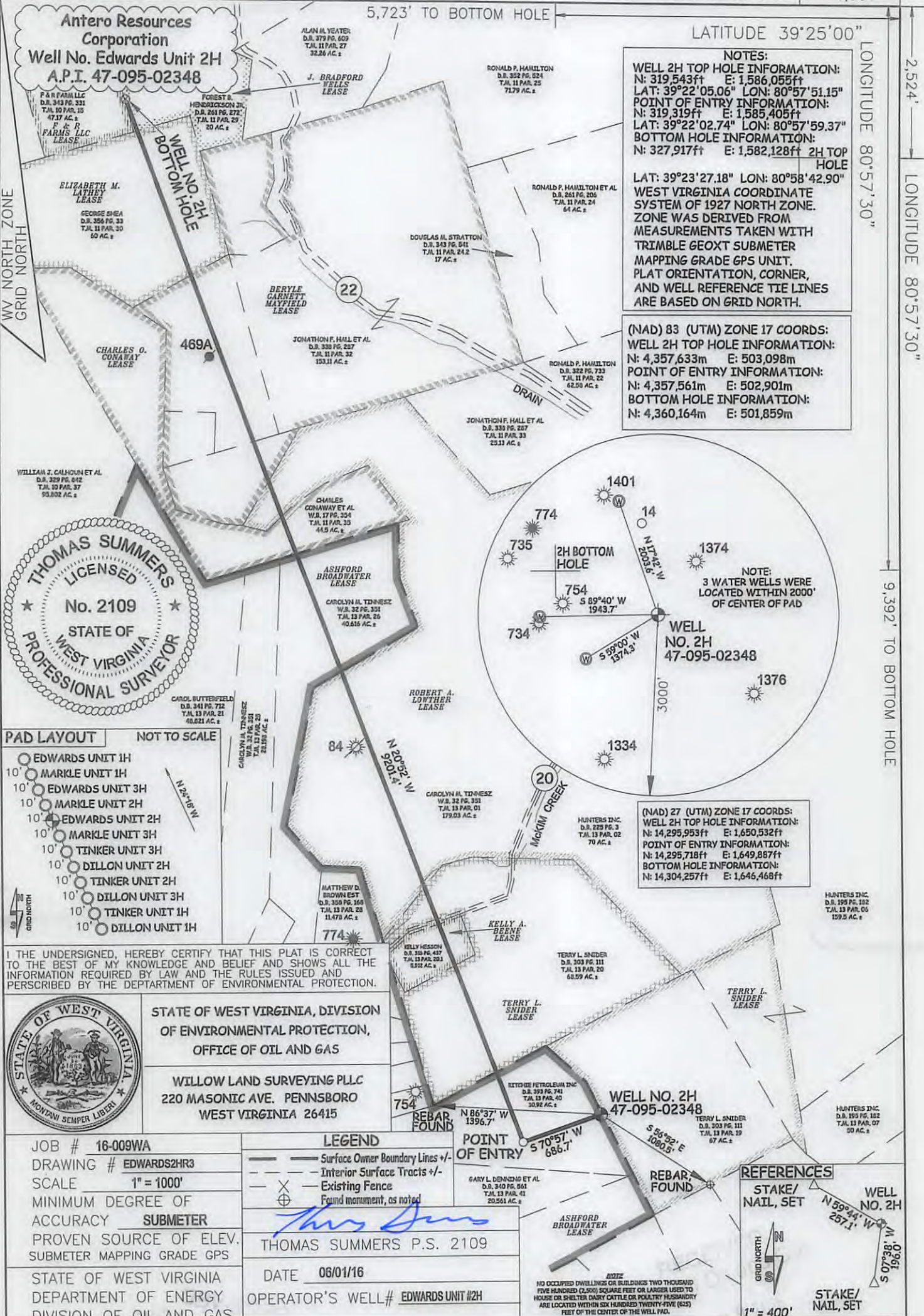
LONGITUDE 80°57'30"

2,524'

LONGITUDE 80°57'30"

9,392' TO BOTTOM HOLE

5,723' TO BOTTOM HOLE



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

JOB # 16-009WA
DRAWING # EDWARDS2HR3
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

DATE 06/01/16
OPERATOR'S WELL# EDWARDS UNIT #2H
THOMAS SUMMERS P.S. 2109

LEGEND, REFERENCES, and other technical details.

WELL TYPE: OIL GAS LIQUID INJECTION WASTE DISPOSAL 47 - 095 - 02348

(IF "GAS") PRODUCTION STORAGE DEEP SHALLOW STATE COUNTY PERMIT

LOCATION: ELEVATION 1,171' ORIGINAL - 1,147' AS-BUILT WATERSHED OUTLET MIDDLE ISLAND CREEK 09/16/2016 COUNTY TYLER

QUADRANGLE PENNSBORO 7.5' - SHL MIDDLEBOURNE 7.5' - BHL DISTRICT MEADE COUNTY TYLER

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FORM WW-6 DENVER, CO 80202