west virginia department of environmental protection

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

PERMIT MODIFICATION APPROVAL

June 15, 2016

ANTERO RESOURCES CORPORATION
1615 WYNKOOP STREET
DENVER, CO 80202

Re: Permit Modification Approval for API Number 1706480, Well #: KREITLER UNIT 2H

Extend Lateral

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

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

April 15, 2016

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 modifications for four approved wells on the existing Melody Pad. We are requesting to extend the lateral lengths and associated Estimated Measured Depths for the Bradford Unit 1H (API# 47-017-06534), Bradford Unit 2H (API# 47-017-06535), Kreitler Unit 1H (API# 47-017-06479) and Kreitler Unit 2H (API# 47-017-06480).

Attached you will find the following documents:

- REVISED Form WW-6B, which shows the updated BHL and Measured Depth
- REVISED Form WW-6A1, which shows the new leases we will be drilling into
- REVISED Mylar Plat, which shows the new Lateral Length and Estimated Measured Depth

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

Thank you in advance for your consideration.

Sincerely,

Ashlie Steele

Ashlie Steele
Permitting Supervisor
Antero Resources Corporation

4701706480 MOD

Enclosures

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Office of Oil and Gas
APR 18 2016
WV Department of
Environmental Protection

WW-6B
(04/15)

API NO. 47- 017 - 06480
OPERATOR WELL NO. Kreitler Unit 2H
Well Pad Name: Melody Pad

API# 47-017-06480 PERMIT MODIFICATION

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

1) Well Operator:	Antero Resources Corporat	494488557	017-Doddrid	Grant	West Union 7.5'
		Operator ID	County	District	Quadrangle

2) Operator's Well Number: Kreitler Unit 2H Well Pad Name: Melody Pad

3) Farm Name/Surface Owner: Brown, Melody Public Road Access: CR 24

4) Elevation, current ground: 1135' Elevation, proposed post-construction: 1135'

5) Well Type (a) Gas X Oil _____ Underground Storage _____
Other _____
(b)If Gas Shallow X Deep _____
Horizontal X

6) Existing Pad: Yes or No Yes

7) Proposed Target Formation(s), Depth(s), Anticipated Thickness and Expected Pressure(s):
Marcellus Shale: 7200' TVD, Anticipated Thickness- 55 feet, Associated Pressure- 2950#

8) Proposed Total Vertical Depth: 7200' TVD

9) Formation at Total Vertical Depth: Marcellus Shale

4701706480 mod

10) Proposed Total Measured Depth: 15800' MD

11) Proposed Horizontal Leg Length: 8242'

12) Approximate Fresh Water Strata Depths: 46'

13) Method to Determine Fresh Water Depths: Deano Unit 1H (API #47-017-06497) on same pad.

14) Approximate Saltwater Depths: 865', 1509'

15) Approximate Coal Seam Depths: 1821'

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: _____

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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#	300'	300'	CTS, 417 Cu. Ft
Coal	9-5/8"	New	J-55	36#	2415'	2415'	CTS, 998 Cu. Ft.
Intermediate							
Production	5-1/2"	New	P-110	20#	15800'	15800'	3952 Cu. Ft.
Tubing	2-3/8"	New	N-80	4.7#		7100'	
Liners							

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-H/POZ & Tail - H	H/POZ-1.44 & H-1.8
Tubing	2-3/8"	4.778"	0.19"	11,200			
Liners							

PACKERS

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

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WW-6B
(10/14)

API# 47-017-06480 PERMIT MODIFICATION

API NO. 47- 017 - 06480
OPERATOR WELL NO. Kreitler Unit 2H
Well Pad Name: Melody 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.

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): 47.32 existing acres

22) Area to be disturbed for well pad only, less access road (acres): 3.09 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.

4701706480 MOD

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
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.

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*Note: Attach additional sheets as needed.

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WW-6A1

Operator's Well Number Kreitler Unit 2H
API # 47-017-06480 PERMIT MODIFICATION

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
Carolyn E. Farr Lease			
Carolyn E. Farr	Clarence W. Mutschelknaus	1/8	0155/0456
Clarence W. Mutschelknaus	Stonewall Gas Company	Assignment	0157/0229
Stonewall Gas Company	Dominion Appalachian Development, Inc.	Merged	Exhibit 2
Dominion Appalachian Development, Inc.	Dominion Appalachian Development, LLC	Certificate of Conversion	Exhibit 3
Dominion Appalachian Development, LLC, DEPI and DTI, Inc.	Antero Resources Appalachian Corporation	*Partial Assignment of Oil and Gas Leases	0230/0113
Antero Resources Appalachian Corporation	**Antero Resources Corporation**	**Name Change**	**Exhibit 1**
James Booher et ux Lease			
James Booher, et ux	Jack E. Webber, et ux	1/8	0093/0298
Dorothea Webber as executrix for the estate of Jack E. Webber, et al	Aries Petroleum Corporation	Assignment	0122/0259
Aries Petroleum Corporation	Chesterfield Energy Corporation	Assignment	0134/0748
Chesterfield Energy Corporation	Dominion Appalachian Development, Inc.	Merger	Unrecorded Document
Dominion Appalachian Development, Inc.	Dominion Appalachian Development, LLC	Certificate of Conversion	Exhibit 3
Dominion Appalachian Development, LLC, DEPI and DTI, Inc.	Antero Resources Appalachian Corporation	*Partial Assignment of Oil and Gas Leases	0230/0113
Antero Resources Appalachian Corporation	**Antero Resources Corporation**	**Name Change**	**Exhibit 1**
Mary Maxine Welch Lease			
Mary Maxine Welch	Antero Resources Appalachian Corporation	1/8+	0277/0322
Antero Resources Appalachian Corporation	**Antero Resources Corporation**	**Name Change**	**Exhibit 1**
Homer Spencer et al Lease			
Larry M. Sams, et ux	**Antero Resources Corporation**	**1/8+**	**0331/0102**
DEPI Lease			
Dominion Exploration & Production, Inc.	Dominion Appalachian Development, LLC	1/8	0230/0389
Dominion Appalachian Development, LLC, DEPI and DTI, Inc.	Antero Resources Appalachian Corporation	*Partial Assignment of Oil and Gas Leases	0231/0145
Antero Resources Appalachian Corporation	**Antero Resources Corporation**	**Name Change**	**Exhibit 1**
Bradford D. Reed et al Lease			
Bradford D. Reed, et al	Bojacque Inc.	1/8	0153/0203
Bojacque Inc.	Stonewall Gas Company	Assignment	0155/0592
Stonewall Gas Company	Dominion Appalachian Development, Inc.	Merger	Exhibit 2
Dominion Appalachian Development, Inc.	Dominion Appalachian Development, LLC	Certificate of Conversion	Exhibit 3
Dominion Appalachian Development, LLC, DEPI and DTI, Inc.	Antero Resources Appalachian Corporation	*Partial Assignment of Oil and Gas Leases	0230/0113
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.**

****CONTINUED ON NEXT PAGE****

WW-6A1

Operator's Well Number Kreitler Unit 2H
API # 47-017-06480 PERMIT MODIFICATION

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
Rexal L. Sandy et al Lease			
Rexal L. Sandy, et ux	Bojacque Inc.	1/8	0156/0699
Bojacque Inc.	Stonewall Gas Company	Assignment	0157/0297
Stonewall Gas Company	Dominion Appalachian Development, Inc.	Merger	Exhibit 2
Dominion Appalachian Development, Inc.	Dominion Appalachian Development, LLC	Certificate of Conversion	Exhibit 3
Dominion Appalachian Development, LLC, DEPI and DTI, Inc.	Antero Resources Appalachian Corporation	*Partial Assignment of Oil and Gas Leases	0230/0113
Antero Resources Appalachian Corporation	**Antero Resources Corporation**	**Name Change**	**Exhibit 1**
Dorthea Morgan, et al Lease			
Dorothea I. Morgan, et vir	Bojacque Inc.	1/8	0153/0223
Bojacque, Inc.	Stonewall Gas Company	Assignment	0155/0592
Stonewall Gas Company	Dominion Appalachian Development, Inc., et al	Merger	Exhibit 2
Dominion Appalachian Development, Inc.	Dominion Appalachian Development, LLC	Merger	Exhibit 3
Dominion Appalachian Development, LLC, et al	Antero Resources Appalachian Corporation	Assignment	0230/0113
Antero Resources Appalachian Corporation	**Antero Resources Corporation**	**Name Change**	**Exhibit 1**
W.S. Wright, et al			
W.S. Wright, et al	Equitable Gas Company	1/8	0196/0078
Equitable Gas Company	Equitrans, Inc.	Assignment	0274/0471
Equitrans, Inc.	Equitrans, L.P.	Merger	Recited in 0433/0777
Equitrans, L.P.	Equitable Production-Eastern States, Inc.	Assignment	0342/0024
Equitable Production-Eastern States, Inc.	Equitable Production Company	Merger	Exhibit 4
Equitable Production Company	EQT Production Company	Name Change	CI 0009/0086
EQT Production Company	**Antero Resources Corporation**	**Assignment**	**0523/0601**
Richard Sandy Lease			
Richard Lee Sandy	Antero Resources Corporation	1/8+	0506/0604

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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.**

****CONTINUED ON NEXT PAGE****

API# 47-017-06480 PERMIT MODIFICATION

WW-6A1
(5/13)

Operator's Well No. Kreitler 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)

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 –

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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
W.S. Wright, et al Lease	W.S. Wright, et al	Equitable Gas Company	1/8	0196/0114
	Equitable Gas Company	Equitrans, Inc.	Assignment	0274/0471
	Equitrans, Inc.	Equitrans, L.P.	Merger	Recited in 0433/0777
	Equitrans, L.P.	Equitable Production-Eastern States, Inc.	Assignment	0342/0024
	Equitable Production-Eastern States, Inc.	Equitable Production Company	Merger	Exhibit 4
	Equitable Production Company	EQT Production Company	Name Change	CI 0009/0086
	EQT Production Company	**Antero Resources Corporation**	**Assignment**	**0523/0601**

***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

4701706480 MOD

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 of Production

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FORM WW-6A1
EXHIBIT 1

FILED

JUN 10 2013

IN THE OFFICE OF SECRETARY OF STATE

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
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

APPLICATION FOR AMENDED CERTIFICATE OF AUTHORITY

**** 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)

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) 357-7310
Contact Name — Phone Number

API 47 017 06480 MP

7. 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 §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.

Form CF-4 — Issued by the Office of the Secretary of State — Revised 6/13

WV031 - 04/16/2013 Wolters Kluwer Online

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FORM WW-6A1
EXHIBIT 2, PAGE 1

COMMONWEALTH OF VIRGINIA
STATE CORPORATION COMMISSION
Clerk of the Commission
P. O. Box 1197, 1300 East Main Street
Richmond, VA 23209

ARTICLES OF MERGER
DOMINION APPALACHIAN DEVELOPMENT, INC. Dam
a Virginia corporation
STONEWALL GAS COMPANY
a Virginia corporation

The undersigned corporations, pursuant to Title 13.1, Chapter 9, Article 12 of the Code of Virginia, hereby execute the following Articles of Merger and set forth:

ARTICLE I

The Plan of Merger (the "Plan") made and entered into as of the 31st day of August, 1998 by and between the undersigned corporations and attached hereto as Exhibit A provides for the merger of Stonewall Gas Company into Dominion Appalachian Development, Inc. The Plan constitutes the "Plan of Merger" for the purposes of Article 12 of the Virginia State Corporation Act.

ARTICLE II

The Plan was adopted by the written consent of the sole shareholder of Stonewall Gas Company.

ARTICLE III

The Plan was adopted by the written consent of the sole shareholder of Dominion Appalachian Development, Inc.

4701706480 MSD

ARTICLE IV

These Articles of Merger shall become effective on September 30, 1998.

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FORM WW-6A1
EXHIBIT 2, PAGE 2

IN WITNESS WHEREOF, Dominion Appalachian Development, Inc. and Stonewall Gas Company have caused these Articles of Merger to be executed as of the 21 day of August, 1998..

DOMINION APPALACHIAN
DEVELOPMENT, INC.,
a Virginia corporation

By: Thomas N. Chewning
Name: Thomas N Chewning
Its: Vice Chairman

STONEWALL GAS COMPANY,
a Virginia corporation

By: G. E. Lake, Jr.
Name: G. E Lake, Jr
Its: Sr. Vice President

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APR 18 2016
WV Department of
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FORM WW-6A1
EXHIBIT 3

AC

State of West Virginia

Certificate

I, Betty Ireland, Secretary of State of the State of West Virginia, hereby certify that

DOMINION APPALACHIAN DEVELOPMENT, INC.
(a Virginia corporation)

filed an application for Conversion in my office as required by the provisions of the West Virginia Code and was found to conform to law.

Therefore, I issue this

CERTIFICATE OF CONVERSION

converting the corporation to

DOMINION APPALACHIAN DEVELOPMENT, LLC
(a Virginia Limited Liability Company)

4701706480 MSD

Given under my hand and the Great Seal of the State of West Virginia on

February 23, 2006

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Office of Oil and Gas
APR 18 2016

Secretary of State

WV Department of
Environmental Protection

FORM WW-6A1
EXHIBIT 4

State of West Virginia

Certificate

I, Joe Manchin III, Secretary of State of the State of West Virginia, hereby certify that

by the provisions of Chapter 31 of the West Virginia Code, Articles of Merger were received and filed

MERGING EQUITABLE PRODUCTION - EASTERN STATES, INC., A QUALIFIED DE ORGANIZATION, WITH AND INTO EQUITABLE PRODUCTION COMPANY, A QUALIFIED ORGANIZATION.

Therefore, I hereby issue this

CERTIFICATE OF MERGER

4701706480 MW

Given under my hand and the Great Seal of the State of West Virginia on this day of June 28, 2001

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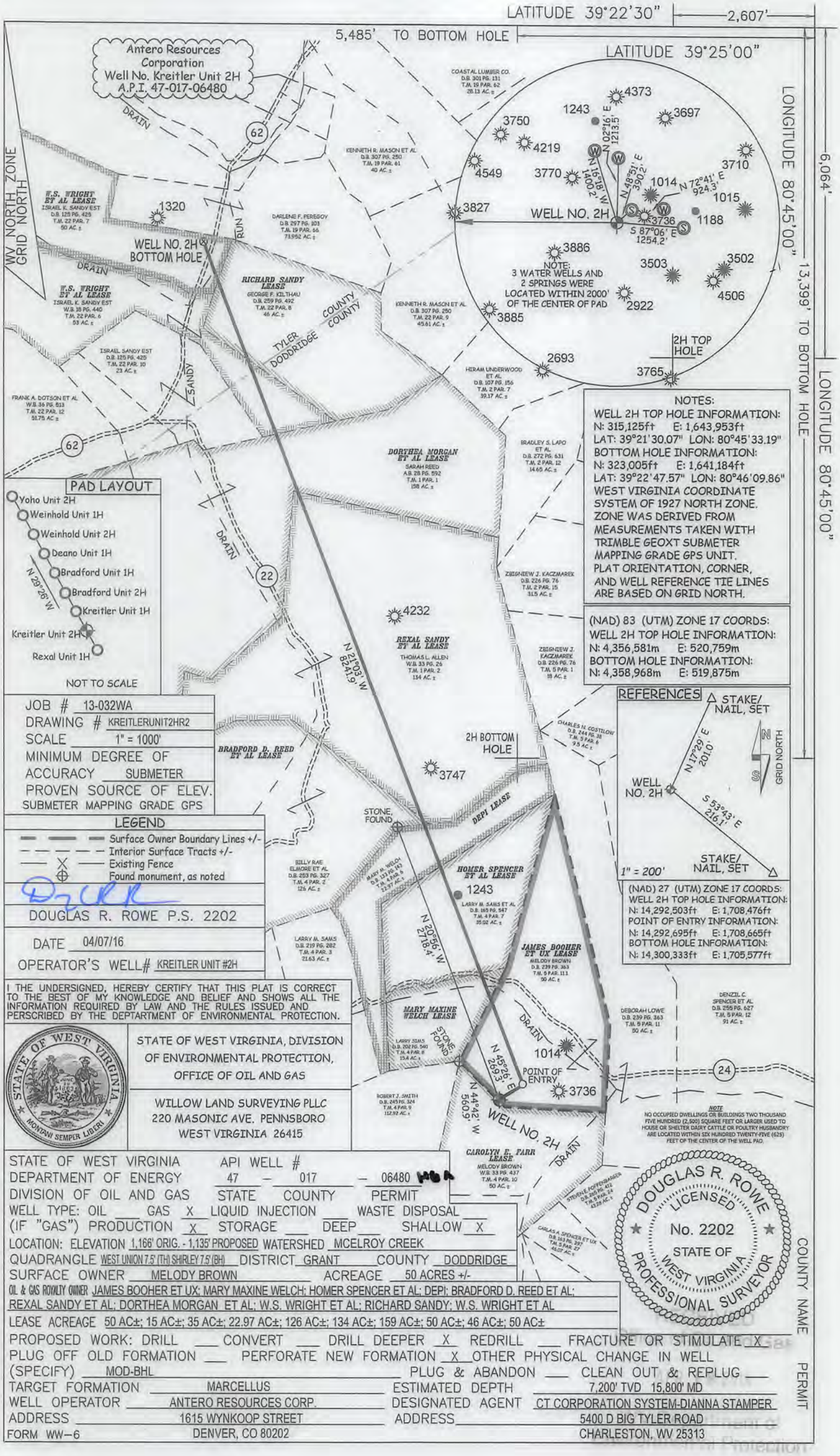
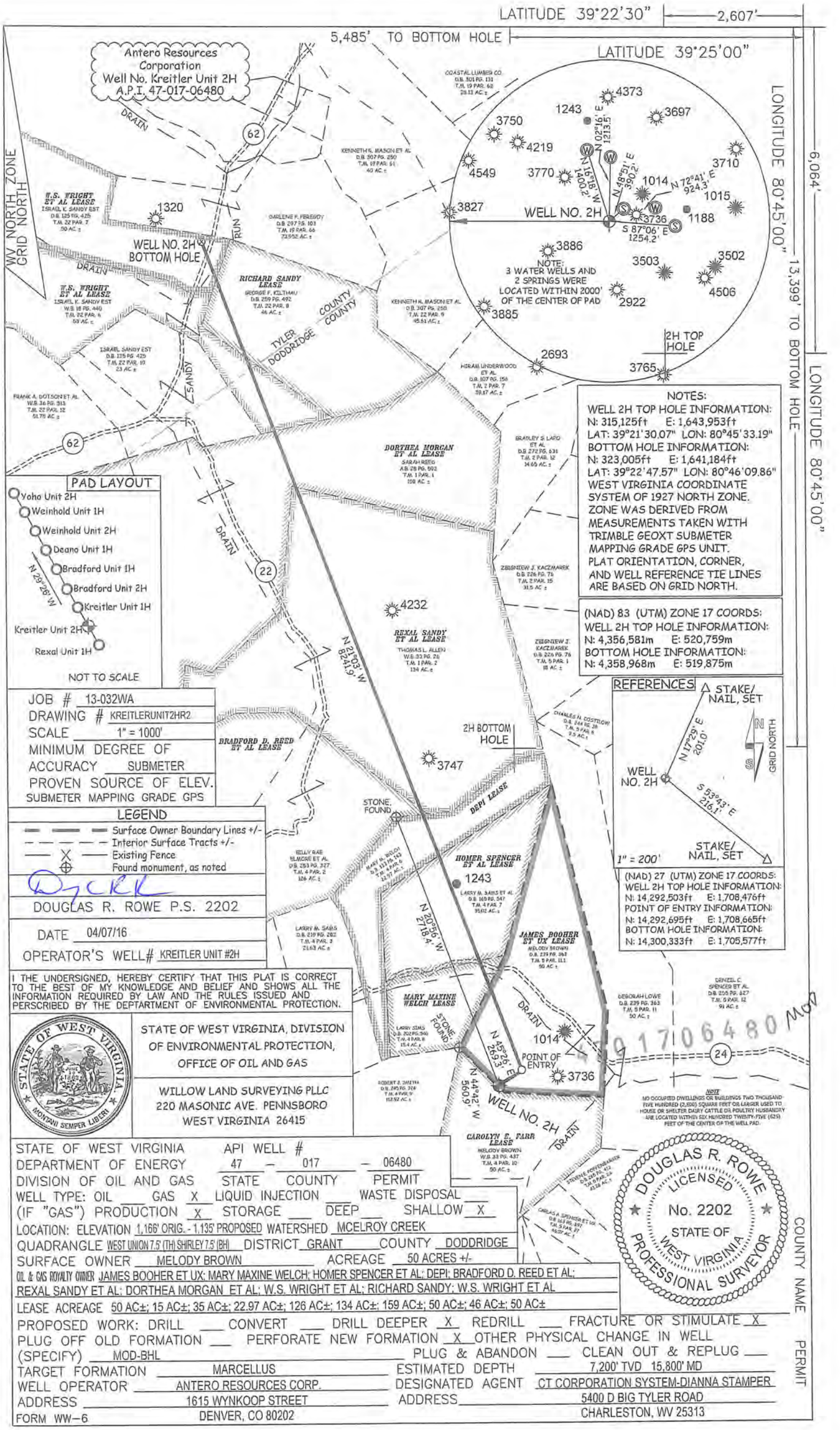
Office of Oil and Gas
APR 18 2016

Secretary of State

WV Department of
Environmental Protection


LATITUDE 39°22'30"
2,607'
5,485' TO BOTTOM HOLE
LATITUDE 39°25'00"
LONGITUDE 80°45'00"
13,399' TO BOTTOM HOLE
6,064'
LONGITUDE 80°45'00"
WV NORTH ZONE GRID NORTH
Antero Resources Corporation
Well No. Kreitler Unit 2H
A.P.I. 47-017-06480
WELL NO. 2H
BOTTOM HOLE
2H TOP HOLE
2H BOTTOM HOLE
WELL NO. 2H
POINT OF ENTRY
STONE, FOUND
STAKE/ NAIL, SET
GRID NORTH
1" = 200'
N 16°18' W 1400.2'
N 49°31' E 3902'
N 72°41' E 924.3'
S 87°06' E 1254.2'
N 02°16' E 1213.5'
N 21°05' W 8241.9'
N 20°56' W 2716.4'
N 45°26' E 299.3'
N 44°42' W 560.9'
N 17°29' E 201.0'
S 53°43' E 216.1'
N 29°26' W
NOTE:
3 WATER WELLS AND
2 SPRINGS WERE
LOCATED WITHIN 2000'
OF THE CENTER OF PAD
NOTES:
WELL 2H TOP HOLE INFORMATION:
N: 315,125ft E: 1,643,953ft
LAT: 39°21'30.07" LON: 80°45'33.19"
BOTTOM HOLE INFORMATION:
N: 323,005ft E: 1,641,184ft
LAT: 39°22'47.57" LON: 80°46'09.86"
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: 4,356,581m E: 520,759m
BOTTOM HOLE INFORMATION:
N: 4,358,968m E: 519,875m
REFERENCES
(NAD) 27 (UTM) ZONE 17 COORDS:
WELL 2H TOP HOLE INFORMATION:
N: 14,292,503ft E: 1,708,476ft
POINT OF ENTRY INFORMATION:
N: 14,292,695ft E: 1,708,665ft
BOTTOM HOLE INFORMATION:
N: 14,300,333ft E: 1,705,577ft
PAD LAYOUT
Yoho Unit 2H
Weinhold Unit 1H
Weinhold Unit 2H
Deano Unit 1H
Bradford Unit 1H
Bradford Unit 2H
Kreitler Unit 1H
Kreitler Unit 2H
Rexal Unit 1H
NOT TO SCALE
JOB # 13-032WA
DRAWING # KREITLERUNIT2HR2
SCALE 1" = 1000'
MINIMUM DEGREE OF ACCURACY SUBMETER
PROVEN SOURCE OF ELEV. SUBMETER MAPPING GRADE GPS
LEGEND
Surface Owner Boundary Lines +/-
Interior Surface Tracts +/-
Existing Fence
Found monument, as noted
DOUGLAS R. ROWE P.S. 2202
DATE 04/07/16
OPERATOR'S WELL# KREITLER UNIT #2H
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
DOUGLAS R. ROWE LICENSED No. 2202 STATE OF WEST VIRGINIA PROFESSIONAL SURVEYOR
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.
STATE OF WEST VIRGINIA DEPARTMENT OF ENERGY DIVISION OF OIL AND GAS
API WELL # 47 – 017 – 06480
STATE COUNTY PERMIT
WELL TYPE: OIL ___ GAS X LIQUID INJECTION ___ WASTE DISPOSAL ___
(IF "GAS") PRODUCTION X STORAGE ___ DEEP ___ SHALLOW X
LOCATION: ELEVATION 1,166' ORIG. - 1,135' PROPOSED WATERSHED MCELROY CREEK
QUADRANGLE WEST UNION 7.5' (TH) SHIRLEY 7.5' (BH) DISTRICT GRANT COUNTY DODDRIDGE
SURFACE OWNER MELODY BROWN ACREAGE 50 ACRES +/-
OIL & GAS ROYALTY OWNER JAMES BOOHER ET UX; MARY MAXINE WELCH; HOMER SPENCER ET AL; DEPI; BRADFORD D. REED ET AL; REXAL SANDY ET AL; DORTHEA MORGAN ET AL; W.S. WRIGHT ET AL; RICHARD SANDY; W.S. WRIGHT ET AL
LEASE ACREAGE 50 AC±; 15 AC±; 35 AC±; 22.97 AC±; 126 AC±; 134 AC±; 159 AC±; 50 AC±; 46 AC±; 50 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 7,200' TVD 15,800' MD
WELL OPERATOR ANTERO RESOURCES CORP. DESIGNATED AGENT CT CORPORATION SYSTEM-DIANNA STAMPER
ADDRESS 1615 WYNKOOP STREET ADDRESS 5400 D BIG TYLER ROAD
DENVER, CO 80202 CHARLESTON, WV 25313
FORM WW-6
COUNTY NAME PERMIT
COAST AL LUMBER CO. D.B. 301 PG. 131 T.M. 19 PAR. 62 28.13 AC. ±
KENNETH R. MASON ET AL D.B. 307 PG. 250 T.M. 19 PAR. 61 40 AC. ±
W.S. WRIGHT ET AL LEASE ISRAEL K. SANDY EST D.B. 125 PG. 425 T.M. 22 PAR. 7 50 AC. ±
DARLENE F. PERSSOY D.B. 297 PG. 103 T.M. 19 PAR. 66 73.952 AC. ±
RICHARD SANDY LEASE GEORGE F. KILTHAU D.B. 259 PG. 492 T.M. 22 PAR. 8 46 AC. ±
W.S. WRIGHT ET AL LEASE ISRAEL K. SANDY EST W.B. 15 PG. 440 T.M. 22 PAR. 6 53 AC. ±
KENNETH R. MASON ET AL D.B. 307 PG. 250 T.M. 22 PAR. 9 45.61 AC. ±
ISRAEL SANDY EST D.B. 125 PG. 425 T.M. 22 PAR. 10 23 AC. ±
FRANK A. DOTSON ET AL W.B. 36 PG. 513 T.M. 22 PAR. 12 51.75 AC. ±
HIRAM UNDERWOOD ET AL. D.B. 107 PG. 156 T.M. 2 PAR. 7 39.17 AC. ±
BRADLEY S. LAPO ET AL. D.B. 272 PG. 631 T.M. 2 PAR. 12 14.65 AC. ±
DORTHEA MORGAN ET AL LEASE SARAH REED A.B. 28 PG. 592 T.M. 1 PAR. 1 158 AC. ±
ZBIGNIEW J. KACZMAREK D.B. 226 PG. 76 T.M. 2 PAR. 15 31.5 AC. ±
REXAL SANDY ET AL LEASE THOMAS L. ALLEN W.B. 33 PG. 26 T.M. 1 PAR. 2 134 AC. ±
ZBIGNIEW J. KACZMAREK D.B. 226 PG. 76 T.M. 5 PAR. 1 18 AC. ±
CHARLES N. COSTILOW D.B. 244 PG. 38 T.M. 5 PAR. 6 9.5 AC. ±
BRADFORD D. REED ET AL LEASE
DEPI LEASE
BILLY RAE ELMORE ET AL. D.B. 253 PG. 327 T.M. 4 PAR. 2 126 AC. ±
MARY M. WELCH D.B. 131 PG. 491 T.M. 4 PAR. 6 24.97 AC. ±
HOMER SPENCER ET AL LEASE LARRY M. SAMS ET AL D.B. 185 PG. 547 T.M. 4 PAR. 7 35.02 AC. ±
LARRY M. SAMS D.B. 219 PG. 282 T.M. 4 PAR. 3 21.63 AC. ±
JAMES BOOHER ET UX LEASE MELODY BROWN D.B. 239 PG. 363 T.M. 5 PAR. 11.1 50 AC. ±
MARY MAXINE WELCH LEASE LARRY SIMS D.B. 202 PG. 540 T.M. 4 PAR. 8 15.4 AC. ±
DEBORAH LOWE D.B. 239 PG. 363 T.M. 5 PAR. 11 50 AC. ±
DENZIL C. SPENCER ET AL D.B. 255 PG. 627 T.M. 5 PAR. 12 91 AC. ±
ROBERT J. SMITH D.B. 245 PG. 324 T.M. 4 PAR. 9 112.92 AC. ±
CAROLYN E. FARR LEASE MELODY BROWN W.B. 33 PG. 437 T.M. 4 PAR. 10 50 AC. ±
STEVEN E. POFFENBARGER D.B. 265 PG. 413 T.M. 4 PAR. 24 43.28 AC. ±
CARLAS A. SPENCER ET UX D.B. 183 PG. 397 T.M. 5 PAR. 27 46.07 AC. ±
DRAIN
RUN
SANDY
COUNTY
TYLER
DODDRIDGE
62
22
24


LATITUDE 39°22'30"
2,607'
5,485' TO BOTTOM HOLE
LATITUDE 39°25'00"
LONGITUDE 80°45'00"
6,064'
13,399' TO BOTTOM HOLE
LONGITUDE 80°45'00"
WV NORTH ZONE GRID NORTH
Antero Resources Corporation
Well No. Kreitler Unit 2H
A.P.I. 47-017-06480
WELL NO. 2H BOTTOM HOLE
WELL NO. 2H
2H TOP HOLE
2H BOTTOM HOLE
NOTE:
3 WATER WELLS AND
2 SPRINGS WERE
LOCATED WITHIN 2000'
OF THE CENTER OF PAD
NOTES:
WELL 2H TOP HOLE INFORMATION:
N: 315,125ft E: 1,643,953ft
LAT: 39°21'30.07" LON: 80°45'33.19"
BOTTOM HOLE INFORMATION:
N: 323,005ft E: 1,641,184ft
LAT: 39°22'47.57" LON: 80°46'09.86"
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: 4,356,581m E: 520,759m
BOTTOM HOLE INFORMATION:
N: 4,358,968m E: 519,875m
REFERENCES
STAKE/ NAIL, SET
WELL NO. 2H
GRID NORTH
1" = 200'
(NAD) 27 (UTM) ZONE 17 COORDS:
WELL 2H TOP HOLE INFORMATION:
N: 14,292,503ft E: 1,708,476ft
POINT OF ENTRY INFORMATION:
N: 14,292,695ft E: 1,708,665ft
BOTTOM HOLE INFORMATION:
N: 14,300,333ft E: 1,705,577ft
PAD LAYOUT
Yoho Unit 2H
Weinhold Unit 1H
Weinhold Unit 2H
Deano Unit 1H
Bradford Unit 1H
Bradford Unit 2H
Kreitler Unit 1H
Kreitler Unit 2H
Rexal Unit 1H
NOT TO SCALE
JOB # 13-032WA
DRAWING # KREITLERUNIT2HR2
SCALE 1" = 1000'
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PROVEN SOURCE OF ELEV. SUBMETER MAPPING GRADE GPS
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4701706480 Mod
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DEPARTMENT OF ENERGY
DIVISION OF OIL AND GAS
API WELL # 47 – 017 – 06480
STATE COUNTY PERMIT
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(IF "GAS") PRODUCTION X STORAGE ___ DEEP ___ SHALLOW X
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