



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

Austin Caperton, Cabinet Secretary
www.dep.wv.gov

Wednesday, July 17, 2019
PERMIT MODIFICATION APPROVAL
Horizontal 6A / New Drill

ANTERO RESOURCES CORPORATION
1615 WYNKOOP STREET

DENVER, CO 80202

Re: Permit Modification Approval for KILSKA UNIT 2H
47-095-02584-00-00

Extend Lateral

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

A handwritten signature in blue ink, appearing to read 'James A. Martin', is written over a faint, larger version of the signature. The signature is written in a cursive, flowing style.

Operator's Well Number: KILSKA UNIT 2H
Farm Name: GARY D. DAWSON ET UX
U.S. WELL NUMBER: 47-095-02584-00-00
Horizontal 6A New Drill
Date Modification Issued: July 17, 2019

Promoting a healthy environment.

WW-6B
(04/15)

API NO. 47-095 - 02584

OPERATOR WELL NO. Kilaska Unit 2H

Well Pad Name: Dawson 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 095 - Tyler Centerville Shirley 7.5'
Operator ID County District Quadrangle

2) Operator's Well Number: Kilaska Unit 2H Well Pad Name: Dawson Pad

3) Farm Name/Surface Owner: Gary D. Dawson et ux Public Road Access: State Route 18

4) Elevation, current ground: 1009' Elevation, proposed post-construction: _____

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: 6900' TVD, Anticipated Thickness- 55 feet, Associated Pressure- 2800#

8) Proposed Total Vertical Depth: 6900' TVD

9) Formation at Total Vertical Depth: Marcellus

10) Proposed Total Measured Depth: 23200' MD

11) Proposed Horizontal Leg Length: 15594'

12) Approximate Fresh Water Strata Depths: 115', 320', 455'

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

14) Approximate Saltwater Depths: 551', 1583', 1830'

15) Approximate Coal Seam Depths: 275', 424', 975'

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: _____

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**KILSKA 2H
MOD**

WW-6B
(04/15)

API NO. 47- 095 - 02584

OPERATOR WELL NO. Kilska Unit 2H

Well Pad Name: Dawson Pad

18)

CASING AND TUBING PROGRAM

TYPE	<u>Size (in)</u>	<u>New or Used</u>	<u>Grade</u>	<u>Weight per ft. (lb/ft)</u>	<u>FOOTAGE: For Drilling (ft)</u>	<u>INTERVALS: Left in Well (ft)</u>	<u>CEMENT: Fill-up (Cu. Ft.)/CTS</u>
Conductor	20"	New	H-40	94#	80	80	CTS, 77 Cu. Ft.
Fresh Water	13-3/8"	New	J-55	54.5#	505 *see # 19	505 *see # 19	CTS, 702 Cu. Ft.
Coal	9-5/8"	New	J-55	36#	2500	2500	CTS, 1018 Cu. Ft.
Intermediate							
Production	5-1/2"	New	P-110	23#	23200	23200	5971 Cu. Ft
Tubing	2-3/8"	New	N-80	4.7#			
Liners							

TYPE	<u>Size (in)</u>	<u>Wellbore Diameter (in)</u>	<u>Wall Thickness (in)</u>	<u>Burst Pressure (psi)</u>	<u>Anticipated Max. Internal Pressure (psi)</u>	<u>Cement Type</u>	<u>Cement Yield (cu. ft./k)</u>
Conductor	20"	24"	0.438"	1530	50	Class A	~1.18
Fresh Water	13-3/8"	17-1/2"	0.38"	2730	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"	0.415"	12,630	2500	Lead-H/POZ & Tail - H	H/POZ-1.44 & H-1.8
Tubing	2-3/8"	4.778"	0.19"	11,200			
Liners							

PACKERS

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

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WW-6B
(10/14)

API NO. 47- 095 - 02584
OPERATOR WELL NO. Kilska Unit 2H
Well Pad Name: Dawson 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): Existing 28.65 acres

22) Area to be disturbed for well pad only, less access road (acres): Existing 9.14 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

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 lateral, 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.

WW-6A1

Operator's Well Number Kilksa 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:

Grantor, lessor, etc.	Grantee, lessee, etc.	Royalty	Book/Page
<u>Gary D. Dawson et ux Lease</u>			
Gary D. Dawson et ux	Antero Resources Corporation	1/8+	0459/0133
<u>Larry R. Robinson et ux Lease</u>			
Larry R. Robinson et ux	Antero Resources Corporation	1/8+	0479/0659
<u>BRC Appalachian Minerals I LLC Lease</u>			
BRC Appalachian Minerals I LLC	BRC Working Interest Company LLC	1/8+	0369/0300
BRC Working Interest Company LLC	Chesapeake Appalachia LLC	Assignment	0369/0784
Chesapeake Appalachia LLC	SWN Production Company	Assignment	0465/0463
SWN Production Company	Antero Exchange Properties LLC	Assignment	0544/0242
Antero Exchange Properties LLC	Antero Resources Corporation	Merger	0552/0315
<u>Ralph J. Underwood et ux Lease TM 15 PCL 7)</u>			
Ralph J. Underwood et ux	Chesterfield Energy Corporation	1/8+	0265/0430
Chesterfield Energy Corporation	Dominion Appalachian Development Properties	Assignment	0312/0505
Dominion Appalachian Development Properties	CONSOL Gas Appalachian Development Properties	Name Change	0009/0124
CONSOL Gas Appalachian Development Propertie	CONSOL Gas Reserves Inc	Merger	0009/0144
CONSOL Gas Reserves Inc	CONSOL Gas Company	Merger	0009/0156
CONSOL Gas Company	CNX Gas Company LLC	Name Change	0009/0206
CNX Gas Company LLC	Antero Resources Corporation	Assignment	0626/0386
<u>Ralph J. Underwood et ux Lease (TM 15 PCL 7)</u>			
Ralph J. Underwood et ux	Chesterfield Energy Corporation	1/8+	0265/0430
Chesterfield Energy Corporation	Dominion Appalachian Development Properties	Assignment	0312/0505
Dominion Appalachian Development Properties	CONSOL Gas Appalachian Development Properties	Name Change	0009/0124
CONSOL Gas Appalachian Development Propertie	CONSOL Gas Reserves Inc	Merger	0009/0144
CONSOL Gas Reserves Inc	CONSOL Gas Company	Merger	0009/0156
CONSOL Gas Company	CNX Gas Company LLC	Name Change	0009/0206
CNX Gas Company LLC	Antero Resources Corporation	Assignment	0626/0386
<u>Randy Dawson et ux Lease</u>			
Randy Dawson et ux	Antero Resources Corporation	1/8+	0635/0184
<u>Roy L. Ullum et ux Lease (TM 15 PCL 32)</u>			
Roy L. Ullum et ux	Chesterfield Energy Corporation	1/8	0265/0427
Chesterfield Energy Corporation	Dominion Appalachian Development	Assignment	0312/0505
Dominion Appalachian Development	Consol Gas Appalachian Development	Name Change	0009/0124
Consol Gas Appalachian Development	Consol Gas Reserves Inc	Merger	00091/0144
Consol Gas Reserves Inc	Consol Gas Company	Merger	0009/0156
Consol Gas Company	CNX Gas Company LLC	Name Change	0009/0206
CNX Gas Company LLC	Antero Resources Corporation	Agreement	0626/0386

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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

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Grantor, lessor, etc.	Grantee, lessee, etc.	Royalty	Book/Page
Roy L. Ullum et ux Lease (TM 15 PCL 13)			
Roy L. Ullum et ux	Chesterfield Energy Corporation	1/8	0265/0427
Chesterfield Energy Corporation	Dominion Appalachian Development	Assignment	0312/0505
Dominion Appalachian Development	Consol Gas Appalachian Development	Name Change	0009/0124
Consol Gas Appalachian Development	Consol Gas Reserves Inc	Merger	00091/0144
Consol Gas Reserves Inc	Consol Gas Company	Merger	0009/0156
Consol Gas Company	CNX Gas Company LLC	Name Change	0009/0206
CNX Gas Company LLC	Antero Resources Corporation	Agreement	0626/0386
Clarence Hadley et ux Lease (TM 15 PCL 12)			
Clarence Hadley et ux	Jack Burg	1/8	0264/0637
Jack Burg	Anvil Oil Company Inc	Agreement	0265/0055
Anvil Oil Company Inc	Anvil Oil & Gas Company Inc	Name Change	0001/0015
Anvil Oil & Gas Company Inc	Dominion Appalachian Development Inc	Assignment	0323/0383
Dominion Appalachian Development Inc	Dominion Appalachian Development LLC	Name Change	0001/0015
Dominion Appalachian Development LLC	Consol Gas Appalachian Development LLC	Name Change	0009/0131
Consol Gas Appalachian Development LLC	Consol Gas Reserves Inc	Merger	0009/0144
Consol Gas Reserves Inc	Consol Gas Company	Merger	0009/0156
Consol Gas Company	CNX Gas Company LLC	Merger	0009/0206
CNX Gas Company LLC	Noble Energy Inc	Assignment	0388/0286
Noble Energy Inc	CNX Gas Company LLC	Assignment	0550/0273
CNX Gas Company LLC	Antero Resources Corporation	Agreement	0626/0386
Emerson Laurence Moore et ux Lease			
Emerson Laurence Moore et ux	Royal Resources Corporation	1/8	0190/0478
Royal Resources Corporation	Columbia Gas Transmission Corporation	Assignment	0191/0235
Columbia Gas Transmission Corporation	Anvil Oil Company Inc	Assignment	0265/0112
Anvil Oil Company Inc	Dominion Appalachian Development Inc	Assignment	0265/0112
Dominion Appalachian Development	Dominion Appalachian Development LLC	Name Change	0009/0131
Dominion Appalachian Development LLC	Consol Gas Appalachian Development LLC	Name Change	0009/0131
Consol Gas Appalachian Development LLC	Consol Gas Reserves Inc	Merger	0009/0144
Consol Gas Reserves Inc	Consol Gas Company	Merger	0009/0156
Consol Gas Company	CNX Gas Company LLC	Merger	0009/0206
CNX Gas Company LLC	Antero Resources Corporation	Agreement	0626/0386

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WV Department of
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Grantor, lessor, etc.	Grantee, lessee, etc.	Royalty	Book/Page
Ralph J. Westfall et ux Lease			
Ralph J. Westfall et ux	Royal Resources Corporation	1/8	0200/0111
Royal Resources Corporation	L&M Associates Inc	Assignment	0223/0176
L&M Associates Inc	Anvil Oil Company Inc	Assignment	0267/0016
Anvil Oil Company Inc	Dominion Appalachian Development Inc	Assignment	0323/0383
Dominion Appalachian Development Inc	Dominion Appalachian Development LLC	Name Change	0009/0131
Dominion Appalachian Development LLC	Consol Gas Appalachian Development LLC	Name Change	0009/0131
Consol Gas Appalachian Development LLC	Consol Gas Reserves Inc	Merger	0009/0144
Consol Gas Reserves Inc	Consol Gas Company	Merger	0009/0156
Consol Gas Company	CNX Gas Company	Merger	0009/0206
CNX Gas Company	Noble Energy Inc	Assignment	0388/0286
Noble Energy Inc	CNX Gas Company	Assignment	0550/0273
CNX Gas Company	Antero Resources Corporation	Agreement	0626/0386
Violet Gregg et al Lease			
Violet Gregg et al	James F. Doan	1/8	0196/0238
James F. Doan	Anvil Oil Company Inc	Assignment	0254/0245
Anvil Oil Company Inc	Anvil Oil & Gas Company	Name Change	0009/0131
Anvil Oil & Gas Company	Dominion Appalachian Development Inc	Assignment	0323/0383
Dominion Appalachian Development Inc	Consol Gas Appalachian Development LLC	Name Change	0009/0131
Consol Gas Appalachian Development LLC	Consol Gas Reserves Inc	Merger	0009/0144
Consol Gas Reserves Inc	Consol Gas Company	Merger	0009/0156
Consol Gas Company	CNX Gas Company LLC	Name Change	0009/0206
CNX Gas Company LLC	Antero Resources Corporation	Agreement	0636/0292
Nathan Joseph Lease			
Nathan Joseph	Central Development Company	1/8	0061/0344
Central Development Company	Carnegie Natural Gas Company	Assignment	0304/0368
Carnegie Natural Gas Company	Murvin Oil Company	Assignment	0304/0368
Murvin Oil Company	Murvin & Meier Oil Company	Assignment	0318/0233
Murvin & Meier Oil Company	Antero Resources Appalachian Corporation	Partial Assignment	0423/0840
Antero Resources Appalachian Corporation	Antero Resources Corporation	Name Change	0557/0430
Antero Resources Corporation	CNX Gas Company	Assignment	0468/0769
CNX Gas Company	Antero Resources Corporation	Agreement	0626/0386

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Grantor, lessor, etc.	Grantee, lessee, etc.	Royalty	Book/Page
<u>Sarah E. Doak et al Lease</u>			
Sarah E. Doak et al	Hope Natural Gas Company	1/8	0073/0138
Hope Natural Gas Company	Consolidated Gas Supply Corporation	Assignment	0169/0026
Consolidated Gas Supply Corporation	Consolidated Gas Transmission Corporation	Assignment	0249/0287
Consolidated Gas Transmission Corporation	CNG Transmission Corporation	Name Change	0051/0795
CNG Transmission Corporation	Dominion Transmission Inc	Name Change	0210/0287
Dominion Transmission Inc	Consol Energy Holdings LLC	Merger	0384/0191
Consol Energy Holdings LLC	Consol Gas Company	Merger	0384/0191
Consol Gas Company	CNX Gas Company LLC	Merger	0384/0191
CNX Gas Company LLC	Antero Resources Corporation	Agreement	0626/0386

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WW-6A1
(5/13)

Operator's Well No. Kilska Unit 2H

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Lease Name or Number	Grantor, Lessor, etc.	Grantee, Lessee, etc.	Royalty	Book/Page
<u>Debbie Hileman et vir Lease</u>				
	Debbie Hileman et vir	Noble Energy Inc	1/8	0503/0056
	Noble Energy Inc	CNX Gas Company LLC	Assignment	0550/0273
	CNX Gas Company LLC	Antero Resources Corporation	Agreement	0626/0386

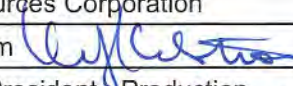
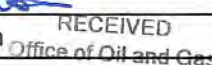
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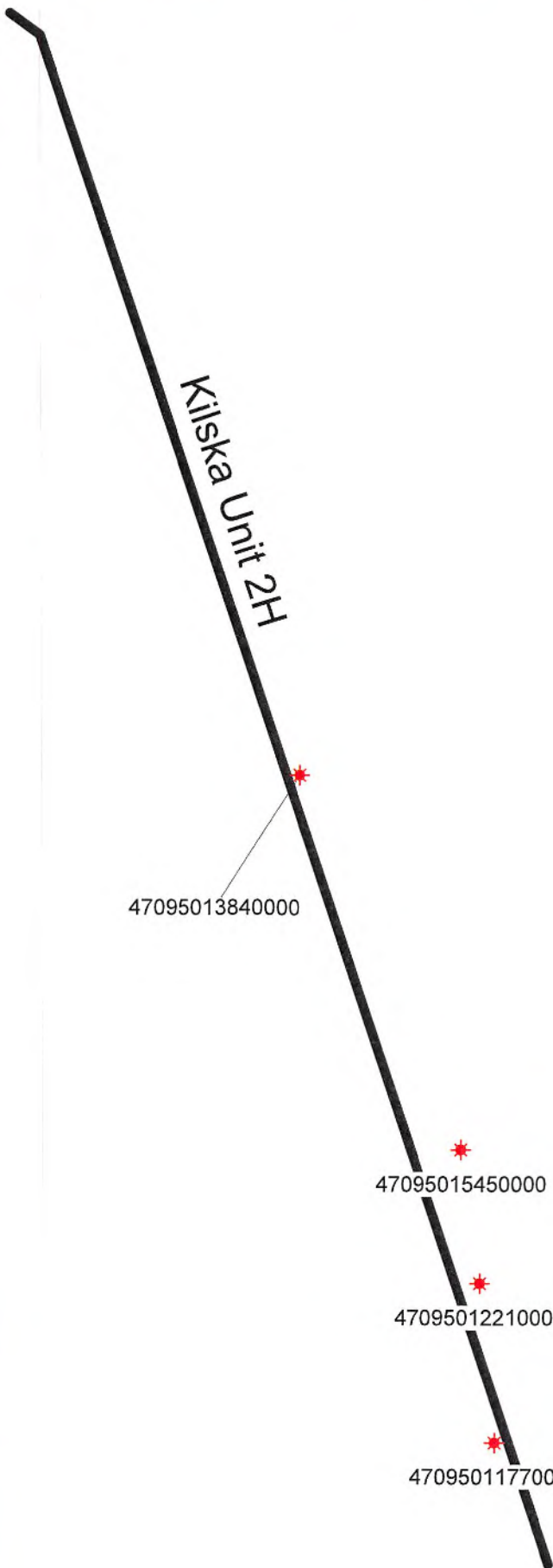
**Acknowledgement of Possible Permitting/Approval
In Addition to the Office of Oil and Gas**

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 



Antero Resources Corporation

Kilska Unit 2H - AOR



WELL SYMBOLS
Gas Well

December 3, 2018

UWI (APINum)	Well Name	Well Number	Operator	Hist Oper	TD	Perforated Interval (shallowest, deepest)	Perforated Formation(s)	Productible Formation(s) not perfd
47095013840000	WESTFALL RALPH	1	CONSOL GAS COMPANY	ANVIL OIL COMPANY	5,120	4862 - 4870	Benson	Riley, Big Injun, Weir, Alexander
47095015450000	JOSEPH NATHAN HEIRS	1	MURVIN&MEIER OIL CO	MURVIN OIL COMPANY	5,271	4597 - 5130	Bradford, Benson, Elk	Riley, Alexander, Big Injun, Weir
47095012210000	AYERS VIRGINIA	J-1965	ENERGY CORP OF AMER	J & J ENTERPRISES	5,579	4564 - 5281	Riley, Benson, Alexander	Alexander, Big Injun, Weir
4709501170000	JAMES LAWRENCE L & THELMA B	2463	ALLIANCE PETR CORP	UNION DRILLING CO	5,517	4542 - 5250	Riley, Benson, Alexander	Alexander, Big Injun, Weir

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LATITUDE 39°25'00"

11,217'

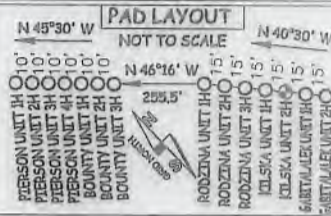
6,241'

TO BOTTOM HOLE
LATITUDE 39°22'30"

Antero Resources Corporation
Well No. Kilska Unit 2H

NOTES:
WELL 2H TOP HOLE INFORMATION:
N: 323,514ft E: 1,611,900ft
LAT: 39°22'48.34" LON: 80°52'22.86"
BOTTOM HOLE INFORMATION:
N: 308,533ft E: 1,616,655ft
LAT: 39°20'21.00" LON: 80°51'19.44"
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: 4,358,974m E: 510,951m
BOTTOM HOLE INFORMATION:
N: 4,354,434m E: 512,476m



3 WATER WELLS WERE 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

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.

(NAD) 27 (UTM) ZONE 17 COORDS:
WELL 2H TOP HOLE INFORMATION:
N: 14,300,353ft E: 1,676,299ft
POINT OF ENTRY INFORMATION:
N: 14,300,253ft E: 1,676,389ft
BOTTOM HOLE INFORMATION:
N: 14,285,499ft E: 1,681,301ft

Clay District - Ritchie County

12-14	Warren Suler Jr.
12-14.1	Gary Dowson
12-14.4	Gary Dowson
12-19	Robert Sinclair
15-01	Gary Dowson
15-1.1	Larry Caine
15-1.2	Larry Robinson
15-1.3	Joseph Mills Community Center
15-1.4	David Cowles Jr.
15-1.5	Russell Bonner East
15-1.6	Russell Bonner East
15-1.7	Antero Resources Corp.
15-1.8	W.V.D.N.R.
15-1.9	Antero Resources Corp.
15-1.10	Gary Dowson
15-07	Ralph Underwood III
15-7.1	Judith Bayley
15-08	Conrad Costlow
15-12	Larry Hadley
15-13	Sara Reed
15-13.1	Sara Reed
15-13.2	Cecil Lovsley
15-14	George Moore
15-14.1	Linda Moore
15-15	John Jozaniew Sr.
18-20	Sandra Clark
15-28	Coastal Forest Resources Co.
15-32	Marvin Sals
15-32.1	Marvin Sals
15-33	Randy Dawson
15-34	Ronnie Dawson
15-35	Jamie Ferguson
17-2.1	Alfred Meredith
17-2.2	Alfred Meredith
17-2.4	Andrew Smith
17-03	Kimberly Ridgeway
17-09	Antero Midstream LLC
17-10.1	Sandra Clark
17-10.2	Sandra Clark
17-10.3	Sandra Clark
17-10.4	Sandra Clark
17-10.5	Sandra Clark
17-12	CNG Transmission Corporation
17-13	George Ash
17-22	David Glasura
17-23	Colleen Ash
17-24	Jeffrey Milligan

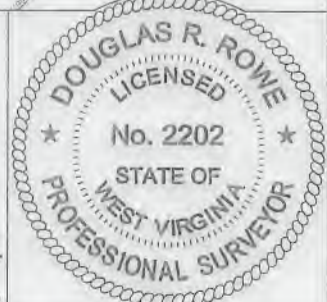
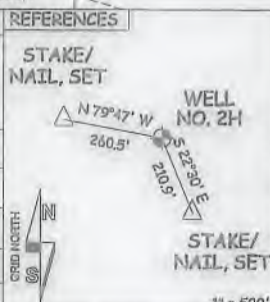
LONGITUDE 80°50'00"

13,321'

LONGITUDE 80°50'00"

JOB # 18-031WA
DRAWING # KILSKA2HR2
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
DOUGLAS R. ROWE P.S. 2202
DATE 4/10/19
OPERATOR'S WELL# KILSKA UNIT #2H



WELL TYPE: OIL ___ GAS X LIQUID INJECTION WASTE DISPOSAL 47 095 02584
(IF "GAS") PRODUCTION X STORAGE ___ DEEP ___ SHALLOW X STATE COUNTY PERMIT
LOCATION: ELEVATION 1,009' - AS BUILT WATERSHED HEADWATERS MIDDLE ISLAND CREEK
QUADRANGLE SHIRLEY 7.5' (TH) WEST UNION 7.5' (BH) DISTRICT CENTERTVILLE COUNTY TYLER
SURFACE OWNER GARY D. DAWSON ET UX ACREAGE 104.27 ACRES +/-
OIL & GAS ROYALTY OWNER GARY D. DAWSON ET UX; LARRY R. ROBINSON ET UX; BRC MINERALS I, LLC; LEASE ACREAGE 104.27 AC +/-; 86.25 AC +/-; 22 AC +/-
RALPH J. UNDERWOOD; RALPH J. UNDERWOOD; RANDY DAWSON ET UX; ROY L. ULLUM ET UX; ROY L. ULLUM ET UX; CLARENCE HEADLEY ET UX; 57 AC +/-; 76 AC +/-; 1 AC +/-; 30 AC +/-; 32 AC +/-; 176 AC +/-
EMERSON LAURENCE MOORE ET UX; RALPH J. WESTFALL ET UX; VIOLET GREGG ET AL.; NATHAN JOSEPH; SARAH E. DOAK ET AL.; DEBBIE HILEMAN ET VTR 169 AC +/-; 94 AC +/-; 114 AC +/-; 147 AC +/-; 136 AC +/-; 97.42 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
TARGET FORMATION MARCELLUS PLUG & ABANDON ___ CLEAN OUT & REPLUG ___
WELL OPERATOR ANTERO RESOURCES CORP. ESTIMATED DEPTH 6,900' TVD 23,200' MD
ADDRESS 1615 WYNKOOP ST. DESIGNATED AGENT DIANNA STAMPER - CT CORPORATION SYSTEM
DENVER, CO 80202 ADDRESS 5400 D BIG TYLER ROAD CHARLESTON, WV 25313

LATITUDE 39°25'00"

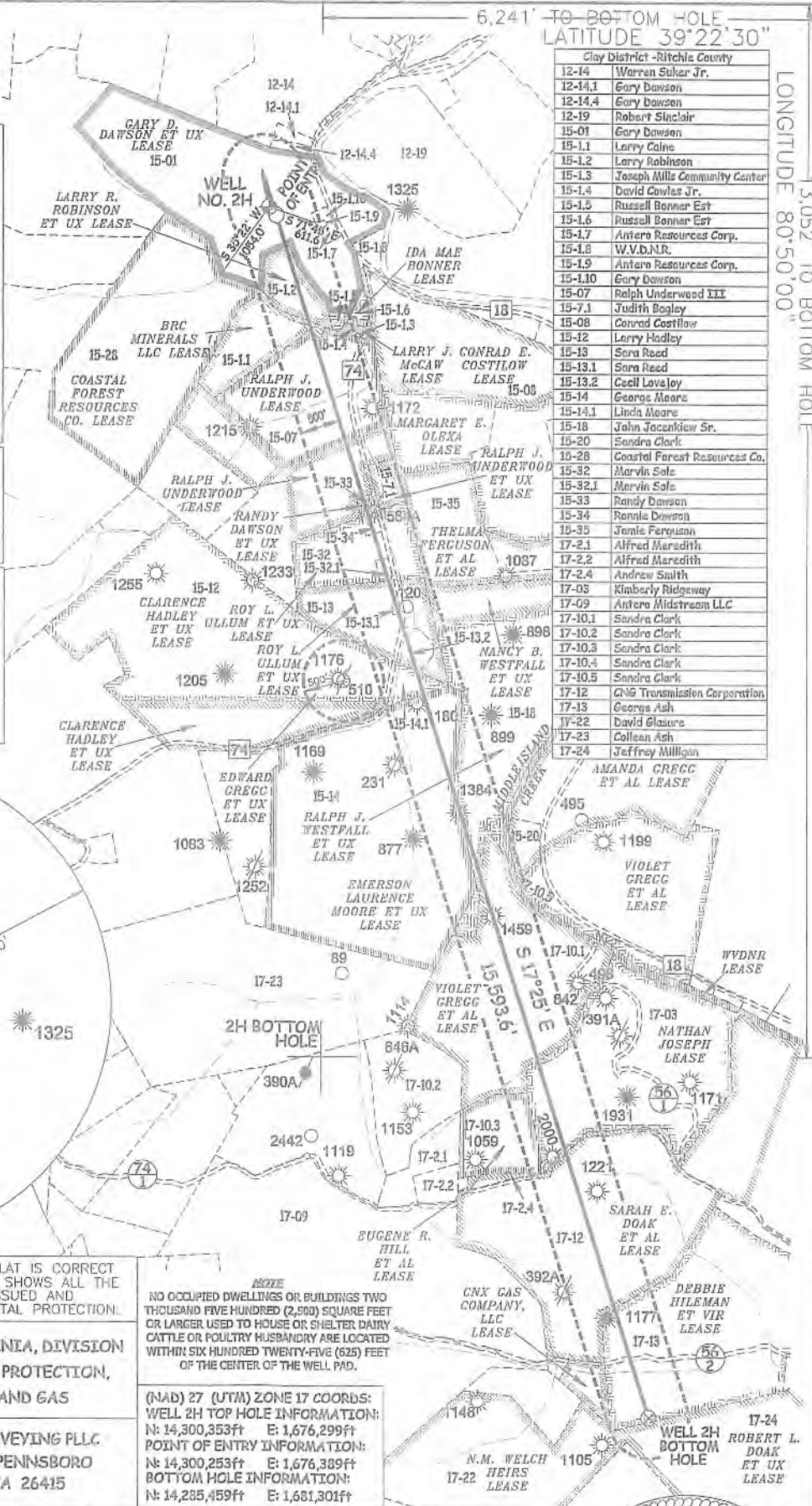
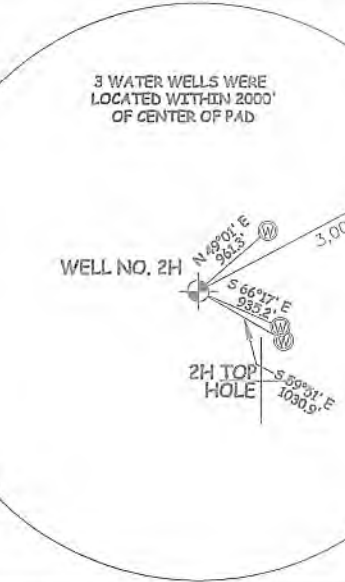
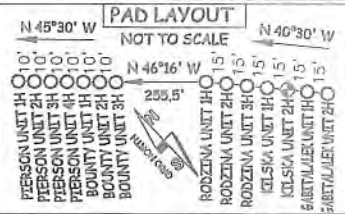
11,217'

6,241' TO BOTTOM HOLE
LATITUDE 39°22'30"

Antero Resources Corporation
Well No. Kilska Unit 2H

NOTES:
WELL 2H TOP HOLE INFORMATION:
N: 323,514ft E: 1,611,900ft
LAT: 39°22'48.34" LON: 80°52'22.86"
BOTTOM HOLE INFORMATION:
N: 308,533ft E: 1,616,655ft
LAT: 39°20'21.00" LON: 80°51'19.44"
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: 4,358,974m E: 510,951m
BOTTOM HOLE INFORMATION:
N: 4,354,434m E: 512,476m



Clay District - Ritchie County

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LONGITUDE 80°50'00"

13,321'

LONGITUDE 80°50'00"

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.



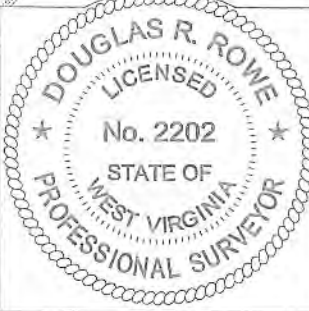
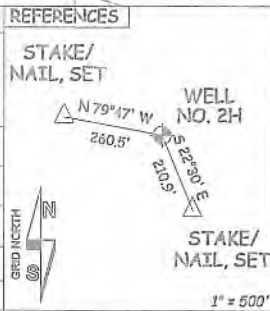
STATE OF WEST VIRGINIA, DIVISION OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS
WILLOW LAND SURVEYING PLLC
220 MASONIC AVE. PENNSBORO WEST VIRGINIA 26415

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.

(NAD) 27 (UTM) ZONE 17 COORDS:
WELL 2H TOP HOLE INFORMATION:
N: 14,300,353ft E: 1,676,299ft
POINT OF ENTRY INFORMATION:
N: 14,300,253ft E: 1,676,389ft
BOTTOM HOLE INFORMATION:
N: 14,285,459ft E: 1,681,301ft

JOB # 18-031WA
DRAWING # KILSKA2HR2
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 +/-
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