

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

Harold D. Ward, Cabinet Secretary www.dep.wv.gov

Tuesday, July 1, 2025 PERMIT MODIFICATION APPROVAL Horizontal 6A / New Drill

ANTERO RESOURCES CORPORATION 1615 WYNKOOP STREET

DENVER, CO 80202

Re:

Permit Modification Approval for CONAWAY UNIT 2H

47-095-02926-00-00

Lateral Path Revision

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: CONAWAY UNIT 2H

Farm Name: JIMMY E. & EARL P. PATTERSON & LINDA LOU

U.S. WELL NUMBER: 47-095-02926-00-00

Horizontal 6A New Drill

Date Modification Issued: 07/01/2025

Promoting a healthy environment.

API NO. 47-095	_ 02926		_
OPERATOR W	ELL NO.	Conaway Unit 2H MOD	-
Well Pad Nan	ne: Mary F	Patterson Pad	

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

1) Well Operato	r. Antero	Resources	Corporal	494507062	095 - Ty	ler	Union	Middlebourne
i) wen operato	A CONTRACTOR OF THE CONTRACTOR		+	Operator ID	County	100000000	District	Quadrangle
2) Operator's W	ell Numbe	r: Conaway	Unit 2H N	MOD / Well F	Pad Name: N	Mary F	Patterson	Pad
3) Farm Name/S	Surface Ow	ner: Jimmy E. & Earl	P. Patterson & Linda	Lou Dennis Public R	oad Access:	Dans	sers Lane	9
4) Elevation, cu	rrent groun	d: <u>694.76</u> '	El	evation, propose	ed post-const	tructio	n: 694.7	0'
	(a) Gas Other	X	_ Oil	Ur	nderground S	Storag	e	
	(b)If Gas	Shallow	X	Deep				•
		Horizontal	X					
6) Existing Pad:	Yes or No	Yes						
7) Proposed Tar Marcellus Sha	_		* *	ipated Thicknes ss- 55 feet, Asso				
8) Proposed Tot	al Vertical	Depth: 630	0' TVD	1				
9) Formation at	Total Verti	cal Depth:	Marcellus	/				
10) Proposed To	otal Measur	red Depth:	21300' M	D /				-
11) Proposed H	orizontal L	eg Length:	11629'	/				
12) Approximat	te Fresh Wa	nter Strata De	pths:	235' 🗸				RECEIVED Office of Oil and Gas
13) Method to I	Determine I	resh Water D	Depths: 2	17-095-00081				JUN 3 0 2025
14) Approximat	te Saltwater	Depths: 71	8'					WAY Donortee and A
15) Approximat	te Coal Sea	m Depths: N	I/A					WV Department of Environmental Protection
16) Approximat	te Depth to	Possible Voi	d (coal mi	ne, karst, other)	: None Ant	icipat	ed	
17) Does Propo directly overlying				ns Yes		_ No	x	
(a) If Yes, pro	vide Mine	Info: Name	:					
CK	# 4042	372 Depth	:					
	75000	Seam:						
π	6/26/20	Owne	r:					

OPERATOR WELL NO. Conaway Unit 2H MOD
Well Pad Name: Mary Patterson 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#	100	100 /	CTS, 96 Cu. Ft.
Fresh Water	13-3/8"	New	J-55	54.5#	300	300 /	CTS, 313 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#	21300	21300 /	4439 Cu. Ft
Tubing	2-3/8"	New	N-80	4.7#			
Liners							

ТҮРЕ	Size (in)	Wellbore Diameter (in)	Wall Thickness (in)	Burst Pressure (psi)	Anticipated Max. Internal Pressure (psi)	Cement Type	Cement Yield (cu. ft./k)
Conductor	20"	24"	0.438"	1530	50	Class A/L	~1.18
Fresh Water	13-3/8"	17-1/2"	0.38"	2730	1000	Class A/L	~1.18
Coal	9-5/8"	12-1/4"	0.352"	3520	1500	Class A/L	~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

RECEIVED Office of Oil and Gas

Kind:	N/A	JUN 3 0 2025
Sizes:	N/A	Environmental Protection
Depths Set:	N/A	



WW-6B
(10/14)

API NO. 47- 095 - 02926

OPERATOR WELL NO. Conaway Unit 2H MOD

Well Pad Name: Mary Patterson Pad

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

Drill, perforate, fracture a new 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): 32.49 acres

22) Area to be disturbed for well pad only, less access road (acres): 13.09 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/L cement.

Surface: Class A/L cement with 2-3% calcium chloride and 1/4 lb of flake Intermediate: Class A/L 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

RECEIVED
Office of Oil and Gas

JUN 3 0 2025

WV Department of nvironmental Protection

25) Proposed borehole conditioning procedures:

Conductor: blowhole clean with air, run casing, 10 bbls fresh water.

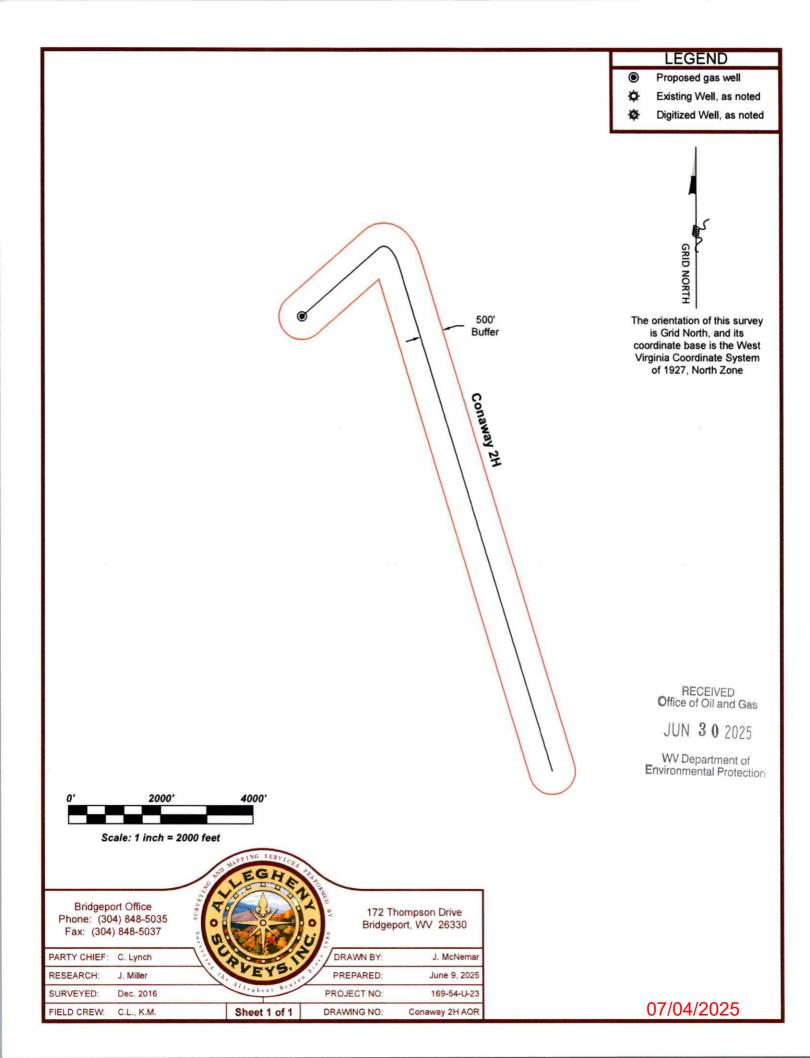
Surface: blowhole clean with air, trip to conductor shoe, trip to bottom, blowhole clean with air, trip out, run casing, circulate pipe capacity + 40 bbis fresh water followed by 25 bbls bentonite mud, 10 bbls fresh water spacer.

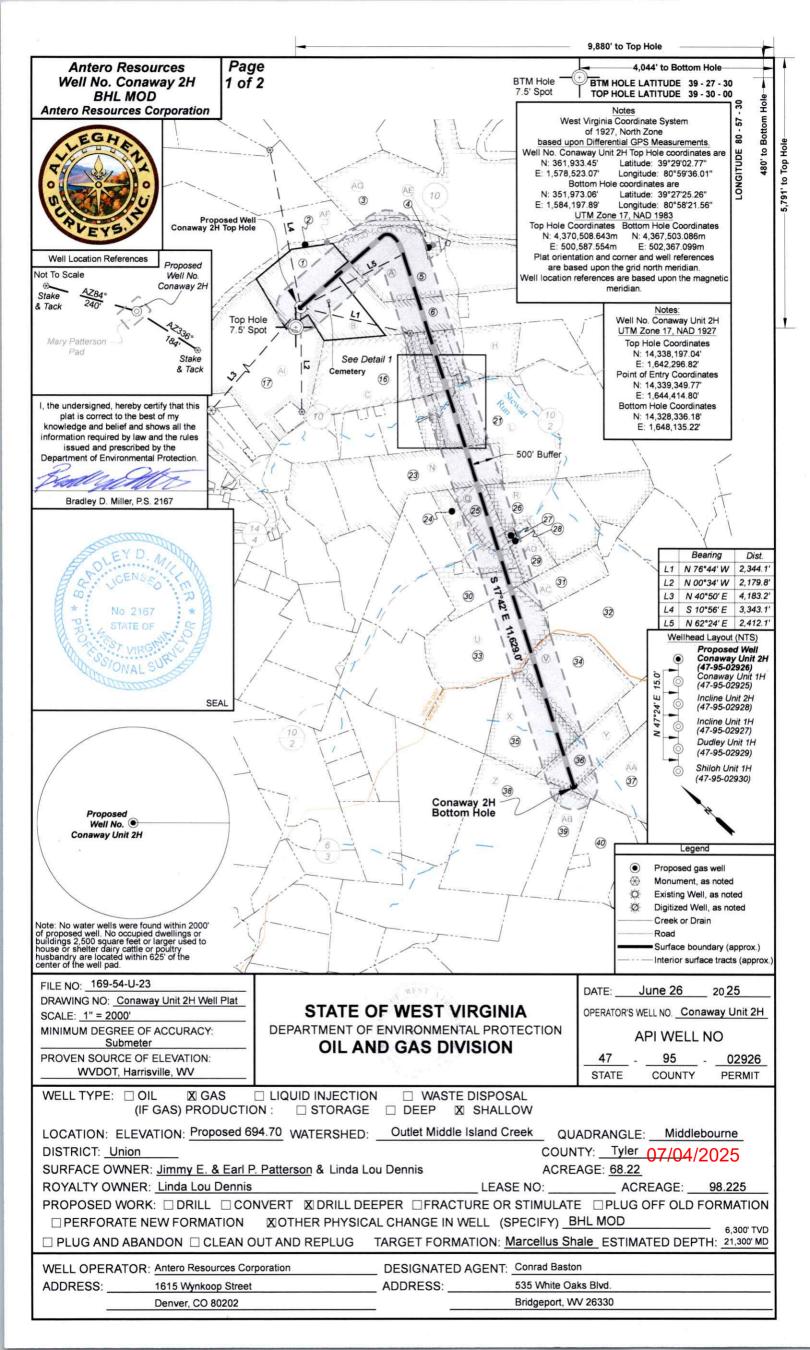
Intermediate: blowhole clean with air, trip to surface casing shoe, trip to bottom, blowhole clean with air, trip out, run casing, circulate 40 bbls brine water followed by 10 bbls fresh water and 25 bbls bentonite mud, pump 10 bbls fresh water.

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.

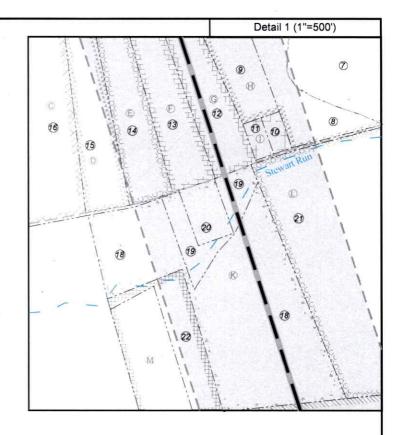
*Note: Attach additional sheets as needed.

Stephen McCoV Date: 2025.06.27 0859:44-04'00'





Antero Resources Well No. Conaway 2H BHL MOD Antero Resources Corporation Page 2 of 2



ID	Lessor
Α	J & N Management Enterprises, LLC
В	Linda Lou Dennis
С	George A. & Yvonne Starkey
D	Donald Marvin Thomas
Е	Joseph B. & Melanie Thomas
F	Lora G. Thomas
G	Norma J. Thompson
Н	Roma Hart
1	Sandra Lou Meges
K	Antero Minerals, LLC
L	Michael D. & Carol Wise
M	Myra L. Butcher
N	Ronald L. Adams Trust
Р	Jodie L. Yost
Q	Shirley L. Chapman
R	Donald M. Thomas, et ux
U	Paul E. Snider
V	Paula D. Garvey
X	BRC Appalachian Minerals I, LLC
Y	Kenneth M. Lantz
Z	Mary F. Mutschelknaus
AA	Joshua Botkins
AB	George E. Post, et ux
AC	Donald M. Thomas et ux
AD	Andrew E. Harris, et ux
AE	Mary Faye Grove
AF	WV Dept. of Commerce, Division of Natural Resources
AG	Steven D. Zechman & Linda M. Jensen
AI ·	Ted A. Darlene K. Koerber

No.	TM / Par	Owner	Bk/Pg	Ac.
1	9/8	Jimmy E. Patterson, et al	OR49 / 645	68.22
2		Middle Island Creek		
3	9/4	Steven D. Zechman & Linda M. Jenson	348 / 422	250.00
4	9/9.2	Samuel P. & Katina S. Smith	508 / 210	2.01
5	9/9	Patrick L. & Tammy M. Smith	370 / 11	58.50
6	9/12	Jimmy E. Patterson, et al	OR79 / 645	30.00
7	9/16	Billy D. & Roma L. Hart	154 / 569	20.00
8	9/15	Roma L. Hart	277 / 668	5.40
9	9 / 15.3	Roma L. Thomas Hart	WB40 / 475	4.50
10	9 / 15.1	James L. & Sandra Menges	201 / 143	0.46
11	9 / 15.2	James L. & Sandra Menges	221 / 486	0.46
12	9/15.4	Roma L. Hart	OR33 / 240	5.53
13	9/15.6	Lori K. Thomas	WB37 / 000	5.61
14	9/15.7	Joseph B. Thomas	277 / 264	5.65
15	9 / 15.5	Donald M. & Montana Thomas	277 / 656	5.56
16	9/14	George A. & Yvonne Starkey	184/21	65.51
17	9/7.2	Ted A. & Darlene K. Koerber	301 / 157	112.09
18	9/43	George A. & Yvonne Starkey	350 / 455	15.70
19	9/43.4	Kelly Anderson	306 / 450	2.28
20	9 / 43.3	Kelly Anderson	284 / 160	1.34
21	10/7	Michael D. & Carol Wise	349 / 420	71.70
22	9 / 43.2	Robert V. & Myra L. Butcher	227 / 187	2.95
23	9/47	Coastal Lumber Company	301 / 131	67.24
24	13 / 25.3	Jody Clegg Yost	354 / 552	23.75
25	9/51	Troy M. & Alexandra D. Watson	OR11 / 385	21.5
26	10/8	Don M. & Montana Thomas	136 / 131	56.36
27	14/5.1	Stephen A. & Kimberly D. Starkey	336 / 889	1.00
28	14/5.2	Stephen A. & Kimberly D. Starkey	382 / 395	0.55
29	14/5	Stephen A. & Kimberly D. Starkey	382 / 395	16.07
30	13/25	Paul E. Snider	338 / 205	26.01
31	14/1	Donald Marvin & Montana Thomas	215/271	27.25
32	14/2	Shirley J. Harris, et al	281 / 483	109.88
33	13/26	Paul E. Snider	189 / 412	83.62
34	2/8	Jeffery D. Gorell	415/82	68.66
35	2/7	Fred Davis	341 / 608	58.41
36	2/9	Fred Davis	341 / 608	35.56
37	2/10	Joshua D. Botkins	399 / 327	96.00
38	1/3	Julie Ann Taylor	OR7 / 737	110.00
39	2/48	Kathleen F. & Edwin E. Weber, Jr.	OR204 / 737	43.25
40	2/46	Alfred E. Tuttle & Chris A. Hoke	327 / 368	51.30

FILE NO: 169-54-U-23

DRAWING NO: Conaway Unit 2H Well Plat

SCALE: 1" = 2000'

MINIMUM DEGREE OF ACCURACY:
Submeter

PROVEN SOURCE OF ELEVATION:
WVDOT, Harrisville, WV

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

OPERATOR'S WELL NO. <u>Conaway Unit 2H</u>

API WELL NO

47 - <u>95</u> - <u>02926</u>

STATE COUNTY PERMIT

DATE: June 26 20 25

				SIAIL	COUNTY	FERMIT
WELL TYPE: ☐ OIL	☐ LIQUID INJECTION ON: ☐ STORAGE ☐		ISPOSAL SHALLOW			
LOCATION: ELEVATION: Proposed 69	94.70 WATERSHED:	Outlet Middle Isl			: Middleb	
DISTRICT: Union			COUN	TY:Tyler	07/04/2	025
SURFACE OWNER: Jimmy E. & Earl P	Patterson & Linda Lou D	Dennis		AGE: <u>68.22</u>		
ROYALTY OWNER: Linda Lou Dennis			LEASE NO:	ACF	REAGE:	98.225
PROPOSED WORK: DRILL COI	NVERT IN DRILL DEEPE	ER FRACTUR	RE OR STIMULATE	□PLUG	OFF OLD F	ORMATION
☐ PERFORATE NEW FORMATION	XOTHER PHYSICAL C	CHANGE IN WE	LL (SPECIFY) B	HL MOD		- 6,300' TVD
☐ PLUG AND ABANDON ☐ CLEAN C	UT AND REPLUG TAI	RGET FORMAT	ION: Marcellus Sh	ale_ESTIMA	ATED DEPT	
WELL OPERATOR: Antero Resources Cor	poration	DESIGNATED AC	SENT: Conrad Basto	n		
ADDRESS: 1615 Wynkoop Street	A	DDRESS:	535 White Oa	ks Blvd.		
Denver CO 80202			Bridgeport, W	V 26330		

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
1	B: Linda Lou Dennis Lease Linda Lou Dennis	Antero Resources Corporation	1/8+	234/5
1	A: J & N Management Enterprises, LLC Lease J&N Management Enterprises, LLC	Antero Resources Corporation	1/8+	223/540
1	/ <u>B: Linda Lou Dennis Lease</u> Linda Lou Dennis	Antero Resources Corporation	1/8+	234/5
/	H: Roma Heart Lease Roma Heart	Antero Resources Corporation	1/8+	429/537
/	G: Norma J. Thompson Lease Norma J. Thompson	Antero Resources Corporation	1/8+	619/381
/	K: Antero Minerals, LLC Lease Antero Minerals, LLC	Antero Resources Corporation	1/8+	307/422
1	N: Ronald L. Adams Trust Lease Ronald L. Adams Trust	Antero Resources Corporation	1/8+	594/411
/	Q: Shirley L. Chapman Lease Shirley L. Chapman	Antero Resources Corporation	1/8+	91/671
/	P: Jodie L. Yost Lease Jodie L. Yost	Antero Resources Corporation	1/8+	88/388
/	<u>U: Paul E. Snider Lease</u> Paul E. Snider	Antero Resources Corporation	1/8+	Office of Oil and Gas ₅₅₄ /643
1	V: Paula D. Garvey Lease Paula D. Garvey	Antero Resources Corporation	1/8+	JUN 3 0 2025 WV Department of Environmental Protection
	X: BRC Appalachian Minerals I, LLC Lease	DDC W- Li-		
	BRC Appalachian Minerals I, LLC BRC Working Interest Company LLC	BRC Working Interest Company LLC Chesapeake Appalachia, LLC	1/8	369/300 369/784
	Chesapeake Appalachia, LLC	Statoil USA Onshore Properties Inc	Assignment Assignment	
	Statoil USA Onshore Properties Inc	EQT Production Company	Assignment	
	EQT Production Company	Antero Resources Corporation	Assignment	
			, asignment	505/1

^{*}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.

^{*}Cotenancy Utilization - Antero is utilizing the Co-tenancy Modernization and Majority Protection Act to proceed with development of certain royalty owners' interests in this tract.

WW-6A1 (5/13)

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:

Y: Kenneth M. Lantz Lease	Grantor, Lessor, etc.			
Y: Kenneth M. Lantz Lease	Kenneth M. Lantz	Antero Resources Corporation	1/8+	645/479

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

Environmental Protection 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:	Tim Rady	
Its:	Senior Vice President of Land	

Office of Oil and Gas

WV Department of

^{*}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.

^{*}Cotenancy Utilization - Antero is utilizing the Co-tenancy Modernization and Majority Protection Act to proceed with development of certain royalty owners' interests in this tract.

^{**}Pooling/Unitization – Antero has filed a horizontal well unitization application with the West Virginia Oil and Gas Conservation Commission that seeks to pool certain owners in this tract