



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

Monday, January 8, 2024
PERMIT MODIFICATION APPROVAL
Horizontal 6A / New Drill

ANTERO RESOURCES CORPORATION
1615 WYNKOOP STREET

DENVER, CO 80202

Re: Permit Modification Approval for Midas 1H
47-103-03612-00-00

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.

A handwritten signature in blue ink, appearing to read 'James A. Martin', is written over a faint circular stamp.

James A. Martin
Chief

Operator's Well Number: Midas 1H
Farm Name: Kenneth E & Vicky A VanDyne
U.S. WELL NUMBER: 47-103-03612-00-00
Horizontal 6A New Drill
Date Modification Issued: 01/08/2024

Promoting a healthy environment.

01/12/2024

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

1) Well Operator: Antero Resources Corporation 494507062 103 - Wetzel Green Pine Grove 7.5'
Operator ID County District Quadrangle

2) Operator's Well Number: Midas Unit 1H MOD Well Pad Name: Cedar Pad

3) Farm Name/Surface Owner: Kenneth E. & Vicky A. Vandyne Public Road Access: CR 52

4) Elevation, current ground: _____ Elevation, proposed post-construction: 1248'

5) Well Type (a) Gas Oil _____ Underground Storage _____
Other _____

(b) If Gas Shallow Deep _____
Horizontal

6) Existing Pad: Yes or No No

7) Proposed Target Formation(s), Depth(s), Anticipated Thickness and Expected Pressure(s):
Marcellus Shale: 7600' TVD, Anticipated Thickness- 55 feet, Associated Pressure- 2850#

8) Proposed Total Vertical Depth: 7600' TVD ✓

9) Formation at Total Vertical Depth: Marcellus ✓

10) Proposed Total Measured Depth: 31700' MD ✓

11) Proposed Horizontal Leg Length: 21344.6' ✓

12) Approximate Fresh Water Strata Depths: 612' ✓

13) Method to Determine Fresh Water Depths: 47103308970000 Offset well records. Depths have been adjusted according to surface elevations.

14) Approximate Saltwater Depths: 2193' ✓

15) Approximate Coal Seam Depths: 1010'

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: _____ RECEIVED Office of Oil and Gas
Depth: _____ JAN 08 2024
Seam: _____
Owner: _____ WV Department of Environmental Protection

CK # 4026586
7500
12/14/2023

[Handwritten Signature]
1-4-24

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	J-55	94#	100'	100' ✓	CTS, 96 Cu. Ft.
Fresh Water	13-3/8"	New	J-55	54.5#	662'	662' ✓	CTS, 690 Cu. Ft.
Coal	9-5/8"	New	J-55	36#	3450'	3450' ✓	CTS, 1405 Cu. Ft.
Intermediate							
Production	5-1/2"	New	P110-ICY	23#	31700'	31700' ✓	CTS, 7060 Cu. Ft.
Tubing	2-3/8"	New	N-80	4.7#			
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	20"	24"	0.375"	2250	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"	14,360	2500	Class G/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			

RECEIVED
Office of Oil and Gas

JAN 08 2024

WV Department of
Environmental Protection

Handwritten signature and date: 1-4-23

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

Drill a new horizontal shallow well into the 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): 71.85 acres

22) Area to be disturbed for well pad only, less access road (acres): 18.45 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 G/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.

*Note: Attach additional sheets as needed.

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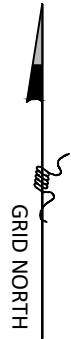
Page 3 of 3

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1-4-23

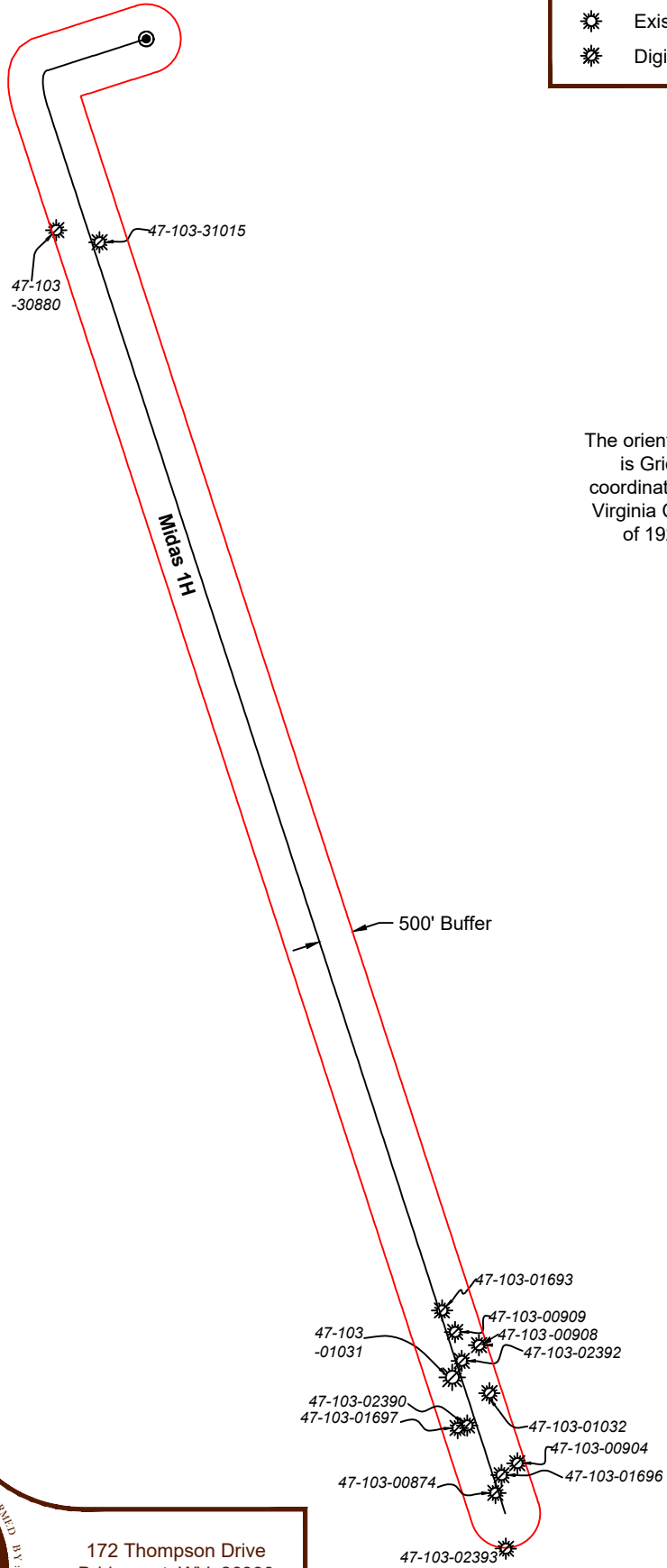
01/12/2024

LEGEND

- Proposed gas well
- ☼ Existing Well, as noted
- ☼ Digitized Well, as noted



The orientation of this survey is Grid North, and its coordinate base is the West Virginia Coordinate System of 1927, North Zone

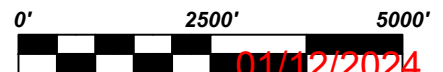


Bridgeport Office
 Phone: (304) 848-5035
 Fax: (304) 848-5037

172 Thompson Drive
 Bridgeport, WV 26330

PARTY CHIEF: C. Lynch	DRAWN BY: J. Smith
RESEARCH: J. Miller	PREPARED: November 16, 2023
SURVEYED: Dec. 2016	PROJECT NO: 127-34-G-18
FIELD CREW: C.L., K.M.	DRAWING NO: Midas 1H AOR

Sheet 1 of 1

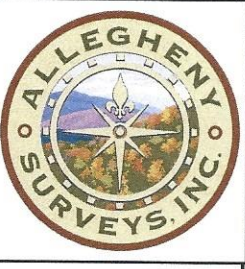


Scale: 1 inch = 2500 feet

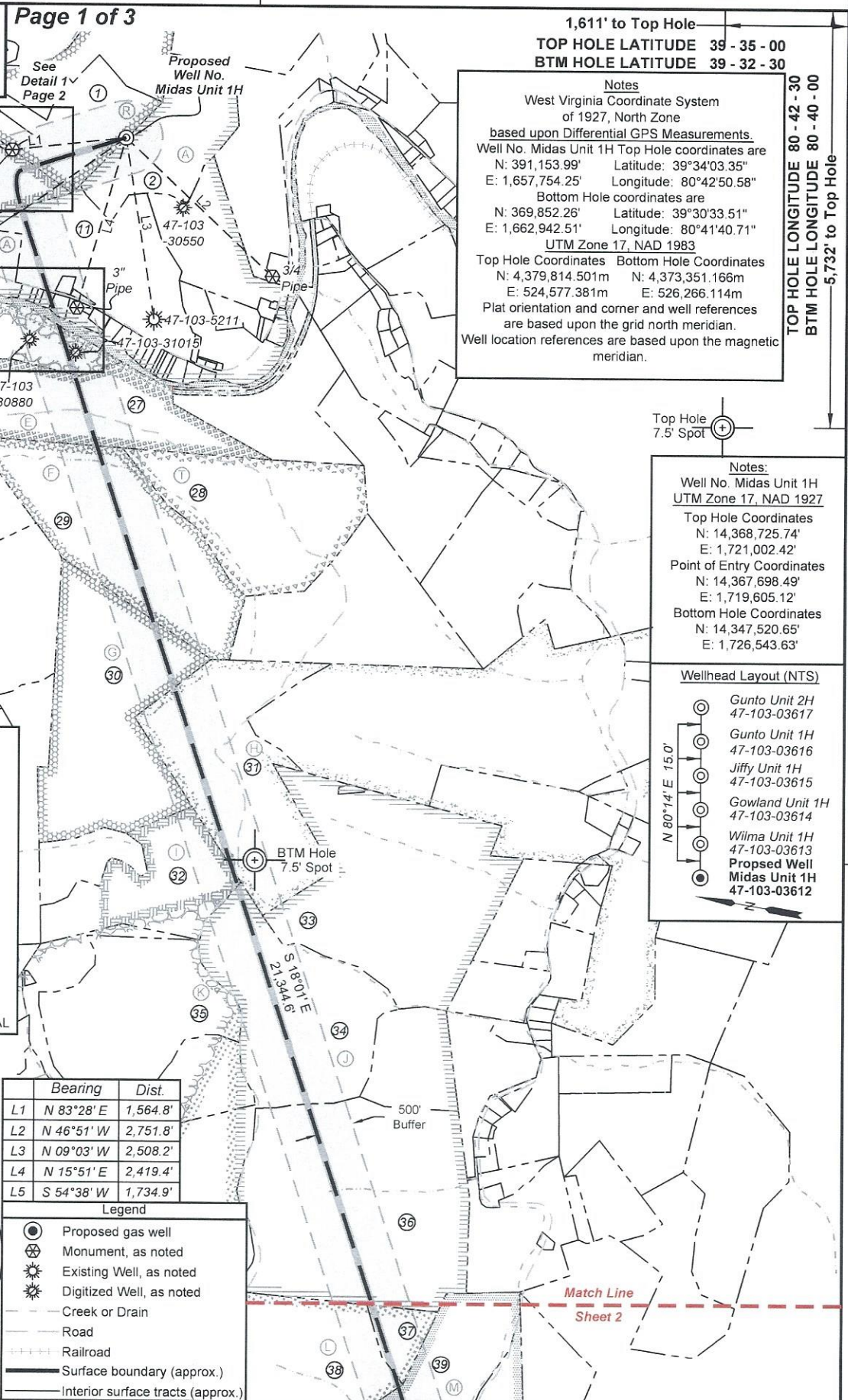
UWI (API Num)	Well Name	Well Number	Operator	Historical Operator	TD	Perforated Interval (shallowest, deepest)	Perforated Formation(s)	Producible Formation(s) not perf'd
47103310150000	H S STRAIGHT 1	2369	MANUFACT LIGHT & HEAT	MANUFACT LIGHT & HEAT	2,549		Gordon	Weir, Benson, Alexander
47103308800000	C A LONG	5442	HOPE NATURAL GAS	HOPE NATURAL GAS	2,805		Big Injun, Gordon Stray	Weir, Benson, Alexander
47103016930000	ICE PATRICK & LORI I	F-29	PENNZOIL PRODUCNG CO	PENNZOIL PRODUCNG CO	2,925		Gordon	Weir, Benson, Alexander
47103009090000	LJ FLUHARTY	1	EAST RESOURCES	PENNZOIL CO INC	2,801		Gordon, Big Injun, Gordon Stray	Weir, Benson, Alexander
47103023920000	WRIGHT RACHEL	8	TRIBUNE RESOURCES LLC	EAST RESOURCES	3,110	2851 - 2870	Gordon	Weir, Benson, Alexander
47103010310000	MILLER ISRAEL	1	TRIBUNE RESOURCES LLC	Penzoil Co Inc	2,801			Weir, Benson, Alexander
47103023900000	MILLER ELIZABETH	6	TRIBUNE RESOURCES LLC	EAST RESOURCES	2,900	2627 - 2641	Gordon	Weir, Benson, Alexander
47103016970000	ELIZ MILLER	2	PENNZOIL PRODUCNG CO	Penzoil Co Inc			Sweickley Coal, Pitts Coal, Up Freeport Coal, Lo Coal, Mid Kittanning Coal	Weir, Benson, Alexander
47103010320000	ISRAEL MILLER	3	TRIBUNE RESOURCES LLC	SOUTH PENN OIL	2,640			
47103009040000	A R MCHENRY	6	TRIBUNE RESOURCES LLC	PENNZOIL CO INC	3,092		Gordon	Weir, Benson, Alexander
47103016960000			PENNZOIL PRODUCTS CO	PENNZOIL PRODUCTS CO	3,052			
47103008740000	COASTAL LBR/MCCOY H	6	PENNZOIL CO INC	PENNZOIL CO INC	3,057			
47103023930000	MCCOY HEIRS	14	EAST RESOURCES	EAST RESOURCES	3,170	2896 - 2910	Gordon	Weir, Benson, Alexander
47103009080000	RACHAEL WRIGHT	6	SOUTH PENN OIL	SOUTH PENN OIL	2,563			

Antero Resources
Well No. Midas 1H
BHL MOD
Antero Resources Corporation

Page 1 of 3



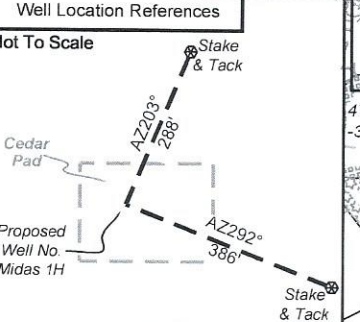
See Detail 1 Page 2
 See Detail 2 Page 2



1,611' to Top Hole
 TOP HOLE LATITUDE 39 - 35 - 00
 BTM HOLE LATITUDE 39 - 32 - 30

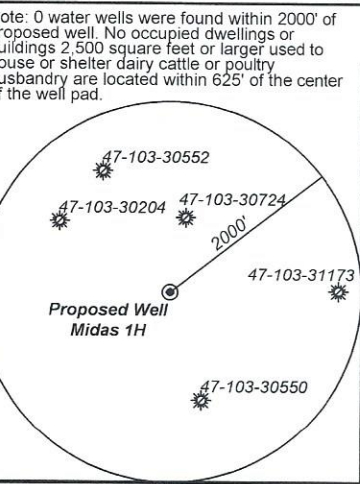
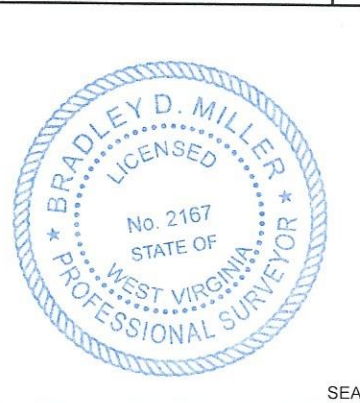
Notes
 West Virginia Coordinate System of 1927, North Zone
 based upon Differential GPS Measurements.
 Well No. Midas Unit 1H Top Hole coordinates are
 N: 391,153.99' Longitude: 80°42'50.58"
 E: 1,657,754.25' Longitude: 80°41'40.71"
 Bottom Hole coordinates are
 N: 369,852.26' Longitude: 39°30'33.51"
 E: 1,662,942.51' Longitude: 80°41'40.71"
 UTM Zone 17, NAD 1983
 Top Hole Coordinates Bottom Hole Coordinates
 N: 4,379,814.501m N: 4,373,351.166m
 E: 524,577.381m E: 526,266.114m
 Plat orientation and corner and well references are based upon the grid north meridian.
 Well location references are based upon the magnetic meridian.

TOP HOLE LONGITUDE 80 - 42 - 30
 BTM HOLE LONGITUDE 80 - 40 - 00
 5,732' to Top Hole



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 prescribed by the Department of Environmental Protection.

Bradley D. Miller
 Bradley D. Miller, P.S. 2167



	Bearing	Dist.
L1	N 83°28' E	1,564.8'
L2	N 46°51' W	2,751.8'
L3	N 09°03' W	2,508.2'
L4	N 15°51' E	2,419.4'
L5	S 54°38' W	1,734.9'

- Legend**
- ⊙ Proposed gas well
 - ⊗ Monument, as noted
 - ☀ Existing Well, as noted
 - ☀ Digitized Well, as noted
 - Creek or Drain
 - Road
 - Railroad
 - Surface boundary (approx.)
 - Interior surface tracts (approx.)

Notes:
 Well No. Midas Unit 1H
 UTM Zone 17, NAD 1927
 Top Hole Coordinates
 N: 14,368,725.74'
 E: 1,721,002.42'
 Point of Entry Coordinates
 N: 14,367,698.49'
 E: 1,719,605.12'
 Bottom Hole Coordinates
 N: 14,347,520.65'
 E: 1,726,543.63'

Wellhead Layout (NTS)

FILE NO: 127-34-G-18
 DRAWING NO: Midas 1H BHL MOD 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

DATE: December 18 2023
 OPERATOR'S WELL NO. Midas 1H
 API WELL NO
 47 - 103 - 03612
 STATE COUNTY PERMIT

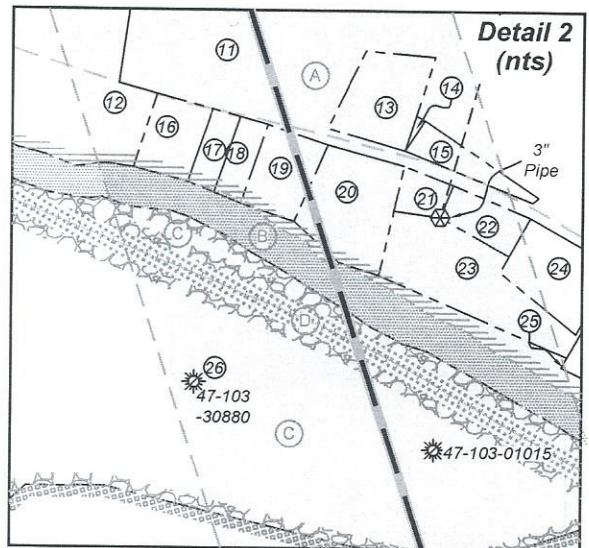
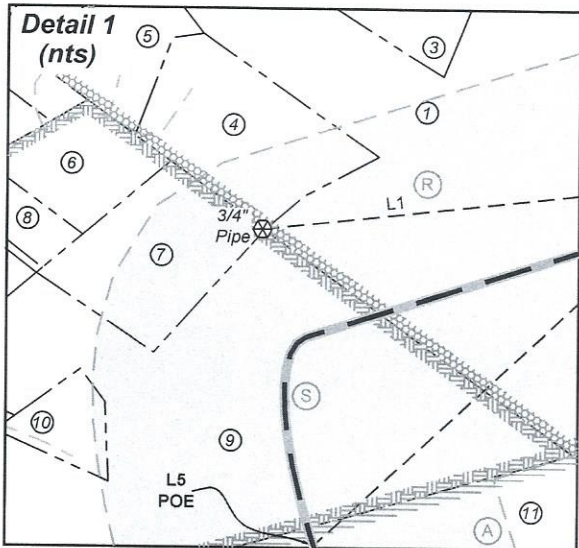
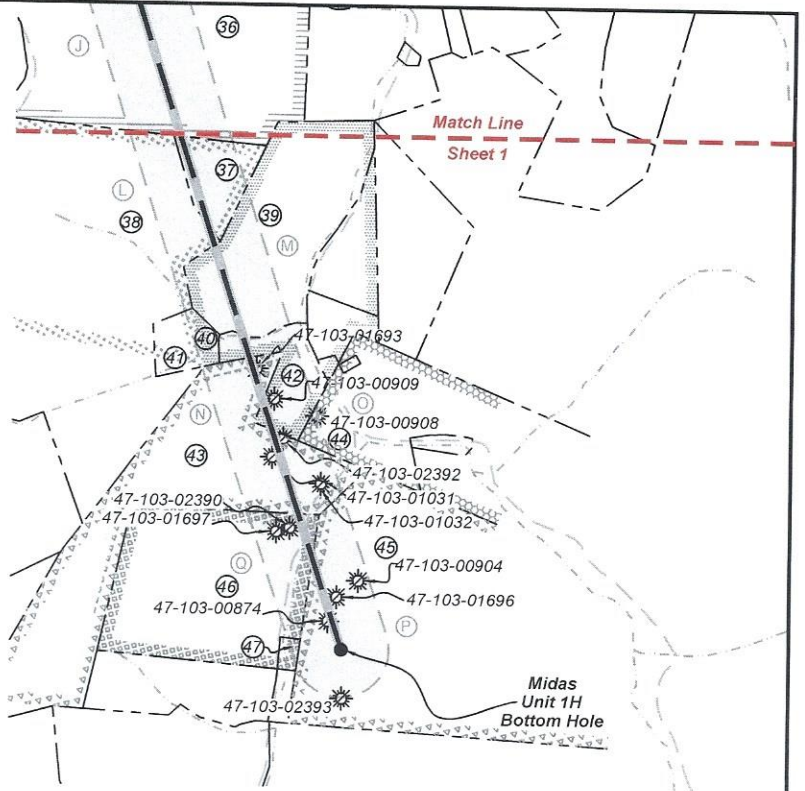
WELL TYPE: OIL GAS LIQUID INJECTION WASTE DISPOSAL
 (IF GAS) PRODUCTION: STORAGE DEEP SHALLOW

LOCATION: ELEVATION: Proposed: 1,248' WATERSHED: Fishing Creek QUADRANGLE: Pine Grove
 DISTRICT: Green COUNTY: Wetzel
 SURFACE OWNER: Vicky A. VanDyne ACREAGE: 42.33
 ROYALTY OWNER: Antero Minerals, LLC LEASE NO: ACREAGE: 629.58633

PROPOSED WORK: DRILL CONVERT DRILL DEEPER FRACTURE OR STIMULATE PLUG OFF OLD FORMATION
 PERFORATE NEW FORMATION OTHER PHYSICAL CHANGE IN WELL (SPECIFY) BHL MOD
 PLUG AND ABANDON CLEAN OUT AND REPLUG TARGET FORMATION: Marcellus Shale ESTIMATED DEPTH: 7,600' TVD 31,700' MD

WELL OPERATOR: Antero Resources Corporation DESIGNATED AGENT: Kevin Ellis
 ADDRESS: 1615 Wynkoop Street ADDRESS: 535 White Oaks Blvd.
 Denver, CO 80202 Bridgeport, WV 26330

11,786' to Bottom Hole



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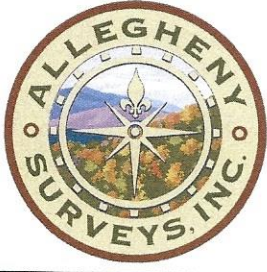


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ADDRESS: 1615 Wynkoop Street ADDRESS: 535 White Oaks Blvd.
Denver, CO 80202 Bridgeport, WV 26330

01/12/2024



Leases	
A	Jenkins Miller
B	WVDNR
C	Marcella K. Harrison
D	CSX Transportation, Inc.
E	Tribune Resources Minerals, LLC
F	Shiben Estates Inc.
G	Tribune Resources Minerals, LLC
H	Thomas Cunningham, et ux
I	Tribune Resources Minerals, LLC
J	Shiben Estates Inc.
K	Tribune Resources Minerals, LLC
L	Josephine Brast, et al
M	Louisa J. Fluharty
N	Israel Miller, et ux
O	Rachel Wright, et al
P	John R. McCoy, et al
Q	Israel Miller, et al
R	Antero Minerals, LLC
S	Antero Minerals, LLC
T	Jeffrey T. Hayes

ID	TM-Par	Owner	Bk/Pg	Acres
1	13-40	Kenneth E. & Vicky A. VanDyne	357/204	42.33
2	14-19	Dallison Lumber Company	357/267	51.50
3	13-34	Kenneth E. & Vicky A. VanDyne	357/204	14.50
4	13-39	Ruth E. Staley	256/283	3.12
5	13-38	Francis E. Bland	WB57/273	2.55
6	13-37	Debra Ann Hengee, et al	398/447	2.00
7	13-54.2	Ronald M. & Pamela Ann Jackson	315/524	3.35
8	13-37.1	Jeffrey D. Brown	394/491	1.00
9	13-54	Lorraine Highley	WB81/258	20.17
10	13-54.1	Michelle M. Thomas	428/641	1.00
11	13-83	Emma Virginia Miller	133/455	58.00
12	13-65	Raye Anne Lloyd	445/660	18.01
13	13-76	Edward G. Stewart	317/678	1.30
14	13-75	Edward G. Stewart	317/678	0.03
15	13-77	Gilbert H. Miller	WB32/145	0.72
16	13-65.3	David Pigott	416/367	0.76
17	13-65.5	David Pigott	416/367	0.38
18	13-65.2	Rhonda Pigott	384/200	0.38
19	13-65.1	Michael Cronin	442/778	0.79
20	13-79	Theodore L. Sawyer, Jr.	423/866	1.40
21	13-80	Nathaniel L. & Lisa D. Yoho	402/4	0.33
22	13-81.1	Nathaniel L. & Lisa D. Yoho	402/4	0.48
23	13-81.4	First Baptist Church of Pine Grove	431/168	1.94
24	13-81.3	First Baptist Church of Pine Grove	431/168	1.05
25	13-89	First Baptist Church of Pine Grove	352/533	1.18
26	13-78	Sebastian, Jr. & Marcella Harrison	281/94	25.37
27	17-5	Coastal Forest Resources	444/105	90.00
28	17-21	Pauline E. Hayes	420/626	83.30
29	17-20	Heartland Forest Land Fund VII LP	431/936	123.50
30	17-31	Heartland Forest Land Fund VII LP	431/936	120.33
31	17-40	Heartland Forest Land Fund VII LP	431/936	120.00
32	17-50	EIP III, West Virginia LLC	463/193	69.00
33	17-51	Linda K. Ice & Harry G. Whitcherman Jr.	WB66/545	156.00
34	20-46	Sara Ruth Cool & Peggy Ann Dawson Supplemental Needs Trust	471/207	107.1
35	20-14.4	Matthew D. Bassett, et al	421/365	97.18
36	20-15	Coastal Forest Resources Co.	444/105	198.00
37	20-22	Coastal Forest Resources Co.	444/105	12.20
38	20-37	Coastal Forest Resources Co.	444/105	246.84
39	21-15	Douglas & Debra Williams	385/159	57.06
40	20-49	Douglas & Debra Williams	472/115	2.00
41	20-37.1	Douglas & Debra Williams	472/115	6.26
42	21-15.1	Debra Williams	398/447	2.00
43	23-1	Susan Henderson	417/744	100.00
44	21-21	Santford Joe Haught	423/709	83.00
45	23-4	Coastal Forest Resources Co.	491/498	154.51
46	23-2	Susan Henderson	417/744	72.00
47	23-7	Coastal Forest Resources Co.	444/105	1.40

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 ROYALTY OWNER: Antero Minerals, LLC LEASE NO: _____ ACREAGE: 42.33
 PROPOSED WORK: DRILL CONVERT DRILL DEEPER FRACTURE OR STIMULATE PLUG OFF OLD FORMATION
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 ADDRESS: 1615 Wynkoop Street ADDRESS: 535 White Oaks Blvd
Denver, CO 80202 Bridgeport, WV 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
A: Jenkins Miller Lease			
Jenkins Miller	Hope Natural Gas Company	1/8	107/56
Hope Natural Gas Company	Consolidated Gas Supply Corporation	Assignment	233/387
Consolidated Gas Supply Corporation	Consolidated Gas Transmission Corporation	Assignment	66A/69
Consolidated Gas Transmission Corporation	Eastern States Oil & Gas Inc.	Assignment	76A/232
Eastern States Oil & Gas Inc.	Blazer Energy Corp.	Merger	12/253
Blazer Energy Corp.	Eastern States Oil & Gas Inc.	Name Change	12/259
Eastern States Oil & Gas Inc.	Equitable Production – Eastern States Inc.	Name Change	WVSOS
Equitable Production – Eastern States Inc.	Appalachian Natural Gas Trust	Assignment	79A/244
Appalachian Natural Gas Trust	EQT Production Company	Merger	96/505
EQT Production Company	Antero Resources Corporation	Assignment	230A/801
R: Antero Minerals, LLC Lease			
Antero Minerals, LLC	Antero Resources Corporation	1/8+	250A/847
S: Antero Minerals, LLC Lease			
Antero Minerals, LLC	Antero Resources Corporation	1/8+	250A/847
A: Jenkins Miller Lease			
Jenkins Miller	Hope Natural Gas Company	1/8	107/56
Hope Natural Gas Company	Consolidated Gas Supply Corporation	Assignment	233/387
Consolidated Gas Supply Corporation	Consolidated Gas Transmission Corporation	Assignment	66A/69
Consolidated Gas Transmission Corporation	Eastern States Oil & Gas Inc.	Assignment	76A/232
Eastern States Oil & Gas Inc.	Blazer Energy Corp.	Merger	12/253
Blazer Energy Corp.	Eastern States Oil & Gas Inc.	Name Change	12/259
Eastern States Oil & Gas Inc.	Equitable Production – Eastern States Inc.	Name Change	WVSOS
Equitable Production – Eastern States Inc.	Appalachian Natural Gas Trust	Assignment	79A/244
Appalachian Natural Gas Trust	EQT Production Company	Merger	96/505
EQT Production Company	Antero Resources Corporation	Assignment	230A/801
B: WVDNR Lease			
WVDNR	Antero Resources Corporation	1/8+	323A/541
C: Marcella K. Harrison Lease			
Marcella K. Harrison	Antero Resources Corporation	1/8+	274A/761
D: CSX Transportation, Inc. Lease			
CSX Transportation, Inc.	Antero Resources Corporation	1/8+	275A/895
C: Marcella K. Harrison Lease			
Marcella K. Harrison	Antero Resources Corporation	1/8+	274A/761
E: Tribune Resources Minerals, LLC Lease			
Tribune Resources Minerals, LLC	Antero Resources Corporation	1/8+	248A/634
F: Shiben Estates Inc. Lease			
Shiben Estates Inc.	Antero Resources Corporation	1/8+	202A/238
G: Tribune Resources Minerals, LLC Lease			
Tribune Resources Minerals, LLC	Tribune Resources, LLC	1/8	218A/788
Tribune Resources, LLC	Antero Resources Corporation	Assignment	219A/322

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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>H: Thomas Cunningham, et ux Lease</u>			
Thomas Cunningham, et ux	L. G. Robinson	1/8	48/569
L. G. Robinson	South Penn Oil Company	Assignment	49/659
South Penn Oil Company	Hope Natural Gas Company	Assignment	9A/230
Hope Natural Gas Company	Consolidated Gas Supply Corporation	Assignment	233/387
Consolidated Gas Supply Corporation	Consolidated Gas Transmission Corporation	Assignment	66A/69
Consolidated Gas Transmission Corporation	CNG Transmission Corporation	Name Change	13/151
CNG Transmission Corporation	Eastern States Oil & Gas Inc	Assignment	76A/232
Eastern States Oil & Gas Inc	Equitable Production-Eastern States Inc	Name Change	13/14
Equitable Production-Eastern States Inc	Equitable Production Company	Merge	13/14
Equitable Production Company	EQT Production Company	Name Change	13/14
EQT Production Company	Antero Resources Corporation	Assignment	230A/801
<u>I: Tribune Resources Minerals, LLC Lease</u>			
Tribune Resources Minerals, LLC	Tribune Resources, LLC	1/8	218A/797
Tribune Resources, LLC	Antero Resources Corporation	Assignment	219A/322
<u>J: Shiben Estates Inc. Lease</u>			
Shiben Estates Inc.	Antero Resources Corporation	1/8+	197A/825
<u>L: Josephine Brast, et al Lease</u>			
Josephine Brast, et al	South Penn Oil Company	1/8	49/591
South Penn Oil Company	Hope Natural Gas Company	Assignment	9A/230
Hope Natural Gas Company	Consolidated Gas Supply Corporation	Assignment	233/387
Consolidated Gas Supply Corporation	Consolidated Gas Transmission Corporation	Assignment	66A/69
Consolidated Gas Transmission Corporation	CNG Transmission Corporation	Name Change	13/151
CNG Transmission Corporation	Eastern States Oil & Gas Inc	Assignment	76A/232
Eastern States Oil & Gas Inc	Equitable Production-Eastern States Inc	Name Change	13/14
Equitable Production-Eastern States Inc	Equitable Production Company	Merge	13/14
Equitable Production Company	EQT Production Company	Name Change	13/14
EQT Production Company	Tribune Resources, LLC	Assignment	179A/653
Tribune Resources, LLC	Antero Resources Corporation	Assignment	219A/322
<u>M: Louisa J. Fluharty Lease</u>			
Louisa J. Fluharty	South Penn Oil Company	1/8	49/44
South Penn Oil Company	Pennzoil Company	Name Change	WVSOS
Pennzoil Company	Pennzoil Products Company	Assignment	319/397
Pennzoil Products Company	Pennzoil Exploration & Production Company	Assignment	363/384
Pennzoil Exploration & Production Company	PennzEnergy Exploration & Production Company	Merge	12/177
PennzEnergy Exploration & Production Company	Devon Energy Productions Company LP	Merge	12/278
Devon Energy Productions Company LP	East Resources Inc	Assignment	370/580
East Resources Inc	American Energy – Marcellus LLC	Assignment	153A/238
American Energy – Marcellus LLC	Ascent Resources – Marcellus LLC	Name Change	13/304
Ascent Resources – Marcellus LLC	Tribune Resources LLC	Name Change	13/421
Tribune Resources LLC	Antero Resources Corporation	Partial Assignment	310A/473

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Grantor, lessor, etc.	Grantee, lessee, etc.	Royalty	Book/Page
<u>N: Israel Miller, et ux Lease</u>			
Israel Miller, et ux	South Penn Oil Company	1/8	49/52
South Penn Oil Company	Pennzoil Company	Name Change	WVSOS
Pennzoil Company	Pennzoil Products Company	Assignment	319/397
Pennzoil Products Company	Pennzoil Exploration & Production Company	Assignment	363/384
Pennzoil Exploration & Production Company	PennzEnergy Exploration & Production Company	Merge	12/177
PennzEnergy Exploration & Production Company	Devon Energy Productions Company LP	Merge	12/278
Devon Energy Productions Company LP	East Resources Inc	Assignment	370/580
East Resources Inc	American Energy – Marcellus LLC	Assignment	153A/238
American Energy – Marcellus LLC	Ascent Resources – Marcellus LLC	Name Change	13/304
Ascent Resources – Marcellus LLC	Tribune Resources LLC	Name Change	13/421
Tribune Resources LLC	Antero Resources Corporation	Partial Assignment	310A/473
<u>M: Louisa J. Fluharty Lease</u>			
Louisa J. Fluharty	South Penn Oil Company	1/8	49/44
South Penn Oil Company	Pennzoil Company	Name Change	WVSOS
Pennzoil Company	Pennzoil Products Company	Assignment	319/397
Pennzoil Products Company	Pennzoil Exploration & Production Company	Assignment	363/384
Pennzoil Exploration & Production Company	PennzEnergy Exploration & Production Company	Merge	12/177
PennzEnergy Exploration & Production Company	Devon Energy Productions Company LP	Merge	12/278
Devon Energy Productions Company LP	East Resources Inc	Assignment	370/580
East Resources Inc	American Energy – Marcellus LLC	Assignment	153A/238
American Energy – Marcellus LLC	Ascent Resources – Marcellus LLC	Name Change	13/304
Ascent Resources – Marcellus LLC	Tribune Resources LLC	Name Change	13/421
Tribune Resources LLC	Antero Resources Corporation	Partial Assignment	310A/473
<u>N: Israel Miller, et ux Lease</u>			
Israel Miller, et ux	South Penn Oil Company	1/8	49/52
South Penn Oil Company	Pennzoil Company	Name Change	WVSOS
Pennzoil Company	Pennzoil Products Company	Assignment	319/397
Pennzoil Products Company	Pennzoil Exploration & Production Company	Assignment	363/384
Pennzoil Exploration & Production Company	PennzEnergy Exploration & Production Company	Merge	12/177
PennzEnergy Exploration & Production Company	Devon Energy Productions Company LP	Merge	12/278
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American Energy – Marcellus LLC	Ascent Resources – Marcellus LLC	Name Change	13/304
Ascent Resources – Marcellus LLC	Tribune Resources LLC	Name Change	13/421
Tribune Resources LLC	Antero Resources Corporation	Partial Assignment	310A/473
			
			
<u>Q: Israel Miller, et al Lease</u>			
Israel Miller, et ux	South Penn Oil Company	1/8	49/52
South Penn Oil Company	Pennzoil Company	Name Change	WVSOS
Pennzoil Company	Pennzoil Products Company	Assignment	319/397
Pennzoil Products Company	Pennzoil Exploration & Production Company	Assignment	363/384
Pennzoil Exploration & Production Company	PennzEnergy Exploration & Production Company	Merge	12/177
PennzEnergy Exploration & Production Company	Devon Energy Productions Company LP	Merge	12/278
Devon Energy Productions Company LP	East Resources Inc	Assignment	370/580
East Resources Inc	American Energy – Marcellus LLC	Assignment	153A/238
American Energy – Marcellus LLC	Ascent Resources – Marcellus LLC	Name Change	13/304
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Tribune Resources LLC	Antero Resources Corporation	Partial Assignment	310A/473

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Lease Name or Number	Grantor, Lessor, etc.	Grantee, Lessee, etc.	Royalty	Book/Page
John R. McCoy, et al Lease:				
	John R. McCoy, et al	J.F. Guffey	1/8	48/445
	J.F. Guffey	W.M. Graham	Assignment	48/445
	W.M. Graham	W.H. Nimick	Assignment	48/445
	W.H. Nimick	South Penn Oil Company	Assignment	48/445
	South Penn Oil Company	Pennzoil Company	Name Change	WVSOS
	Pennzoil Company	Pennzoil Products Company	Assignment	319/397
	Pennzoil Products Company	Pennzoil Exploration & Production Company	Assignment	363/384
	Pennzoil Exploration & Production Company	PennzEnergy Exploration & Production Company	Merge	12/177
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	Devon Energy Production Company LP	East Resources Inc	Assignment	370/580
	East Resources Inc	American Energu - Marcellus LLC	Assignment	153A/238
	American Energy - Marcellus LLC	Ascent Resources - Marcellus LLC	Name Change	13/304
	Ascent Resources - Marcellus LLC	Tribune Resources LLC	Name Change	13/421
	Tribune Resources LLC	Antero Resources Corporation	Partial Assignment	310A/473

**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

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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

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***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

*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.

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

December 28th, 2023

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 approved wells on the Cedar Pad. We are requesting to extend the horizontal lateral length which will change the bottom hole location of the Midas Unit 1H & Wilma Unit 1H wells.

Attached you will find the following documents:

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

If you have any questions please feel free to contact me at (303) 357-7373.

Thank you in advance for your consideration.

Sincerely,

A handwritten signature in black ink, appearing to read "Carly Marvel".

Carly Marvel
Permitting Agent
Antero Resources Corporation

Enclosures

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