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west virginia department of environmental protection

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Office of Oil and Gas  
601 57<sup>th</sup> Street, S.E.  
Charleston, WV 25304  
(304) 926-0450  
fax: (304) 926-0452

Austin Caperton, Cabinet Secretary  
[www.dep.wv.gov](http://www.dep.wv.gov)

Friday, March 20, 2020  
PERMIT MODIFICATION APPROVAL  
Horizontal 6A / New Drill

ANTERO RESOURCES CORPORATION  
1615 WYNKOOP STREET

DENVER, CO 80202

Re: Permit Modification Approval for ELDORADO UNIT 2H  
47-095-02682-00-00

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: ELDORADO UNIT 2H  
Farm Name: ELDON J. & RUTH A. HELMAN  
U.S. WELL NUMBER: 47-095-02682-00-00  
Horizontal 6A New Drill  
Date Modification Issued: 3/18/2020

Promoting a healthy environment.

WW-6B  
(04/15)

API NO. 47- 095 - 02680  
OPERATOR WELL NO. Eldorado Unit 2H  
Well Pad Name: Eldon 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 Tyler Ellsworth Middlebourne 7.5'  
Operator ID County District Quadrangle

2) Operator's Well Number: Eldorado Unit 2H Well Pad Name: Eldon Pad

3) Farm Name/Surface Owner: Eldon J. & Ruth A. Helman Public Road Access: CR 10/1

4) Elevation, current ground: 882' Elevation, proposed post-construction: ~880'

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

(b) If Gas Shallow  Deep   
Horizontal

*JEB*  
*3/12/2020*

6) Existing Pad: Yes or No No

7) Proposed Target Formation(s), Depth(s), Anticipated Thickness and Expected Pressure(s):  
Marcellus Shale: 6600' TVD, Anticipated Thickness- 55 feet, Associated Pressure- 2850#

8) Proposed Total Vertical Depth: 6600' TVD

9) Formation at Total Vertical Depth: Marcellus

10) Proposed Total Measured Depth: 25600' MD

11) Proposed Horizontal Leg Length: 16313'

12) Approximate Fresh Water Strata Depths: 156'

13) Method to Determine Fresh Water Depths: 47-095-00912

14) Approximate Saltwater Depths: 1676'

15) Approximate Coal Seam Depths: None Identified

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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WW-6B  
(04/15)

API NO. 47- 095 - 02680

OPERATOR WELL NO. Eldorado Unit 2H

Well Pad Name: Eldon 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#	80	80	CTS, 77 Cu. Ft.
Fresh Water	13-3/8"	New	J-55	54.5#	300	300	CTS, 417 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#	25600	25600	CTS, 6631 Cu. Ft.
Tubing	2-3/8"	New	N-80	4.7#			
Liners							

*JEB*  
*3/12/2020*

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"	0.438"	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 - 02680

OPERATOR WELL NO. Eldorado Unit 2H

Well Pad Name: Eldon 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

JCB  
3/12/2020

21) Total Area to be disturbed, including roads, stockpile area, pits, etc., (acres): 35.04 acres

22) Area to be disturbed for well pad only, less access road (acres): 12.65 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 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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WV Department of  
Environmental Protection

PERMIT MODIFICATION API # 47-095-02680



Eldorado Unit 2H

47095024290000

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Environmental Protection

*JCB*  
3/12/2020



Antero Resources Corporation

Eldorado Unit 2H - AOR



WELL SYMBOLS  
Gas Well

December 16, 2019

UNWI (APINUM) 4709502/250000	Well Name PARACHUTE UNIT	Well Number 1H	Operator ANTERO RESOURCES CORPORATION	Hist Oper	TD 19,558	Perforated Interval (shallowest, deepest) 6809 - 19435	Perforated Formation(s) Marcellus	Produced Formation(s) not perf'd N/A
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Environmental Protection

Operator's Well Number Eldorado 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 –

- (1) the tract of land is the same tract described in this Application, partly or wholly depicted in the accompanying plat, and described in the Construction and Reclamation Plan;
- (2) the parties and recordation data (if recorded) for lease(s) or other continuing contract(s) by which the Applicant claims the right to extract, produce or market the oil or gas are as follows:

Grantor, lessor, etc.	Grantee, lessee, etc.	Royalty	Book/Page
<u>Eldon J. &amp; Ruth A. Helman Lease</u> Eldon J. & Ruth A. Helman	Antero Resources Corporation	1/8+	0427/0610
<u>Gary C. &amp; Mary Jane Richards Lease</u> Gary C. & Mary Jane Richards	Antero Resources Corporation	1/8+	0505/0680
<u>Lora Keller Thomas Lease</u> Lora Keller Thomas	Antero Resources Corporation	1/8+	0626/0599
<u>Leslie W. Potts Lease</u> Leslie W. Potts	Antero Resources Corporation	1/8+	0585/0556
<u>Lora Keller Thomas Lease</u> Lora Keller Thomas	Antero Resources Corporation	1/8+	0062/0581
<u>Charlotte A. Weise Lease</u> Charlotte A. Weise	Antero Resources Corporation	1/8+	0670/0442
<u>Lora Keller Thomas Lease</u> Lora Keller Thomas	Antero Resources Corporation	1/8+	0062/0581
<u>Nancy Jo &amp; Jerry Allen Haught Lease</u> Nancy Jo & Jerry Allen Haught	Antero Resources Corporation	1/8+	0579/0810
<u>Raymond Cox Lease</u> Raymond Cox	Antero Resources Corporation	1/8+	0483/0727
<u>Lisa Norman et vir Lease</u> Lisa Norman et vir	Antero Resources Corporation	1/8+	0495/0177
<u>Roy D. Hadley Lease</u> Roy D. Hadley Chesapeake Appalachia LLC SWN Production Company	Chesapeake Appalachia LLC SWN Production Company Antero Resources Corporation	1/8 Assignment Assignment	0371/0373 0465/0463 0544/0242
<u>Patricia Doty Thomas Lease</u> Patricia Doty Thomas	Antero Resources Corporation	1/8+	0626/0593
<u>Stoneyknob Holdings LLC Lease</u> Stoneyknob Holdings LLC	Antero Resources Corporation	1/8+	0444/0209

\*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
<b>Four Leaf Land Company Lease</b> Four Leaf Land Company	Antero Resources Corporation	1/8+	0583/0338
<b>Penelope M. Burch Lease (TM 2 PCL 33)</b> Penelope M. Burch	Antero Resources Corporation	1/8+	0660/0068
<b>Penelope M. Burch Lease (TM 2 PCL 33.1)</b> Penelope M. Burch	Antero Resources Corporation	1/8+	0660/0068
<b>Sarah Lawson Wilson Lease</b> Sarah Lawson Wilson	Antero Resources Corporation	1/8+	0668/0151
<b>Cathy D. Post Lease</b> Cathy D. Post	Antero Resources Corporation	1/8+	0672/0593
<b>Denton Eugene Hadley Lease</b> Denton Eugene Hadley	Antero Resources Corporation	1/8+	0466/0546

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Environmental Protection



WW-6A1  
(5/13)

Operator's Well No. Eldorado Unit 2H

**INFORMATION SUPPLIED UNDER WEST VIRGINIA CODE  
Chapter 22, Article 6A, Section 5(a)(5)  
IN LIEU OF FILING LEASE(S) AND OTHER CONTINUING CONTRACT(S)**

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- (2) the parties and recordation data (if recorded) for lease(s) or other continuing contract(s) by which the Applicant claims the right to extract, produce or market the oil or gas are as follows:

Lease Name or Number	Grantor, Lessor, etc.	Grantee, Lessee, etc.	Royalty	Book/Page
Denton Eugene Hadley Lease	Denton Eugene Hadley	Antero Resources Corporation	1/8+	0466/0546


\*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

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: VP of Land

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Environmental Protection

11,632' to Top Hole

8,011' to Bottom Hole

Page 1 of 2

Antero Resources  
Well No. Eldorado 2H  
BHL MOD  
Antero Resources Corporation

TOP HOLE LATITUDE 39 - 30 - 00  
BTM HOLE LATITUDE 39 - 27 - 30



Top Hole 7.5' Spot

Middle Island Creek

Proposed Well No. Eldorado 2H

Notes  
West Virginia Coordinate System of 1927, North Zone based upon Differential GPS Measurements.  
Well No. Eldorado Unit 2H Top Hole coordinates are  
N: 365,155.261' Latitude: 39°29'36.25"  
E: 1,588,620.18' Longitude: 80°57'27.91"  
Bottom Hole coordinates are  
N: 348,893.44' Latitude: 39°28'56.08"  
E: 1,592,001.16' Longitude: 80°56'41.45"  
UTM Zone 17, NAD 1983  
Top Hole Coordinates Bottom Hole Coordinates  
N: 4,371,541.625m N: 4,366,604.624m  
E: 503,647.274m E: 504,760.019m  
Plat orientation and corner and well references are based upon the grid north meridian.  
Well location references are based upon the magnetic meridian.

LONGITUDE 80 - 55 - 00  
2,217' to Top Hole  
3,305' to Bottom 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, P.S. 2167

Notes:  
Well No. Eldorado Unit 2H UTM Zone 17, NAD 1927  
Top Hole Coordinates  
N: 14,341,585.81'  
E: 1,652,335.28'  
Point of Entry Coordinates  
N: 14,340,804.24'  
E: 1,650,607.37'  
Bottom Hole Coordinates  
N: 14,325,388.27'  
E: 1,655,986.01'

- Legend
- Proposed gas well
  - Monument, as noted
  - Existing Well, as noted
  - Creek or Drain
  - Road
  - Surface boundary (approx.)
  - Interior surface tracts (approx.)
  - District Line

Well Location References (NTS)



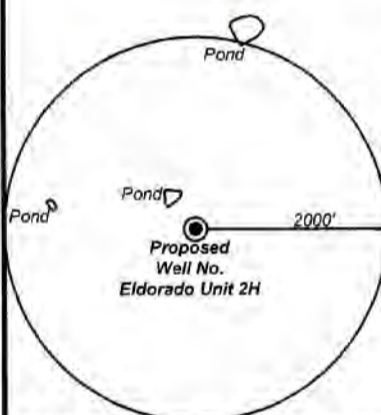
Wellhead Layout (NTS)

- Folger Unit 2H
- Folger Unit 1H 47-095-02685
- Pheaton Unit 2H 47-095-02683
- Deville Unit 2H 47-095-02680
- Deville Unit 1H 47-095-02679
- Proposed Well Eldorado Unit 2H 47-095-02682
- Eldorado Unit 1H 47-095-02681

	Bearing	Dist.
L1	N 21°44' E	783.8'
L2	N 56°32' E	700.3'
L3	N 67°22' E	1,374.2'
L4	S 20°21' W	992.3'
L5	S 65°51' W	1,842.6'



SEAL



Note: It appears 0 water wells and 3 ponds were found within 2000' of proposed well. No occupied dwellings and no buildings 2,500 square feet or larger used to house or shelter dairy cattle or poultry husbandry are located within 625' of the center of the well pad.

FILE NO: 117-54-M-18  
DRAWING NO: Eldorado 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

DATE: February 25 20 20  
OPERATOR'S WELL NO. Eldorado Unit 2H  
API WELL NO  
47 - 095 - 02682  
STATE COUNTY PERMIT

WELL TYPE:  OIL  GAS  LIQUID INJECTION  WASTE DISPOSAL  
(IF GAS) PRODUCTION:  STORAGE  DEEP  SHALLOW  
Proposed Elev. 880'  
LOCATION: ELEVATION: Existing Elev. 882' WATERSHED: Outlet Middle Island Creek QUADRANGLE: Middlebourne 61.83; 83.13; 53; 77.5; 50; 186.008;  
DISTRICT: Ellsworth/Meade/Union Sarah Lawson Wilson; Cathy D. Post; Patricia Doty Thomas; COUNTY: Tyler 126.125; 80; 100;  
SURFACE OWNER: Eldon J. & Ruth A. Helman Stoneycnob Holdings, LLC; Four Leaf Land Co.; Penelope M. Burch (2); Gary E. Patterson, et ux; 35; 291.5; 39.25;  
ROYALTY OWNER: Eldon J. & Ruth A. Helman; Lora Kaffer Thomas (2); Leslie W. Potts; Kimberly Ruble GARY C. & Maryjane Richards; Charlotte A. Weise; Nancy Jo & Jerry Allen Haught; ACREAGE: 61.83 132.08; 93.234;  
PROPOSED WORK:  DRILL  CONVERT  DRILL DEEPER  FRACTURE OR STIMULATE  PLUG OFF OLD FORMATION  
 PERFORATE NEW FORMATION  OTHER PHYSICAL CHANGE IN WELL (SPECIFY) BHL MOD LEASE NO: ACREAGE: 6.05; 140; 5; 4;  
 PLUG AND ABANDON  CLEAN OUT AND REPLUG TARGET FORMATION: Marcellus Shale ESTIMATED DEPTH: 25,600' MD 6,600' TVD

WELL OPERATOR: Antero Resources Corporation DESIGNATED AGENT: Dianna Stamper - CT Corporation System  
ADDRESS: 1615 Wynkoop Street ADDRESS: 5400 D Big Tyler Road  
Denver, CO 80202 Charleston, WV 25313



ID	TM/Par	Owner	Bk/Pg	Acres
1	19-1	Eldon J. & Ruth A. Helman	383/761	61.83
2	13-10	Eldon J. & Ruth A. Helman	383/761	96.82
3	6-1.1	Eldon J. & Ruth A. Helman	383/761	21.0
4	6-2	Eldon J. & Ruth A. Helman	383/761	83.13
5	10-1	Lora K. Thomas	175/19	53.0
6	10-2	Mary Elizabeth Potts, et al	126/444	50.0
7	10-10	Lora K. Thomas	201/359	307.06
8	19-42	Carol J. Cox	334/298	142.0
9	10-3	Joseph B. & Melanie Thomas	173/503	39
10	10-10.2	Jon C. & Grace L. Thomas	331/772	2.0
11	19-46	Judy Rine, et al	W29/643	60.0
12	19-44	Randee Jack Cox	288/401	92.886
13	19-50	Larry & Betsy Moore, et al	312/108	116.04
14	19-49	W. Clint Maxwell Estate	W4/270	35.14
15	19-48	Sharon L. Bland	275/349	43.46
16	2-2.2	Mary Cline & Kathy Lancaster	352/380	8.0
17	2-2.1	Patricia Doty Thomas	192/409	39.25
18	2-4	Jon J. Cox & Patricia D. Thomas	311/352	78.0
19	2-2	Kenneth & Brenda Lancaster	280/586	22.0
20	2-3	Richard C. & Laura J. Kratochvila	384/648	17.25
21	2-4.1	Patricia Doty Thomas	316/222	62.0
22	2-14.1	Robert L. & Nancy C. Donaghy	269/121	26.36
23	2-13	Robert L. & Nancy C. Donaghy	317/477	4.79
24	2-12	Richard & Jaura J. Kratochvila	384/648	93.24
25	2-14	Robert L. & Nancy C. Donaghy	339/9	31.43

ID	TM/Par	Owner	Bk/Pg	Acres
26	2-12.1	Richard B. & Nancy L. Stender	359/162	16.16
27	2-33	Cathy Post	302/368	20.13
28	2-31	Richard B. & Nancy L. Stender	359/162	20.0
29	2-36.2	Robert & Sharon Kastigar	232/369	44.21
30	2-30.1	Richard B. & Nancy L. Stender	359/162	31.0
31	2-33.1	Linda D. Modesitt	322/768	2.0
32	2-20	James R. & Violet M. Smith	267/226	39.856
33	2-27	Cathy Post	302/368	4.0
34	2-18.1	David & Debra Haught	294/442	102.03
35	2-25	Lawson Church	102/342	0.92
36	2-29	Cathy Post	302/368	0.55
37	2-32	Kimberly Ruble	W27/601	5.0
38	2-28	Robert & Sharon Kastigar	243/379	0.5
39	2-34	Church of Christ	137/498	1.0
40	2-36	David E. & Debra K. Haught	390/588	0.91
41	2-35	Robert & Sharon Kastigar	243/379	2
42	2-37	Rhudel V. III & Suzanne Burgee	338/30	56
43	2-30	Arthur R. Davis III	375/634	10.5
44	2-49	Gary & Linda Patterson	224/479	4.0
45	2-26	Cathy Post	302/368	4.25
46	2-26.1	Roy Hadley	341/666	0.25
47	2-24	David H. Hadley, et al	374/632	74
48	5-10.2	Ronald P. Miller	255/682	8.0
49	5-10.1	Bruce A. Stewart	540/83	7.66
50	5-10	David H. Hadley, et al	374/632	12.94

**Detail (NTS)**



Leases	
A	Eldon J. & Ruth A. Helman
B	Ruth H. Wells
C	Norma R. Spencer, Trustee of the Allan P. Spencer Living Trust
D	Gary C. & Maryjane Richards
E	Lora Keller Thomas
F	Lora Keller Thomas
G	Carol J. Cox
H	Leslie W. Potts
I	H3, LLC
J	Joseph B. Thomas, et ux
K	Charlotte A. Weise
L	Raymond Cox
M	Nancy Jo & Jerry Allen Haught
N	Recol, Inc.
O	Lisa Norman, et vir
P	Roy D. Hadley
Q	Patricia Doty Thomas
R	Church of Christ
S	Donald E. Huffman
T	Richard C. Kratochvila, et ux
U	Four Leaf Land Company
V	Stoneyknob Holdings, LLC
W	Penelope M. Burch
X	Sarah Lawson Wilson
Y	Penelope M. Burch
Z	Richard B. Stender, et ux
AA	Danny J. Nagle, et ux
AB	Kimberly Ruble
AC	Cathy D. Post
AD	Sarah L. Hahn
AE	Denton Eugene Hadley
AF	Gary E. Patterson, et ux
AG	David V. Hadley
AH	Charlotte M. Adams
AI	Ronald P. Miller
AJ	Robert Kastigar
AK	Donald James Hadley
AL	Cathy D. Post

FILE NO: 117-54-M-18  
 DRAWING NO: Eldorado 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**

DATE: February 25 20 20  
 OPERATOR'S WELL NO. Eldorado Unit 2H  
 API WELL NO  
 47 - 095 - 02682  
 STATE COUNTY PERMIT

WELL TYPE:  OIL  GAS  LIQUID INJECTION  WASTE DISPOSAL  
 (IF GAS) PRODUCTION:  STORAGE  DEEP  SHALLOW  
 Proposed Elev. 880'  
 LOCATION: ELEVATION: Existing Elev. 882' WATERSHED: Outlet Middle Island Creek QUADRANGLE: Middlebourne 61.83; 83.13; 53;  
 DISTRICT: Ellsworth/Meade/Union Sarah Lawson Wilson; Cathy D. Post; Patricia Doty Thomas; COUNTY: Tyler 77.5; 50; 186.008;  
 SURFACE OWNER: Eldon J. & Ruth A. Helman Stoneyknob Holdings, LLC; Four Leaf Land Co.; Penelope M. Burch (2); Gary E. Patterson; 126.125; 60; 100;  
 ROYALTY OWNER: Eldon J. & Ruth A. Helman; Lora Keller Thomas (2); Leslie W. Potts; Kimberly Ruble; ACREAGE: 61.83 35; 291.5; 39.25;  
 PROPOSED WORK:  DRILL  CONVERT  DRILL DEEPER  FRACTURE OR STIMULATE  PLUG OFF OLD FORMATION  
 PERFORATE NEW FORMATION  OTHER PHYSICAL CHANGE IN WELL (SPECIFY) BHL MOD 132.08; 93.234;  
 PLUG AND ABANDON  CLEAN OUT AND REPLUG TARGET FORMATION: Marcellus Shale ESTIMATED DEPTH: 25,600' MD 20; 2; 56,25725;

WELL OPERATOR: Antero Resources Corporation DESIGNATED AGENT: Dianna Stamper - CT Corporation System  
 ADDRESS: 1615 Wynkoop Street ADDRESS: 5400 D Big Tyler Road  
 Denver, CO 80202 Charleston, WV 25313