

State of West Virginia
Department of Environmental Protection - Office of Oil and Gas
Well Operator's Report of Well Work

RECEIVED
Office of Oil and Gas

FEB 09 2021

WV Department of
Environmental Protection

API 47-095-02674 County Tyler District Ellsworth
Quad Middlebourne 7.5' Pad Name Hogue Pad Field/Pool Name -----
Farm name Michael J. & Melinda R. Hogue Well Number Lancaster Unit 1H
Operator (as registered with the OOG) Antero Resources Corporation
Address 1615 Wynkoop Street City Denver State CO Zip 80202

As Drilled location NAD 83/UTM Attach an as-drilled plat, profile view, and deviation survey
Top hole Northing 4369119.031m Easting 508778.996m
Landing Point of Curve Northing 4371279.544m Easting 507948.215m
Bottom Hole Northing 4368770.921m Easting 508812.646m

Elevation (ft) 1015' GL Type of Well New Existing Type of Report Interim Final
Permit Type Deviated Horizontal Horizontal 6A Vertical Depth Type Deep Shallow
Type of Operation Convert Deepen Drill Plug Back Redrilling Rework Stimulate
Well Type Brine Disposal CBM Gas Oil Secondary Recovery Solution Mining Storage Other _____
Type of Completion Single Multiple Fluids Produced Brine Gas NGL Oil Other _____
Drilled with Cable Rotary

Drilling Media Surface hole Air Mud Fresh Water Intermediate hole Air Mud Fresh Water Brine
Production hole Air Mud Fresh Water Brine

Mud Type(s) and Additive(s)
Air - Foam & 4% KCL

Mud - Polymer

Date permit issued 2/10/2020 Date drilling commenced 3/1/2020 Date drilling ceased 4/24/2020
Date completion activities began 8/11/2020 Date completion activities ceased 9/5/2020
Verbal plugging (Y/N) N/A Date permission granted N/A Granted by N/A

Please note: Operator is required to submit a plugging application within 5 days of verbal permission to plug

Freshwater depth(s) ft 456' Open mine(s) (Y/N) depths No
Salt water depth(s) ft 1581' Void(s) encountered (Y/N) depths No
Coal depth(s) ft 740' Cavern(s) encountered (Y/N) depths No
Is coal being mined in area (Y/N) No

Reviewed by:

JCB
2/23/2021
04/02/2021

API 47- 095 - 02674 Farm name Michael J. & Melinda R. Hogue Well number Lancaster Unit 1H

CASING STRINGS	Hole Size	Casing Size	Depth	New or Used	Grade wt/ft	Basket Depth(s)	Did cement circulate (Y/ N) * Provide details below*
Conductor	24"	20"	80'	New	94#, H-40	N/A	Y
Surface	17-1/2"	13-3/8"	564'	New	54#, J-55	N/A	Y
Coal							
Intermediate 1	12-1/4"	9-5/8"	2702'	New	36#, H-40	N/A	Y
Intermediate 2							
Intermediate 3							
Production	8-3/4"/8-1/2"	5-1/2"	15961'	New	23#, P-110	N/A	Y
Tubing		2-3/8"	6922'		4.7#, N-80		
Packer type and depth set		N/A					

Comment Details _____

CEMENT DATA	Class/Type of Cement	Number of Sacks	Slurry wt (ppg)	Yield (ft ³ /sks)	Volume (ft ³)	Cement Top (MD)	WOC (hrs)
Conductor	Class A	109 sx	15.6	1.18	244	0'	8 Hrs.
Surface	Class A	325 sx	15.6	1.19	402	0'	8 Hrs.
Coal							
Intermediate 1	Class A	660 sx	15.6	1.18	1047	0'	8 Hrs.
Intermediate 2							
Intermediate 3							
Production	Class H	798 sx (Lead) 1027 sx (Tail)	13.5 (Lead), 15.2 (Tail)	1.53 (Lead), 1.83 (Tail)	2819	-500' Into Intermediate Casing	8 Hrs.
Tubing							

Drillers TD (ft) 16006' MD, 6379' TVD (BHL), 6417' (Deepest Point Drilled) Loggers TD (ft) 16006' MD
 Deepest formation penetrated Marcellus Plug back to (ft) N/A
 Plug back procedure N/A

Kick off depth (ft) 5798'

Check all wireline logs run caliper density deviated/directional induction
 neutron resistivity gamma ray temperature sonic

Well cored Yes No Conventional Sidewall Were cuttings collected Yes No

DESCRIBE THE CENTRALIZER PLACEMENT USED FOR EACH CASING STRING _____
 Conductor - 0
 Surface - 1 above guide shoe, 1 above insert float, 1 every 4th joint to surface
 Intermediate - 1 above float joint, 1 above float collar, 1 every 4th joint to surface
 Production - 1 above float joint, 1 below float collar, 1 every 3rd joint to top of cement

WAS WELL COMPLETED AS SHOT HOLE Yes No DETAILS _____

WAS WELL COMPLETED OPEN HOLE? Yes No DETAILS _____

WERE TRACERS USED Yes No TYPE OF TRACER(S) USED N/A

API 47-095-02674 Farm name Michael J. & Melinda R. Hogue Well number Lancaster Unit 1H

<u>PRODUCING FORMATION(S)</u>	<u>DEPTHS</u>	
<u>Marcellus</u>	<u>6361' (TOP)</u> TVD	<u>6981' (TOP)</u> MD
_____	_____	_____
_____	_____	_____
_____	_____	_____

Please insert additional pages as applicable.

GAS TEST Build up Drawdown Open Flow OIL TEST Flow Pump

SHUT-IN PRESSURE Surface 2800 psi Bottom Hole --- psi DURATION OF TEST --- hrs

OPEN FLOW Gas 3268 mcfpd Oil 133 bpd NGL --- bpd Water 10 bpd GAS MEASURED BY Estimated Orifice Pilot

<u>LITHOLOGY/ FORMATION</u>	<u>TOP</u>		<u>BOTTOM</u>		<u>DESCRIBE ROCK TYPE AND RECORD QUANTITY AND TYPE OF FLUID (FRESHWATER, BRINE, OIL, GAS, H₂S, ETC)</u>
	<u>DEPTH IN FT NAME TVD</u>	<u>DEPTH IN FT TVD</u>	<u>DEPTH IN FT MD</u>	<u>DEPTH IN FT MD</u>	

***PLEASE SEE ATTACHED EXHIBIT 3**

Please insert additional pages as applicable.

Drilling Contractor H&P Drilling
 Address 1437 South Boulder Avenue City Tulsa State OK Zip 74119

Logging Company KLX Energy Services
 Address 1415 Louisiana Street, Suite 2900 City Houston State TX Zip 77002

Cementing Company C&J Energy Services
 Address 1650 Hackers Creek City Jane Lew State WV Zip 26378

Stimulating Company Baker Hughes
 Address 837 Philippi Pike City Clarksburg State WV Zip 26301

Please insert additional pages as applicable.

Completed by Megan Griffith Telephone 303-357-7223
 Signature  Title Permitting Agent Date 12-18-20

Submittal of Hydraulic Fracturing Chemical Disclosure Information Attach copy of FRACFOCUS Registry

API 47-095-02674 Farm Name Michael J. & Melinda R. Hogue Well Number Lancaster Unit 1H

EXHIBIT 1

Stage No.	Perforation Date	Perforated from MD ft.	Perforated to MD ft.	Number of Perforations	Formations
1	8/2/2020	15889.4	15845.5	60	Marcellus
2	8/3/2020	15807.3314	15638.4884	60	Marcellus
3	8/3/2020	15602.31977	15433.4767	60	Marcellus
4	8/4/2020	15397.30814	15228.4651	60	Marcellus
5	8/4/2020	15192.29651	15023.4535	60	Marcellus
6	8/4/2020	14987.28488	14818.4419	60	Marcellus
7	8/5/2020	14782.27326	14613.4302	60	Marcellus
8	8/5/2020	14577.26163	14408.4186	60	Marcellus
9	8/6/2020	14372.25	14203.407	60	Marcellus
10	8/6/2020	14167.23837	13998.3953	60	Marcellus
11	8/6/2020	13962.22674	13793.3837	60	Marcellus
12	8/7/2020	13757.21512	13588.3721	60	Marcellus
13	8/7/2020	13552.20349	13383.3605	60	Marcellus
14	8/7/2020	13347.19186	13178.3488	60	Marcellus
15	8/8/2020	13142.18023	12973.3372	60	Marcellus
16	8/8/2020	12937.1686	12768.3256	60	Marcellus
17	8/8/2020	12732.15698	12563.314	60	Marcellus
18	8/9/2020	12527.14535	12358.3023	60	Marcellus
19	8/9/2020	12322.13372	12153.2907	60	Marcellus
20	8/9/2020	12117.12209	11948.2791	60	Marcellus
21	8/10/2020	11912.11047	11743.2674	60	Marcellus
22	8/10/2020	11707.09884	11538.2558	60	Marcellus
23	8/10/2020	11502.08721	11333.2442	60	Marcellus
24	8/11/2020	11297.07558	11128.2326	60	Marcellus
25	8/11/2020	11092.06395	10923.2209	60	Marcellus
26	8/11/2020	10887.05233	10718.2093	60	Marcellus
27	8/12/2020	10682.0407	10513.1977	60	Marcellus
28	8/12/2020	10477.02907	10308.186	60	Marcellus
29	8/12/2020	10272.01744	10103.1744	60	Marcellus
30	8/13/2020	10067.00581	9898.16279	60	Marcellus
31	8/13/2020	9861.994186	9693.15116	60	Marcellus
32	8/13/2020	9656.982558	9488.13953	60	Marcellus
33	8/14/2020	9451.97093	9283.12791	60	Marcellus
34	8/14/2020	9246.959302	9078.11628	60	Marcellus
35	8/14/2020	9041.947674	8873.10465	60	Marcellus
36	8/14/2020	8836.936047	8668.09302	60	Marcellus
37	8/15/2020	8631.924419	8463.0814	60	Marcellus
38	8/15/2020	8426.912791	8258.06977	60	Marcellus
39	8/15/2020	8221.901163	8053.05814	60	Marcellus
40	8/15/2020	8016.889535	7848.04651	60	Marcellus
41	8/16/2020	7811.877907	7643.03488	60	Marcellus
42	8/16/2020	7606.866279	7438.02326	60	Marcellus
43	8/16/2021	7401.854651	7233.01163	60	Marcellus
44	8/16/2022	7196.843023	7028	60	Marcellus

04/02/2021

EXHIBIT 2

Stage No.	Stimulations Date	Avg Pump Rate	Avg Treatment Pressure (PSI)	Max Breakdown Pressure (PSI)	ISIP (PSI)	Amount of Proppant (lbs)	Amount of Water (bbls)	Amount of Nitrogen/ other (units)
1	8/2/2020	69.06	8335	8270	2818	178480	4666.7	N/A
2	8/3/2020	78.89	8542	5616	4243	407040	7216.3	N/A
3	8/3/2020	77.73	8659	5907	3727	409520	7511.3	N/A
4	8/4/2020	77.46	8513	4811	3721	409540	7530.3	N/A
5	8/4/2020	75.59	8738	5348	3657	409160	7491.8	N/A
6	8/4/2020	72.89	8241.87	8152.25	3805.4	410260	9201.4	N/A
7	8/5/2020	76	8762	5758	3768	405560	7547.7	N/A
8	8/5/2020	77	8738.09	8550	3545	410440	7482.6	N/A
9	8/6/2020	78.75	8873	8624	3893	411900	7528	N/A
10	8/6/2020	77.93	8765	4960	3834	408440	7478.7	N/A
11	8/6/2020	77.36	8687.96	8939.66	3774.35	409820	7467.6	N/A
12	8/7/2020	80.08	8773	9233	3835	408700	7495.3	N/A
13	8/7/2020	79.36	8764	6067	4054	410380	7386.7	N/A
14	8/7/2020	80.21	8689	9349	3828	414120	7450.8	N/A
15	8/8/2020	76.55	8640.36	8953	3824.85	410840	7432.5	N/A
16	8/8/2020	80.45	8725	5636	3742.71	408280	7215.2	N/A
17	8/8/2020	82.47	8695	5766	3863.76	413020	7474.5	N/A
18	8/9/2020	84.77	8519	4778	3897.68	408440	7329.5	N/A
19	8/9/2020	82.22	8738	6340	3953	410960	7203.6	N/A
20	8/9/2020	82.9	8506	5756	4065.98	412960	7447.2	N/A
21	8/10/2020	87.05	8710	6057	4065.32	411520	7377	N/A
22	8/10/2020	87	8732	5720	4051.45	410400	7139.3	N/A
23	8/10/2020	86.13	8723	6446	4164.04	411380	7235.1	N/A
24	8/11/2020	87.7	8688	5333	3802.93	414040	7407.5	N/A
25	8/11/2020	88.32	8579	5782	4027	416000	7400.2	N/A
26	8/11/2020	89.27	8615	4985	4066	410820	7248.6	N/A
27	8/12/2020	85.37	8357	6218	3952	412180	7183.2	N/A
28	8/12/2020	89.42	8587.37	4922	3778.93	413880	7312.6	N/A
29	8/12/2020	89.1	8476	6177	3943	411820	6907.4	N/A
30	8/13/2020	90.19	8651	6174	3925	409500	6992.6	N/A
31	8/13/2020	89.07	8630	6100	3747	409100	7122.9	N/A
32	8/13/2020	87.83	8630	5456	4215	411280	6941.3	N/A
33	8/14/2020	92.21	8622	5687	4153	411060	7090.2	N/A
34	8/14/2020	92.89	8645	5529	4207	408580	6987.8	N/A
35	8/14/2020	91.65	8656	6256	3719	411900	6973	N/A
36	8/14/2020	95.6	8549	6191	4057	411380	6923	N/A
37	8/15/2020	93.72	8533	5923	3647	410360	6941.7	N/A
38	8/15/2020	93.33	8498	6013	3789	410440	6948.5	N/A
39	8/15/2020	92.36	8562	6221	4067	411520	6948.3	N/A
40	8/15/2020	96.32	8493	6510	4108	411440	6886.8	N/A
41	8/16/2020	95.94	8484	6325	4337	411480	6835.2	N/A
42	8/16/2020	92.75	8333	6483	4318	411840	6934.7	N/A
43	8/16/2020	95.44	8439	6270	3857	410650	6829.1	N/A
44	8/16/2020	94.09	8368	5851	3889	413140	6784.6	N/A
	AVG=	84.6	8,618	6,362	3,894	16,607,940	296,360	TOTAL

Hydraulic Fracturing Fluid Product Component Information Disclosure

Job Start Date:	8/2/2020
Job End Date:	8/16/2020
State:	West Virginia
County:	Tyler
API Number:	47-095-02674-00-00
Operator Name:	Antero Resources Corporation
Well Name and Number:	Lancaster 1H
Latitude:	39.47153000
Longitude:	-80.89811000
Datum:	NAD83
Federal Well:	NO
Indian Well:	NO
True Vertical Depth:	6,417
Total Base Water Volume (gal):	13,279,323
Total Base Non Water Volume:	0



Hydraulic Fracturing Fluid Composition:

Trade Name	Supplier	Purpose	Ingredients	Chemical Abstract Service Number (CAS #)	Maximum Ingredient Concentration in Additive (% by mass)**	Maximum Ingredient Concentration in HF Fluid (% by mass)**	Comments
Produced Water Mixture	Halliburton	Base Fluid					
			Water	7732-18-5	100.00000	87.98158	Density = 10.00
Ingredients	Listed Above	Listed Above					
			Water	7732-18-5	100.00000	0.16336	

WG-36 GELLING AGENT	Halliburton	Gelling Agent					
				Listed Below			
Accelerate LX-15	Halliburton	Friction Reducer					
				Listed Below			
Sand-Common White-100 Mesh, SSA-2	Halliburton	Proppant					
				Listed Below			
HAI-501	Halliburton	Acid Corrosion Inhibitor					
				Listed Below			
HYDROCHLORIC ACID, 22 BAUME	Halliburton	Solvent					
				Listed Below			
OPTIFLO-II DELAYED RELEASE BREAKER	Halliburton	Breaker					
				Listed Below			
MC B-8614	Halliburton	Biocide					
				Listed Below			
Items above are Trade Names with the exception of Base Water . Items below are the individual ingredients.							
			Crystalline silica, quartz	14808-60-7	100.00000	11.82219	
			Complex Amine Compound	Proprietary	60.00000	0.04192	
			Hydrochloric acid	7647-01-0	30.00000	0.03424	

			Hydrotreated light petroleum distillate	64742-47-8	30.00000	0.02096	
			Guar gum	9000-30-0	100.00000	0.00464	
			Surfactant	Proprietary	5.00000	0.00349	
			Sorbitan, mono-9-octadecenoate, (Z)	1338-43-8	5.00000	0.00349	
			Glutaraldehyde	111-30-8	30.00000	0.00220	
			Ethoxylated alcohols	Proprietary	5.00000	0.00071	
			Alkoxylated polyhydric alcohol	Proprietary	1.00000	0.00070	
			Organic chloride compound	Proprietary	1.00000	0.00070	
			Quaternary ammonium compounds, benzyl-C12-16-alkyldimethyl chlorides	68424-85-1	5.00000	0.00037	
			Methanol	67-56-1	100.00000	0.00029	
			Ammonium persulfate	7727-54-0	100.00000	0.00009	
			Ethanol	64-17-5	1.00000	0.00007	
			Modified thiourea polymer	Proprietary	30.00000	0.00006	
			Mixture of dimer and trimer fatty acids of indefinite composition derived from tall oil	61790-12-3	30.00000	0.00006	
			Oxylated phenolic resin	Proprietary	30.00000	0.00003	
			Propargyl alcohol	107-19-7	5.00000	0.00001	
			Hexadecene	629-73-2	5.00000	0.00001	
			Phosphoric acid	7664-38-2	0.10000	0.00001	
			Formaldehyde	50-00-0	0.01000	0.00001	
			Acrylamide	79-06-1	0.01000	0.00001	
			Sodium hydroxide	1310-73-2	0.01000	0.00001	
			Organic salt #1	Proprietary	0.01000	0.00001	
			Organic salt #2	Proprietary	0.01000	0.00001	
			Nitrated acetate salt	Proprietary	0.01000	0.00001	
			Sodium glycolate	2836-32-0	0.01000	0.00001	

			C.I. pigment Orange 5	3468-63-1	1.00000	0.00000	
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* Total Water Volume sources may include various types of water including fresh water, produced water, and recycled water

** Information is based on the maximum potential for concentration and thus the total may be over 100%

*** If you are calculating a percentage of total ingredients do not add the water volume below the green line to the water volume above the green line

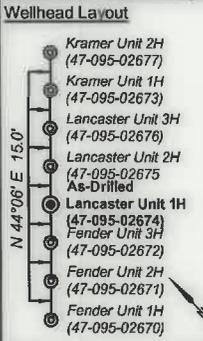
Note: For Field Development Products (products that begin with FDP), MSDS level only information has been provided.

Ingredient information for chemicals subject to 29 CFR 1910.1200(i) and Appendix D are obtained from suppliers Material Safety Data Sheets (MSDS)

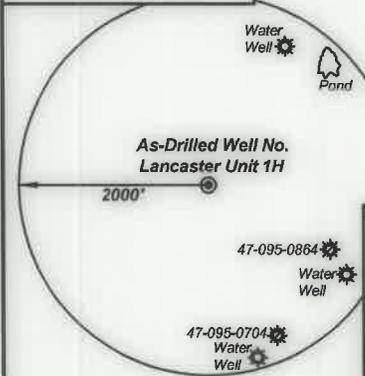
Antero Resources
Well No. Lancaster Unit 1H
As-Drilled
Antero Resources Corporation



Bearing	Dist.
L1 S 48°00' E	1,402.0'
L2 S 26°55' E	1,534.5'
L3 N 73°45' W	907.6'
L4 N 07°59' W	1,445.7'



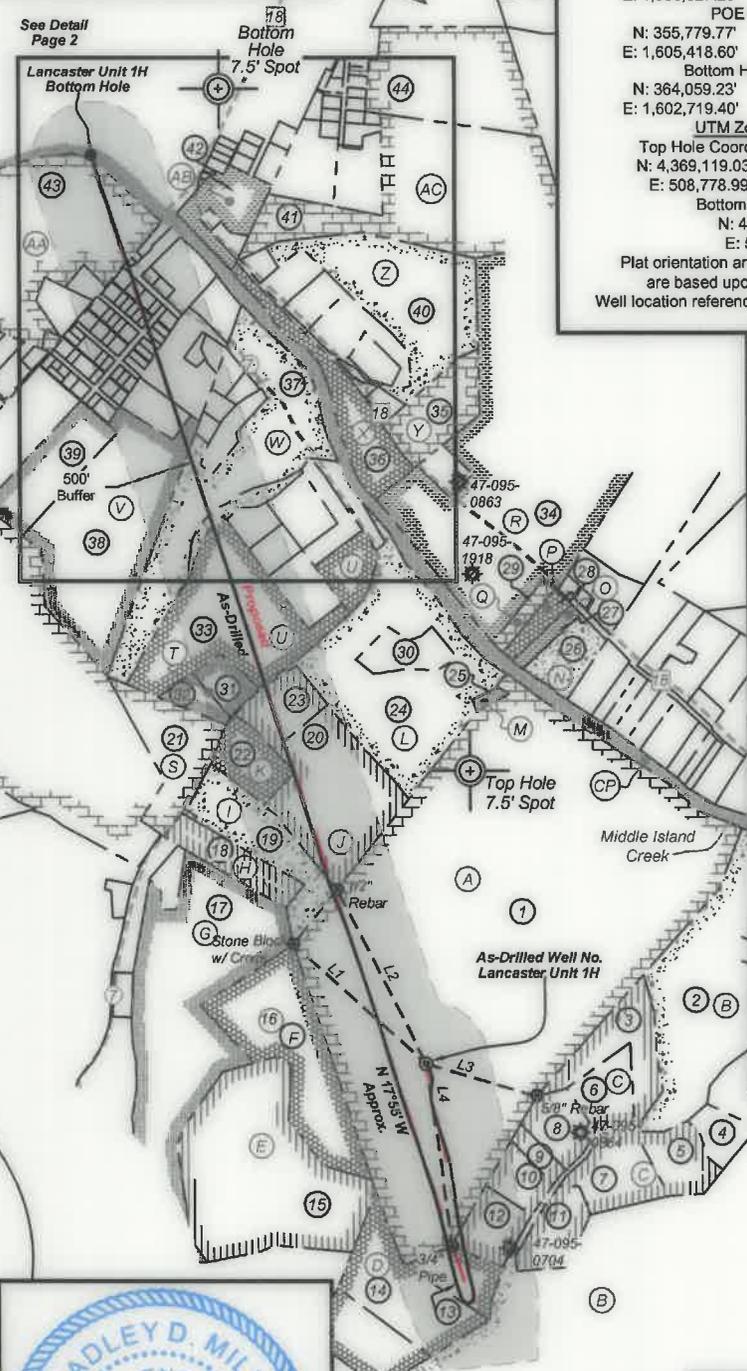
Top Hole Coordinates, As-drilled data, and information was provided by Antero Resources Corporation. Allegheny Surveys Inc. (ASI) is not certifying the data and information provided. ASI is not responsible for any errors or inaccuracies with the data and information that has been provided.



Note: 3 water wells and 1 pond were found within 2000' of proposed well. No occupied dwellings or 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.

Legend

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



Notes:
 West Virginia Coordinate System of 1927, North Zone based upon Differential GPS Measurements.
 Well No. Lancaster Unit 1H Top Hole coordinates are
 N: 356,923.93' Latitude: 39°28'17.52"
 E: 1,605,327.25' Longitude: 80°53'53.18"
 POE coordinates are
 N: 355,779.77' Latitude: 39°28'06.23"
 E: 1,605,418.60' Longitude: 80°53'51.79"
 Bottom Hole coordinates are
 N: 364,059.23' Latitude: 39°29'27.64"
 E: 1,602,719.40' Longitude: 80°54'27.86"
 UTM Zone 17, NAD 1983
 Top Hole Coordinates POE Coordinates
 N: 4,369,119.031m N: 4,368,770.921m
 E: 508,778.996m E: 508,812.646m
 Bottom Hole Coordinates
 N: 4,371,279.544m
 E: 507,948.215m
 Plat orientation and corner and well references are based upon the grid north meridian.
 Well location references are based upon the magnetic meridian.

Leases

A	Michael J. & Melinda R. Hogue
B	Ridgetop Capital LP
C	James F. Doan, et ux
D	James F. Doan, et ux
E	Ryan L. Walton, et ux
F	David L. Lancaster, et ux
G	David L. Lancaster, et ux
H	Terry Lee Fiber
I	Joe & Shirley Varese
J	Eugene F. Howell, et ux
K	Leeman W. & Susan L. Mason
L	Eugene F. Howell, et ux
M	OPEN
N	Nina Naomi Wise
O	Jerry Todd Williams
P	Barbara J. Davis
Q	William M. Baker
R	William M. Baker, et ux
S	Peter W. & Irmagard E. Guenter, Joint Living Trust
T	BRC Appalachian Minerals I, LLC
U	Robert C. Kramer
V	Ruth E. Blake
W	Charles E. Anderson, et ux
X	John Valentour
Y	Clara Jane Glover
Z	Brian D. Carpenter, et ux
AA	Tustin Family Trust
AB	Samuel O. Wagner
AC	Richard A. Fonner, et ux

Continued on Page 4

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

FILE NO: 11-54-E-19
 DRAWING NO: Lancaster Unit 1H As-Drilled
 SCALE: 1" = 1500'
 MINIMUM DEGREE OF ACCURACY: Submeter
 PROVEN SOURCE OF ELEVATION: WV DOT, Harrisville, WV

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

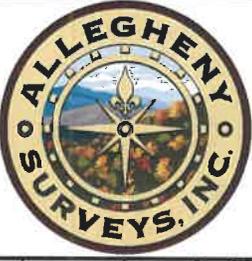
DATE: December 30 2020
 OPERATOR'S WELL NO. Lancaster 1H
 API WELL NO
 47 - 095 - 02674
 STATE COUNTY PERMIT

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

LOCATION: ELEVATION: As-Built 1,015' WATERSHED: Outlet Middle Island Creek QUADRANGLE: Middlebourne
 DISTRICT: Ellsworth COUNTY: Tyler
 SURFACE OWNER: Michael J. & Melinda R. Hogue ACREAGE: 192.0
 ROYALTY OWNER: Michael J. & Melinda R. Hogue; James F. Doan, et ux; Ridgetop Capital LP; Ruth E. Blake LEASE NO: ACREAGE: 0.32630; 28.54
 PROPOSED WORK: DRILL CONVERT DRILL DEEPER FRACTURE OR STIMULATE PLUG OFF OLD FORMATION
 PERFORATE NEW FORMATION OTHER PHYSICAL CHANGE IN WELL (SPECIFY) As-Drilled
 PLUG AND ABANDON CLEAN OUT AND REPLUG TARGET FORMATION: Marcellus Shale ESTIMATED DEPTH: 16,006' MD

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

Antero Resources
Well No. Lancaster Unit 1H
As-Drilled
Antero Resources Corporation



Bearing	Dist.
L1 S 48°00' E	1,402.0'
L2 S 26°55' E	1,534.5'
L3 N 73°45' W	907.6'
L4 N 07°59' W	1,445.7'

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

Page 1 of 4

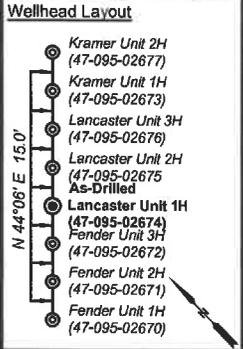
9,289' to Bottom Hole
 6,681' to Top Hole
 LATITUDE 39 - 30 - 00
 LONGITUDE 80 - 52 - 30

Notes:
 West Virginia Coordinate System of 1927, North Zone based upon Differential GPS Measurements.
 Well No. Lancaster Unit 1H Top Hole coordinates are
 N: 356,923.93' Longitude: 39°28'17.52"
 E: 1,605,327.25' Longitude: 80°53'53.18"
 POE coordinates are
 N: 355,779.77' Latitude: 39°28'06.23"
 E: 1,605,418.60' Longitude: 80°53'51.79"
 Bottom Hole coordinates are
 N: 364,059.23' Latitude: 39°29'27.64"
 E: 1,602,719.40' Longitude: 80°54'27.86"
 UTM Zone 17, NAD 1983
 Top Hole Coordinates POE Coordinates
 N: 4,369,119.031m N: 4,368,770.921m
 E: 508,778.996m E: 508,812.646m
 Bottom Hole Coordinates
 N: 4,371,279.544m
 E: 507,948.215m
 Plat orientation and corner and well references are based upon the grid north meridian.
 Well location references are based upon the magnetic meridian.

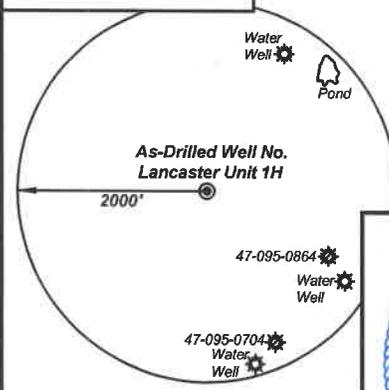
Leases

A	Michael J. & Melinda R. Hogue
B	Ridgetop Capital LP
C	James F. Doan, et ux
D	James F. Doan, et ux
E	Ryan L. Walton, et ux
F	David L. Lancaster, et ux
G	David L. Lancaster, et ux
H	Terry Lee Fiber
I	Joe & Shirley Varese
J	Eugene F. Howell, et ux
K	Leeman W. & Susan L. Mason
L	Eugene F. Howell, et ux
M	OPEN
N	Nina Naomi Wise
O	Jerry Todd Williams
P	Barbara J. Davis
Q	William M. Baker
R	William M. Baker, et ux
S	Peter W. & Irmgard E. Guenter, Joint Living Trust
T	BRC Appalachian Minerals I, LLC
U	Robert C. Kramer
V	Ruth E. Blake
W	Charles E. Anderson, et ux
X	John Valentour
Y	Clara Jane Glover
Z	Brian D. Carpenter, et ux
AA	Tustin Family Trust
AB	Samuel O. Wagner
AC	Richard A. Fonner, et ux

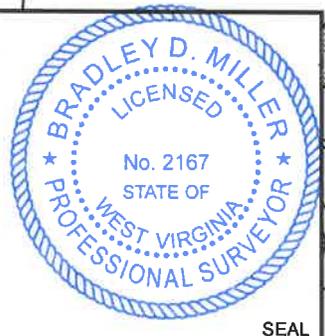
Continued on Page 4



Top Hole Coordinates, As-drilled data, and information was provided by Antero Resources Corporation. Allegheny Surveys Inc. (ASI) is not certifying the data and information provided. ASI is not responsible for any errors or inaccuracies with the data and information that has been provided.



Note: 3 water wells and 1 pond were found within 2000' of proposed well. No occupied dwellings or 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.



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

FILE NO: 11-54-E-19
 DRAWING NO: Lancaster Unit 1H As-Drilled
 SCALE: 1" = 1500'
 MINIMUM DEGREE OF ACCURACY: Submeter
 PROVEN SOURCE OF ELEVATION: WVDOT, Harrisville, WV

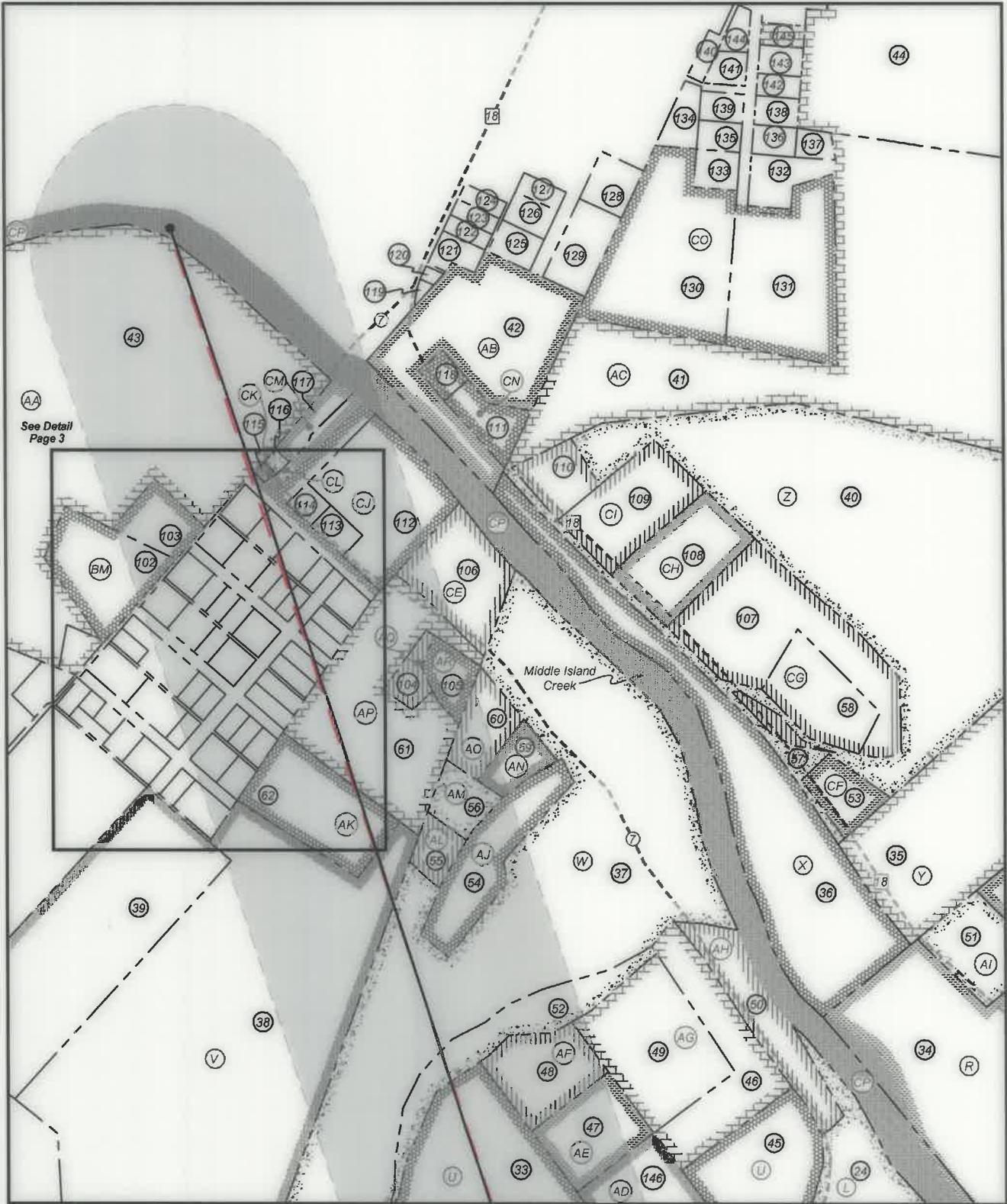
STATE OF WEST VIRGINIA
 DEPARTMENT OF ENVIRONMENTAL PROTECTION
OIL AND GAS DIVISION

DATE: December 30 2020
 OPERATOR'S WELL NO. Lancaster 1H
 API WELL NO
 47 - 095 - 02674
 STATE COUNTY PERMIT

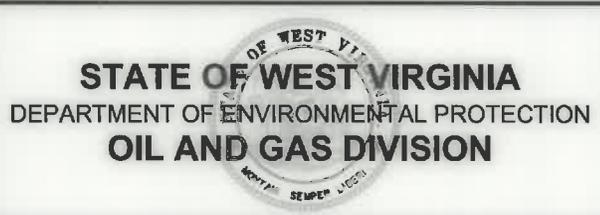
WELL TYPE: OIL GAS LIQUID INJECTION WASTE DISPOSAL
 (IF GAS) PRODUCTION: STORAGE DEEP SHALLOW

LOCATION: ELEVATION: As-Built 1,015' WATERSHED: Outlet Middle Island Creek QUADRANGLE: Middlebourne
 DISTRICT: Ellsworth Tustin Family Trust; Carolyn Westfall Barnhart; WVDNR; James D. Hardesty; Robert E. Judge; Brenda Lee Oyster; Sara J. Judge; Ernestine Pelikan; Rodney Mack Hayes; Earl E. Turner; Thurl Wayne Jones; COUNTY: Tyler
 SURFACE OWNER: Michael J. & Melinda R. Hogue Robert C. Kramer; Charles E. Anderson, et ux; Ernestine Pelikan & David Leasure; ACREAGE: 192.0
 ROYALTY OWNER: Michael J. & Melinda R. Hogue; James F. Doan, et ux; Ridgetop Capital LP; Ruth E. Blake; Joe & Shirley Varese; Leeman W. & Susan L. Mason; Eugene F. Howell, et ux (2); LEASE NO: ACREAGE: 0.32630; 28.54
 PROPOSED WORK: DRILL CONVERT DRILL DEEPER FRACTURE OR STIMULATE PLUG OFF OLD FORMATION
 PERFORATE NEW FORMATION OTHER PHYSICAL CHANGE IN WELL (SPECIFY) As-Drilled
 PLUG AND ABANDON CLEAN OUT AND REPLUG TARGET FORMATION: Marcellus Shale ESTIMATED DEPTH: 16,006' MD 6,379' 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



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 MINIMUM DEGREE OF ACCURACY:
 Submeter
 PROVEN SOURCE OF ELEVATION:
 WVDOT, Harrisville, WV



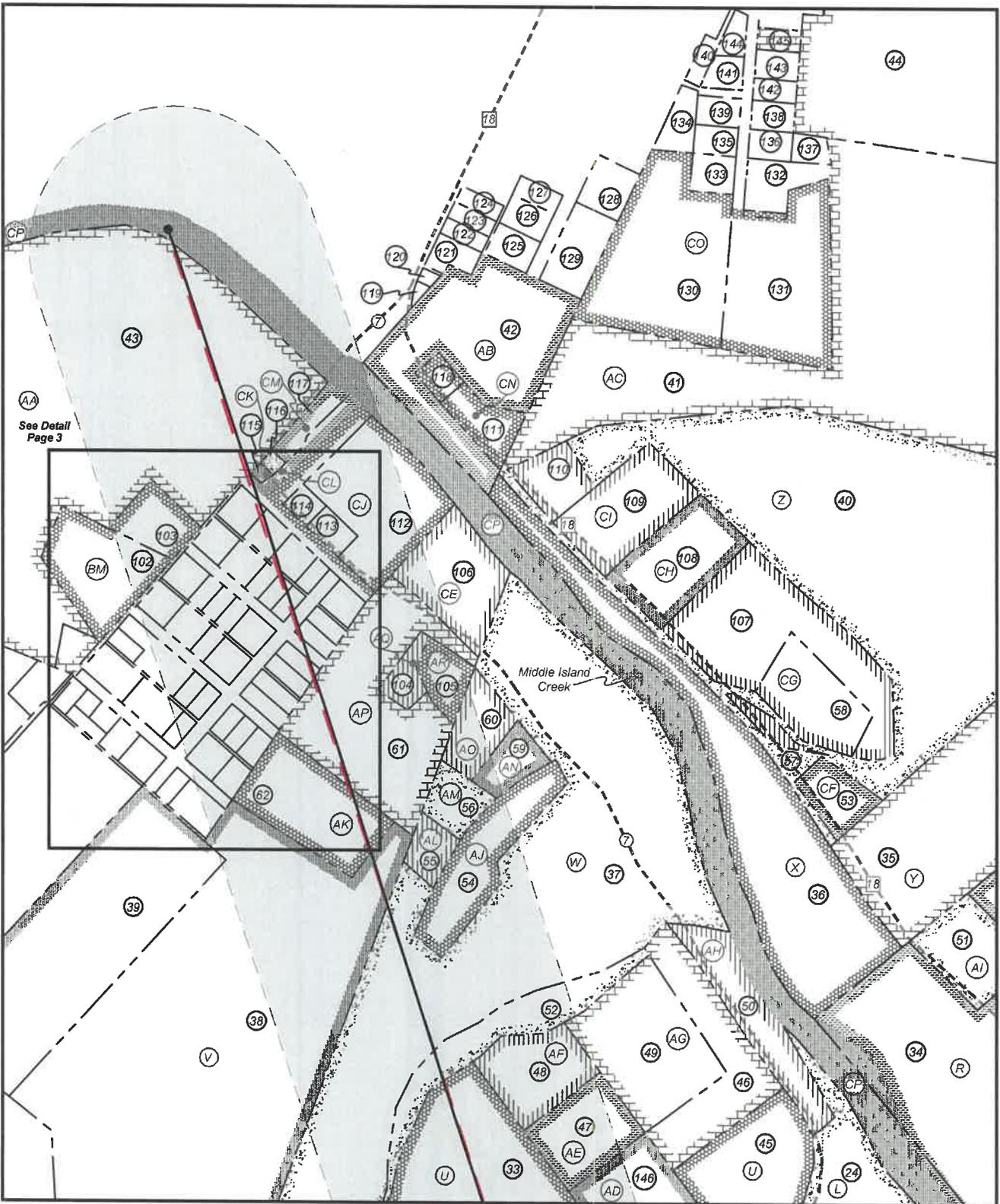
DATE: December 30 2020
 OPERATOR'S WELL NO. Lancaster 1H
 API WELL NO
 47 - 095 - 02674
 STATE COUNTY PERMIT

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

LOCATION: ELEVATION: As-Built 1,015' WATERSHED: Outlet Middle Island Creek QUADRANGLE: Middlebourne
 DISTRICT: Ellsworth COUNTY: Tyler
 SURFACE OWNER: Michael J. & Melinda R. Hogue ACREAGE: 192.0
 ROYALTY OWNER: Michael J. & Melinda R. Hogue; James F. Doan, et ux; Ridgeway Capital LP; Ruth E. Blake LEASE NO: ACREAGE: 0.32630; 28.54
 0.19971; 0.16319;
 41.425; 191.5; 81.33;
 310.393; 11.318;
 5.493; 47.016;
 25.399; 23.964;
 22.302; 0.689;
 0.21657; 0.1951;
 0.05739; 0.4343;
 0.33621; 28.65;

PROPOSED WORK: DRILL CONVERT DRILL DEEPER FRACTURE OR STIMULATE PLUG OFF OLD FORMATION
 PERFORATE NEW FORMATION OTHER PHYSICAL CHANGE IN WELL (SPECIFY) As-Drilled
 PLUG AND ABANDON CLEAN OUT AND REPLUG TARGET FORMATION: Marcellus Shale ESTIMATED DEPTH: 6,379' TVD
 16,006' MD

WELL OPERATOR: Antero Resources Corporation DESIGNATED AGENT: Dianna Stamper - CT Corporation System
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 Denver, CO 80202 Charleston, WV 25313



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 Submeter
 PROVEN SOURCE OF ELEVATION:
 WVDOT, Harrisville, WV



DATE: December 30 2020
 OPERATOR'S WELL NO. Lancaster 1H
 API WELL NO
 47 - 095 - 02674
 STATE COUNTY PERMIT

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

LOCATION: ELEVATION: As-Built 1,015' WATERSHED: Outlet Middle Island Creek QUADRANGLE: Middlebourne
 DISTRICT: Ellsworth COUNTY: Tyler
 SURFACE OWNER: Michael J. & Melinda R. Hogue ACREAGE: 192.0
 ROYALTY OWNER: Michael J. & Melinda R. Hogue; James F. Doan, et ux; Ridgetop Capital LP; Ruth E. Blake LEASE NO: ACREAGE:

PROPOSED WORK: DRILL CONVERT DRILL DEEPER FRACTURE OR STIMULATE PLUG OFF OLD FORMATION
 PERFORATE NEW FORMATION OTHER PHYSICAL CHANGE IN WELL (SPECIFY) As-Drilled
 PLUG AND ABANDON CLEAN OUT AND REPLUG TARGET FORMATION: Marcellus Shale ESTIMATED DEPTH: 6,379' TVD 16,006' MD

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

0.32630; 28.54
 0.19971; 0.16319;
 41.425; 191.5; 81.33;
 310.393; 11.318;
 5.493; 47.016;
 25.193; 23.364;
 0.20830339;
 0.21657; 0.1951;
 0.05739; 0.4343;
 0.33621; 28.65;



FILE NO: 11-54-E-19
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 Submeter
 PROVEN SOURCE OF ELEVATION:
 WVDOT, Harrisville, WV



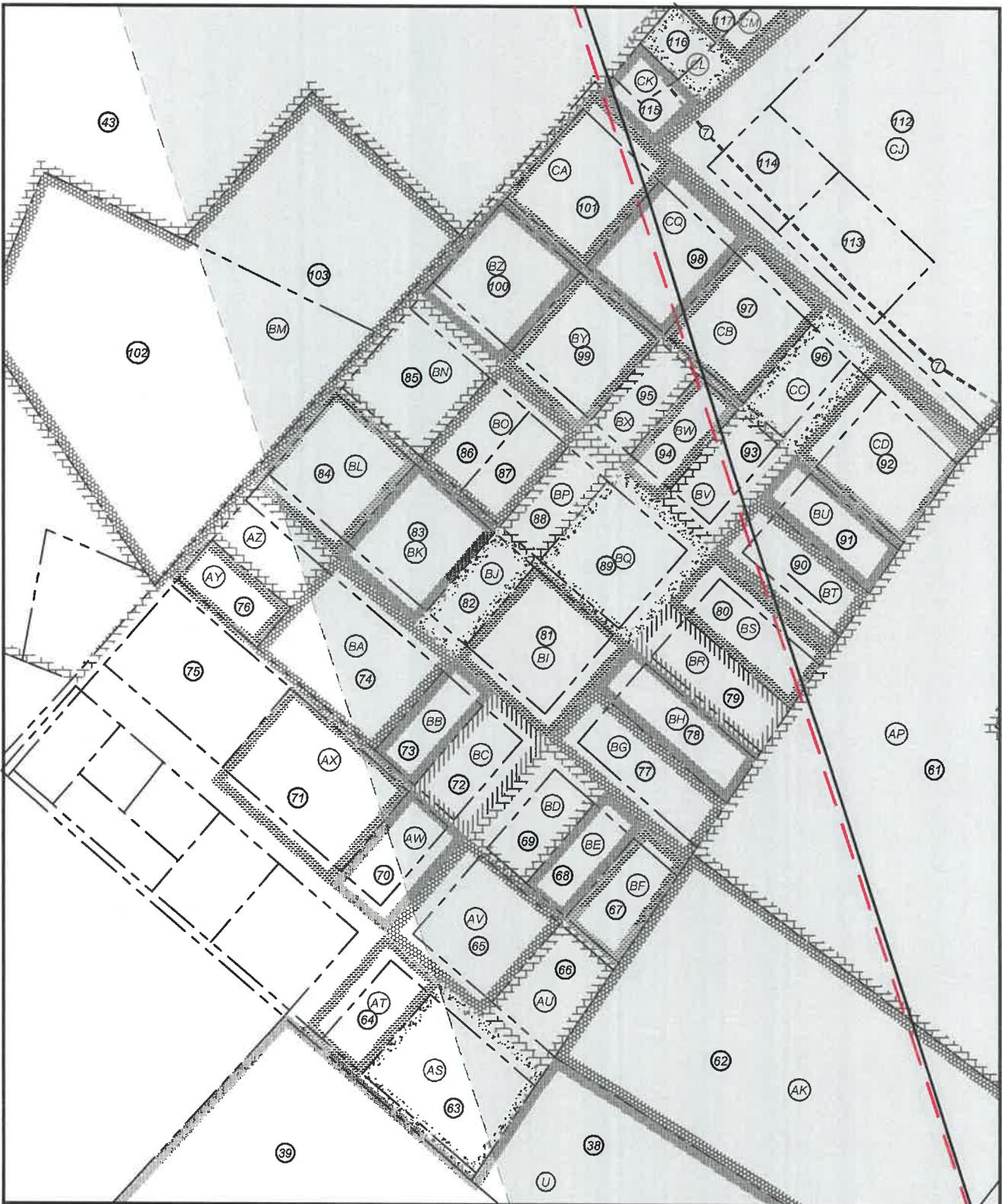
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 DISTRICT: Ellsworth COUNTY: Tyler
 SURFACE OWNER: Michael J. & Melinda R. Hogue ACREAGE: 192.0
 ROYALTY OWNER: Michael J. & Melinda R. Hogue, James F. Doan, et ux; Ridgetop Capital LP; Ruth E. Blake LEASE NO: ACREAGE: 0.32630; 28.54
 0.19971; 0.16319;
 41.425; 191.5; 81.33;
 310.393; 11.318;
 5.493; 47.016;
 25.199; 22.984;
 0.21657; 0.1951;
 0.05739; 0.4343;
 0.33621; 28.65;

PROPOSED WORK: DRILL CONVERT DRILL DEEPER FRACTURE OR STIMULATE PLUG OFF OLD FORMATION
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 PLUG AND ABANDON CLEAN OUT AND REPLUG TARGET FORMATION: Marcellus Shale ESTIMATED DEPTH: 16,006' MD 6,379' TVD

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 ADDRESS: 1615 Wynkoop Street ADDRESS: 5400 D Big Tyler Road
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 Submeter
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 WVDOT, Harrisville, WV

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

DATE: December 30 2020
 OPERATOR'S WELL NO. Lancaster 1H
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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

0.32830; 28.54
 0.19971; 0.16319;
 41.425; 191.5; 81.33;
 310.393; 11.318;
 5.493; 47.016;
 25.183; 23.964;
 0.21657; 0.1951;
 0.05739; 0.4343;
 0.33621; 28.69;

Antero Resources
Well No. Lancaster Unit 1H
As-Drilled
Antero Resources Corporation

Page 4 of 4

Leases

AD	Robert C. Kramer
AE	Gary R. Davis
AF	Brian Scott Foland
AG	Bernard M. Hayes, et ux
AH	Robert L. Berry, et ux
AI	Bradley Baker
AJ	Frankie Dean Goudy, et ux
AK	Earnestine Pelikan & David Leasure
AL	Larry H. Kimble, et ux
AM	David I. Farhatt, et ux
AN	Lemuel Hugh Moore
AO	Jeffrey A. Lancaster, et ux
AP	Earnestine Pelikan
AQ	Melinda Leasure
AR	Earnestine Pelikan, et vir
AS	Bessie L. Matthews, et vir
AT	Betty Lou Hadley
AU	Betty Lou Hadley
AV	Betty Lou Hadley
AW	Betty Lou Hadley
AX	Stephen D. Ashley, et ux
AY	Martha J. Hayes, et vir
AZ	Betty Lou Hadley
BA	Betty Lou Hadley
BB	Betty Lou Smith
BC	Betty Hadley
BD	Laura June Smith
BE	Kathryn Knowlton
BF	Crystal Christophel
BG	Betty Lou Hadley
BH	Rodney Mack Hayes
BI	Betty Hadley
BJ	Betty Lou Hadley
BK	Donald E. Huffman
BL	Timothy Stanley, et ux
BM	David A. Tustin
BN	Nancy Glover
BO	William H. Eddy
BP	John Miller, et ux
BQ	John R. Miller, et ux
BR	Rodney Mack Hayes
BS	Rodney Mack Hayes
BT	Earl E. Turner
BU	Arvil Shane Matthews
BV	Thurl Wayne Jones
BW	Brenda Lee Oyster
BX	Brenda Lee Oyster
BY	James W. Chapman
BZ	Charles L. Roberts
CA	Robert E. Judge
CB	Carolyn Westfall Barnhart
CC	Charles J. Mead, et ux
CD	Anna Blanche Cline
CE	Upper Ohio Soil Conservation
CF	Jeffrey A. Watson, et ux
CG	John F. Stender, et ux
CH	Neil A. Archer II
CI	Clara Catherine Spencer Wells
CJ	Tyler County Board of Education
CK	James D. Hardesty
CL	Antero Resources Corporation
CM	Tyler County Commission
CN	Kathleen Ross Mansuetto
CO	Michael A. Lenz, et ux
CP	WV Division of Natural Resources
CQ	Sara J. Judge

ID	TM/Par	Owner	Bk/Pg	Acres	ID	TM/Par	Owner	Bk/Pg	Acres
1	20-108	Michael J. & Melinda R. Hogue	348/404	192.00	74	20A-18	Roy D. Hadley	WB23/305	0.66
2	26-46	Jay-Bee Production Company	420/97	286.04	75	20A-16	James M. Glover	330/197	0.50
3	26-46.14	Jay-Bee Production Company	420/97	8.69	76	20A-17	Christopher L. Hayes, et al	342/212	0.17
4	26-46.12	Charles R. Holliday, et ux	306/665	3.238	77	20A-49.1	Roy D. Hadley	299/37	0.24
5	26-46.3	Timothy Kanz	440/24	5.4	78	20A-49	Rodney M. Hayes	353/649	0.48
6	26-46.2	Robert E. Lee II, et al	408/122	5.135	79	20A-48	Rodney M. Hayes	353/649	0.22
7	26-46.7	Camille Patera	296/247	7.32	80	20A-47	Rodney Mack Hayes	336/609	0.21
8	26-46.9	Eugene B. Johnson, Jr., et ux	351/160	5.00	81	20A-21	Roy D. Hadley	317/647	0.33
9	26-46.6	Camille Patera	296/247	1.702	82	20A-22	Roy D. Hadley	WB23/305	0.17
10	26-46.15	Camille Patera	296/247	3.722	83	20A-23	Connie Sue Tanner	327/883	0.33
11	26-46.1	Darrell L. Shrader	348/711	5.58	84	20A-24	Timothy & Tonya Stanley	581/792	0.33
12	26-46.16	Jay-Bee Production Company	420/97	5.09	85	20A-25	Nancy Glover	147/104	0.33
13	26-46.10	Leon & Drema Gailson	359/673	4.98	86	20A-26.1	Evelyn S. Smith	328/95	0.165
14	26-46.5	Richard Doty	493/673	13.14	87	20A-26	Evelyn S. Smith	332/691	0.165
15	26-21	Ryan Lee Walton, et ux	342/687	35.9	88	20A-27	John R. & Shirley R. Miller	227/273	0.17
16	20-107	David L. & Kathy A. Lancaster	314/344	18.89	89	20A-28	John R. & Shirley R. Miller	269/669	0.33
17	20-104	David Lancaster	210/505	57.004	90	20A-46	Emily L. Eddy	336/590	0.20
18	20-105.1	Terry Lee Fieber	335/682	6.06	91	20A-45	Arvil Shane Matthews	431/116	0.19
19	20-105	Joe & Shirley Varse	352/736	11.322	92	20A-44	Anna Blanche Cline	WB31/662	0.34
20	20-106	Eugene & Phyllis Howell	223/371	19.76	93	20A-29	Joe & Shirley Varse	361/88	0.17
21	20-99	Pioneer Land Company, LLC	431/414	10	94	20A-30	John M. Hammell, et al	WV37/331	0.17
22	20-106.1	Lee Ann Hall	486/806	5.493	95	20A-31	John M. Hammell, et al	WV37/331	0.17
23	20-106.2	Nancy Forester	328/633	5.429	96	20A-43	Charles J. & Donna Mead	344/588	0.17
24	20-100	Eugene F. & Phyllis Howell	326/749	42.85	97	20A-41	Carolyn Barnhart	348/286	0.34
25	20-101	Henderson Cemetery	OS15/137	0.78	98	20A-40	Barry W. & Linda K. Harter	288/516	0.36
26	20-70	Nina Wise	WB25/700	3.91	99	20A-32	James W. Chapman	348/630	0.33
27	20-69	Jerry Williams, et al	440/471	1.5	100	20A-33	Charles L. & Karen S. Roberts	306/558	0.55
28	20-68	Barbara J. Davis	WB30/311	2.09	101	20A-34	Robert E. Judge	545/765	0.37
29	20-67	William M. & Janet S. Baker	175/391	2.10	102	20-46.1	Betty Tustin	WB45/156	2.476
30	20-100.1	Jacqueline E. Miller	375/626	4.202	103	20-47	Betty Tustin	WB45/156	1
31	20-93.5	Nina Smith & Mary Bennett	308/115	2.88	104	20-87.2	David & Melinda Leasure	252/581	0.50
32	20-93.1	Vernon Stevens	423/703	2.14	105	20-87.1	Earnestine & William Pelikan	242/631	0.77
33	20-93	Robert C. Kramer	547/650	23.964	106	20-88	Upper Ohio Soil Conservation Dist.	233/495	2.36
34	20-54	William M. Baker, et ux	175/391	100.45	107	20-51.3	John & Diana Stender	269/180	2.04
35	20-53	Clara Negie	344/51	8	108	20-51.5	Neil Archer	355/12	2.513
36	20-57	William M. Baker, et ux	189/374	7.5	109	20-51.4	Clara Wells	342/464	2.512
37	20-92	Charles & Doris Anderson	210/359	27	110	20-51	Clara Wells	342/464	1.005
38	20-86	Ruth E. Blake	317/103	23.75	111	20-50	Thomas Wagner	356/410	0.93
39	20-44.1	Ruth E. Blake	317/103	10.17	112	20A-38	Tyler County BOE	211/575	2.5
40	20-51.6	Brian & Sarah Carpenter	342/467	24.92	113	20A-42	Tyler County BOE	175/181	0.22
41	20-33	Lance M. & Tina R. Hickman	396/561	77.84	114	20A-3	Tyler County BOE	143/292	0.26
42	20-49	Samuel O. Wagner	327/411	3.37	115	20A-35	James D. Hardesty	372/186	0.06
43	20-46	Betty Tustin	350/386	29.66	116	20A-36	Tina M. Barnhart	373/828	0.08
44	20-33.3	Richard Fonner	415/796	18.5	117	20A-37	Tyler County Commission	332/574	0.50
45	20-93.7	Charles & Tara Templeton	234/790	4.05	118	20-48	Tyler County Commission	336/13	0.30
46	20-93.3	Wanna Hayes	347/293	3.25	119	4-128	Patty K. Long	AR45/571	0.10
47	20-93.2	Brian Scott Foland	WB58/423	2	120	4-126	William Long	WB32/551	0.07
48	20-93.4	Brian Scott Foland	WB58/423	2	121	4-112	James A. White II	357/177	0.285
49	20-95	Bernard & Tammie Hayes	321/108	3.91	122	4-113	Patricia Hess	249/263	0.22
50	20-96	Robert L. & Dorothy L. Berry	230/37	2.416	123	4-114	Donnie G. & Tawnya D. Rose	353/475	0.22
51	20-54.1	Bradley Baker	355/823	2	124	4-115	Kenneth I. Sinclair	342/566	0.22
52	20-94	Charles & Doris Anderson	217/398	2.806	125	4-120	Ann W. Galindo	WB25/479	0.44
53	20-52	Jeffery & Deborah Watson	270/234	1.03	126	4-121	Kenneth I. Sinclair	342/566	0.386
54	20-90	F. Dean & Shirley Kimble	303/340	2.42	127	4-122	Joseph E. McLaughlin, et ux	432/294	0.276
55	20-91	Larry H. & Shirley I. Kimble	212/435	1.13	128	4-125.1	James A. & Heidi M. Suter	354/511	0.66
56	20-89.2	David L. & Pamela C. Farhatt	375/1	0.848	129	4-125	Ann W. Galindo	WB25/479	0.88
57	20-51.2	John & Diana Stender	255/47	0.32	130	20-23.1	Michael & Chris Lenz	323/732	5.517
58	20-51.1	John & Diana Stender	255/47	2.04	131	20-23	Michael & Chris Lenz	313/216	4.595
59	20-89	John F. & Hailee Stender	538/343	0.92	132	20-25	Marshal McKinney	208/650	0.92
60	20-89.1	Jefferey A. Lancaster, et ux	348/471	1.18	133	20-24	Leslie A. Henderson	312/293	0.34
61	20-87	Earnest Leasure, et al	275/579	6.39	134	20-26	Nancy Mercer	198/157	0.52
62	20-86.1	Earnest Leasure, et al	321/160	3.37	135	20-22	Nancy Mercer	WB32/425	0.34
63	20A-54	Bessie L. Matthews, et vir	521/634	0.46	136	20-32	Homer Lee Matthews	176/216	0.34
64	20A-55	Roy & Betty Lou Hadley	350/341	0.17	137	20-33.2	Homer Matthews	284/375	0.28
65	20A-53	Deloris Guley	AR40/97	0.33	138	20-31	Larry & Barbara Lee	211/179	0.34
66	20A-52	Betty Lou Hadley	579/652	0.2433	139	20-21	Nancy Mercer	WB32/425	0.34
67	20A-51.1	Crystal Christophel	WB19/379	0.16	140	20-109	Lorraine Weekley	AR49/717	0.34
68	20A-51	Shiri A. Henderson	WB19/379	0.17	141	20-27	Earl P. & Crucita Kendle	331/341	0.22
69	20A-50	Laura June Smith	AR48/562	0.1653	142	20-29.1	James Bemby	331/43	0.25
70	20A14	Roy D. Hadley	322/696	0.17	143	20-29	Maurine Hadley	167/89	0.34
71	20A-15	Stephen & Brenda J. Ashley	317/183	0.50	144	20-28	Victor & Lorraine Weekley	280/422	0.23
72	20A-20	Betty Hadley	470/683	0.1653	145	20-30	Donald & Susan Smith	321/422	0.26
73	20A-19	Roy D. Hadley	WB23/305	0.17	146	20-93.6	Robert C. Kramer	547/650	4.0

FILE NO: 11-54-E-19
DRAWING NO: Lancaster Unit 1H As-Drilled
SCALE: 1" = 1500'
MINIMUM DEGREE OF ACCURACY:
Submeter
PROVEN SOURCE OF ELEVATION:
WVDOT, Harrisville, WV



DATE: December 30 2020
OPERATOR'S WELL NO. Lancaster 1H
API WELL NO
47 - 095 - 02674
STATE COUNTY PERMIT

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

LOCATION: ELEVATION: As-Built 1,015' WATERSHED: Outlet Middle Island Creek QUADRANGLE: Middlebourne
DISTRICT: Ellsworth Tustin Family Trust; Carolyn Westfall Barnhart; WVDNR; James D. Hardesty; Robert E. Judge; Brenda Lee Oyster; Sara J. Judge; COUNTY: Tyler
SURFACE OWNER: Michael J. & Melinda R. Hogue Earnestine Pelikan; Rodney Mack Hayes; Earl E. Turner; Thurl Wayne Jones; Robert C. Kramer; Charles E. Anderson, et ux; Earnestine Pelikan & David Leasure; ACREAGE: 192.0
ROYALTY OWNER: Michael J. & Melinda R. Hogue; James F. Doan, et ux; Ridgetop Capital LP; Ruth E. Blake LEASE NO: ACREAGE:

PROPOSED WORK: DRILL CONVERT DRILL DEEPER FRACTURE OR STIMULATE PLUG OFF OLD FORMATION
 PERFORATE NEW FORMATION OTHER PHYSICAL CHANGE IN WELL (SPECIFY) As-Drilled 6,379' TVD
 PLUG AND ABANDON CLEAN OUT AND REPLUG TARGET FORMATION: Marcellus Shale ESTIMATED DEPTH: 16,006' MD

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

Antero Resources
Well No. Lancaster Unit 1H
As-Drilled
Antero Resources Corporation

Page 4 of 4

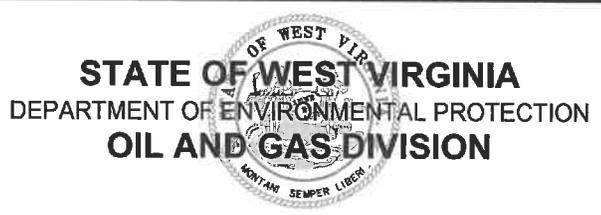
Leases

AD	Robert C. Kramer
AE	Gary R. Davis
AF	Brian Scott Foland
AG	Bernard M. Hayes, et ux
AH	Robert L. Berry, et ux
AI	Bradley Baker
AJ	Frankie Dean Goudy, et ux
AK	Earnestine Pelikan & David Leasure
AL	Larry H. Kimble, et ux
AM	David I. Farhatt, et ux
AN	Lemuel Hugh Moore
AO	Jeffrey A. Lancaster, et ux
AP	Earnestine Pelikan
AQ	Melinda Leasure
AR	Earnestine Pelikan, et vir
AS	Bessie L. Matthews, et vir
AT	Betty Lou Hadley
AU	Betty Lou Hadley
AV	Betty Lou Hadley
AW	Betty Lou Hadley
AX	Stephen D. Ashley, et ux
AY	Martha J. Hayes, et vir
AZ	Betty Lou Hadley
BA	Betty Lou Hadley
BB	Betty Lou Smith
BC	Betty Hadley
BD	Laura June Smith
BE	Kathryn Knowlton
BF	Crystal Christophel
BG	Betty Lou Hadley
BH	Rodney Mack Hayes
BI	Betty Hadley
BJ	Betty Lou Hadley
BK	Donald E. Huffman
BL	Timothy Stanley, et ux
BM	David A. Tustin
BN	Nancy Glover
BO	William H. Eddy
BP	John Miller, et ux
BQ	John R. Miller, et ux
BR	Rodney Mack Hayes
BS	Rodney Mack Hayes
BT	Earl E. Turner
BU	Arvil Shane Matthews
BV	Thurl Wayne Jones
BW	Brenda Lee Oyster
BX	Brenda Lee Oyster
BY	James W. Chapman
BZ	Charles L. Roberts
CA	Robert E. Judge
CB	Carolyn Westfall Barnhart
CC	Charles J. Mead, et ux
CD	Anna Blanche Cline
CE	Upper Ohio Soil Conservation
CF	Jeffrey A. Watson, et ux
CG	John F. Stender, et ux
CH	Neil A. Archer II
CI	Clara Catherine Spencer Wells
CJ	Tyler County Board of Education
CK	James D. Hardesty
CL	Antero Resources Corporation
CM	Tyler County Commission
CN	Kathleen Ross Mansueto
CO	Michael A. Lenz, et ux
CP	WV Division of Natural Resources
CQ	Sara J. Judge

ID	TM/Par	Owner	Bk/Pg	Acres
1	20-108	Michael J. & Melinda R. Hogue	348/404	192.00
2	26-46	Jay-Bee Production Company	420/97	286.04
3	26-46.14	Jay-Bee Production Company	420/97	8.69
4	26-46.12	Charles R. Holliday, et ux	306/665	3.238
5	26-46.3	Timothy Kanz	440/24	5.4
6	26-46.2	Robert E. Lee II, et al	408/122	5.135
7	26-46.7	Camille Patera	296/247	7.32
8	26-46.9	Eugene B. Johnson, Jr, et ux	351/160	5.00
9	26-46.6	Camille Patera	296/247	1.702
10	26-46.15	Camille Patera	296/247	3.722
11	26-46.1	Darrell L. Shrader	348/711	5.58
12	26-46.16	Jay-Bee Production Company	420/97	5.09
13	26-46.10	Leon & Drema Gailson	359/673	4.98
14	26-46.5	Richard Doty	493/673	13.14
15	26-21	Ryan Lee Walton, et ux	342/687	35.9
16	20-107	David L. & Kathy A. Lancaster	314/344	18.89
17	20-104	David Lancaster	210/505	57.004
18	20-105.1	Terry Lee Fiber	335/682	6.06
19	20-105	Joe & Shirley Varse	352/736	11.322
20	20-106	Eugene & Phyllis Howell	223/371	19.76
21	20-99	Pioneer Land Company, LLC	431/414	10
22	20-106.1	Lee Ann Hall	486/806	5.493
23	20-106.2	Nancy Forester	328/633	5.429
24	20-100	Eugene F. & Phyllis Howell	326/749	42.85
25	20-101	Henderson Cemetery	OS15/137	0.78
26	20-70	Nina Wise	WB25/700	3.91
27	20-69	Jerry Williams, et al	440/471	1.5
28	20-68	Barbara J. Davis	WB30/311	2.09
29	20-67	William M. & Janet S. Baker	175/391	2.10
30	20-100.1	Jacqueline E. Miller	375/626	4.202
31	20-93.5	Nina Smith & Mary Bennett	308/115	2.88
32	20-93.1	Vernon Stevens	423/703	2.14
33	20-93	Robert C. Kramer	547/650	23.964
34	20-54	William M. Baker, et ux	175/391	100.45
35	20-53	Clara Negie	344/51	8
36	20-57	William M. Baker, et ux	189/374	7.5
37	20-92	Charles & Doris Anderson	210/359	27
38	20-86	Ruth E. Blake	317/103	23.75
39	20-44.1	Ruth E. Blake	317/103	10.17
40	20-51.6	Brian & Sarah Carpenter	342/467	24.92
41	20-33	Lance M. & Tina R. Hickman	396/561	77.84
42	20-49	Samuel O. Wagner	327/411	3.37
43	20-46	Betty Tustin	350/386	29.66
44	20-33.3	Richard Fonner	415/796	18.5
45	20-93.7	Charles & Tara Templeton	234/790	4.05
46	20-93.3	Wanna Hayes	347/293	3.25
47	20-93.2	Brian Scott Foland	WB58/423	2
48	20-93.4	Brian Scott Foland	WB58/423	2
49	20-95	Bernard & Tammie Hayes	321/108	3.91
50	20-96	Robert L. & Dorothy L. Berry	230/37	2.416
51	20-54.1	Bradley Baker	355/823	2
52	20-94	Charles & Doris Anderson	217/398	2.806
53	20-52	Jeffery & Deborah Watson	270/234	1.03
54	20-90	F. Dean & Shirley Kimble	303/340	2.42
55	20-91	Larry H. & Shirley I. Kimble	212/435	1.13
56	20-89.2	David L. & Pamela C. Farhatt	375/1	0.848
57	20-51.2	John & Diana Stender	255/47	0.32
58	20-51.1	John & Diana Stender	255/47	2.04
59	20-89	John F. & Halilee Stender	538/343	0.92
60	20-89.1	Jefferey A. Lancaster, et ux	348/471	1.18
61	20-87	Earnest Leasure, et al	275/579	6.39
62	20-86.1	Earnest Leasure, et al	321/160	3.37
63	20A-54	Bessie L. Matthews, et vir	521/634	0.46
64	20A-55	Roy & Betty Lou Hadley	350/341	0.17
65	20A-53	Deloris Gully	AR40/97	0.33
66	20A-52	Betty Lou Hadley	579/652	0.2433
67	20A-51.1	Crystal Chrisophel	WB19/379	0.16
68	20A-51	Shiri A. Henderson	WB19/379	0.17
69	20A-50	Laura June Smith	AR48/562	0.1653
70	20A14	Roy D. Hadley	322/696	0.17
71	20A-15	Stephen & Brenda J. Ashley	317/183	0.50
72	20A-20	Betty Hadley	470/683	0.1653
73	20A-19	Roy D. Hadley	WB23/305	0.17

ID	TM/Par	Owner	Bk/Pg	Acres
74	20A-18	Roy D. Hadley	WB23/305	0.66
75	20A-16	James M. Glover	330/197	0.50
76	20A-17	Christopher L. Hayes, et al	342/212	0.17
77	20A-49.1	Roy D. Hadley	299/37	0.24
78	20A-49	Rodney M. Hayes	353/649	0.48
79	20A-48	Rodney M. Hayes	353/649	0.22
80	20A-47	Rodney Mack Hayes	336/609	0.21
81	20A-21	Roy D. Hadley	317/647	0.33
82	20A-22	Roy D. Hadley	WB23/305	0.17
83	20A-23	Connie Sue Tanner	327/883	0.33
84	20A-24	Timothy & Tonya Stanley	581/792	0.33
85	20A-25	Nancy Glover	147/104	0.33
86	20A-26.1	Evelyn S. Smith	328/95	0.165
87	20A-26	Evelyn S. Smith	332/691	0.165
88	20A-27	John R. & Shirley R. Miller	227/273	0.17
89	20A-28	John R. & Shirley R. Miller	269/669	0.33
90	20A-46	Emily L. Eddy	336/590	0.20
91	20A-45	Arvil Shane Matthews	431/116	0.19
92	20A-44	Anna Blanche Cline	WB31/662	0.34
93	20A-29	Joe & Shirley Varse	361/88	0.17
94	20A-30	John M. Hammell, et al	WV37/331	0.17
95	20A-31	John M. Hammell, et al	WV37/331	0.17
96	20A-43	Charles J. & Donna Mead	344/588	0.17
97	20A-41	Carolyn Barnhart	348/286	0.34
98	20A-40	Barry W. & Linda K. Harter	288/516	0.36
99	20A-32	James W. Chapman	348/630	0.33
100	20A-33	Charles L. & Karen S. Roberts	306/558	0.55
101	20A-34	Robert E. Judge	545/765	0.37
102	20-46.1	Betty Tustin	WB45/158	2.476
103	20-47	Betty Tustin	WB45/158	1
104	20-87.2	David & Melinda Leasure	252/581	0.50
105	20-87.1	Earnestine & William Pelikan	242/631	0.77
106	20-88	Upper Ohio Soil Conservation Dist.	233/495	2.36
107	20-51.3	John & Diana Stender	269/180	2.04
108	20-51.5	Neil Archer	355/12	2.513
109	20-51.4	Clara Wells	342/464	2.512
110	20-51	Clara Wells	342/464	1.005
111	20-50	Thomas Wagner	356/410	0.93
112	20A-38	Tyler County BOE	211/575	2.5
113	20A-42	Tyler County BOE	175/181	0.22
114	20A-3	Tyler County BOE	143/292	0.26
115	20A-35	James D. Hardesty	372/186	0.06
116	20A-36	Tina M. Barnhart	373/828	0.08
117	20A-37	Tyler County Commission	332/574	0.50
118	20-48	Tyler County Commission	336/13	0.30
119	4-128	Patty K. Long	AR45/571	0.10
120	4-126	William Long	WB32/551	0.07
121	4-112	James A. White II	357/177	0.285
122	4-113	Patricia Hess	249/263	0.22
123	4-114	Donnie G. & Tawyna D. Rose	353/475	0.22
124	4-115	Kenneth I. Sinclair	342/566	0.22
125	4-120	Ann W. Galindo	WB25/479	0.44
126	4-121	Kenneth I. Sinclair	342/566	0.386
127	4-122	Joseph E. McLaughlin, et ux	432/294	0.276
128	4-125.1	James A. & Heidi M. Suter	354/511	0.66
129	4-125	Ann W. Galindo	WB25/479	0.88
130	20-23.1	Michael & Chris Lenz	323/732	5.517
131	20-23	Michael & Chris Lenz	313/216	4.595
132	20-25	Marshal McKinney	208/650	0.92
133	20-24	Leslie A. Henderson	312/293	0.34
134	20-26	Nancy Mercer	198/157	0.52
135	20-22	Nancy Mercer	WB32/425	0.34
136	20-32	Homer Lee Matthews	176/216	0.34
137	20-33.2	Homer Matthews	284/375	0.28
138	20-31	Larry & Barbara Lee	211/179	0.34
139	20-21	Nancy Mercer	WB32/425	0.34
140	20-109	Lorraine Weekley	AR49/717	0.24
141	20-27	Earl P. & Crucita Kendle	331/341	0.32
142	20-29.1	James Bembry	331/43	0.25
143	20-29	Maurine Hadley	167/69	0.34
144	20-28	Victor & Lorraine Weekley	280/422	0.23
145	20-30	Donald & Susan Smith	321/422	0.26
146	20-93.6	Robert C. Kramer	547/650	4.0

NO: 11-54-E-19
 WING NO: Lancaster Unit 1H As-Drilled
 Scale: 1" = 1500'
 DEGREE OF ACCURACY: Submeter
 SOURCE OF ELEVATION: WDOT, Harrisville, WV



DATE: December 30 2020
 OPERATOR'S WELL NO. Lancaster 1H
 API WELL NO
 47 - 095 - 02674
 STATE COUNTY PERMIT

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

ELEVATION: As-Built 1,015' WATERSHED: Outlet Middle Island Creek QUADRANGLE: Middlebourne
 Worth Tustin Family Trust; Carolyn Westfall Barnhart; WVDNR; James D. Hardesty; Robert E. Judge; Brenda Lee Oyster; Sara J. Judge; Earnestine Pelikan; Rodney Mack Hayes; Earl E. Turner; Thurl Wayne Jones; Robert C. Kramer; Charles E. Anderson, et ux; Earnestine Pelikan & David Leasure; Joe & Shirley Varse; Leeman W. & Susan L. Mason; Eugene F. Howell, et ux (2); Michael A. Lenz, et ux
 COUNTY: Tyler ACREAGE: 192.0
 LEASE NO: ACREAGE:

TYPE: DRILL CONVERT DRILL DEEPER FRACTURE OR STIMULATE PLUG OFF OLD FORMATION
 NEW FORMATION OTHER PHYSICAL CHANGE IN WELL (SPECIFY) As-Drilled
 DON CLEAN OUT AND REPLUG TARGET FORMATION: Marcellus Shale ESTIMATED DEPTH: 6,379' TVD
 16,006' MD

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