

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

API 47-095-02801 County Tyler District Ellsworth
Quad Porter Falls 7.5' Pad Name Furbee Field/Pool Name -----
Farm name Antero Midstream LLC Well Number Emmons 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 4375460m Easting 518718m
Landing Point of Curve Northing 4375822.94m Easting 519149.02m
Bottom Hole Northing 4378700m Easting 518185m

Elevation (ft) 1223' 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 7/26/2022 Date drilling commenced 9/30/2022 Date drilling ceased 12/31/2022
Date completion activities began 2/4/2023 Date completion activities ceased 4/2/2023
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 880' Open mine(s) (Y/N) depths No
Salt water depth(s) ft 959' Void(s) encountered (Y/N) depths No
Coal depth(s) ft 431' Cavern(s) encountered (Y/N) depths No
Is coal being mined in area (Y/N) No

APPROVED

Reviewed by:
Smiley
09/22/2023
7-27-23

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JUN 23 2023

WV Department of
Environmental Protection
12/31/2022

API 47-095 - 02801 Farm name Antero Midstream LLC Well number Emmons 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	28"	20"	125.5'	New	78.67#, X-60	N/A	Y
Surface	17-1/2"	13-3/8"	985'	New	54.5#, J-55	N/A	Y
Coal							
Intermediate 1	12-1/4"	9-5/8"	3440'	New	36#, J-55	N/A	Y
Intermediate 2							
Intermediate 3							
Production	8-3/4" /8-1/2"	5-1/2"	18014'	New	20#, P-110	N/A	Y
Tubing		2-3/8"	7278'		4.7#, P-110		
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	198 sx	15.6	1.18	233	0'	8 Hrs.
Surface	Class A	768 sx	15.6	1.20	921	0'	8 Hrs.
Coal							
Intermediate 1	Class A	1152 sx	15.6	1.20	1382	0'	8 Hrs.
Intermediate 2							
Intermediate 3							
Production	Class H	2689 sx (Tail)	13.5 (Lead), 15.2(Tail)	1.26 (Tail)	3388	-500' into Intermediate Casing	8 Hrs.
Tubing							

Drillers TD (ft) 18014' MD, 6899' TVD (BHL), 6917' TVD (Deepest Point Drilled) Loggers TD (ft) 18014' MD
 Deepest formation penetrated Marcellus Plug back to (ft) N/A
 Plug back procedure N/A

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Kick off depth (ft) 6403'

WV Department of Environmental Protection

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

09/22/2023 *JTC*

API 47- 095 - 02801 Farm name Antero Midstream LLC Well number Emmons Unit 1H

PERFORATION RECORD

Stage No.	Perforation date	Perforated from MD ft.	Perforated to MD ft.	Number of Perforations	Formation(s)
*PLEASE SEE ATTACHED EXHIBIT 1					

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Please insert additional pages as applicable.

STIMULATION INFORMATION PER STAGE

Complete a separate record for each stimulation stage.

Stage No.	Stimulations Date	Ave Pump Rate (BPM)	Ave Treatment Pressure (PSI)	Max Breakdown Pressure (PSI)	ISIP (PSI)	Amount of Proppant (lbs)	Amount of Water (bbls)	Amount of Nitrogen/other (units)
*PLEASE SEE ATTACHED EXHIBIT 2								

Please insert additional pages as applicable.

09/22/2023 *JM*

API 47- 095 - 02801 Farm name Antero Midstream LLC Well number Emmons Unit 1H

<u>PRODUCING FORMATION(S)</u>	<u>DEPTHS</u>		
Marcellus	6854' (TOP)	TVD	7437' (TOP) MD

Please insert additional pages as applicable.

GAS TEST Build up Drawdown Open Flow OIL TEST Flow Pump

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

OPEN FLOW Gas 6334.18 mcfpd Oil 311.40 bpd NGL --- bpd Water 396.28 bpd

GAS MEASURED BY Estimated Orifice Pilot

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

***PLEASE SEE ATTACHED EXHIBIT 3**

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Please insert additional pages as applicable.

Drilling Contractor H & P Drilling
Address 912 N Eagle Valley Rd City Howard State PA Zip 16841

Logging Company Nine Energy Services
Address 6500 West Fwy City Fort Worth State TX Zip 76116

Cementing Company Schlumberger US Land
Address 3600 Briarpark Drive City Houston State TX Zip 77042

Stimulating Company Halliburton
Address 3000 W. Sam Houston Pkwy City Houston State TX Zip 76114

Please insert additional pages as applicable.

Completed by Stefan Gaspar Telephone 303-357-6959
Signature [Signature] Title Permitting Agent Date 6/22/23

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

SM

09/22/2023

LATITUDE 39°32'30"

9133'

LATITUDE 39°35'00"

10,855'

Antero Resources Corporation Well No. Emmons Unit 1H

AS DRILLED DATA: WELL 1H TOP HOLE INFORMATION: N: 377,188ft E: 1,638,290ft LAT: 39°31'42.65" LON: 80°46'56.57" BOTTOM HOLE INFORMATION: N: 387,848ft E: 1,636,716ft LAT: 39°33'27.78" LON: 80°47'18.60" WEST VIRGINIA COORDINATE SYSTEM OF 1927 NORTH ZONE. ZONE WAS DERIVED FROM MEASUREMENTS TAKEN WITH TRIMBLE GEOXT SUBMETER MAPPING GRADE GPS UNIT. PLAT ORIENTATION, CORNER, AND WELL REFERENCE TIE LINES ARE BASED ON GRID NORTH.

(NAD) 83 (UTM) ZONE 17 COORDS: WELL 1H TOP HOLE INFORMATION: N: 4,375,460m E: 518,718m BOTTOM HOLE INFORMATION: N: 4,378,700m E: 518,185m

(NAD) 27 (UTM) ZONE 17 COORDS: WELL 1H TOP HOLE INFORMATION: N: 14,354,441ft E: 1,701,780ft POINT OF ENTRY INFORMATION: N: 14,355,096ft E: 1,703,441ft BOTTOM HOLE INFORMATION: N: 14,365,071ft E: 1,700,030ft

WV NORTH ZONE GRID NORTH

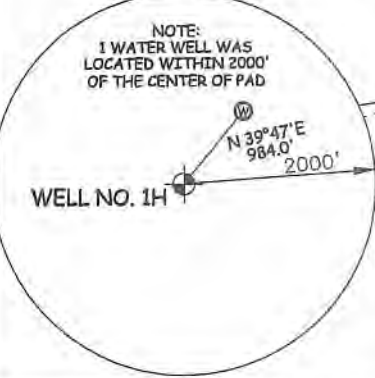
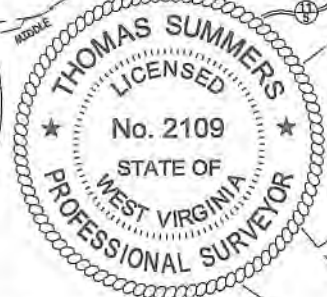
Table with 2 columns: District (Ellsworth, Green) and Well Number/Owner Name. Lists various landowners and well identifiers.

4,791'

9,330'

LONGITUDE 80°45'00"

LONGITUDE 80°45'00"



I THE UNDERSIGNED, HEREBY CERTIFY THAT THIS PLAT IS CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF AND SHOWS ALL THE INFORMATION REQUIRED BY LAW AND THE RULES ISSUED AND PRESCRIBED BY THE DEPARTMENT OF ENVIRONMENTAL PROTECTION.

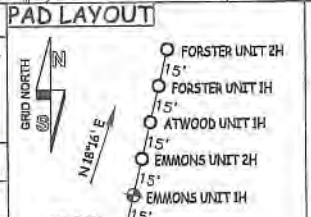


STATE OF WEST VIRGINIA, DIVISION OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS. WILLOW LAND SURVEYING PLLC, 220 MASONIC AVE. PENNSBORO WEST VIRGINIA 26415

MINERAL OWNERSHIP table listing owners A through Y, including names like John Ray Nolan, Timothy W. Ueltschy, and others.

JOB # 20-014WA, DRAWING # EMMONS1HAD, SCALE 1" = 2000', MINIMUM DEGREE OF ACCURACY SUBMETER, PROVEN SOURCE OF ELEV. SUBMETER MAPPING GRADE GPS

LEGEND: Surface Owner Boundary Lines +/-, Interior Surface Tracts +/-, Proposed Well Path, As Drilled Well Path. Signature of Thomas Summers.



NOTE: 1. NO OCCUPIED DWELLINGS OR BUILDINGS TWO THOUSAND FIVE HUNDRED (2,500) SQUARE FEET OR LARGER USED TO HOUSE OR SHELTER DAIRY CATTLE OR POULTRY HUSBANDRY ARE LOCATED WITHIN SIX HUNDRED TWENTY-FIVE (625) FEET OF THE CENTER OF THE WELL PAD.

STATE OF WEST VIRGINIA DEPARTMENT OF ENERGY DIVISION OF OIL AND GAS

DATE 05/11/23 OPERATOR'S WELL# EMMONS UNIT #1H

WELL TYPE: OIL ___ GAS X LIQUID INJECTION ___ WASTE DISPOSAL ___ 47 - 095 - 02801 (IF "GAS") PRODUCTION X STORAGE ___ DEEP ___ SHALLOW X STATE COUNTY PERMIT LOCATION: ELEVATION 1,223' -AS BUILT WATERSHED OUTLET MIDDLE ISLAND CREEK QUADRANGLE PORTER FALLS 7.5' DISTRICT ELLSWORTH COUNTY TYLER SURFACE OWNER ANTERO MIDSTREAM LLC ACREAGE 50 ACRES +/- OIL & GAS ROYALTY OWNER ELAINE L. OILER; HAUGHT FAMILY TRUST; LEASE ACREAGE 50 AC +/- 16.25 AC +/- H3 LLC; OMA ANN FERRELL; DEANNA R. COCHRAN; DANNY RAY BOOHER ET UX; RBMA LLC; 14 AC +/- 67 AC +/- 67 AC +/- 51.5 AC +/- 119.75 AC +/- SHIRLEY L. CARROLL; CHERYL LOY; BRC APPALACHIAN MINERALS I LLC; JANET CARROLL JONES; 1.41 AC +/- 10.59 AC +/- 96.38 AC +/- 20 AC +/- JANET CARROLL JONES; BRC APPALACHIAN MINERALS I LLC; CLAIR P. DAWSON; SHIBEN ESTATES 26.5 AC +/- 15 AC +/- 120.5 AC +/- 54.5 AC +/- PROPOSED WORK: DRILL ___ CONVERT ___ DRILL DEEPER ___ REDRILL ___ FRACTURE OR STIMULATE ___ PLUG OFF OLD FORMATION ___ PERFORATE NEW FORMATION ___ OTHER PHYSICAL CHANGE IN WELL (SPECIFY) AS DRILLED PLUG & ABANDON CLEAN OUT & REPLUG TARGET FORMATION MARCELLUS ESTIMATED DEPTH 6,899' TVD 18,014' MD WELL OPERATOR ANTERO RESOURCES CORP. DESIGNATED AGENT KEVIN ELLIS ADDRESS 1615 WYNKOOP ST. ADDRESS 535 WHITE OAKS BLVD BRIDGEPORT, WV 26330

COUNTY NAME PERMIT

Handwritten signature/initials.

LATITUDE 39°32'30"

9133'

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Antero Resources Corporation
Well No. Emmons Unit 1H

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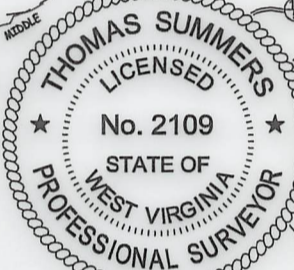
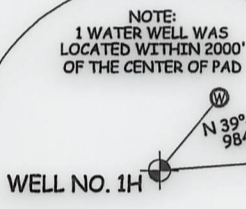
Ellsworth District - Tyler County	
07-16	John Bennett
08-01	Karen Clark
08-02	Wendi Manion
08-03	Wendi Manion
08-04	Karen Clark
08-06	Karen Clark
08-7.1	Arthur Clark
08-7.2	Danny Booher
08-7.3	Danny Moore
08-08	Vera Knight
12-01	James Kleech
12-02	Gary Midcap
12-03	Dorothy Lauster
12-04	Charles Midcap Jr.
12-4.1	Charles Midcap Jr.
12-4.2	David Gifford
12-05	Rosalie Henry
12-06	Antero Midstream LLC
12-07	Coastal Forest Resources Co.
12-08	Shirley Carroll
12-09	Coastal Forest Resources Co.
12-17	Antero Midstream LLC
12-18	Antero Midstream LLC
12-19	Jon Dumars
12-20	Sha Yoho
12-20.1	Sha Yoho
12-21	Clarabelle Ferrell
12-22	Ralph Thacker
12-25	Margaret Lancaster
Green District - Wetzel County	
15-3	Robert Clark
15-4	Clair Dawson
15-6	Robert Clark
15-7	Clair Dawson
15-8	Clair Dawson
15-8.1	Edward Dawson Est.
15-11	Timothy Ueltschy
16-1	Ronald Nolan
16-5	Mount Olive Cemetery
16-6	Clair Dawson
16-7	Wilbur Dawson
16-17	Cathy Stewart
16-18	Cathy Stewart
16-19	Eugene Mason
16-27	Janet Jones
16-28	Janet Jones
16-34	Cheryl Loy
16-34.1	Shirley Carroll
16-35	Eugene Mason
16-35.1	Janet Jones
16-42	RBMA LLC
16-43	RBMA LLC
16-50	Christine Booher
16-51	David Gifford
16-52	RBMA LLC
19-1	Joshua Highley
19-55	Olive Moore
19-56	Brian Weekley
19-57	Brian Weekley

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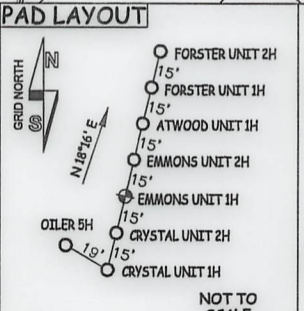
STATE OF WEST VIRGINIA, DIVISION OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS

WILLOW LAND SURVEYING PLLC
220 MASONIC AVE. PENNSBORO WEST VIRGINIA 26415

MINERAL OWNERSHIP	
A	JOHN RAY NOLAN
B	TIMOTHY W. UELTSCHY
C	CLAIR P. DAWSON
D	SHIBEN ESTATES, INC.
E	KAREN SUB CLARK
F	BRC APPALACHIAN MINERALS I LLC
G	JANET CARROLL JONES
H	BRC APPALACHIAN MINERALS I LLC
I	ERNEST E. STEWART ET AL
J	CHERYL LOY
K	SHIRLEY L. CARROLL
L	DANNY RAY BOOHER ET UX
M	RBMA LLC
N	DANNY RAY BOOHER ET UX
O	DEANNA R. COCHRAN
P	ROSALIE B. HENRY
Q	OMA ANN FERRELL
R	BRIAN MICHAEL WEEKLEY
S	ELSIE M. SNIVELY
T	ELAINE L. OILER
U	H3 LLC
V	HAUGHT FAMILY TRUST
W	JOHN MICHAEL DUMARS ET UX
X	KAREN SUB CLARK
Y	JANET CARROLL JONES

JOB # 20-014WA
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SCALE 1" = 2000'
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LEGEND
--- Surface Owner Boundary Lines +/-
--- Interior Surface Tracts +/-
--- Proposed Well Path
--- As Drilled Well Path
THOMAS SUMMERS P.S. 2109



- NOTE
1. NO OCCUPIED DWELLINGS OR BUILDINGS TWO THOUSAND FIVE HUNDRED (2,500) SQUARE FEET OR LARGER USED TO HOUSE OR SHELTER DAIRY CATTLE OR POULTRY HUSBANDRY ARE LOCATED WITHIN SIX HUNDRED TWENTY-FIVE (625) FEET OF THE CENTER OF THE WELL PAD.
 2. TOP HOLE DATA SHOWN HEREON WAS PROVIDED BY ANTERO RESOURCES CORPORATION.
 3. AS DRILLED DATA WAS PROVIDED BY ANTERO RESOURCES CORPORATION.
 4. WLS IS NOT CERTIFYING THE DATA AND INFORMATION PROVIDED LISTED IN NOTES 2 AND 3, ONLY THE RELATIONSHIP TO THE DATA AND INFORMATION PROVIDED TO THE LEASE BOUNDARIES.
 5. WLS IS BY NO MEANS RESPONSIBLE FOR ANY ERRORS OR INACCURACIES WITH THE DATA AND INFORMATION THAT HAS BEEN PROVIDED.

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QUADRANGLE PORTER FALLS 7.5' DISTRICT ELLSWORTH COUNTY TYLER
SURFACE OWNER ANTERO MIDSTREAM LLC ACREAGE 50 ACRES +/-

OIL & GAS ROYALTY OWNER ELAINE L. OILER; HAUGHT FAMILY TRUST; LEASE ACREAGE 50 AC±; 16.25 AC±;
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ADDRESS 1615 WYNKOOP ST. ADDRESS 535 WHITE OAKS BLVD
FORM WW-6 DENVER, CO 80202 BRIDGEPORT, WV 26330

COUNTY NAME

PERMIT

09/22/2023

EXHIBIT 1

Stage No.	Perforation Date	Perforated from MD ft.	Perforated to MD ft.	Number of Perforations	Formations
1	2/4/2023	17888.5	17845.5	60	Marcellus
2	2/4/2023	17806.25327	17639.0196	60	Marcellus
3	2/4/2023	17603.17288	17435.9392	60	Marcellus
4	2/5/2023	17400.09248	17232.8588	60	Marcellus
5	2/5/2023	17197.01209	17029.7784	60	Marcellus
6	2/5/2023	16993.9317	16826.698	60	Marcellus
7	2/5/2023	16790.85131	16623.6176	60	Marcellus
8	2/6/2023	16587.77092	16420.5373	60	Marcellus
9	2/6/2023	16384.69052	16217.4569	60	Marcellus
10	2/6/2023	16181.61013	16014.3765	60	Marcellus
11	2/6/2023	15978.52974	15811.2961	60	Marcellus
12	2/7/2023	15775.44935	15608.2157	60	Marcellus
13	2/7/2023	15572.36895	15405.1353	60	Marcellus
14	2/7/2023	15369.28856	15202.0549	60	Marcellus
15	2/7/2023	15166.20817	14998.9745	60	Marcellus
16	2/8/2023	14963.12778	14795.8941	60	Marcellus
17	2/8/2023	14760.04739	14592.8137	60	Marcellus
18	2/8/2023	14556.96699	14389.7333	60	Marcellus
19	2/8/2023	14353.8866	14186.6529	60	Marcellus
20	2/9/2023	14150.80621	13983.5725	60	Marcellus
21	2/9/2023	13947.72582	13780.4922	60	Marcellus
22	2/9/2023	13744.64542	13577.4118	60	Marcellus
23	2/10/2023	13541.56503	13374.3314	60	Marcellus
24	2/10/2023	13338.48464	13171.251	60	Marcellus
25	2/10/2023	13135.40425	12968.1706	60	Marcellus
26	2/10/2023	12932.32386	12765.0902	60	Marcellus
27	2/11/2023	12729.24346	12562.0098	60	Marcellus
28	2/11/2023	12526.16307	12358.9294	60	Marcellus
29	2/11/2023	12323.08268	12155.849	60	Marcellus
30	2/11/2023	12120.00229	11952.7686	60	Marcellus
31	2/12/2023	11916.9219	11749.6882	60	Marcellus
32	2/12/2023	11713.8415	11546.6078	60	Marcellus
33	2/12/2023	11510.76111	11343.5275	60	Marcellus
34	2/12/2023	11307.68072	11140.4471	60	Marcellus
35	2/13/2023	11104.60033	10937.3667	60	Marcellus
36	2/13/2023	10901.51993	10734.2863	60	Marcellus
37	2/13/2023	10698.43954	10531.2059	60	Marcellus
38	2/14/2023	10495.35915	10328.1255	60	Marcellus
39	2/14/2023	10292.27876	10125.0451	60	Marcellus
40	2/14/2023	10089.19837	9921.96471	60	Marcellus
41	2/15/2023	9886.117974	9718.88431	60	Marcellus
42	2/15/2023	9683.037582	9515.80392	60	Marcellus
43	2/16/2023	9479.95719	9312.72353	60	Marcellus
44	2/16/2023	9276.876797	9109.64314	60	Marcellus
45	2/16/2023	9073.796405	8906.56275	60	Marcellus
46	2/17/2023	8870.716013	8703.48235	60	Marcellus
47	2/17/2023	8667.635621	8500.40196	60	Marcellus
48	2/17/2023	8464.555229	8297.32157	60	Marcellus
49	2/17/2023	8261.474837	8094.24118	60	Marcellus
50	2/18/2023	8058.394444	7891.16078	60	Marcellus
51	2/18/2023	7855.314052	7688.08039	60	Marcellus
52	2/18/2023	7652.23366	7485	60	Marcellus

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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	2/4/2023	78.97	8389	8494	3564	166140	190641	N/A
2	2/4/2023	88.69398	8637.707	6079.32	3397.337	419920	315634	N/A
3	2/4/2023	91.12	8622	4365	3845	417060	303388	N/A
4	2/5/2023	88.04	8588	7711	3632	413560	292836	N/A
5	2/5/2023	86.90048	8527.121	6136.82	3885.165	406920	299572	N/A
6	2/5/2023	90.08	8644	5553	3712	402510	292941	N/A
7	2/5/2023	91.73455	8620.059	5634.79	3787.021	397940	286309	N/A
8	2/6/2023	89.39625	8399.208	5152.32	3497.537	408850	283309	N/A
9	2/6/2023	91.17	8547	6645	3875	416900	296056	N/A
10	2/6/2023	89.05	8595	3520	3803	415900	291697	N/A
11	2/6/2023	91.81329	8520.102	4395.35	3678.014	400380	284899	N/A
12	2/7/2023	95.01533	8570.931	4349.21	3917.192	408220	297904	N/A
13	2/7/2023	89.32	8543	5866	3888	415070	304729	N/A
14	2/7/2023	95.68	8625	5540	3976	420520	305568	N/A
15	2/7/2023	94.38	8441	4404	3722	419750	326622	N/A
16	2/8/2023	94.44	8495	5626	3906	416970	298802	N/A
17	2/8/2023	93.83	8633	5864	3905	416160	298828	N/A
18	2/8/2023	98.15	8634	5093	3842	413030	302576	N/A
19	2/8/2023	95.02	8521	5823	3969	411890	286445	N/A
20	2/9/2023	96.88	8545	5688	3837	406190	292404	N/A
21	2/9/2023	94.96	8466	5501	3715	414520	285392	N/A
22	2/9/2023	94.61	8435	5926	4039	416480	304397	N/A
23	2/10/2023	95.84	8543	6117	3754	409140	298115	N/A
24	2/10/2023	96.66	8559	4657	3671	411090	301455	N/A
25	2/10/2023	96.41	8521	5824	3622	408300	299137	N/A
26	2/10/2023	95.79	8295	5673	4167	404140	301664	N/A
27	2/11/2023	98.3	8487	5760	4270	416180	313022	N/A
28	2/11/2023	96.57	8535	6198	3963	416860	312610	N/A
29	2/11/2023	97.61	8630	6613	3891	418040	308450	N/A
30	2/11/2023	98.27	8331	6035	4121	414500	314000	N/A
31	2/12/2023	97.57	8291	6581	4196	404570	305313	N/A
32	2/12/2023	98.93	8350	5775	4007	408120	304499	N/A
33	2/12/2023	98.74	8253	5180	3845	408090	291486	N/A
34	2/12/2023	98.75	7982	4603	3999	417480	308850	N/A
35	2/13/2023	97.34	7987	6015	3989	419930	308629	N/A
36	2/13/2023	98.47	8277	5938	3954	419680	308761	N/A
37	2/13/2023	98.08	8280	5618	3934	412570	303601	N/A
38	2/14/2023	98.66	8244	5624	3983	415000	298430	N/A
39	2/14/2023	99.16	8144	5832	4000	415180	314511	N/A
40	2/14/2023	95.62	8029	4445	3958	418020	308729	N/A
41	2/15/2023	98.23	8084	6185	4006	411790	294254	N/A
42	2/15/2023	99.35	8209	4498	3890	408358	296356	N/A
43	2/16/2023	96.09	7857	3917	4192	417160	299247	N/A
44	2/16/2023	97.67	8248	7229	4513	408860	288759	N/A
45	2/16/2023	99.03	7905	6404	3957	420830	292325	N/A
46	2/17/2023	97.37	7667	4058	4021	418310	291291	N/A
47	2/17/2023	99.44	7654	5542	4122	416210	291314	N/A
48	2/17/2023	100.01	7666	6202	4514	419470	287543	N/A
49	2/17/2023	98.76	7608	3874	4103	413280	300292	N/A
50	2/18/2023	99.61	7466	5527	3973	408430	285799	N/A
51	2/18/2023	99.51	7743	4982	4496	421420	282251	N/A
52	2/18/2023	97.72	7354	6447	3927	415610	295448	N/A
	AVERAGE	95.4	8,292	5,591	3,931	21,241,498	15,447,090	0

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EXHIBIT 3

LITHOLOGY/ FORMATION	TOP DEPTH (TVD)	BOTTOM DEPTH (TVD)	TOP DEPTH (MD)	BOTTOM DEPTH (MD)
	From Surface	From Surface	From Surface	From Surface
Shaly Siltstone, tr LS	90	274	90	274
Sandy Siltstone, Coal	274	334	274	334
Silty Sandstone	334	424	334	424
Shaly Siltstone, occ LS	424	634	424	634
Sandy Siltstone, occ LS	634	964	634	964
Shaly Siltstone, occ SS	964	1,024	964	1,024
Shaly Siltstone	1,024	1,434	1,024	1,434
Sandy Siltstone, occ Shale	1,434	1,524	1,434	1,524
Silty Sandstone, tr coal	1,524	1,614	1,524	1,614
Silty Sandstone, coal, tr shale	1,614	1,734	1,614	1,734
Silty Sandstone, occ shale	1,734	1884	1,734	1,884
Shaly Sandstone, coal, occ slst	1,884	2,124	1,884	2,124
Silty Sandstone, coal, occ Shale	2,124	2,086	2,124	2,103
Big Lime	2,112	2,784	2,103	2,844
Fifty Foot Sandstone	2,784	2,995	2,818	3,067
Gordon	2,995	3,209	3,041	3,294
Fifth Sandstone	3,209	3,469	3,268	3,570
Bayard	3,469	3,936	3,544	4,109
Speechley	3,936	4,143	4,083	4,343
Balltown	4,143	4,545	4,317	4,764
Bradford	4,545	5,110	4,738	5,353
Benson	5,110	5,554	5,327	5,819
Alexander	5,554	6,690	5,793	7,077
Sycamore	6,544	6,664	6,889	7,051
Middlesex	6,664	6,755	7,051	7,199
Burkett	6,755	6,789	7,199	7,262
Tully	6,789	6,854	7,262	7,437
Marcellus	6,854	NA	7,437	NA

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Hydraulic Fracturing Fluid Product Component Information Disclosure

Job Start Date:	2/4/2023
Job End Date:	2/18/2023
State:	West Virginia
County:	Tyler
API Number:	47-095-02801-00-00
Operator Name:	Antero Resources Corporation
Well Name and Number:	Beech Run Emmons Unit 1H
Latitude:	39.52851000
Longitude:	-80.78238000
Datum:	NAD83
Federal Well:	NO
Indian Well:	NO
True Vertical Depth:	6,917
Total Base Water Volume (gal):	16,203,844
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	86.24173	Density = 8.34
Ingredients	Listed Above	Listed Above	Water	7732-18-5	100.00000	0.13794	

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HAI-501	Halliburton	Acid Corrosion Inhibitor					
				Listed Below			
WG-36 GELLING AGENT	Halliburton	Gelling Agent					
				Listed Below			
Sand-Common White-100 Mesh, SSA-2	Halliburton	Proppant					
				Listed Below			
Chemstream StimSTREAM FR 2800	Chemstream, Inc.	Friction Reducer					
				Listed Below			
OPTIFLO-II DELAYED RELEASE BREAKER	Halliburton	Breaker					
				Listed Below			
MC B-8614A	MultiChem	Biocide					
				Listed Below			
HYDROCHLORIC ACID, 22 BAUME	Halliburton	Solvent					
				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	13.55561	
			Hydrochloric acid	7647-01-0	30.00000	0.03879	

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		Distillates, (petroleum), hydrotreated light	64742-47-8	25.00000	0.01472
		Guar gum	9000-30-0	100.00000	0.00546
		Alcohols, C11-14-iso, C-13-rich, ethoxylated	78330-21-9	5.00000	0.00294
		Glutaraldehyde	111-30-8	30.00000	0.00259
		Alkyl (C12-16) dimethylbenzyl ammonium chloride	68424-85-1	5.00000	0.00043
		Methanol	67-56-1	100.00000	0.00024
		Ammonium persulfate	7727-54-0	100.00000	0.00016
		Ethanol	64-17-5	1.00000	0.00009
		Modified thiourea polymer	Proprietary	30.00000	0.00007
		Mixture of dimer and trimer fatty acids of indefinite composition derived from tall oil	61790-12-3	30.00000	0.00007
		Oxylated phenolic resin	Proprietary	30.00000	0.00005
		Ethoxylated alcohols	Proprietary	5.00000	0.00001
		Hexadecene	629-73-2	5.00000	0.00001
		Propargyl alcohol	107-19-7	5.00000	0.00001
		C.I. pigment Orange 5	3468-63-1	1.00000	0.00000

* 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)

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