

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

API 47-095-02848 County Tyler District Union/Lincoln
Quad TH: Middlebourne BH: Paden City Pad Name Roma Lou Field/Pool Name -----
Farm name Antero Resources Corporation Well Number Calvin Unit 2H
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 4370604.133m Easting 502233.160m
Landing Point of Curve Northing 4350031.14m Easting 535888.35m
Bottom Hole Northing 4375246.642m Easting 500693.284m

Elevation (ft) 883' 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 3/13/2023 Date drilling commenced 4/18/2023 Date drilling ceased 6/5/2023
Date completion activities began 9/8/2023 Date completion activities ceased 10/22/2023
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 168' Open mine(s) (Y/N) depths No
Salt water depth(s) ft 1678' Void(s) encountered (Y/N) depths No
Coal depth(s) ft 622' Cavern(s) encountered (Y/N) depths No
Is coal being mined in area (Y/N) No

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JUN 19 2024
Reviewed by:
Digitally signed by
Stephen McCoy
Date: 2024.06.24
11:29:06 -0400
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Environmental Protection
06/28/2024

API 47-095 - 02848

Farm name Antero Resources Corporation Well number Calvin Unit 2H

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"	130'	New	91.59#, J-55	N/A	Y
Surface	17-1/2"	13-3/8"	300'	New	54.5#, J-55	N/A	Y
Coal							
Intermediate 1	12-1/4"	9-5/8"	3082'	New	36#, J-55	N/A	Y
Intermediate 2							
Intermediate 3							
Production	8-3/4"/8-1/2"	5-1/2"	22330'	New	23#, P-110	N/A	Y
Tubing		2-3/8"	6099'		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	225 sx	15.6	1.18	266	0'	8 Hrs.
Surface	Class C	325 sx	15.8	1.17	380	0'	8 Hrs.
Coal							
Intermediate 1	Class C	1080 sx	15.8	1.16	1253	0'	8 Hrs.
Intermediate 2							
Intermediate 3							
Production	Class H	3835 sx (Tail)	13.5 (Lead), 15.2(Tail)	1.34 (Tail)	5139	-500' Into Intermediate Casing	8 Hrs.
Tubing							

Drillers TD (ft) 22330' MD, 5980' TVD (BHL), 6086' (Deepest Point Drilled)

Loggers TD (ft) 22330' MD

Deepest formation penetrated Marcellus

Plug back to (ft) N/A

Plug back procedure N/A

Kick off depth (ft) 5180'

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 _____

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WAS WELL COMPLETED OPEN HOLE? Yes No DETAILS _____

JUN 19 2024

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

WV Department of
Environmental Protection

Steph 06/28/2024
Mccoy

Date: 2024.06.24 11:29:26
-04'00'

API 47- 095 - 02848 Farm name Antero Resources Corporation Well number Calvin Unit 2H

PERFORATION RECORD

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

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								

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Please insert additional pages as applicable.

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API 47- 095 - 02848 Farm name Antero Resources Corporation Well number Calvin Unit 2H

<u>PRODUCING FORMATION(S)</u>	<u>DEPTHS</u>	
<u>Marcellus</u>	<u>6011' (TOP)</u> TVD	<u>6263' (TOP)</u> MD
_____	_____	_____
_____	_____	_____
_____	_____	_____

Please insert additional pages as applicable.

GAS TEST Build up Drawdown Open Flow OIL TEST Flow Pump

SHUT-IN PRESSURE Surface 1277 psi Bottom Hole --- psi DURATION OF TEST --- hrs

OPEN FLOW Gas 436 mcfpd Oil 2666 bpd NGL --- bpd Water 1396 bpd GAS MEASURED BY Estimated Orifice Pilot

LITHOLOGY/ FORMATION	TOP	BOTTOM	TOP	BOTTOM	DESCRIBE ROCK TYPE AND RECORD QUANTITY AND TYPE OF FLUID (FRESHWATER, BRINE, OIL, GAS, H ₂ S, ETC)
	DEPTH IN FT NAME TVD	DEPTH IN FT TVD	DEPTH IN FT MD	DEPTH IN FT MD	

***PLEASE SEE ATTACHED EXHIBIT 3**

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					Environmental Protection

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 Halliburton Energy Services
Address 3000 W. Sam Houston Pkwy City Houston State TX Zip 76114

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

Please insert additional pages as applicable.

Completed by Carly Marvel Telephone 303-357-7373
Signature Carly Marvel Title Permitting Agent Date 1/24/2024

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

06/28/2024

9,526' to Bottom Hole

4,479' to Top Hole
TOP HOLE LATITUDE 39 - 30 - 00
BTM HOLE LATITUDE 39 - 32 - 30

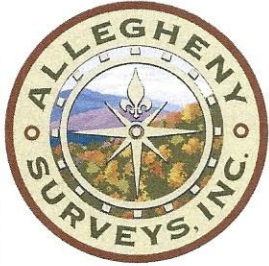
LONGITUDE 80 - 57 - 30

5,417' to Bottom Hole

5,479' to Top Hole

Antero Resources
Well No. Calvin 2H
As-Drilled
Antero Resources Corporation

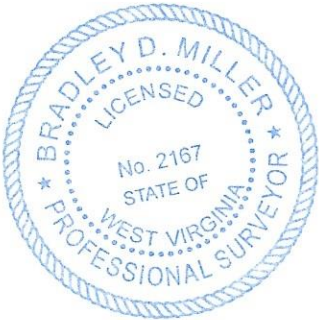
PAGE 1 of 2



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.

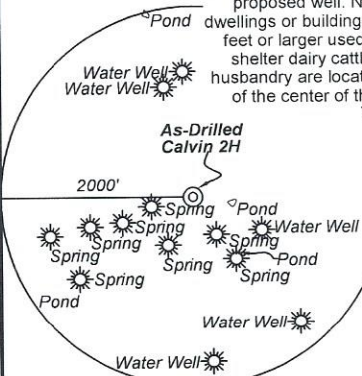
I, the undersigned, hereby certify that this plat is correct to the best of my knowledge and belief and shows all the information required by law and the rules issued and prescribed by the Department of Environmental Protection.

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



SEAL

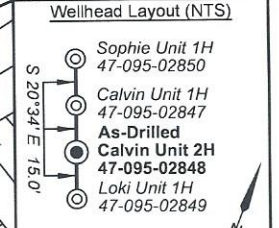
Note: 5 water wells 8 springs and 4 ponds were found within 2000' of proposed well. No occupied dwellings or buildings 2,500 square feet or larger used to house or shelter dairy cattle or poultry husbandry are located within 625' of the center of the well pad.



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

Notes
West Virginia Coordinate System of 1927, North Zone based upon Differential GPS Measurements. Well No. Calvin Unit 2H Top Hole coordinates are
N: 362,156.49' Latitude: 39°29'05.85"
E: 1,583,928.38' Longitude: 80°58'27.12"
Bottom Hole coordinates are
N: 377,475.29' Latitude: 39°31'36.46"
E: 1,579,129.41' Longitude: 80°59'31.57"
UTM Zone 17, NAD 1983
Top Hole Coordinates Bottom Hole Coordinates
N: 4,370,604.133m N: 4,375,246.642m
E: 502,233.160m E: 500,693.284m
Plat orientation and corner and well references are based upon the grid north meridian.
Well location references are based upon the magnetic meridian.

Calvin 2H As-Drilled POE Coordinates
West Virginia Coordinate System of 1927, North Zone
N: 362,214.70'
E: 1,584,019.16'
Latitude: 39°29'06.44"
Longitude: 80°58'25.98"
UTM Zone 17, NAD 1983
N: 4,370,622.330m
E: 502,260.520m



	Bearing	Dist.
L1	S 74°47' W	1,730.6'
L2	N 81°16' W	1,404.1'
L3	N 09°00' W	1,572.7'
L4	N 72°20' E	2,151.6'

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WV Department of Environmental Protection

FILE NO: 258-54-U-22
DRAWING NO: Calvin Unit 2H As-Drilled
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: January 17 20 24
OPERATOR'S WELL NO. Calvin 2H
API WELL NO
47 - 095 - 02848
STATE COUNTY PERMIT

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

LOCATION: ELEVATION: As-Built 883' WATERSHED: Outlet Middle Island Creek QUADRANGLE: BH: Paden City 60.38;
DISTRICT: Union/Lincoln Ridgetop Appalachia, LLC; Shannon H. McCullough; Colleen Marie Anderson; 57.23; 250.5;
SURFACE OWNER: Antero Resources Corp. Warren R. & Mary N. Stewart; Greenbrier Royalty Fund III, LLC; 59.24; 14.8;
ROYALTY OWNER: Berna J. Hammel; WVDNR; Steven D. Zechman & Linda M. Jensen; Jay Edward Smith; LEASE NO: ACREAGE: 60.38 65; 0.69; 65.462;
PROPOSED WORK: DRILL CONVERT DRILL DEEPER FRACTURE OR STIMULATE PLUG OFF OLD FORMATION
 PERFORATE NEW FORMATION OTHER PHYSICAL CHANGE IN WELL (SPECIFY) As-Drilled 5,980' TVD
 PLUG AND ABANDON CLEAN OUT AND REPLUG TARGET FORMATION: Marcellus Shale ESTIMATED DEPTH: 22,330' MD

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



ID	TM-Par	Owner	Bk/Pg	Acres
1	10-4.1	Antero Resources Corporation	OR12/739	60.38
2	9-9.1	Jennifer K. & Diane M. Thomas	AR46/754	40.00
3	10-4	Kevin L. & Tammy J. Thomas	OR7/290	32.22
4	10-5.3	Richard Daniel Bowen	344/814	25.92
5	10-5.5	Bowen Family Irrevocable Trust	372/303	22.89
6	9-4	Steven D. Zechman & Linda M. Jensen	348/422	250.00
7	6-3	Eldon J. & Ruth A. Helman	383/761	72.80
8	5-16	Charity Gas Inc.	358/516	393.00
9	5-15.3	David L. Stewart	WB39/431	38.00
10	6-4	Darren E. Thacker	616/762	67.00
11	5-15	Warren T. Stewart	WB39/431	25.00
12	5-15.2	Warren T. Stewart	501/702	40.00
13	6-5.2	Julia Fetty Carolus	323/585	5.50
14	5-15.1	Warren T. & Mary N. Stewart	249/576	0.69
15	5-26	Paul R. Fetty	288/126	82.22
16	5-5	Antero Resources Corp.	598/600	173.00
17	14-1	Edward E. & Connie Howell	361/829	158.74
18	11-11	Thomas E. Bowen	374/636	119.75
19	11-12	Patrick & Kevin Hill, et al	584/619	59.95
20	11-14	Calvin Lee & Irene M. Stewart	251/635	4.99
21	11-13	Donald & Arieille Beaumier	OR166/365	25.50
22	11-14.2	Gerald Eugene & Sonya Stewart	374/843	1.75
23	11-14.1	Gerald Eugene Stewart	279/572	3.00
24	11-16	John Mark Campbell	326/365	8.85
25	11-17	Thomas E. Neff	341/213	10.00
26	11-18	William L. & Lynn A. Hinkle	366/387	72.50
27	11-21.3	Bryan Steven & Vanessa Nicole Owens	OR97/316	9.93
28	11-19.1	Sheila & Rex Ervin	409/542	34.55
29	11-20	Virginia Kasun	216/513	0.26
30	11-19.2	Jereld A. & Holly J. Cunningham	294/161	6.08
31	11-21.1	Bryan Steven & Vanessa Nicole Owens	OR97/316	23.47
32	11-19	Bessie R. Cochran	WB28/156	0.95
33	11-21.2	The John Porfeli Living Trust	513/812	13.54
34	11-23.1	Ronda S. Parsons	387/398	4.65

Leases	
A	Berna J. Hammel
B	Mary Faye Grove
C	Sally & Mitchell Dunn
D	J&N Management Enterprises, LLC
E	WVDNR
F	Steven D. Zechman & Linda M. Jensen
G	Jay Edward Smith
H	Haught Family Trust
I	David L. Stewart
J	Greenbrier Royalty Fund III, LLC
K	Warren T. Stewart
L	Julia Marie May
M	Warren R. & Mary N. Stewart
N	Linda Pryor Henriksen, et vir
O	Ridgetop Appalachia, LLC
P	Arnold L. Schulberg Oil and Gas Trust
Q	Warren V. Bowen
R	Shannon H. McCullough
S	Colleen Marie Anderson
T	John Mark Campbell
U	Donald A. Quinif, et ux

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WV Department of
Environmental Protection

FILE NO: 258-54-U-22
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 PROVEN SOURCE OF ELEVATION:
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 ADDRESS: 1615 Wynkoop Street ADDRESS: 535 White Oaks Blvd.
Denver, CO 80202 Bridgeport, WV 26330

Exhibit 1

Stage No.	Perforation Date	Perforated from MD ft.	Perforated to MD ft.	Number of Perforations	Formations
1	9/8/2023	22204.0	22160.0	36	Marcellus
2	9/9/2023	22121.6	21956.5	36	Marcellus
3	9/9/2023	21921.0	21755.9	36	Marcellus
4	9/10/2023	21720.5	21555.4	36	Marcellus
5	9/10/2023	21520.0	21354.9	36	Marcellus
6	9/10/2023	21319.5	21154.3	36	Marcellus
7	9/11/2023	21118.9	20953.8	36	Marcellus
8	9/11/2023	20918.4	20753.3	36	Marcellus
9	9/12/2023	20717.9	20552.7	36	Marcellus
10	9/12/2023	20517.3	20352.2	36	Marcellus
11	9/12/2023	20316.8	20151.7	36	Marcellus
12	9/13/2023	20116.3	19951.2	36	Marcellus
13	9/14/2023	19915.7	19750.6	36	Marcellus
14	9/14/2023	19715.2	19550.1	36	Marcellus
15	9/15/2023	19514.7	19349.6	36	Marcellus
16	9/15/2023	19314.1	19149.0	36	Marcellus
17	9/16/2023	19113.6	18948.5	36	Marcellus
18	9/17/2023	18913.1	18748.0	36	Marcellus
19	9/17/2023	18712.5	18547.4	36	Marcellus
20	9/18/2023	18512.0	18346.9	36	Marcellus
21	9/18/2023	18311.5	18146.4	36	Marcellus
22	9/19/2023	18110.9	17945.8	36	Marcellus
23	9/20/2023	17910.4	17745.3	36	Marcellus
24	9/20/2023	17709.9	17544.8	36	Marcellus
25	9/21/2023	17509.4	17344.2	36	Marcellus
26	9/21/2023	17308.8	17143.7	36	Marcellus
27	9/22/2023	17108.3	16943.2	36	Marcellus
28	9/22/2023	16907.8	16742.6	36	Marcellus
29	9/23/2023	16707.2	16542.1	36	Marcellus
30	9/23/2023	16506.7	16341.6	36	Marcellus
31	9/24/2023	16306.2	16141.1	36	Marcellus
32	9/24/2023	16105.6	15940.5	36	Marcellus
33	9/25/2023	15905.1	15740.0	36	Marcellus
34	9/25/2023	15704.6	15539.5	36	Marcellus
35	9/25/2023	15504.0	15338.9	36	Marcellus
36	9/26/2023	15303.5	15138.4	36	Marcellus
37	9/26/2023	15103.0	14937.9	36	Marcellus
38	9/26/2023	14902.4	14737.3	36	Marcellus
39	9/27/2023	14701.9	14536.8	36	Marcellus
40	9/27/2023	14501.4	14336.3	36	Marcellus
41	9/27/2023	14300.8	14135.7	36	Marcellus
42	9/28/2023	14100.3	13935.2	36	Marcellus
43	9/28/2023	13899.8	13734.7	36	Marcellus
44	9/28/2023	13699.2	13534.1	36	Marcellus
45	9/28/2023	13498.7	13333.6	36	Marcellus
46	9/29/2023	13298.2	13133.1	36	Marcellus
47	9/29/2023	13097.7	12932.5	36	Marcellus
48	9/29/2023	12897.1	12732.0	36	Marcellus
49	9/29/2023	12696.6	12531.5	36	Marcellus
50	9/29/2023	12496.1	12330.9	36	Marcellus
51	9/30/2023	12295.5	12130.4	36	Marcellus
52	9/30/2023	12095.0	11929.9	36	Marcellus
53	9/30/2023	11894.5	11729.4	36	Marcellus
54	9/30/2023	11693.9	11528.8	36	Marcellus
55	10/1/2023	11493.4	11328.3	36	Marcellus
56	10/1/2023	11292.9	11127.8	36	Marcellus
57	10/1/2023	11092.3	10927.2	36	Marcellus
58	10/1/2023	10891.8	10726.7	36	Marcellus
59	10/2/2023	10691.3	10526.2	36	Marcellus
60	10/2/2023	10490.7	10325.6	36	Marcellus
61	10/2/2023	10290.2	10125.1	36	Marcellus
62	10/2/2023	10089.7	9924.6	36	Marcellus
63	10/2/2023	9889.1	9724.0	36	Marcellus
64	10/3/2023	9688.6	9523.5	36	Marcellus
65	10/3/2023	9488.1	9323.0	36	Marcellus
66	10/3/2023	9287.6	9122.4	36	Marcellus
67	10/3/2023	9087.0	8921.9	36	Marcellus
68	10/4/2023	8886.5	8721.4	36	Marcellus
69	10/4/2023	8686.0	8520.8	36	Marcellus
70	10/4/2023	8485.4	8320.3	36	Marcellus
71	10/4/2023	8284.9	8119.8	36	Marcellus
72	10/5/2023	8084.4	7919.3	36	Marcellus
73	10/5/2023	7883.8	7718.7	36	Marcellus
74	10/5/2023	7683.3	7518.2	36	Marcellus
75	10/5/2023	7482.8	7317.7	36	Marcellus
76	10/6/2023	7282.2	7117.1	36	Marcellus
77	10/6/2023	7081.7	6916.6	36	Marcellus
78	10/6/2023	6881.2	6716.1	36	Marcellus
79	10/6/2023	6680.6	6515.5	36	Marcellus
80	10/6/2023	6480.1	6315.0	36	Marcellus

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06/28/2024

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 (bbbls)	Amount of Nitrogen/ other (units)
1	9/8/2023	77.0	8633.4	8795.1	3363.2	164160	5540.1	N/A
2	9/9/2023	86.6	9845.2	5032.2	3638.8	422380	7440.7	N/A
3	9/9/2023	90.7	9854.7	4378.0	3334.5	404500	7306.9	N/A
4	9/10/2023	88.9	10009.9	4498.4	3001.5	418900	7466.7	N/A
5	9/10/2023	93.9	9852.2	4896.2	3085.0	419920	7450.5	N/A
6	9/10/2023	93.1	10107.8	4937.7	3161.7	401320	7118.5	N/A
7	9/11/2023	91.6	10000.2	4452.2	3372.7	423920	7535.7	N/A
8	9/11/2023	95.8	10241.2	4701.8	3171.1	423360	7278.6	N/A
9	9/12/2023	84.7	9397.4	4762.4	3350.0	422700	7963.5	N/A
10	9/12/2023	90.6	9964.4	4470.9	3295.3	417860	7325.8	N/A
11	9/12/2023	97.1	9932.4	3764.3	3316.9	422740	7378.5	N/A
12	9/13/2023	92.6	9896.6	4277.9	3282.6	421080	7342.5	N/A
13	9/14/2023	90.0	9671.0	4766.0	3302.2	400070	6965.8	N/A
14	9/14/2023	78.6	8770.6	4085.0	3560.0	415800	7760.5	N/A
15	9/15/2023	88.1	8882.5	3847.0	3336.3	419740	8100.2	N/A
16	9/15/2023	90.1	9010.7	4502.0	3339.0	420320	7777.2	N/A
17	9/16/2023	85.1	8963.8	4763.9	3217.5	422760	8036.4	N/A
18	9/17/2023	90.6	9193.3	4579.4	3579.0	420520	7706.3	N/A
19	9/17/2023	93.8	9191.9	4724.9	3306.8	419020	7686.1	N/A
20	9/18/2023	93.6	9530.8	4913.9	3342.7	416960	7684.4	N/A
21	9/18/2023	93.8	9230.8	4970.0	3331.0	418080	7533.9	N/A
22	9/19/2023	89.8	10061.3	4769.2	3433.7	418400	7511.9	N/A
23	9/20/2023	70.0	9738.8	4838.7	4416.0	432480	13039.0	N/A
24	9/20/2023	81.4	8563.1	5168.1	4035.2	420760	10049.9	N/A
25	9/21/2023	86.5	9286.9	4557.8	4162.8	400120	7471.7	N/A
26	9/21/2023	92.8	9387.5	4491.9	3380.0	422200	7675.4	N/A
27	9/22/2023	89.3	9427.2	4694.3	3564.9	415840	7493.0	N/A
28	9/22/2023	91.7	9066.6	4035.9	3736.3	422100	7603.8	N/A
29	9/23/2023	92.6	9040.8	4705.4	3560.2	401550	7509.1	N/A
30	9/23/2023	93.2	8827.5	4980.4	3345.0	422600	7568.8	N/A
31	9/24/2023	91.0	9228.1	5382.0	3295.9	420300	7635.4	N/A
32	9/24/2023	92.3	8994.7	4745.1	3479.0	413940	7341.0	N/A
33	9/25/2023	93.9	9096.7	4740.7	3293.5	418420	7397.3	N/A
34	9/25/2023	93.3	9020.6	4731.2	3314.8	413160	7587.1	N/A
35	9/25/2023	94.6	9011.1	4574.0	3650.0	418720	7416.5	N/A
36	9/26/2023	94.4	8868.7	4689.6	3603.0	412700	7184.2	N/A
37	9/26/2023	89.5	8878.5	5025.9	3538.7	417760	7465.2	N/A
38	9/26/2023	89.9	8475.1	4531.1	3417.4	418120	7476.2	N/A
39	9/27/2023	90.3	9093.2	4720.0	3234.9	418840	7409.8	N/A
40	9/27/2023	88.5	9035.8	4937.3	3585.0	414940	7452.5	N/A
41	9/27/2023	84.6	8266.3	4922.1	3143.1	424720	7576.2	N/A
42	9/28/2023	89.1	8100.6	4950.7	3213.9	415300	7421.2	N/A
43	9/28/2023	88.8	8241.9	4726.8	3236.8	414360	7271.8	N/A
44	9/28/2023	89.7	8427.0	4943.1	3268.9	418100	7337.5	N/A
45	9/28/2023	90.1	8220.9	4587.0	3436.9	417780	7485.6	N/A
46	9/29/2023	91.1	8529.3	4783.6	3272.4	415180	7341.4	N/A
47	9/29/2023	89.9	8302.1	4710.5	3475.2	415600	7400.7	N/A
48	9/29/2023	89.9	8283.7	4985.6	3327.3	412760	7300.1	N/A
49	9/29/2023	91.4	8404.0	5037.8	3759.6	417400	7373.7	N/A
50	9/29/2023	92.9	8080.9	4859.9	3394.3	422140	7186.0	N/A
51	9/30/2023	93.0	8249.7	4720.4	3570.0	420000	7461.8	N/A
52	9/30/2023	91.5	8159.3	4704.4	3451.8	419020	7299.1	N/A
53	9/30/2023	92.0	8116.0	4762.6	3261.0	415100	7307.3	N/A
54	9/30/2023	93.2	8194.3	5033.2	3523.6	418160	7383.6	N/A
55	10/1/2023	93.2	8028.7	4670.6	3405.9	400750	6924.2	N/A
56	10/1/2023	92.1	7749.2	4948.4	3178.9	403160	7077.0	N/A
57	10/1/2023	93.3	7879.8	5020.2	3392.2	419600	7270.5	N/A
58	10/1/2023	93.9	7583.3	5278.9	3361.3	419120.0	7118.5	N/A
59	10/2/2023	93.9	7484.8	5374.1	3341.0	422180.0	7071.5	N/A
60	10/2/2023	93.6	7671.3	5412.8	3418.1	418740.0	7037.8	N/A
61	10/2/2023	92.9	7506.5	5260.6	3362.5	418120.0	7091.8	N/A
62	10/2/2023	93.5	7682.9	5350.1	3422.0	423760.0	7175.8	N/A
63	10/2/2023	94.0	7361.8	4822.1	3357.0	423480.0	7122.4	N/A
64	10/3/2023	93.7	7591.6	4645.9	3287.7	400690.0	6811.6	N/A
65	10/3/2023	94.0	7468.1	4651.4	3209.6	419200.0	6966.3	N/A
66	10/3/2023	93.9	7547.1	4772.1	3183.4	420460.0	7010.7	N/A
67	10/3/2023	93.4	7334.2	4639.5	3250.3	418880.0	6988.9	N/A
68	10/4/2023	93.4	7083.0	4650.5	3318.6	412520.0	6877.3	N/A
69	10/4/2023	93.6	7035.8	4533.2	3331.0	421580.0	6879.4	N/A
70	10/4/2023	92.8	6988.8	4856.9	3208.0	413840.0	6839.2	N/A
71	10/4/2023	93.2	7149.8	4538.8	3169.0	423000.0	7001.9	N/A
72	10/5/2023	93.9	7028.5	5043.0	3205.6	420060.0	7028.7	N/A
73	10/5/2023	94.2	7209.8	5146.4	3396.6	422420.0	7145.4	N/A
74	10/5/2023	93.9	7160.0	5394.4	3253.0	416900.0	6899.1	N/A
75	10/5/2023	94.2	6759.3	5924.2	3491.2	419080.0	7100.9	N/A
76	10/6/2023	93.7	6761.5	6190.4	3303.8	416400.0	6955.0	N/A
77	10/6/2023	93.0	6783.3	6288.5	3207.2	416920.0	7018.1	N/A
78	10/6/2023	93.7	6987.6	6122.6	3061.1	412660.0	6949.4	N/A
79	10/6/2023	93.2	6797.9	5560.7	3280.0	420920.0	7063.5	N/A
80	10/6/2023	93.9	6669.2	5481.0	3086.6	420100.0	7227.5	N/A
	AVERAGE	91	8,477	4,909	3,382	33,129,220	592,485	TOTAL

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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
Siltstone, Tr Shale	100	220	100	220
Shale	220	370	220	370
Shaley Siltstone	370	430	370	430
Limestone, Tr Shale	430	490	430	490
Siltstone, Tr Shale	490	640	490	640
Silty Sandstone	640	850	640	850
Shaley Siltstone	850	1,030	850	1,030
Shale, Tr Sandstone	1,030	1,090	1,030	1,090
Silty Shale, Tr Limestone	1,090	1,150	1,090	1,150
Sandy Shale	1,150	1,270	1,150	1,270
Sandstone, Tr Shale	1,270	1,450	1,270	1,450
Sandy Shale	1,450	1,630	1,450	1,630
Shaley Limestone	1,630	1,652	1,630	1,652
Big Lime	1,682	2,199	1,652	2,199
Fifty Foot Sandstone	2,199	2,432	2,169	2,432
Gordon	2,432	2,732	2,402	2,733
Fifth Sandstone	2,732	2,832	2,703	2,832
Bayard	2,832	3,716	2,802	3,722
Speechley	3,716	3,859	3,692	3,868
Balltown	3,859	4,360	3,838	4,382
Bradford	4,360	4,710	4,352	4,745
Benson	4,710	4,933	4,715	4,975
Alexander	4,933	5,936	4,945	6,073
Sycamore	5,810	6,014	5,905	6,043
Middlesex	5,906	6,041	6,043	6,195
Burkett	5,984	0	6,195	6,263
Marcellus	6,011	0	6,263	0

*Please note Antero determines formation tops based on mud logs that are only run on one well on a multi-well pad. The measured depth (MD) data on subsequent wells may be slightly different due to the well's unique departure.

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Hydraulic Fracturing Fluid Product Component Information Disclosure

Job Start Date:	09/07/2023
Job End Date:	10/06/2023
State:	West Virginia
County:	Tyler
API Number:	47-095-02848-00-00
Operator Name:	Antero Resources Corporation
Well Name and Number:	CALVIN UNIT 2H
Latitude:	39.48503
Longitude:	-80.97403
Datum:	WGS84
Federal Well:	NO
Indian Well:	NO
True Vertical Depth:	6088
Total Base Water Volume (gal)*:	26133462
Total Base Non Water Volume:	0



Water Source	Percent
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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
FDP-S1464-22	Halliburton	Friction Reducer					
HAI-501	Halliburton	Acid Corrosion Inhibitor					
HYDROCHLORIC ACID, 22 BAUME	Halliburton	Solvent					
Ingredients	Listed Above	Listed Above					
MC B-8614A	MultiChem	Biocide					RECEIVED Office of Oil and Gas
OPTIFLO-II DELAYED RELEASE BREAKER	Halliburton	Breaker					FEB 02 2024 WV Department of Environmental Protection
Produced Water	Halliburton	Base Fluid					
Sand-Common White-100 Mesh, SSA-2	Halliburton	Proppant					
WG-36 GELLING AGENT	Halliburton	Gelling Agent					

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Items above are Trade Names. Items below are the individual ingredients.

			Water	7732-18-5	100.00000	86.55800	Density = 8.34
			Crystalline silica, quartz	14808-60-7	100.00000	13.15698	None
			Water	7732-18-5	100.00000	0.25117	None
			Hydrochloric acid	7647-01-0	30.00000	0.06424	None
			Complex amine compound	Proprietary	60.00000	0.02868	None
			Hydrotreated distillate	Proprietary	30.00000	0.01434	None
			Guar gum	9000-30-0	100.00000	0.01414	None
			Glutaraldehyde	111-30-8	30.00000	0.00251	None
			Ammonium chloride	12125-02-9	5.00000	0.00239	None
			Ethoxylated alcohol	Proprietary	5.00000	0.00239	None
			Fatty nitrogen derived amides	Proprietary	5.00000	0.00239	None
			Sorbitan, mono-9-octadecenoate, (Z)	1338-43-8	1.00000	0.00048	None
			Sorbitan monooleate polyoxyethylene derivative	9005-65-6	1.00000	0.00048	None
			Alkyl (C12-16) dimethylbenzyl ammonium chloride	68424-85-1	5.00000	0.00042	None
			Methanol	67-56-1	100.00000	0.00040	None
			Ammonium persulfate	7727-54-0	100.00000	0.00021	None
			Mixture of dimer and trimer fatty acids of indefinite composition derived from tall oil	61790-12-3	30.00000	0.00012	None
			Modified thiourea polymer	Proprietary	30.00000	0.00012	None
			Ethanol	64-17-5	1.00000	0.00008	None
			Oxylated phenolic resin	Proprietary	30.00000	0.00006	None
			Propargyl alcohol	107-19-7	5.00000	0.00002	None
			Hexadecene	629-73-2	5.00000	0.00002	None
			Ethoxylated alcohols	Proprietary	5.00000	0.00002	None
			C.I. pigment Orange 5	3468-63-1	1.00000	0.00000	None

* 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%

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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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