

WR-35  
Rev. 8/23/13

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

APR 30 2024

API 47-085-10487 County Ritchie District Clay WV Department of Environmental Protection  
Quad Pennsboro 7.5' Pad Name Jackson Pad Field/Pool Name -----  
Farm name Daniel R. Christian Well Number Maul 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 4348892m Easting 501425m  
Landing Point of Curve Northing 4348297.72m Easting 500758.48m  
Bottom Hole Northing 4343553m Easting 502405m

Elevation (ft) 1035' 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 5/30/2023 Date drilling commenced 6/7/2023 Date drilling ceased 8/19/2023  
Date completion activities began 12/10/2023 Date completion activities ceased 2/13/2024  
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 101, 192' Open mine(s) (Y/N) depths No  
Salt water depth(s) ft 1703' Void(s) encountered (Y/N) depths No  
Coal depth(s) ft 665' Cavern(s) encountered (Y/N) depths No  
Is coal being mined in area (Y/N) No

**APPROVED**

Reviewed by:  
J. [Signature]  
06/14/2024

WR-35  
Rev. 8/23/13

API 47- 085 - 10487

Farm name Daniel R. Christian

Well number Maul 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"	382'	New	54.5#, J-55	N/A	Y
Coal							
Intermediate 1	12-1/4"	9-5/8"	3486'	New	36#, J-55	N/A	Y
Intermediate 2							
Intermediate 3							
Production	8-3/4"/8-1/2"	5-1/2"	23904'	New	23#, P-110/ICY	N/A	Y
Tubing		2-3/8"	6934'		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 <sup>3</sup> /sks)	Volume (ft <sup>3</sup> )	Cement Top (MD)	WOC (hrs)
Conductor	Class A	209 sx	15.6	1.18	247	0'	8 Hrs.
Surface	Class C	325 sx	15.8	1.16	377	0'	8 Hrs.
Coal							
Intermediate 1	Class C	1156 sx	15.8	1.16	1341	0'	8 Hrs.
Intermediate 2							
Intermediate 3							
Production	Class H	(Lead) sx (Tail)	13.5 (Lead), 15.2(Tail)	1.25 (Tail)		-500' into Intermediate Casing	8 Hrs.
Tubing							

Drillers TD (ft) 23904' MD, 6325' TVD (BHL), 6344' (Deepest Point Drilled)  
 Deepest formation penetrated Marcellus  
 Plug back procedure N/A

Loggers TD (ft) 23904' MD  
 Plug back to (ft) N/A

RECEIVED  
Office Of Oil and Gas

APR 30 2024

Kick off depth (ft) 6226'

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

06/14/2024









LATITUDE 39°17'30" 7,163'

LATITUDE 39°15'00"

3,955' TO BOTTOM HOLE

857'

LONGITUDE 80°57'30"

LONGITUDE 80°57'30"

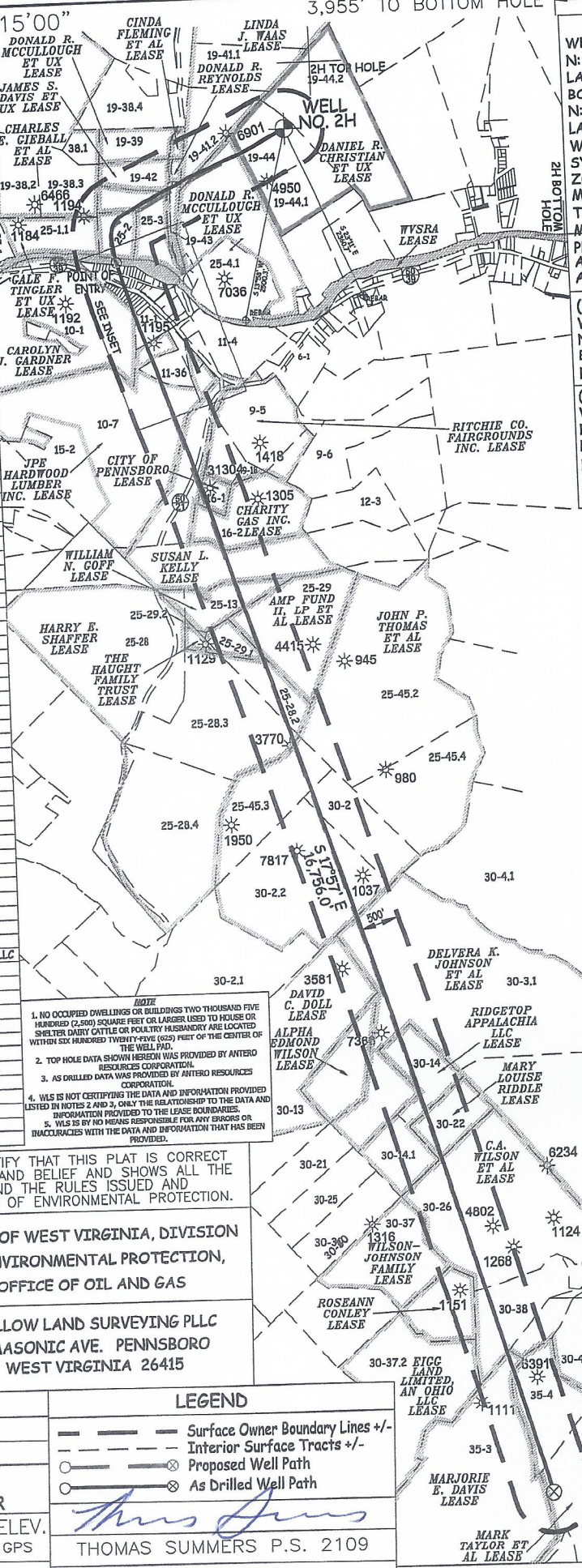
**AS DRILLED DATA:**  
**WELL 2H TOP HOLE INFORMATION:**  
 N: 290,951ft E: 1,580,087ft  
 LAT: 39°17'21.53" LON: 80°59'01.11"  
**BOTTOM HOLE INFORMATION:**  
 N: 273,379ft E: 1,583,011ft  
 LAT: 39°14'28.33" LON: 80°58'20.27"  
 WEST VIRGINIA COORDINATE SYSTEM OF 1927 NORTH ZONE. ZONE WAS DERIVED FROM 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 2H TOP HOLE INFORMATION:**  
 N: 4,348,892m E: 501,425m  
**BOTTOM HOLE INFORMATION:**  
 N: 4,343,553m E: 502,405m

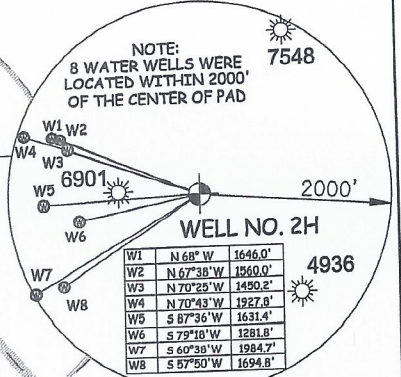
**(NAD) 27 (UTM) ZONE 17 COORDS:**  
**WELL 2H TOP HOLE INFORMATION:**  
 N: 14,267,276ft E: 1,645,046ft  
**POINT OF ENTRY INFORMATION:**  
 N: 14,265,606ft E: 1,642,830ft  
**BOTTOM HOLE INFORMATION:**  
 N: 14,249,761ft E: 1,648,260ft

**Antero Resources Corporation**  
**Well No. Maul Unit 2H**

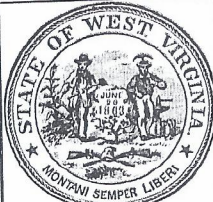
6-01	Russell Lanham
09-05	Ritchie County Fairgrounds Inc.
09-06	Carl Short
09-18	Irvan Talkington Trust
10-01	JPE Hardwood Lumber Inc.
10-07	JPE Hardwood Lumber Inc.
11-01	David McCullough
11-02	Cardinal Gardens LTD Part
11-03	C&P Development Co. Inc.
11-04	Summit Community Bank Inc.
11-06	Central Communications Inc.
11-07	Samuel Coleley
11-36	Kim Edmisten
11-37	Brenda Edmisten
12-03	Frank Butler et al
15-02	Pennsboro Ind. Park Dev. Auth.
16-01	City of Pennsboro
16-02	Larry Horner Jr.
Clay District	
19-38.1	Karen Lee Gieball
19-38.2	Karen Lee Gieball
19-38.3	Karen Lee Gieball
19-38.4	Edgar Davis Jr.
19-39	Donald McCullough
19-39.1	Sandra Kay Northcraft
19-41.1	Edgar Davis Jr.
19-41.2	Joseph Davis
19-42	James Davis
19-44	Daniel R. Christian
19-44.1	Daniel R. Christian
19-44.2	Daniel R. Christian
25-01	Gale Tingler
25-11	Gale Tingler
25-02	Bess Hogue
25-03	John Davis
25-04	Donald McCullough
25-4.1	Donald McCullough
25-05	Penny McCullough
25-6.1	Seth Smith
25-6.2	David McCullough
25-6.4	WV DOT
25-08	Thurman McCullough
25-13	William Goff
25-13.1	Archie Carpenter, Jr.
25-28	Harry Shaffer
25-28.2	Harry Shaffer
25-28.3	Harry Shaffer
25-28.4	Harry Shaffer
25-29	Archie Carpenter, Jr.
25-29.1	Archie Carpenter, Jr.
25-29.2	William Goff
25-45.2	Dennis Markwith
25-45.3	Dennis Markwith
25-45.4	Dennis Markwith
30-02	William Birch
30-2.1	Harry Shaffer
30-2.2	Dennis Markwith
30-3.1	Donald Clay
30-4.1	Stonewall Property Holdings LLC
30-13	Randall Doll
30-14	Charles Copeland, Jr.
30-14.1	Charles Copeland, Jr.
30-21	Charles Copeland, Jr.
30-22	James Wilson, Jr. et al
30-25	Charles Copeland, Jr.
30-26	Joseph Wilson et al
30-37	Terry Fry
30-37.2	Terry Fry
30-38	David McCullough
30-42	James Wilson, Jr. et al
35-03	Marjorie Davis
35-04	EL F LLC



**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.



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 PERSCRIBED 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

JOB # 23-006WA  
 DRAWING # MAUL2HAD  
 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

THOMAS SUMMERS P.S. 2109

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

DATE 04/12/24  
 OPERATOR'S WELL# MAUL UNIT #2H

WELL TYPE: OIL \_\_\_ GAS **X** LIQUID INJECTION \_\_\_ WASTE DISPOSAL \_\_\_ 47 \_\_\_ 085 \_\_\_ 10487  
 (IF "GAS") PRODUCTION **X** STORAGE \_\_\_ DEEP \_\_\_ SHALLOW **X** STATE COUNTY PERMIT  
 LOCATION: ELEVATION 1,035' AS BUILT WATERSHED NORTH FORK HUGHES RIVER  
 QUADRANGLE PENNSBORO 7.5' (TOP HOLE) - PULLMAN 7.5' (BOTTOM HOLE) DISTRICT CLAY COUNTY RITCHIE  
 SURFACE OWNER DANIEL R. CHRISTIAN ACREAGE 17.36 ACRES +/- LEASE ACREAGE 76.11 AC± 06/14/2024  
 OIL & GAS ROYALTY OWNER DANIEL R. CHRISTIAN ET UX

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 6,325' TVD 23,904' MD  
 WELL OPERATOR **ANTERO RESOURCES CORP.** DESIGNATED AGENT **KEVIN ELLIS**  
 ADDRESS 1615 WYNKOOP ST. DENVER, CO 80202 ADDRESS 554 WHITE OAKS BLVD BRIDGEPORT, WV 26330



Exhibit 1

Stage No.	Perforation Date	Perforated from MD ft.	Perforated to MD ft.	Number of Perforations	Formations
1	12/10/2023	23778	23734	36	Marcellus
2	12/10/2023	23695.73092	23531.3855	36	Marcellus
3	12/11/2023	23496.11647	23331.7711	36	Marcellus
4	12/11/2023	23296.50201	23132.1566	36	Marcellus
5	12/11/2023	23096.88755	22932.5422	36	Marcellus
6	12/12/2023	22897.27309	22732.9277	36	Marcellus
7	12/12/2023	22697.65863	22533.3133	36	Marcellus
8	12/12/2023	22498.04418	22333.6988	36	Marcellus
9	12/12/2023	22298.42972	22134.0843	36	Marcellus
10	12/13/2023	22098.81526	21934.4699	36	Marcellus
11	12/13/2023	21899.2008	21734.8554	36	Marcellus
12	12/13/2023	21699.58635	21535.241	36	Marcellus
13	12/13/2023	21499.97189	21335.6265	36	Marcellus
14	12/13/2023	21300.35743	21136.012	36	Marcellus
15	12/14/2023	21100.74297	20936.3976	36	Marcellus
16	12/14/2023	20901.12851	20736.7831	36	Marcellus
17	12/14/2023	20701.51406	20537.1687	36	Marcellus
18	12/14/2023	20501.8996	20337.5542	36	Marcellus
19	12/15/2023	20302.28514	20137.9398	36	Marcellus
20	12/15/2023	20102.67068	19938.3253	36	Marcellus
21	12/16/2023	19903.05622	19738.7108	36	Marcellus
22	12/16/2023	19703.44177	19539.0964	36	Marcellus
23	12/16/2023	19503.82731	19339.4819	36	Marcellus
24	12/17/2023	19304.21285	19139.8675	36	Marcellus
25	12/17/2023	19104.59839	18940.253	36	Marcellus
26	12/18/2023	18904.98394	18740.6386	36	Marcellus
27	12/18/2023	18705.36948	18541.0241	36	Marcellus
28	12/18/2023	18505.75502	18341.4096	36	Marcellus
29	12/18/2023	18306.14056	18141.7952	36	Marcellus
30	12/19/2023	18106.5261	17942.1807	36	Marcellus
31	12/19/2023	17906.91165	17742.5663	36	Marcellus
32	12/19/2023	17707.29719	17542.9518	36	Marcellus
33	12/19/2023	17507.68273	17343.3373	36	Marcellus
34	12/20/2023	17308.06827	17143.7229	36	Marcellus
35	12/20/2023	17108.45382	16944.1084	36	Marcellus
36	12/21/2023	16908.83936	16744.494	36	Marcellus
37	12/21/2023	16709.2249	16544.8795	36	Marcellus
38	12/21/2023	16509.61044	16345.2651	36	Marcellus
39	12/21/2023	16309.99598	16145.6506	36	Marcellus
40	12/22/2023	16110.38153	15946.0361	36	Marcellus
41	12/26/2023	15910.76707	15746.4217	36	Marcellus
42	12/26/2023	15711.15261	15546.8072	36	Marcellus
43	12/26/2023	15511.53815	15347.1928	36	Marcellus
44	12/26/2023	15311.92369	15147.5783	36	Marcellus
45	12/27/2023	15112.30924	14947.9639	36	Marcellus
46	12/27/2023	14912.69478	14748.3494	36	Marcellus
47	12/27/2023	14713.08032	14548.7349	36	Marcellus
48	12/27/2023	14513.46586	14349.1205	36	Marcellus
49	12/27/2023	14313.85141	14149.506	36	Marcellus
50	12/28/2023	14114.23695	13949.8916	36	Marcellus
51	12/28/2023	13914.62249	13750.2771	36	Marcellus
52	12/28/2023	13715.00803	13550.6627	36	Marcellus
53	12/28/2023	13515.39357	13351.0482	36	Marcellus
54	12/28/2023	13315.77912	13151.4337	36	Marcellus
55	12/28/2023	13116.16466	12951.8193	36	Marcellus
56	12/29/2023	12916.5502	12752.2048	36	Marcellus
57	12/29/2023	12716.93574	12552.5904	36	Marcellus
58	12/29/2023	12517.32129	12352.9759	36	Marcellus
59	12/29/2023	12317.70683	12153.3614	36	Marcellus
60	12/29/2023	12118.09237	11953.747	36	Marcellus
61	12/29/2023	11918.47791	11754.1325	36	Marcellus
62	12/29/2023	11718.86345	11554.5181	36	Marcellus
63	12/30/2023	11519.249	11354.9036	36	Marcellus
64	12/30/2023	11319.63454	11155.2892	36	Marcellus
65	12/30/2023	11120.02008	10955.6747	36	Marcellus
66	12/30/2023	10920.40562	10756.0602	36	Marcellus
67	12/30/2023	10720.79116	10556.4458	36	Marcellus
68	12/31/2023	10521.17671	10356.8313	36	Marcellus
69	12/31/2023	10321.56225	10157.2169	36	Marcellus
70	12/31/2023	10121.94779	9957.60241	36	Marcellus
71	12/31/2023	9922.333333	9757.98795	36	Marcellus
72	12/31/2023	9722.718876	9558.37349	36	Marcellus
73	1/1/2024	9523.104418	9358.75904	36	Marcellus
74	1/1/2024	9323.48996	9159.14458	36	Marcellus
75	1/1/2024	9123.875502	8959.53012	36	Marcellus
76	1/1/2024	8924.261044	8759.91566	36	Marcellus
77	1/1/2024	8724.646586	8560.3012	36	Marcellus
78	1/2/2024	8525.032129	8360.68675	36	Marcellus
79	1/2/2024	8325.417671	8161.07229	36	Marcellus
80	1/2/2024	8125.803213	7961.45783	36	Marcellus
81	1/2/2024	7926.188755	7761.84337	36	Marcellus
82	1/3/2024	7726.574297	7562.22892	36	Marcellus
83	1/3/2024	7526.959839	7362.61446	36	Marcellus
84	1/3/2024	7327.345382	7163	36	Marcellus

RECEIVED  
Office Of Oil and Gas

APR 30 2024

WV Department of  
Environmental Protection



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	12/10/2023	72.9	10099.89	9845.11	3619.7	164400	5440.9	N/A
2	12/10/2023	88.8	10528.84	4660.6	3727.0	417800	7663.4	N/A
3	12/11/2023	87.9	10341.23	3699.19	2824.3	416880	7475.7	N/A
4	12/11/2023	86.7	9998.239	4878.7	3093.3	416980	7365.3	N/A
5	12/11/2023	91.4	10220.43	4655.33	3098.1	418560	7504.6	N/A
6	12/12/2023	90.1	10460.44	4462.85	3595.2	417100	7511.3	N/A
7	12/12/2023	85.6	9965.355	4912.44	3681.0	414000	7497.4	N/A
8	12/12/2023	85.5	10178.28	5041.1	3437.0	418800	7526.9	N/A
9	12/12/2023	89.9	10395.03	5111.7	3149.0	418100	7431.4	N/A
10	12/13/2023	89.9	10065.61	4447.08	3025.0	416620	7253.8	N/A
11	12/13/2023	90.4	10080.5	4263.37	3146.4	414760	7525.9	N/A
12	12/13/2023	88.7	10070.78	4661.35	3366.4	417100	7534.8	N/A
13	12/13/2023	90.6	9990.564	4632.73	3484.5	417560	7524.9	N/A
14	12/13/2023	92.4	10048.77	4364.72	3277.2	417480	7164.3	N/A
15	12/14/2023	90.9	10075.46	4553.81	3349.0	420620	7584.1	N/A
16	12/14/2023	89.1	10074.63	4855.91	3520.0	414660	7595.5	N/A
17	12/14/2023	90.7	10036.08	4982.03	3409.2	416840	7235.3	N/A
18	12/14/2023	90.6	10039.66	4054.98	3358.0	421720	7599.6	N/A
19	12/15/2023	91.5	9905.27	4223.94	3350.0	417100	7380.8	N/A
20	12/15/2023	90.3	9971.35	4537.18	3610.3	410260	7579.6	N/A
21	12/16/2023	93.2	10090.74	3340.84	3360.1	418640	7271.4	N/A
22	12/16/2023	95.1	10230.71	4506.03	3097.1	418720	7248.2	N/A
23	12/16/2023	88.8	10296.28	4786.21	2976.5	406144	7213.3	N/A
24	12/17/2023	91.9	10232.21	4928.47	3164.8	421340	7519.4	N/A
25	12/17/2023	93.8	9961.455	4471.57	3299.5	418740	7131.6	N/A
26	12/18/2023	94.7	9891.495	4295.38	3291.3	416940	7253.2	N/A
27	12/18/2023	95.4	9891.102	4654.71	3059.0	417260	7305.1	N/A
28	12/18/2023	90.6	9519.297	4448.66	3097.0	417500	7236.9	N/A
29	12/18/2023	90.1	9416.041	4697.36	3179.3	415040	7654.4	N/A
30	12/19/2023	94.9	10054.92	4804.65	3285.3	411850	7572.1	N/A
31	12/19/2023	93.8	9242.013	4706.01	3759.0	414060	7370.0	N/A
32	12/19/2023	95.7	9999.151	4737.3	3107.5	414140	6982.0	N/A
33	12/19/2023	96.0	9674.415	4784.88	3209.7	413720	7168.1	N/A
34	12/20/2023	95.3	9641.987	4979.18	3301.1	412180	7503.8	N/A
35	12/20/2023	87.2	8938.493	4709.22	3594.1	424019	10704.1	N/A
36	12/21/2023	89.7	9503.743	4583.29	3488.1	414520	7444.3	N/A
37	12/21/2023	86.5	9653.149	4771.8	3187.7	414260	7637.7	N/A
38	12/21/2023	90.5	9159.131	4660.47	3301.7	418560	7170.0	N/A
39	12/21/2023	89.1	8918.648	4562.75	3395.7	420600	7341.6	N/A
40	12/22/2023	91.7	9042.494	4559.99	3437.4	413460	7169.9	N/A
41	12/26/2023	34.4	6014.308	4577.89	3006.0	81260	7895.8	N/A
42	12/26/2023	88.7	8727.264	3881.06	3872.3	413980	7129.6	N/A
43	12/26/2023	91.2	9179.35	4830.97	3592.3	422180	7516.8	N/A
44	12/26/2023	91.7	9243.566	4736.05	3680.5	418820	7484.7	N/A
45	12/27/2023	92.1	9116.848	4547.33	3680.2	413800	7440.8	N/A
46	12/27/2023	93.8	9486.992	4758.95	3772.5	412140	6984.4	N/A
47	12/27/2023	93.3	9286.963	3591.83	3695.0	409320	7203.8	N/A
48	12/27/2023	93.6	9225.551	4469.6	3649.5	415300	7245.4	N/A
49	12/27/2023	92.5	9075.4	4368.95	3584.3	416260	7258.8	N/A
50	12/28/2023	87.9	8874.108	4674.63	3956.0	415200	8272.4	N/A
51	12/28/2023	92.6	8859.308	4566.7	3716.7	417840	7274.0	N/A
52	12/28/2023	93.2	8734.4	3611.63	3712.4	410700	7086.8	N/A
53	12/28/2023	93.0	8710.404	4563.38	3611.2	416680	7136.1	N/A
54	12/28/2023	92.2	8708.052	3590.05	3819.9	418120	7132.7	N/A
55	12/28/2023	94.0	8949.805	4986.89	3673.7	415260	7126.9	N/A
56	12/29/2023	93.8	8731.971	5079.74	3502.1	409100	7151.8	N/A
57	12/29/2023	94.2	8277.401	4906.46	3286.7	411760	6992.7	N/A
58	12/29/2023	93.4	8775.2	4788.3	3856.7	408440.0	6935.5	N/A
59	12/29/2023	93.7	8755.8	4662.2	3742.5	421680.0	7057.1	N/A
60	12/29/2023	83.6	8244.4	4649.9	3983.6	409700.0	7788.9	N/A
61	12/29/2023	94.2	8602.9	4910.7	3983.1	412560.0	7092.8	N/A
62	12/29/2023	92.9	8155.6	4584.5	4267.6	414800.0	7113.6	N/A
63	12/30/2023	93.5	8485.3	4504.6	3641.8	415940.0	7084.4	N/A
64	12/30/2023	93.4	8491.1	4566.3	3967.1	411340.0	6935.5	N/A
65	12/30/2023	93.4	8327.1	4471.4	4131.0	411240.0	6996.3	N/A
66	12/30/2023	93.7	8540.7	4732.0	3669.3	411540.0	6866.8	N/A
67	12/30/2023	94.4	8311.3	4523.2	3751.6	411360.0	6889.6	N/A
68	12/31/2023	94.0	8320.4	4606.1	3533.2	411720.0	6865.2	N/A
69	12/31/2023	94.3	8336.6	4835.8	3839.4	417140.0	6910.8	N/A
70	12/31/2023	93.5	7956.9	4334.8	4025.0	410320.0	6747.4	N/A
71	12/31/2023	94.0	8267.4	4625.0	3945.7	411840.0	6684.2	N/A
72	12/31/2023	92.0	8075.2	5099.6	3531.7	419500.0	7122.3	N/A
73	1/1/2024	93.7	8133.3	4776.4	3786.0	413920.0	6879.3	N/A
74	1/1/2024	94.4	8054.4	5104.8	3673.5	408920.0	6719.5	N/A
75	1/1/2024	93.9	7901.0	3291.8	3942.5	409020.0	6678.2	N/A
76	1/1/2024	93.8	7955.3	3501.6	3977.8	411020.0	6784.0	N/A
77	1/1/2024	94.4	7679.7	4553.1	4062.0	412940.0	6833.4	N/A
78	1/2/2024	95.0	7592.4	4953.6	3583.6	407540.0	6691.9	N/A
79	1/2/2024	94.4	7716.8	5557.9	3639.2	412140.0	6793.5	N/A
80	1/2/2024	94.5	7532.4	4768.1	3650.3	411460.0	6669.8	N/A
81	1/2/2024	92.8	7630.7	4726.1	3767.1	404700.0	6673.2	N/A
82	1/3/2024	93.7	7538.4	4801.9	4134.9	404940.0	6445.7	N/A
83	1/3/2024	93.7	7476.5	4996.0	4295.0	411560.0	6648.4	N/A
84	1/3/2024	94.1	7607.1	5392.7	3778.0	413780.0	6710.5	N/A
	AVERAGE	91	9,083	4,653	3,556	34,247,813	607,244	TOTAL

RECEIVED  
Office Of Oil and Gas  
APR 30 2024  
WV Department of  
Environmental Protection



## EXHIBIT 3

LITHOLOGY/ FORMATION	TOP DEPTH (TVD)	BOTTOM DEPTH (TVD)	TOP DEPTH (MD)	BOTTOM DEPTH (MD)
	From Surface	From Surface	From Surface	From Surface
Sandstone	120	200	120	200
Shale	200	340	200	340
Siltstone/ Shale	340	380	340	380
Trace Coal	380	640	380	640
Siltstone	640	610	640	610
Shaly Siltstone	610	760	610	760
Shale/ Limestone	760	800	760	800
Siltstone	800	980	800	980
Shale/ limestone	980	1,240	980	1,240
Siltstone/ shale	1,240	1,340	1,240	1,340
Sandstone	1,340	1,560	1,340	1,560
Sandstone	1,560	1,895	1,560	2,002
Big Lime	1,925	2,748	2,002	2,962
Fifty Foot Sandstone	2,748	2,908	2,932	3,141
Gordon	2,908	3,231	3,111	3,501
Fifth Sandstone	3,231	3,276	3,471	3,551
Bayard	3,276	3,827	3,521	4,175
Speechley	3,827	4,044	4,145	4,418
Balltown	4,044	4,461	4,388	4,887
Bradford	4,461	4,878	4,857	5,367
Benson	4,878	5,152	5,337	5,678
Alexander	5,152	6,151	5,648	6,850
Sycamore	6,029	6,121	6,689	6,820
Middlesex	6,121	6,223	6,820	7,006
Burkett	6,223	6,250	7,006	7,073
Tully	6,250	6,262	7,073	7,111
Marcellus	6,262	NA	7,111	NA

\*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.

RECEIVED  
Office Of Oil and Gas

APR 30 2024

WV Department of  
Environmental Protection

06/14/2024



# Hydraulic Fracturing Fluid Product Component Information Disclosure

Job Start Date:	12/10/2023
Job End Date:	01/03/2024
State:	West Virginia
County:	Ritchie
API Number:	47-085-10487-00-00
Operator Name:	Antero Resources Corporation
Well Name and Number:	MAUL UNIT 2H
Latitude:	39.2893
Longitude:	-80.9834
Datum:	WGS84
Federal Well:	NO
Indian Well:	NO
True Vertical Depth:	6113
Total Base Water Volume (gal)*:	27096828.5
Total Base Non Water Volume:	0



Water Source	Percent
Produced Water	100.00%

RECEIVED  
Office Of Oil and Gas  
APR 30 2024  
WV Department of  
Environmental Protection

RECEIVED  
Office Of Oil and Gas  
APR 30 2024  
WV Department of  
Environmental Protection

## 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					
MC B-8614A	MultiChem	Biocide					
OPTIFLO-II DELAYED RELEASE BREAKER	Halliburton	Breaker					
Produced Water (Density 10.0)	Operator	Base Fluid					
Sand-Common White-100 Mesh, SSA-2	Halliburton	Proppant					
WG-36 GELLING AGENT	Halliburton	Gelling Agent					

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

06/14/2024



			Water	7732-18-5	100.00000	88.59606	None
			Crystalline silica, quartz	14808-60-7	100.00000	11.19772	None
			Water	7732-18-5	100.00000	0.17679	None
			Hydrochloric acid	7647-01-0	30.00000	0.04221	None
			Complex amine compound	Proprietary	60.00000	0.02928	None
			Hydrotreated distillate	Proprietary	30.00000	0.01464	None
			Guar gum	9000-30-0	100.00000	0.00945	None
			Ammonium chloride	12125-02-9	5.00000	0.00244	None
			Ethoxylated alcohol	Proprietary	5.00000	0.00244	None
			Fatty nitrogen derived amides	Proprietary	5.00000	0.00244	None
			Glutaraldehyde	111-30-8	30.00000	0.00205	None
			Sorbitan, mono-9-octadecenoate, (Z)	1338-43-8	1.00000	0.00049	None
			Sorbitan monooleate polyoxyethylene derivative	9005-65-6	1.00000	0.00049	None
			Alkyl (C12-16) dimethylbenzyl ammonium chloride	68424-85-1	5.00000	0.00034	None
			Methanol	67-56-1	100.00000	0.00026	None
			Ammonium persulfate	7727-54-0	100.00000	0.00022	None
			Mixture of dimer and trimer fatty acids of indefinite composition derived from tall oil	61790-12-3	30.00000	0.00008	None
			Modified thiourea polymer	Proprietary	30.00000	0.00008	None
			Ethanol	64-17-5	1.00000	0.00007	None
			Oxylated phenolic resin	Proprietary	30.00000	0.00007	None
			Propargyl alcohol	107-19-7	5.00000	0.00001	None
			Hexadecene	629-73-2	5.00000	0.00001	None
			Ethoxylated alcohols	Proprietary	5.00000	0.00001	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%

RECEIVED  
Office Of Oil and Gas

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

APR 30 2024

WV Department of Environmental Protection  
06/14/2024



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

RECEIVED  
Office Of Oil and Gas

APR 30 2024

WV Department of  
Environmental Protection

06/14/2024