

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

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Office Of Oil and Gas

APR 30 2024

WV Department of  
Environmental Protection

API 47 - 085 - 10488 County Ritchie District Clay  
Quad Pennsboro 7.5' Pad Name Jackson Pad Field/Pool Name -----  
Farm name Daniel R. Christian Well Number Maul Unit 3H  
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 4348887m Easting 501425m  
Landing Point of Curve Northing 4347915.44m Easting 501138.04m  
Bottom Hole Northing 4343647m Easting 502617m

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 8/11/2023  
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:

06/14/2024

API 47- 085 - 10488 Farm name Daniel R. Christian Well number Maul Unit 3H

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"	369'	New	54.5#, J-55	N/A	Y
Coal							
Intermediate 1	12-1/4"	9-5/8"	3415'	New	36#, J-55	N/A	Y
Intermediate 2							
Intermediate 3							
Production	8-3/4"/8-1/2"	5-1/2"	22810'	New	23#, P-110/ICY	N/A	Y
Tubing		2-3/8"	6720'		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	194 sx	15.6	1.18	229	0'	8 Hrs.
Surface	Class C	330 sx	15.8	1.16	383	0'	8 Hrs.
Coal							
Intermediate 1	Class C	1190 sx	15.8	1.16	1380	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) 22810' MD, 6320' TVD (BHL), 6336' (Deepest Point Drilled) Loggers TD (ft) 22810' MD  
 Deepest formation penetrated Marcellus Plug back to (ft) N/A  
 Plug back procedure N/A

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Kick off depth (ft) 6128'

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- 085 - 10488 Farm name Daniel R. Christian Well number Maul Unit 3H

<u>PRODUCING FORMATION(S)</u>	<u>DEPTHS</u>	
<u>Marcellus</u>	<u>6263' (TOP)</u> TVD	<u>6969' (TOP)</u> MD
_____	_____	_____
_____	_____	_____
_____	_____	_____

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Please insert additional pages as applicable.

GAS TEST  Build up  Drawdown  Open Flow OIL TEST  Flow  Pump

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SHUT-IN PRESSURE Surface 2392 psi Bottom Hole --- psi DURATION OF TEST --- hrs

OPEN FLOW Gas 15014 mcfpd Oil 246 bpd NGL --- bpd Water 624 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, H<sub>2</sub>S, ETC)</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>	

**\*PLEASE SEE ATTACHED EXHIBIT 3**


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 4/15/2024

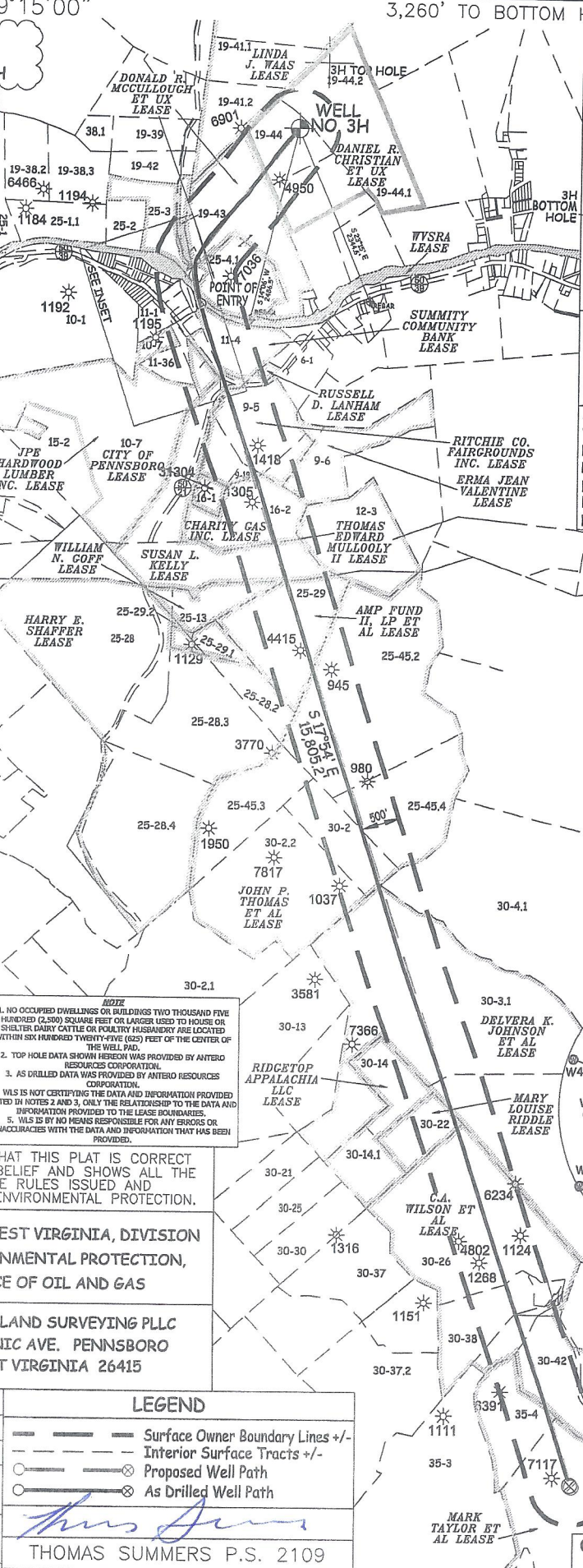


LATITUDE 39°17'30" 7,162'  
 3,260' TO BOTTOM HOLE

LATITUDE 39°15'00"

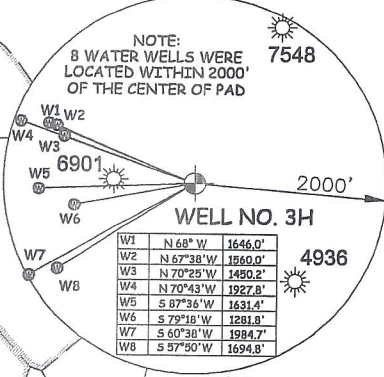
**Antero Resources Corporation**  
**Well No. Maul Unit 3H**

Pensboro Corporation	
6-01	Russell Lanham
09-05	Ritchie County Fairgrounds Inc.
09-06	Carl Short
09-18	Irvin 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	CGP Development Co. Inc.
11-04	Summit Community Bank Inc.
11-06	Central Communications Inc.
11-07	Samuel Cokley
11-36	Kim Edmisten
11-37	Brenda Edmisten
12-03	Frank Butler et al
15-02	Pensboro Ind. Park Dev. Auth.
16-01	City of Pensboro
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 Tingle
25-1.1	Gale Tingle
25-02	Bess Hague
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	ELF LLC



**AS DRILLED DATA:**  
**WELL 3H TOP HOLE INFORMATION:**  
 N: 290,937ft E: 1,580,088ft  
 LAT: 39°17'21.38" LON: 80°59'01.10"  
**BOTTOM HOLE INFORMATION:**  
 N: 273,674ft E: 1,583,711ft  
 LAT: 39°14'31.37" LON: 80°58'11.44"  
 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 3H TOP HOLE INFORMATION:**  
 N: 4,348,887m E: 501,425m  
**BOTTOM HOLE INFORMATION:**  
 N: 4,343,647m E: 502,617m  
**(NAD) 27 (UTM) ZONE 17 COORDS:**  
**WELL 3H TOP HOLE INFORMATION:**  
 N: 14,267,261ft E: 1,645,046ft  
**POINT OF ENTRY INFORMATION:**  
 N: 14,265,019ft E: 1,643,850ft  
**BOTTOM HOLE INFORMATION:**  
 N: 14,250,067ft E: 1,648,955ft

**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 SCHEMATIC.  
 5. WLS IS BY NO MEANS RESPONSIBLE FOR ANY ERRORS OR INACCURACIES WITH THE DATA AND INFORMATION THAT HAS BEEN PROVIDED.

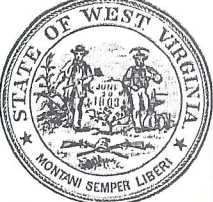


WV NORTH ZONE  
 GRID NORTH

LONGITUDE 80°57'30"

LONGITUDE 80°57'30"

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 PERSERIBED 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 # MAUL3HAD  
 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 #3H

WELL TYPE: OIL \_\_\_ GAS X LIQUID INJECTION \_\_\_ WASTE DISPOSAL \_\_\_ 47 - 085 - 10488  
 (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 +/-  
 OIL & GAS ROYALTY OWNER DANIEL R. CHRISTIAN ET UX LEASE ACREAGE 76.11 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 6,320' TVD 22,810' MD  
 WELL OPERATOR ANTERO RESOURCES CORP. DESIGNATED AGENT KEVIN ELLIS  
 ADDRESS 1615 WYNKOOP ST. ADDRESS 554 WHITE OAKS BLVD  
 DENVER, CO 80202 BRIDGEPORT, WV 26330

06/14/2024





API 47-085-10488 Farm Name Daniel R. Christian Well Number Maul Unit 3H

Exhibit 1

Stage No.	Perforation Date	Perforated from MD ft.	Perforated to MD ft.	Number of Perforations	Formations
1	12/10/2023	22682	22637	36	Marcellus
2	12/11/2023	22598.64316	22433.859	36	Marcellus
3	12/11/2023	22398.50214	22233.7179	36	Marcellus
4	12/11/2023	22198.36111	22033.5769	36	Marcellus
5	12/11/2023	21998.22009	21833.4359	36	Marcellus
6	12/12/2023	21798.07906	21633.2949	36	Marcellus
7	12/12/2023	21597.93803	21433.1538	36	Marcellus
8	12/13/2023	21397.79701	21233.0128	36	Marcellus
9	12/13/2023	21197.65598	21032.8718	36	Marcellus
10	12/14/2023	20997.51496	20832.7308	36	Marcellus
11	12/14/2023	20797.37393	20632.5897	36	Marcellus
12	12/14/2023	20597.23291	20432.4487	36	Marcellus
13	12/15/2023	20397.09188	20232.3077	36	Marcellus
14	12/15/2023	20196.95085	20032.1667	36	Marcellus
15	12/15/2023	19996.80983	19832.0256	36	Marcellus
16	12/16/2023	19796.6688	19631.8846	36	Marcellus
17	12/16/2023	19596.52778	19431.7436	36	Marcellus
18	12/17/2023	19396.38675	19231.6026	36	Marcellus
19	12/17/2023	19196.24573	19031.4615	36	Marcellus
20	12/17/2023	18996.1047	18831.3205	36	Marcellus
21	12/18/2023	18795.96368	18631.1795	36	Marcellus
22	12/18/2023	18595.82265	18431.0385	36	Marcellus
23	12/18/2023	18395.68162	18230.8974	36	Marcellus
24	12/18/2023	18195.5406	18030.7564	36	Marcellus
25	12/19/2023	17995.39957	17830.6154	36	Marcellus
26	12/19/2023	17795.25855	17630.4744	36	Marcellus
27	12/19/2023	17595.11752	17430.3333	36	Marcellus
28	12/19/2023	17394.9765	17230.1923	36	Marcellus
29	12/20/2023	17194.83547	17030.0513	36	Marcellus
30	12/20/2023	16994.69444	16829.9103	36	Marcellus
31	12/21/2023	16794.55342	16629.7692	36	Marcellus
32	12/21/2023	16594.41239	16429.6282	36	Marcellus
33	12/21/2023	16394.27137	16229.4872	36	Marcellus
34	12/22/2023	16194.13034	16029.3462	36	Marcellus
35	12/22/2023	15993.98932	15829.2051	36	Marcellus
36	12/23/2023	15793.84829	15629.0641	36	Marcellus
37	12/23/2023	15593.70726	15428.9231	36	Marcellus
38	12/23/2023	15393.56624	15228.7821	36	Marcellus
39	12/23/2023	15193.42521	15028.641	36	Marcellus
40	12/23/2023	14993.28419	14828.5	36	Marcellus
41	12/23/2023	14793.14316	14628.359	36	Marcellus
42	12/24/2023	14593.00214	14428.2179	36	Marcellus
43	12/24/2023	14392.86111	14228.0769	36	Marcellus
44	12/24/2023	14192.72009	14027.9359	36	Marcellus
45	12/24/2023	13992.57906	13827.7949	36	Marcellus
46	12/24/2023	13792.43803	13627.6538	36	Marcellus
47	12/25/2023	13592.29701	13427.5128	36	Marcellus
48	12/25/2023	13392.15598	13227.3718	36	Marcellus
49	12/25/2023	13192.01496	13027.2308	36	Marcellus
50	12/25/2023	12991.87393	12827.0897	36	Marcellus
51	12/26/2023	12791.73291	12626.9487	36	Marcellus
52	12/27/2023	12591.59188	12426.8077	36	Marcellus
53	12/27/2023	12391.45085	12226.6667	36	Marcellus
54	12/27/2023	12191.30983	12026.5256	36	Marcellus
55	12/28/2023	11991.1688	11826.3846	36	Marcellus
56	12/28/2023	11791.02778	11626.2436	36	Marcellus
57	12/28/2023	11590.88675	11426.1026	36	Marcellus
58	12/29/2023	11390.74573	11225.9615	36	Marcellus
59	12/29/2023	11190.6047	11025.8205	36	Marcellus
60	12/29/2023	10990.46368	10825.6795	36	Marcellus
61	12/30/2023	10790.32265	10625.5385	36	Marcellus
62	12/30/2023	10590.18162	10425.3974	36	Marcellus
63	12/30/2023	10390.0406	10225.2564	36	Marcellus
64	12/31/2023	10189.89957	10025.1154	36	Marcellus
65	12/31/2023	9989.758547	9824.97436	36	Marcellus
66	12/31/2023	9789.617521	9624.83333	36	Marcellus
67	12/31/2023	9589.476496	9424.69231	36	Marcellus
68	1/1/2024	9389.33547	9224.55128	36	Marcellus
69	1/1/2024	9189.194444	9024.41026	36	Marcellus
70	1/1/2024	8989.053419	8824.26923	36	Marcellus
71	1/1/2024	8788.912393	8624.12821	36	Marcellus
72	1/1/2024	8588.771368	8423.98718	36	Marcellus
73	1/2/2024	8388.630342	8223.84615	36	Marcellus
74	1/2/2024	8188.489316	8023.70513	36	Marcellus
75	1/2/2024	7988.348291	7823.5641	36	Marcellus
76	1/2/2024	7788.207265	7623.42308	36	Marcellus
77	1/3/2024	7588.066239	7423.28205	36	Marcellus
78	1/3/2024	7387.925214	7223.14103	36	Marcellus
79	1/3/2024	7187.784188	7023	36	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	12/10/2023	82.6	9771.854	8195.06	3046.4	168820	4824.3	N/A
2	12/11/2023	88.1	10272.06	4862.48	3638.6	415660	7658.1	N/A
3	12/11/2023	89.9	10226.1	4926.33	3231.1	417300	7409.7	N/A
4	12/11/2023	88.0	10009.71	4795.8	3174.9	417520	7572.5	N/A
5	12/11/2023	92.4	10303.29	4426.59	3156.0	418540	7720.1	N/A
6	12/12/2023	85.4	9814.623	4734.5	3277.1	417540	7502.5	N/A
7	12/12/2023	90.7	10186.86	5025.74	3262.9	420760	7402.2	N/A
8	12/13/2023	92.5	9980.233	4899	3179.4	418100	7375.2	N/A
9	12/13/2023	90.8	10022.85	4800.31	3020.0	414760	7325.3	N/A
10	12/14/2023	91.9	9992.733	4302.84	3241.0	415700	7598.5	N/A
11	12/14/2023	90.1	10089.9	4798.68	3464.9	413880	7585.0	N/A
12	12/14/2023	95.7	10373.37	4378.87	3220.0	419120	7437.7	N/A
13	12/15/2023	93.7	10367.72	4678.94	3287.4	418280	7473.6	N/A
14	12/15/2023	95.1	10240.04	4743.17	3235.6	421420	7419.5	N/A
15	12/15/2023	93.5	10324.62	2477.78	3386.1	416500	7657.7	N/A
16	12/16/2023	95.9	10262.98	4789.66	3441.1	419520	7157.3	N/A
17	12/16/2023	88.0	9562.83	4866.9	3120.4	333816	6709.5	N/A
18	12/17/2023	90.0	9607.898	4960.92	3156.7	398620	9458.6	N/A
19	12/17/2023	95.5	10191.59	4455.4	3144.4	419240	7393.5	N/A
20	12/17/2023	95.3	9861.53	2096.52	3370.0	419980	8620.4	N/A
21	12/18/2023	94.7	9949.458	4507.94	3373.7	416800	7324.0	N/A
22	12/18/2023	96.1	10084.59	4826.87	3201.0	421680	7508.3	N/A
23	12/18/2023	95.1	9888.924	4720.96	3427.0	415680	7299.5	N/A
24	12/18/2023	96.4	10010.54	4777.19	3174.1	414340	7259.3	N/A
25	12/19/2023	96.1	9848.054	4772.66	3236.3	422420	7103.0	N/A
26	12/19/2023	95.7	9911.765	4736.77	3379.9	411740	7415.7	N/A
27	12/19/2023	96.8	9538.737	4923.96	3057.9	412100	6983.6	N/A
28	12/19/2023	95.4	9494.649	4844.44	3554.6	415000	7279.6	N/A
29	12/20/2023	97.0	9820.752	4883.69	3348.2	413420	7449.6	N/A
30	12/20/2023	92.8	9284.337	5012.13	3163.6	405981	7193.4	N/A
31	12/21/2023	93.0	9541.025	5198.04	3303.1	414080	7231.0	N/A
32	12/21/2023	91.3	9390.629	4881.4	3420.0	413280	7102.5	N/A
33	12/21/2023	88.7	8566.506	4712.52	3323.5	413160	9467.3	N/A
34	12/22/2023	94.3	9415.233	4800.68	3437.9	417520	7262.0	N/A
35	12/22/2023	93.4	9202.226	4672.73	3410.3	421460	7201.1	N/A
36	12/23/2023	90.7	8865.093	4588.4	3826.0	417420	8242.9	N/A
37	12/23/2023	93.9	9145.756	4835.58	3556.3	414020	7140.7	N/A
38	12/23/2023	92.5	9012.644	4598.33	3640.0	416720	7272.4	N/A
39	12/23/2023	94.1	9097.414	4724.5	3359.2	413160	7153.3	N/A
40	12/23/2023	93.1	9292.611	4641.96	3863.9	415360	7390.2	N/A
41	12/23/2023	94.8	9222.178	4540.24	3875.2	412680	7463.3	N/A
42	12/24/2023	94.6	8998.37	4533.53	3908.0	416160	7441.9	N/A
43	12/24/2023	94.5	8965.396	4594.08	3905.0	417600	7343.6	N/A
44	12/24/2023	94.0	8507.138	4471.27	4064.2	415980	7346.1	N/A
45	12/24/2023	93.8	8454.936	4507.68	3996.1	416360	7358.7	N/A
46	12/24/2023	95.1	8866.296	4659.37	3858.9	414060	7260.8	N/A
47	12/25/2023	95.6	9088.749	4560.17	3508.0	413540	7249.3	N/A
48	12/25/2023	95.2	8708.858	4665.57	3771.4	412340	7229.9	N/A
49	12/25/2023	95.4	8832.091	4941.1	4049.0	417420	7182.0	N/A
50	12/25/2023	95.4	8621.54	4479.12	3833.0	415160	7179.6	N/A
51	12/26/2023	95.9	8611.441	3109.22	3932.0	415380	6903.4	N/A
52	12/27/2023	94.9	8716.597	4444.59	3590.0	414280	7313.6	N/A
53	12/27/2023	95.7	8620.62	4341.09	3598.0	415340	7124.6	N/A
54	12/27/2023	96.1	8566.784	4632.68	4041.2	417620	7187.9	N/A
55	12/28/2023	95.8	8484.509	4744.82	3685.6	413840	7185.2	N/A
56	12/28/2023	95.4	8406.344	4266.04	3836.8	411800	7066.3	N/A
57	12/28/2023	95.3	8384.473	4516.16	3696.4	420280	7187.1	N/A
58	12/29/2023	95.7	8662.4	4698.4	3894.8	407380.0	7334.0	N/A
59	12/29/2023	95.7	8565.5	4691.2	4101.3	410700.0	6933.0	N/A
60	12/29/2023	95.6	8775.3	4578.3	4152.9	417500.0	7051.2	N/A
61	12/30/2023	96.1	8542.7	4701.7	3691.0	416440.0	7038.1	N/A
62	12/30/2023	95.7	8737.7	4875.1	3581.6	409980.0	6953.0	N/A
63	12/30/2023	96.5	8432.9	4835.3	3376.6	408340.0	6798.8	N/A
64	12/31/2023	96.2	8359.5	4946.5	3624.3	414960.0	6889.3	N/A
65	12/31/2023	96.1	8060.1	4541.4	3599.2	413060.0	6694.3	N/A
66	12/31/2023	95.9	8173.0	4767.5	3458.4	415980.0	6719.7	N/A
67	12/31/2023	96.2	7957.4	4396.3	3545.0	413680.0	6939.8	N/A
68	1/1/2024	96.3	7924.9	4776.5	3476.5	407220.0	6760.9	N/A
69	1/1/2024	96.1	7850.5	4798.4	3507.0	411000.0	6611.5	N/A
70	1/1/2024	95.9	7693.3	4545.5	3561.5	413200.0	6769.4	N/A
71	1/1/2024	96.4	7778.4	4382.0	3325.8	410640.0	6683.2	N/A
72	1/1/2024	96.1	7587.1	4526.6	3481.3	409120.0	6692.5	N/A
73	1/2/2024	96.4	7623.1	4555.6	3447.4	408160.0	6763.9	N/A
74	1/2/2024	97.0	7822.3	4641.6	3405.0	413300.0	6699.3	N/A
75	1/2/2024	95.8	7799.5	4329.6	3516.3	412080.0	6684.2	N/A
76	1/2/2024	95.1	7744.7	4664.9	3663.8	415160.0	6711.3	N/A
77	1/3/2024	96.0	7612.1	5150.8	3739.5	414200.0	6642.5	N/A
78	1/3/2024	96.3	7574.1	3081.5	3717.6	415420.0	6773.7	N/A
79	1/3/2024	95.8	7368.9	4044.8	4314.3	415060.0	6721.1	N/A
	AVERAGE	94	9,057	4,626	3,525	32,442,837	570,468	TOTAL

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API 47-085-10488 Farm Name Daniel R. Christian Well Number Maul Unit 3H

**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	1,900	1,560	1,991
Big Lime	1,930	2,756	1,991	2,920
Fifty Foot Sandstone	2,756	2,904	2,890	3,079
Gordon	2,904	3,224	3,049	3,421
Fifth Sandstone	3,224	3,271	3,391	3,471
Bayard	3,271	3,835	3,441	4,085
Speechley	3,835	4,053	4,055	4,323
Balltown	4,053	4,476	4,293	4,783
Bradford	4,476	4,878	4,753	5,220
Benson	4,878	5,151	5,190	5,517
Alexander	5,151	6,151	5,487	6,670
Sycamore	6,032	6,121	6,505	6,640
Middlesex	6,121	6,225	6,640	6,855
Burkett	6,225	6,251	6,855	6,929
Tully	6,251	6,263	6,929	6,969
Marcellus	6,263	NA	6,969	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.

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# 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:	47-085-10488-00-00
Operator Name:	Antero Resources Corporation
Well Name and Number:	MAUL UNIT 3H
Latitude:	39.2893
Longitude:	-80.9834
Datum:	WGS84
Federal Well:	NO
Indian Well:	NO
True Vertical Depth:	6336
Total Base Water Volume (gal)*:	25304493.5
Total Base Non Water Volume:	0



Water Source	Percent
Produced Water	100.00%

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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					
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.

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			Water	7732-18-5	100.00000	88.45888	None
			Crystalline silica, quartz	14808-60-7	100.00000	11.34132	None
			Water	7732-18-5	100.00000	0.16990	None
			Hydrochloric acid	7647-01-0	30.00000	0.04031	None
			Complex amine compound	Proprietary	60.00000	0.02849	None
			Hydrotreated distillate	Proprietary	30.00000	0.01425	None
			Guar gum	9000-30-0	100.00000	0.01047	None
			Ammonium chloride	12125-02-9	5.00000	0.00237	None
			Ethoxylated alcohol	Proprietary	5.00000	0.00237	None
			Fatty nitrogen derived amides	Proprietary	5.00000	0.00237	None
			Glutaraldehyde	111-30-8	30.00000	0.00211	None
			Sorbitan, mono-9-octadecenoate, (Z)	1338-43-8	1.00000	0.00047	None
			Sorbitan monooleate polyoxyethylene derivative	9005-65-6	1.00000	0.00047	None
			Alkyl (C12-16) dimethylbenzyl ammonium chloride	68424-85-1	5.00000	0.00035	None
			Methanol	67-56-1	100.00000	0.00025	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%

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

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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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