

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

API 47-095-02829 County Tyler District Ellsworth  
Quad Porter Falls 7.5' Pad Name Thin Air Field/Pool Name ----  
Farm name Clara Suzanne Wallace & Rickie Wallace Well Number Marcellina 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 4375447m Easting 517834m  
Landing Point of Curve Northing 4375317.24m Easting 517797.21m  
Bottom Hole Northing 4370520m Easting 519457m

Elevation (ft) 1200' 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

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Date permit issued 11/3/2022 Date drilling commenced 12/16/2022 Date drilling ceased 3/19/2023  
Date completion activities began 4/26/2023 Date completion activities ceased 7/5/2023  
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 328' Open mine(s) (Y/N) depths No  
Salt water depth(s) ft 1660' Void(s) encountered (Y/N) depths No  
Coal depth(s) ft N/A Cavern(s) encountered (Y/N) depths No  
Is coal being mined in area (Y/N) No

**APPROVED**

Reviewed by: [Signature]  
12/01/2023

API 47-095 - 02829 Farm name Clara Suzanne Wallace & Rickie Wallace Well number Marcellina 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	91.59#, J-55	N/A	Y
Surface	17-1/2"	13-3/8"	447'	New	54.5#, J-55	N/A	Y
Coal							
Intermediate 1	12-1/4"	9-5/8"	3465'	New	36#, J-55	N/A	Y
Intermediate 2							
Intermediate 3							
Production	8-3/4"/8-1/2"	5-1/2"	24079'	New	23#, P-110	N/A	Y
Tubing		2-3/8"	6896'		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	259 sx	15.6	1.18	306	0'	8 Hrs.
Surface	Class A	739 sx	15.6	1.20	887	0'	8 Hrs.
Coal							
Intermediate 1	Class A	1201 sx	15.6	1.20	1441	0'	8 Hrs.
Intermediate 2							
Intermediate 3							
Production	Class H	3907 sx (Tail)	13.5 (Lead), 15.2(Tail)	1.26 (Tail)	4923	-500' into Intermediate Casing	8 Hrs.
Tubing							

Drillers TD (ft) 24079' MD, 6935' TVD (BHL), 6935' TVD (Deepest Point Drilled) Loggers TD (ft) 24079' MD  
 Deepest formation penetrated Marcellus Plug back to (ft) N/A  
 Plug back procedure N/A

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Kick off depth (ft) 6100' \_\_\_\_\_

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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

12/01/2023

API 47-095 - 02829 Farm name Clara Suzanne Wallace & Rickie Wallace Well number Marcellina Unit 1H

PERFORATION RECORD

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

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)
<b>*PLEASE SEE ATTACHED EXHIBIT 2</b>								

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<u>PRODUCING FORMATION(S)</u>	<u>DEPTHS</u>		
	6839' (TOP)	TVD	7146' (TOP) MD
Marcellus			

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 12501.74 mcfpd Oil 428.48 bpd NGL --- bpd Water 729.35 bpd GAS MEASURED BY  Estimated  Orifice  Pilot

LITHOLOGY/ FORMATION	TOP DEPTH IN FT NAME TVD	BOTTOM DEPTH IN FT TVD	TOP DEPTH IN FT MD	BOTTOM DEPTH IN FT MD	DESCRIBE ROCK TYPE AND RECORD QUANTITY AND TYPE OF FLUID (FRESHWATER, BRINE, OIL, GAS, H <sub>2</sub> S, ETC)
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**\*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 *S Gaspar* Title Permitting Agent Date 10/13/23

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

12/01/2023 

**EXHIBIT 1**

Stage No.	Perforation Date	Perforated from MD ft.	Perforated to MD ft.	Number of Perforations	Formations
1	4/27/2023	23955	23912	60	Marcellus
2	4/27/2023	23873.43373	23707.6024	60	Marcellus
3	4/28/2023	23672.03614	23506.2048	60	Marcellus
4	4/28/2023	23470.63855	23304.8072	60	Marcellus
5	4/29/2023	23269.24096	23103.4096	60	Marcellus
6	4/30/2023	23067.84337	22902.012	60	Marcellus
7	5/1/2023	22866.44578	22700.6145	60	Marcellus
8	5/1/2023	22665.04819	22499.2169	60	Marcellus
9	5/1/2023	22463.6506	22297.8193	60	Marcellus
10	5/1/2023	22262.25301	22096.4217	60	Marcellus
11	5/2/2023	22060.85542	21895.0241	60	Marcellus
12	5/2/2023	21859.45783	21693.6265	60	Marcellus
13	5/3/2023	21658.06024	21492.2289	60	Marcellus
14	5/3/2023	21456.66265	21290.8313	60	Marcellus
15	5/4/2023	21255.26506	21089.4337	60	Marcellus
16	5/4/2023	21053.86747	20888.0361	60	Marcellus
17	5/5/2023	20852.46988	20686.6386	60	Marcellus
18	5/5/2023	20651.07229	20485.241	60	Marcellus
19	5/6/2023	20449.6747	20283.8434	60	Marcellus
20	5/6/2023	20248.27711	20082.4458	60	Marcellus
21	5/7/2023	20046.87952	19881.0482	60	Marcellus
22	5/7/2023	19845.48193	19679.6506	60	Marcellus
23	5/8/2023	19644.08434	19478.253	60	Marcellus
24	5/8/2023	19442.68675	19276.8554	60	Marcellus
25	5/9/2023	19241.28916	19075.4578	60	Marcellus
26	5/9/2023	19039.89157	18874.0602	60	Marcellus
27	5/10/2023	18838.49398	18672.6627	60	Marcellus
28	5/10/2023	18637.09639	18471.2651	60	Marcellus
29	5/11/2023	18435.6988	18269.8675	60	Marcellus
30	5/11/2023	18234.3012	18068.4699	60	Marcellus
31	5/11/2023	18032.90361	17867.0723	60	Marcellus
32	5/12/2023	17831.50602	17665.6747	60	Marcellus
33	5/12/2023	17630.10843	17464.2771	60	Marcellus
34	5/12/2023	17428.71084	17262.8795	60	Marcellus
35	5/12/2023	17227.31325	17061.4819	60	Marcellus
36	5/13/2023	17025.91566	16860.0843	60	Marcellus
37	5/13/2023	16824.51807	16658.6867	60	Marcellus
38	5/13/2023	16623.12048	16457.2892	60	Marcellus
39	5/13/2023	16421.72289	16255.8916	60	Marcellus
40	5/14/2023	16220.3253	16054.494	60	Marcellus
41	5/14/2023	16018.92771	15853.0964	60	Marcellus
42	5/14/2023	15817.53012	15651.6988	60	Marcellus
43	5/14/2023	15616.13253	15450.3012	60	Marcellus
44	5/14/2023	15414.73494	15248.9036	60	Marcellus
45	5/15/2023	15213.33735	15047.506	60	Marcellus
46	5/15/2023	15011.93976	14846.1084	60	Marcellus
47	5/15/2023	14810.54217	14644.7108	60	Marcellus
48	5/15/2023	14609.14458	14443.3133	60	Marcellus
49	5/16/2023	14407.74699	14241.9157	60	Marcellus
50	5/16/2023	14206.3494	14040.5181	60	Marcellus
51	5/16/2023	14004.95181	13839.1205	60	Marcellus
52	5/16/2023	13803.55422	13637.7229	60	Marcellus
53	5/16/2023	13602.15663	13436.3253	60	Marcellus
54	5/17/2023	13400.75904	13234.9277	60	Marcellus
55	5/17/2023	13199.36145	13033.5301	60	Marcellus
56	5/17/2023	12997.96386	12832.1325	60	Marcellus
57	5/17/2023	12796.56627	12630.7349	60	Marcellus
58	5/18/2023	12595.16867	12429.3373	60	Marcellus
59	5/18/2023	12393.77108	12227.9398	60	Marcellus
60	5/18/2023	12192.37349	12026.5422	60	Marcellus
61	5/18/2023	11990.9759	11825.1446	60	Marcellus
62	5/19/2023	11789.57831	11623.747	60	Marcellus
63	5/19/2023	11588.18072	11422.3494	60	Marcellus
64	5/21/2023	11386.78313	11220.9518	60	Marcellus
65	5/21/2023	11185.38554	11019.5542	60	Marcellus
66	5/21/2023	10983.98795	10818.1566	60	Marcellus
67	5/21/2023	10782.59036	10616.759	60	Marcellus
68	5/21/2023	10581.19277	10415.3614	60	Marcellus
69	5/22/2023	10379.79518	10213.9639	60	Marcellus
70	5/22/2023	10178.39759	10012.5663	60	Marcellus
71	5/22/2023	9977	9811.16867	60	Marcellus
72	5/22/2023	9775.60241	9609.77108	60	Marcellus
73	5/23/2023	9574.204819	9408.37349	60	Marcellus
74	5/23/2023	9372.807229	9206.9759	60	Marcellus
75	5/23/2023	9171.409639	9005.57831	60	Marcellus
76	5/23/2023	8970.012048	8804.18072	60	Marcellus
77	5/23/2023	8768.614458	8602.78313	60	Marcellus
78	5/24/2023	8567.216867	8401.38554	60	Marcellus
79	5/24/2023	8365.819277	8199.98795	60	Marcellus
80	5/24/2023	8164.421687	7998.59036	60	Marcellus
81	5/24/2023	7963.024096	7797.19277	60	Marcellus
82	5/25/2023	7761.626506	7595.79518	60	Marcellus
83	5/25/2023	7560.228916	7394.39759	60	Marcellus
84	5/25/2023	7358.831325	7193	60	Marcellus

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EXHIBIT 2

Stage No.	Stimulations Date	Avg Pump Rate	Avg Treatment Pressure (PSI)	Breakdown Pressure (PSI)	ISIP (PSI)	Amount of Proppant (lbs)	Amount of Water (bbls)	Amount of Nitrogen/ other (units)
1	4/27/2023	72.14	9264	8243	3462	174530	4919.9345	N/A
2	4/27/2023	86.00747	10366.68	5513.43	4193.042	406290	7618.3269	N/A
3	4/28/2023	84.12405	10249.11	6197.06	3582.117	411460	7739.8655	N/A
4	4/28/2023	88.58482	10188.08	6561.04	3432.445	410160	7136.0017	N/A
5	4/29/2023	94.50245	10636.37	5888.92	3892.331	397310	7101.0207	N/A
6	4/30/2023	89.69288	10315.98	6174.79	4027.519	403450	7111.125	N/A
7	5/1/2023	90.89447	10034.4	6171.07	3594.791	413970	7341.5195	N/A
8	5/1/2023	96.47868	10534.85	5720.81	3634.682	416300	7354.0579	N/A
9	5/1/2023	95.39211	10563.84	6113.09	3978.1	413030	7147.0121	N/A
10	5/1/2023	93.66619	10375.73	5970.55	3792.505	409950	7186.8169	N/A
11	5/2/2023	96.62	10432	6145	4150	410268	7329.3774	N/A
12	5/2/2023	97.84	10340	5588	4163	397700	7115.536	N/A
13	5/3/2023	91.82938	10056.69	6177.02	3735.971	415770	7175.0529	N/A
14	5/3/2023	95.66	10338	5915	4038	398200	7411.5731	N/A
15	5/4/2023	93.97	10298	6426	4263	394240	7225.4912	N/A
16	5/4/2023	91.89644	10338.27	6077.19	3738.9	400560	7058.8348	N/A
17	5/5/2023	93.84272	10030.67	6592.87	3739.252	412400	7383.5286	N/A
18	5/5/2023	91.25	10042	6590	3449	415880	7448.3745	N/A
19	5/6/2023	93.68975	10201.19	6343.77	3633.322	396310	7202.2962	N/A
20	5/6/2023	95.55867	10087.05	6060.89	3863.104	397560	7036.3383	N/A
21	5/7/2023	95.33856	10038.45	6194.94	4086.331	397360	7040.4267	N/A
22	5/7/2023	95.55109	10119.36	2685.54	3968.258	402600	7749.1367	N/A
23	5/8/2023	94.34278	10086.57	5939.58	3886.873	399090	7081.2581	N/A
24	5/8/2023	96.36739	10403.83	6780.1	3400.782	418020	7385.3431	N/A
25	5/9/2023	95.35553	9974.217	6055.66	4124.485	395740	7121.5207	N/A
26	5/9/2023	94.92	9966	6067	3619	415080	7391.099	N/A
27	5/10/2023	96.1786	10238.83	6121.31	3825.363	415070	7233.6712	N/A
28	5/10/2023	96.03	10039	5547	3689	401150	7219.654	N/A
29	5/11/2023	97.79	10202	6005	3438	412240	7119.7783	N/A
30	5/11/2023	97.08	9875	6375	3236	413610	7267.1143	N/A
31	5/11/2023	97.49789	9898.072	5524.68	3441.895	412660	7046.0914	N/A
32	5/12/2023	98.48	10065	5564	3511	415980	7133.5674	N/A
33	5/12/2023	98.17	9948	5486	3539	414880	7283.4764	N/A
34	5/12/2023	94.69	9605	3738	3226	401600	7037.6202	N/A
35	5/12/2023	96.85533	9893.71	5954.23	3518.965	400890	6901.7574	N/A
36	5/13/2023	97.62442	9917.112	5322.24	3353.289	413410	7039.7583	N/A
37	5/13/2023	97.63	9793	6023	3151	417100	7174.6462	N/A
38	5/13/2023	97.96	9665	5878	3885	401010	6918.1683	N/A
39	5/13/2023	97.59274	9889.574	6271	3455.852	398330	6883.6464	N/A
40	5/14/2023	98.03477	9938.182	5739.93	3783.262	412300	6975.8283	N/A
41	5/14/2023	97.64	9733	5845	3556	417230	7173.4436	N/A
42	5/14/2023	98.16	9620	4414	3652	419230	7197.6376	N/A
43	5/14/2023	96.97	9644	6084	3461	412978	7055.8626	N/A
44	5/14/2023	98.18233	9517.401	5611.11	3438.88	412780	7024.6593	N/A
45	5/15/2023	97.77	9477	6120	3524	411780	7073.4136	N/A
46	5/15/2023	97.97	9498	5711	3361	416820	7119.4929	N/A
47	5/15/2023	96.25	9090	5907	3586	416920	7144.811	N/A
48	5/15/2023	97.61203	9173.453	5882.35	3353.077	416010	7060.2407	N/A
49	5/16/2023	97.96	9267	5902	3511	413760	6978.41	N/A
50	5/16/2023	96.43246	9139.016	5996.08	3395.336	414910	7101.6619	N/A
51	5/16/2023	96.09331	8977.775	5841.45	3488.307	419350	7358.1536	N/A
52	5/16/2023	97.10336	9000.913	6221.97	3491.324	413040	7187.8879	N/A
53	5/16/2023	98.35	8956	5740	3693	417058	7017.1898	N/A
54	5/17/2023	98.25961	8981.119	5334.97	3724.215	406670	6921.7238	N/A
55	5/17/2023	97.26044	9002.895	5688.81	3372.687	409420	7158.2986	N/A
56	5/17/2023	96.79641	8941.745	6147.07	3424.903	413100	7099.0233	N/A
57	5/17/2023	98.03	8808	5674	3589	417330	7073.0869	N/A
58	5/18/2023	98.28	8652	5841	3693	416640	7018.9581	N/A
59	5/18/2023	97.4915	8616.623	5850.34	3606.588	415440	7133.0681	N/A
60	5/18/2023	97.04	8527	5983	3648	416040	7195.9193	N/A
61	5/18/2023	90	7294	5676	4310	402350	7789.04	N/A
62	5/19/2023	97.29	8906	5800	3821	395640	6788.0255	N/A
63	5/19/2023	98.42837	8830.236	5287.36	3671.46	410500	6978.8238	N/A
64	5/21/2023	93.03	8551	5930	3831	398120	6745.609	N/A
65	5/21/2023	93.13281	8340.455	5972.2	3719.389	397680	6834.7305	N/A
66	5/21/2023	96.53007	8347.117	5975.49	3731.076	398880	6888.0083	N/A
67	5/21/2023	96.87	8558	6305	3694	412300	7023.6667	N/A
68	5/21/2023	96.3	8674	6543	3704	415770	7035.1626	N/A
69	5/22/2023	96.86	8366	6259	4032	409660	6996.5574	N/A
70	5/22/2023	94.7	8157	5799	4079	418560	6960.2464	N/A
71	5/22/2023	91.92472	8486.857	5941.63	3835.454	414200	6986.4745	N/A
72	5/22/2023	96.96	8628	5515	4036	415120	6891.796	N/A
73	5/23/2023	97.11	8161	5375	3695	413030	6788.1086	N/A
74	5/23/2023	96.20865	8102.845	6011.93	3774.653	414520	6929.7452	N/A
75	5/23/2023	96.10917	8219.407	5829.82	3344.525	414340	7179.5595	N/A
76	5/23/2023	97.22	8029	5909	3398	412280	7097.7602	N/A
77	5/23/2023	98.05	8155	5828	3279	408690	6977.4852	N/A
78	5/24/2023	97.63	8064	5908	3477	410410	6998.8224	N/A
79	5/24/2023	95.09466	7901.13	5932.25	3420.66	400690	6939.7867	N/A
80	5/24/2023	97.10562	7606.5	5630.63	3575.872	411873	7061.5748	N/A
81	5/24/2023	98.29	7497	4749	3435	410001	6854.3098	N/A
82	5/25/2023	96.81	7568	6038	3293	419370	6935.615	N/A
83	5/25/2023	96.94123	7331.685	5876.32	3525.807	410840	6905.0317	N/A
84	5/25/2023	97.88506	7426.036	5794.78	3721.343	397150	6955.2681	N/A
AVERAGE		95.5	9,310	5,874	3,660	34,161,938	595,680	0

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## EXHIBIT 3

LITHOLOGY/ FORMATION	TOP DEPTH (TVD) From Surface	BOTTOM DEPTH (TVD) From Surface	TOP DEPTH (MD) From Surface	BOTTOM DEPTH (MD) From Surface
Shaly Siltstone, tr LS	91	275	91	275
Sandy Siltstone, Coal	275	335	275	335
Silty Sandstone	335	425	335	425
Shaly Siltstone, occ LS	425	635	425	635
Sandy Siltstone, occ LS	635	965	635	965
Shaly Siltstone, occ SS	965	1,025	965	1,025
Shaly Siltstone	1,025	1,435	1,025	1,435
Sandy Siltstone, occ Shale	1,435	1,525	1,435	1,525
Silty Sandstone, tr coal	1,525	1,615	1,525	1,615
Silty Sandstone, coal, tr shale	1,615	1,735	1,615	1,735
Silty Sandstone, occ shale	1,735	1,885	1,735	1,885
Shaly Sandstone, coal, occ slst	1,885	2,125	1,885	2,125
Silty Sandstone, coal, occ Shale	2,125	2,094	2,125	2,094
Big Lime	2,119	2,896	2,094	2,896
Fifty Foot Sandstone	2,896	2,958	2,871	2,958
Gordon	2,958	3,192	2,933	3,192
Fifth Sandstone	3,192	3,469	3,167	3,469
Bayard	3,469	4,150	3,444	4,155
Speechley	4,150	4,453	4,130	4,463
Balltown	4,453	4,906	4,438	4,924
Bradford	4,906	5,164	4,899	5,189
Benson	5,164	5,394	5,164	5,423
Alexander	5,394	6,673	5,398	6,760
Sycamore	6,532	6,648	6,593	6,735
Middlesex	6,648	6,745	6,735	6,887
Burkett	6,745	6,775	6,887	6,949
Tully	6,775	6,839	6,949	7,146
Marcellus	6,839	NA	7,146	NA

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# Hydraulic Fracturing Fluid Product Component Information Disclosure

Job Start Date:	4/26/2023
Job End Date:	5/25/2023
State:	West Virginia
County:	Tyler
API Number:	47-095-02829-00-00
Operator Name:	Antero Resources Corporation
Well Name and Number:	MARCELLINA UNIT 1H
Latitude:	39.52841000
Longitude:	-80.79266000
Datum:	NAD83
Federal Well:	NO
Indian Well:	NO
True Vertical Depth:	6,986
Total Base Water Volume (gal):	26,235,974
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	Halliburton	Base Fluid					
			Water	7732-18-5	100.00000	86.33152	Density = 8.34
Ingredients	Listed Above	Listed Above					
			Water	7732-18-5	100.00000	0.16590	

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HAI-501	Halliburton	Acid Corrosion Inhibitor					
				Listed Below			
OPTIFLO-II DELAYED RELEASE BREAKER	Halliburton	Breaker					
				Listed Below			
MC B-8614A	MultiChem	Biocide					
				Listed Below			
Sand-Common White-100 Mesh, SSA-2	Halliburton	Proppant					
				Listed Below			
FDP-S1464-22	Halliburton	Friction Reducer					
				Listed Below			
HYDROCHLORIC ACID, 22 BAUME	Halliburton	Solvent					
				Listed Below			
WG-36 GELLING AGENT	Halliburton	Gelling Agent					
				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	13.47873	
			Hydrochloric acid	7647-01-0	30.00000	0.03847	
			Complex amine compound	Proprietary	60.00000	0.02925	

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			Hydrotreated distillate	Proprietary	30.00000	0.01463
			Guar gum	9000-30-0	100.00000	0.00402
			Glutaraldehyde	111-30-8	30.00000	0.00253
			Fatty nitrogen derived amides	Proprietary	5.00000	0.00244
			Ethoxylated alcohol	Proprietary	5.00000	0.00244
			Ammonium chloride	12125-02-9	5.00000	0.00244
			Sorbitan monooleate polyoxyethylene derivative	9005-65-6	1.00000	0.00049
			Sorbitan, mono-9-octadecenoate, (Z)	1338-43-8	1.00000	0.00049
			Alkyl (C12-16) dimethylbenzyl ammonium chloride	68424-85-1	5.00000	0.00042
			Methanol	67-56-1	100.00000	0.00024
			Ammonium persulfate	7727-54-0	100.00000	0.00009
			Ethanol	64-17-5	1.00000	0.00008
			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	0.00003
			Hexadecene	629-73-2	5.00000	0.00001
			Ethoxylated alcohols	Proprietary	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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LATITUDE 39°32'30" 281'

Antero Resources Corporation Well No. Marcellina Unit 1H

AS DRILLED DATA:  
 WELL 1H TOP HOLE INFORMATION:  
 N: 377,193ft E: 1,635,389ft  
 LAT: 39°31'42.29" LON: 80°47'33.58"  
 BOTTOM HOLE INFORMATION:  
 N: 360,936ft E: 1,640,444ft  
 LAT: 39°29'02.33" LON: 80°46'26.13"  
 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: 4,375,447m E: 517,834m  
 BOTTOM HOLE INFORMATION:  
 N: 4,370,520m E: 519,457m

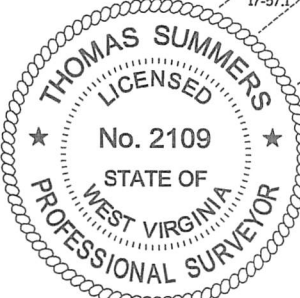
(NAD) 27 (UTM) ZONE 17 COORDS:  
 WELL 1H TOP HOLE INFORMATION:  
 N: 14,354,399ft E: 1,698,881ft  
 POINT OF ENTRY INFORMATION:  
 N: 14,354,221ft E: 1,698,735ft  
 BOTTOM HOLE INFORMATION:  
 N: 14,338,233ft E: 1,704,204ft

ELLSWORTH DISTRICT - TYLER COUNTY

11-20	EDWARD QUIRK
11-21	EDWARD QUIRK
11-22	NILE HARRIS
11-59	EDWARD QUIRK
11-60	MICHAEL MARTIN
12-8	ROSALIE HENRY
12-8	ANTERO MIDSTREAM LLC
12-7	COASTAL FOREST RESOURCES CO.
12-8	SHIRLEY CARROLL
12-9	COASTAL FOREST RESOURCES CO.
12-10	MICHAEL MARTIN
12-11	CLARA WALLACE
12-12	ROCKFORD ENERGY LLC
12-13	ERIC FISHER
12-14	ANTERO MIDSTREAM LLC
12-15	PATRICIA NYE
12-16	PATRICIA NYE
12-17	ANTERO MIDSTREAM LLC
12-18	ANTERO MIDSTREAM LLC
12-19	JON DUMARS
12-23	ROBERT BARD
12-32	CARL WILCOX

12-33	RICHARD NEFF
16-13	GAIL NEFF
17-21	CHRISTOPHER INVESTMENTS INC.
17-2	EDWARD WARF
17-3	FLOYD EDDY
17-3.1	FLORA ROBERTS
17-4	ERWIN PECK
17-5	DOUG SMITH
17-6	ERWIN PECK
17-7	GILBERT EDDY
17-8	RICHARD NAPIORKOWSKI
17-9	ERWIN PECK
17-10	THOMAS JOBS
17-10.1	CHARLES EASTHAM
17-10.2	THOMAS JOBS
17-11	ELIZABETH RICHIE
17-23	MARJORIE STALEY
17-24.1	DAWN HADLEY
17-25	ELIZABETH MENGES
17-26	RICHARD NEFF
17-27	HAMMETT LAND & MINERALS LLC
17-28	ARTHUR PECK
17-29	HAMMETT LAND & MINERALS LLC
17-32	SHALYN MCGRAW
17-33	HAMMETT LAND & MINERALS LLC
17-34	SAMUEL HAMMETT
17-34.1	MANUFACTURERS LIGHT & HEAT CO.
17-34.2	HAMMETT LAND & MINERALS LLC
17-35	SAMUEL HAMMETT
17-36	SAMUEL HAMMETT
17-37	BONNIE HENTHORN
17-37.1	JOHN COOPER
17-49	MARSHA MENGES
17-50	MARSHA MENGES
17-51	JONATHAN COOPER
17-52	ANTERO RESOURCES CORP.
17-53	WILLIAM JAMES
17-54	WANDA PARR
17-57.1	RICHARD WILLIAMS
17-57.2	RICHARD WILLIAMS
17-58	CHRISTOPHER INVESTMENTS INC.
17-59	MICHAEL BEEGLE
17-60	JOHN RAI
17-61	T. E. CUNNINGHAM
17-62	EDNA EDDY
17-63	EDNA ROBERTS
17-64	ANGELA SMITH
17-65	GILBERT EDDY
17-65.1	CHRISTIAN CHURCH
17-66	FLOYD EDDY
17-67	JEREMY NEFF
17-67.1	CYNTHIA EDDY
17-68	JEREMY NEFF
17-69	LARRY HENTHORN
17-70	DALE RICHMOND
17-71	LARRY HENTHORN
17-72	LARRY HENTHORN
23-6	DALE PARR
23-7	DALE PARR
23-9	DALE PARR
23-10	DALE PARR
23-11	JENNIFER WILLIAMS
23-12	TERRY JOY
MCELROY DISTRICT - TYLER COUNTY	
2-3	LLOYD WEEKLEY
2-4	LLOYD WEEKLEY
2-5	RONALD WEEKLEY
2-9	ELDEN NICHOLS
2-9.1	RICHARD BLANKENSHIP
2-9.2	WILLIAM LACY
2-9.3	SANDRA JOCHUM
2-10	WANDA PARR
2-18	MICHAEL SHERWOOD
2-20	ELDEN NICHOLS
2-21	CHARLES HAGAN
2-22	RICHARD THOMASELL

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.

JOB # 20-011WA  
 DRAWING # MARCELLINA1HAD  
 SCALE 1" = 2000'  
 MINIMUM DEGREE OF ACCURACY SUBMETER  
 PROVEN SOURCE OF ELEV. SUBMETER MAPPING GRADE GPS  
 STATE OF WEST VIRGINIA DEPARTMENT OF ENERGY DIVISION OF OIL AND GAS

LEGEND  
 - - - - - Surface Owner Boundary Lines +/-  
 - - - - - Interior Surface Tracts +/-  
 ○ - - - - - Proposed Well Path  
 ○ - - - - - As Drilled Well Path

THOMAS SUMMERS P.S. 2109  
 DATE 10/02/23  
 OPERATOR'S WELL# MARCELLINA UNIT #1H



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

WELL TYPE: OIL  GAS  LIQUID INJECTION  WASTE DISPOSAL   
 (IF "GAS") PRODUCTION  STORAGE  DEEP  SHALLOW   
 LOCATION: ELEVATION 1,200' - AS BUILT WATERSHED OUTLET MIDDLE ISLAND CREEK  
 QUADRANGLE PORTER FALLS 7.5' (TH) - SHIRLEY 7.5' (BH) DISTRICT ELLSWORTH COUNTY TYLER  
 SURFACE OWNER CLARA SUZANNE WALLACE & RICKIE WALLACE ACREAGE 60 ACRES +/-  
 OIL & GAS ROYALTY OWNER PHILLIP K. GEORGE LEASE ACREAGE 60 ACRES +/-

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 6,935' TVD 24,079' MD  
 WELL OPERATOR ANTERO RESOURCES CORP. DESIGNATED AGENT KEVIN ELLIS  
 ADDRESS 1615 WYNKOOP ST. ADDRESS 535 WHITE OAKS BLVD  
 DENVER, CO 80202 BRIDGEPORT, WV 26330