

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

API 47-095-02850 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 Sophie 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 4370612.464m Easting 502229.639m
Landing Point of Curve Northing 4349459.13m Easting 535781.42m
Bottom Hole Northing 4374570.382m Easting 500278.873m

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 6/26/2023
Date completion activities began 9/8/2023 Date completion activities ceased 10/14/2023
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

APPROVED

Reviewed by:

[Signature]
06/21/2024

API 47-095 - 02850 Farm name Antero Resources Corporation Well number Sophie 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	24"	20"	130'	New	94#, H-40	N/A	Y
Surface	17-1/2"	13-3/8"	375'	New	54.5#, J-55	N/A	Y
Coal							
Intermediate 1	12-1/4"	9-5/8"	3180'	New	36#, J-55	N/A	Y
Intermediate 2							
Intermediate 3							
Production	8-3/4"/8-1/2"	5-1/2"	20838'	New	20#, P-100	N/A	Y
Tubing		2-3/8"	6352'		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	75	0'	8 Hrs.
Surface	Class C	325 sx	15.8	1.17	93	0'	8 Hrs.
Coal							
Intermediate 1	Class C	1110 sx	15.8	1.16	183	0'	8 Hrs.
Intermediate 2							
Intermediate 3							
Production	Class H	3700 sx (Tail)	13.5 (Lead), 15.2(Tail)	1.30 (Tail)	534	-500' into Intermediate Casing	8 Hrs.
Tubing							

Drillers TD (ft) 20838' MD, 5975' TVD (BHL), 6078' (Deepest Point Drilled) Loggers TD (ft) 20838' MD
 Deepest formation penetrated Marcellus Plug back to (ft) N/A
 Plug back procedure N/A

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Kick off depth (ft) 5556'

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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

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API 47- 095 - 02850

Farm name Antero Resources Corporation Well number Sophie Unit 1H

PERFORATION RECORD

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

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Please insert additional pages as applicable.

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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)
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***PLEASE SEE ATTACHED EXHIBIT 2**

Please insert additional pages as applicable.

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API 47- 095 - 02850 Farm name Antero Resources Corporation Well number Sophie Unit 1H

<u>PRODUCING FORMATION(S)</u>	<u>DEPTHS</u>	
<u>Marcellus</u>	<u>6001' (TOP)</u> TVD	<u>6483' (TOP)</u> MD
_____	_____	_____
_____	_____	_____
_____	_____	_____

Please insert additional pages as applicable.

GAS TEST Build up Drawdown Open Flow OIL TEST Flow Pump

SHUT-IN PRESSURE Surface 1157 psi Bottom Hole --- psi DURATION OF TEST --- hrs

OPEN FLOW Gas Oil NGL Water GAS MEASURED BY
357 mcfpd 1872 bpd --- bpd 1338 bpd 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 ₂ 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 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 1/30/2024

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


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Exhibit 1

Stage No.	Perforation Date	Perforated from MD ft.	Perforated to MD ft.	Number of Perforations	Formations
1	9/8/2023	20710	20665	36	Marcellus
2	9/8/2023	20626.36429	20460.1857	36	Marcellus
3	9/8/2023	20424.55	20258.3714	36	Marcellus
4	9/13/2023	20222.73571	20056.5571	36	Marcellus
5	9/13/2023	20020.92143	19854.7429	36	Marcellus
6	9/14/2023	19819.10714	19652.9286	36	Marcellus
7	9/15/2023	19617.29286	19451.1143	36	Marcellus
8	9/16/2023	19415.47857	19249.3	36	Marcellus
9	9/17/2023	19213.66429	19047.4857	36	Marcellus
10	9/17/2023	19011.85	18845.6714	36	Marcellus
11	9/18/2023	18810.03571	18643.8571	36	Marcellus
12	9/18/2023	18608.22143	18442.0429	36	Marcellus
13	9/19/2023	18406.40714	18240.2286	36	Marcellus
14	9/19/2023	18204.59286	18038.4143	36	Marcellus
15	9/20/2023	18002.77857	17836.6	36	Marcellus
16	9/21/2023	17800.96429	17634.7857	36	Marcellus
17	9/21/2023	17599.15	17432.9714	36	Marcellus
18	9/22/2023	17397.33571	17231.1571	36	Marcellus
19	9/22/2023	17195.52143	17029.3429	36	Marcellus
20	9/23/2023	16993.70714	16827.5286	36	Marcellus
21	9/23/2023	16791.89286	16625.7143	36	Marcellus
22	9/24/2023	16590.07857	16423.9	36	Marcellus
23	9/24/2023	16388.26429	16222.0857	36	Marcellus
24	9/25/2023	16186.45	16020.2714	36	Marcellus
25	9/25/2023	15984.63571	15818.4571	36	Marcellus
26	9/25/2023	15782.82143	15616.6429	36	Marcellus
27	9/25/2023	15581.00714	15414.8286	36	Marcellus
28	9/26/2023	15379.19286	15213.0143	36	Marcellus
29	9/26/2023	15177.37857	15011.2	36	Marcellus
30	9/27/2023	14975.56429	14809.3857	36	Marcellus
31	9/27/2023	14773.75	14607.5714	36	Marcellus
32	9/27/2023	14571.93571	14405.7571	36	Marcellus
33	9/27/2023	14370.12143	14203.9429	36	Marcellus
34	9/28/2023	14168.30714	14002.1286	36	Marcellus
35	9/28/2023	13966.49286	13800.3143	36	Marcellus
36	9/28/2023	13764.67857	13598.5	36	Marcellus
37	9/28/2023	13562.86429	13396.6857	36	Marcellus
38	9/29/2023	13361.05	13194.8714	36	Marcellus
39	9/29/2023	13159.23571	12993.0571	36	Marcellus
40	9/29/2023	12957.42143	12791.2429	36	Marcellus
41	9/29/2023	12755.60714	12589.4286	36	Marcellus
42	9/30/2023	12553.79286	12387.6143	36	Marcellus
43	9/30/2023	12351.97857	12185.8	36	Marcellus
44	9/30/2023	12150.16429	11983.9857	36	Marcellus
45	9/30/2023	11948.35	11782.1714	36	Marcellus
46	10/1/2023	11746.53571	11580.3571	36	Marcellus
47	10/1/2023	11544.72143	11378.5429	36	Marcellus
48	10/1/2023	11342.90714	11176.7286	36	Marcellus
49	10/1/2023	11141.09286	10974.9143	36	Marcellus
50	10/1/2023	10939.27857	10773.1	36	Marcellus
51	10/2/2023	10737.46429	10571.2857	36	Marcellus
52	10/2/2023	10535.65	10369.4714	36	Marcellus
53	10/2/2023	10333.83571	10167.6571	36	Marcellus
54	10/2/2023	10132.02143	9965.84286	36	Marcellus
55	10/3/2023	9930.207143	9764.02857	36	Marcellus
56	10/3/2023	9728.392857	9562.21429	36	Marcellus
57	10/3/2023	9526.578571	9360.4	36	Marcellus
58	10/3/2023	9324.764286	9158.58571	36	Marcellus
59	10/4/2023	9122.95	8956.77143	36	Marcellus
60	10/4/2023	8921.135714	8754.95714	36	Marcellus
61	10/4/2023	8719.321429	8553.14286	36	Marcellus
62	10/4/2023	8517.507143	8351.32857	36	Marcellus
63	10/5/2023	8315.692857	8149.51429	36	Marcellus
64	10/5/2023	8113.878571	7947.7	36	Marcellus
65	10/5/2023	7912.064286	7745.88571	36	Marcellus
66	10/5/2023	7710.25	7544.07143	36	Marcellus
67	10/6/2023	7508.435714	7342.25714	36	Marcellus
68	10/6/2023	7306.621429	7140.44286	36	Marcellus
69	10/6/2023	7104.807143	6938.62857	36	Marcellus
70	10/6/2023	6902.992857	6736.81429	36	Marcellus
71	10/6/2023	6701.178571	6535	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	9/8/2023	85.2	9380.9	8255.6	2971.8	169280	5097.8	N/A
2	9/8/2023	94.0	10086.7	5005.05	3747.0	414380	7297.9	N/A
3	9/8/2023	83.7	9476.3	5273.21	4235.8	413800	9186.1	N/A
4	9/13/2023	92.4	9795.5	4943.73	3345.0	400790	7111.3	N/A
5	9/13/2023	89.7	9545.5	4701.47	3500.0	413420	7111.9	N/A
6	9/14/2023	73.1	8502.5	4218	3311.7	395608	8117.1	N/A
7	9/15/2023	79.3	8806.4	5205.45	3736.1	419000	7690.3	N/A
8	9/16/2023	88.6	9479.7	4715.72	3833.0	419880	7715.2	N/A
9	9/17/2023	91.8	9567.0	3717	4068.0	426840	7618.0	N/A
10	9/17/2023	91.9	9203.6	4033.21	3939.0	424240	7798.6	N/A
11	9/18/2023	93.1	9480.8	5478.69	3882.5	420780	7639.9	N/A
12	9/18/2023	94.2	9431.5	5587.54	3799.3	415060	7731.6	N/A
13	9/19/2023	94.0	9421.5	5003.84	3918.0	411360	7538.9	N/A
14	9/19/2023	95.5	9482.1	4905.61	3661.0	421100	7841.0	N/A
15	9/20/2023	91.8	9330.8	4711.62	3793.6	421130	7841.0	N/A
16	9/21/2023	93.5	9023.5	4518.12	3588.7	421200	8155.7	N/A
17	9/21/2023	89.9	9428.0	4826.58	3263.8	400460	7548.9	N/A
18	9/22/2023	92.3	9344.9	4013.26	3306.0	420440	7519.9	N/A
19	9/22/2023	91.4	9092.1	4175.36	3442.2	417320	7509.1	N/A
20	9/23/2023	93.8	9457.2	4551.09	3401.4	418160	7525.7	N/A
21	9/23/2023	93.0	8797.7	5017.99	3123.4	397860	7446.4	N/A
22	9/24/2023	92.7	8707.4	5005.31	3260.0	420220	7403.4	N/A
23	9/24/2023	93.4	9092.8	4967.1	3178.0	411180	7495.9	N/A
24	9/25/2023	91.7	9078.2	5098.65	3296.0	416460	7333.1	N/A
25	9/25/2023	93.8	9053.1	4862.08	3360.8	390630	7330.9	N/A
26	9/25/2023	89.0	8139.1	5104.09	3487.6	416300	7527.4	N/A
27	9/25/2023	92.6	8613.2	4574.16	3743.0	417140	7253.1	N/A
28	9/26/2023	90.2	9064.2	5096.93	3781.8	419520	7497.6	N/A
29	9/26/2023	90.1	8701.5	4959.83	3698.1	414060	7530.5	N/A
30	9/27/2023	91.3	9028.9	5015.88	3662.0	417800	8245.2	N/A
31	9/27/2023	88.6	8377.0	4589.69	3420.0	414980	7517.0	N/A
32	9/27/2023	87.9	8304.5	4753.27	3756.2	421880	7538.8	N/A
33	9/27/2023	87.9	8167.5	4792.75	3487.4	423260	7592.9	N/A
34	9/28/2023	89.7	8162.8	4775.47	3340.5	417120	7431.0	N/A
35	9/28/2023	88.6	8153.2	4867.99	3363.3	408540	7229.5	N/A
36	9/28/2023	89.3	8211.7	5369.88	3241.2	418440	7375.7	N/A
37	9/28/2023	90.3	8178.3	5059.04	3378.7	418480	7261.3	N/A
38	9/29/2023	90.5	8328.5	5006.3	3318.9	416900	7305.9	N/A
39	9/29/2023	90.6	8324.1	4936.36	3575.8	417340	7360.4	N/A
40	9/29/2023	89.6	8063.8	5132.73	3484.9	420060	7386.7	N/A
41	9/29/2023	93.1	7989.4	4507.58	3106.6	415640	7123.4	N/A
42	9/30/2023	92.9	8174.3	4474.44	3344.8	417820	7159.9	N/A
43	9/30/2023	92.1	8066.1	4660.91	3457.5	417660	7294.5	N/A
44	9/30/2023	92.3	8015.0	4693.73	3273.5	422500	7282.6	N/A
45	9/30/2023	91.7	7922.1	4699.33	3328.7	413940	7419.6	N/A
46	10/1/2023	94.2	8042.4	5063.61	3643.1	419000	7141.5	N/A
47	10/1/2023	92.0	7864.9	4597.47	3527.0	405680	7179.6	N/A
48	10/1/2023	92.1	7814.8	4502.23	3376.6	418640	7122.1	N/A
49	10/1/2023	93.1	7729.1	4517.32	3263.6	416040	7157.4	N/A
50	10/1/2023	94.6	7706.5	4505.83	3196.0	420440	7024.9	N/A
51	10/2/2023	93.7	7610.4	4406.98	3402.0	417260	7050.2	N/A
52	10/2/2023	93.2	7500.3	4480.83	3630.7	419880	7038.0	N/A
53	10/2/2023	93.7	7565.4	4849.66	3113.1	422660	7377.5	N/A
54	10/2/2023	94.3	7259.3	4944.16	3027.3	424840	7099.3	N/A
55	10/3/2023	93.6	7299.6	4760.87	2999.8	414660	6956.8	N/A
56	10/3/2023	94.0	7204.0	4689.46	3210.0	418460	6994.1	N/A
57	10/3/2023	94.0	7179.8	4751.95	3242.0	401670	6917.5	N/A
58	10/3/2023	93.9	6991.3	4756.2	3144.9	422320.0	7067.1	N/A
59	10/4/2023	93.8	6818.2	4734.8	2948.0	419300.0	7430.5	N/A
60	10/4/2023	93.9	7078.0	4727.3	3239.0	422160.0	6918.7	N/A
61	10/4/2023	93.5	7169.6	4816.1	3108.0	421280.0	6906.1	N/A
62	10/4/2023	93.6	7155.9	4870.7	3406.1	418020.0	6972.2	N/A
63	10/5/2023	93.8	6942.4	4650.2	3252.7	412820.0	6960.8	N/A
64	10/5/2023	93.9	7032.8	4825.6	3348.0	410880.0	6822.4	N/A
65	10/5/2023	93.9	6869.7	4721.4	3469.0	417040.0	6893.8	N/A
66	10/5/2023	93.0	6669.1	5074.7	3344.5	418440.0	7211.9	N/A
67	10/6/2023	93.7	6488.4	4842.7	3280.1	412920.0	6988.5	N/A
68	10/6/2023	94.0	6776.7	5216.3	3211.5	412230.0	6866.2	N/A
69	10/6/2023	94.0	6720.1	4708.3	3271.0	422760.0	7028.2	N/A
70	10/6/2023	93.6	6685.7	4967.0	3204.0	420000.0	6971.4	N/A
71	10/6/2023	94.1	6549.8	4666.3	3121.0	413850.0	6912.2	N/A
	AVERAGE	92	8,236	4,838	3,425	29,293,228	519,947	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	From Surface	From Surface	From Surface	From Surface
Siltstone, Tr Shale	100	220	100	220	100	220	100	220
Shale	220	370	220	370	220	370	220	370
Shaley Siltstone	370	430	370	430	370	430	370	430
Limestone, Tr Shale	430	490	430	490	430	490	430	490
Siltstone, Tr Shale	490	640	490	640	490	640	490	640
Silty Sandstone	640	850	640	850	640	850	640	850
Shaley Siltstone	850	1,030	850	1,030	850	1,030	850	1,030
Shale, Tr Sandstone	1,030	1,090	1,030	1,090	1,030	1,090	1,030	1,090
Silty Shale, Tr Limestone	1,090	1,150	1,090	1,150	1,090	1,150	1,090	1,150
Sandy Shale	1,150	1,270	1,150	1,270	1,150	1,270	1,150	1,270
Sandstone, Tr Shale	1,270	1,450	1,270	1,450	1,270	1,450	1,270	1,450
Sandy Shale	1,450	1,630	1,450	1,630	1,450	1,630	1,450	1,630
Shaley Limestone	1,630	1,662	1,630	1,662	1,630	1,662	1,630	1,662
Big Lime	1,692	2,200	1,708	2,281	1,708	2,281	1,708	2,281
Fifty Foot Sandstone	2,200	2,440	2,251	2,535	2,251	2,535	2,251	2,535
Gordon	2,440	2,744	2,505	2,852	2,505	2,852	2,505	2,852
Fifth Sandstone	2,744	2,840	2,822	2,952	2,822	2,952	2,822	2,952
Bayard	2,840	3,719	2,922	3,874	2,922	3,874	2,922	3,874
Speechley	3,719	3,869	3,844	4,032	3,844	4,032	3,844	4,032
Balltown	3,869	4,361	4,002	4,555	4,002	4,555	4,002	4,555
Bradford	4,361	4,711	4,525	4,927	4,525	4,927	4,525	4,927
Benson	4,711	4,925	4,897	5,156	4,897	5,156	4,897	5,156
Alexander	4,925	5,935	5,126	6,304	5,126	6,304	5,126	6,304
Sycamore	5,810	6,008	6,128	6,274	6,128	6,274	6,128	6,274
Middlesex	5,905	6,031	6,274	6,419	6,274	6,419	6,274	6,419
Burkett	5,978	0	6,419	6,483	6,419	6,483	6,419	6,483
Marcellus	6,001	0	6,483	0	6,483	0	6,483	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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06/21/2024 

Hydraulic Fracturing Fluid Product Component Information Disclosure

Job Start Date:	09/08/2023
Job End Date:	10/06/2023
State:	West Virginia
County:	Tyler
API Number:	47-095-02850-00-00
Operator Name:	Antero Resources Corporation
Well Name and Number:	SOPHIE UNIT 1H
Latitude:	39.48511
Longitude:	-80.97407
Datum:	WGS84
Federal Well:	NO
Indian Well:	NO
True Vertical Depth:	6078
Total Base Water Volume (gal)*:	22866874.5
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					
OPTIFLO-II DELAYED RELEASE BREAKER	Halliburton	Breaker					
Produced Water	Halliburton	Base Fluid					
Sand-Common White-100 Mesh, SSA-2	Halliburton	Proppant					
WG-36 GELLING AGENT	Halliburton	Gelling Agent					

06/21/2024

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

			Water	7732-18-5	100.00000	86.43258	Density = 8.34
			Crystalline silica, quartz	14808-60-7	100.00000	13.27616	None
			Water	7732-18-5	100.00000	0.25732	None
			Hydrochloric acid	7647-01-0	30.00000	0.06629	None
			Complex amine compound	Proprietary	60.00000	0.02795	None
			Guar gum	9000-30-0	100.00000	0.01469	None
			Hydrotreated distillate	Proprietary	30.00000	0.01397	None
			Glutaraldehyde	111-30-8	30.00000	0.00252	None
			Ammonium chloride	12125-02-9	5.00000	0.00233	None
			Ethoxylated alcohol	Proprietary	5.00000	0.00233	None
			Fatty nitrogen derived amides	Proprietary	5.00000	0.00233	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	0.00042	None
			Methanol	67-56-1	100.00000	0.00041	None
			Ammonium persulfate	7727-54-0	100.00000	0.00023	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	0.00007	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

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* 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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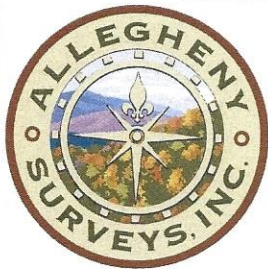
mental Protection

10,887' to Bottom Hole

Antero Resources
Well No. Sophie 1H
As-Drilled
Antero Resources Corporation

PAGE 1 of 2

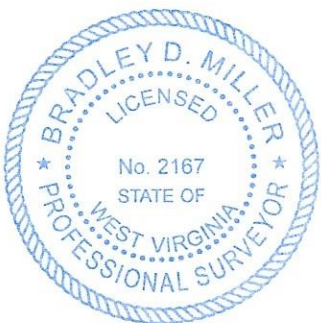
4,490' to Top Hole
TOP HOLE LATITUDE 39 - 30 - 00
BTM HOLE LATITUDE 39 - 32 - 30



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.

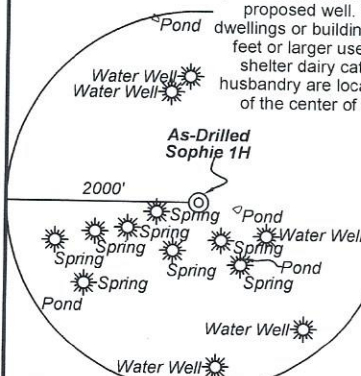
I, the undersigned, hereby certify that this plat is correct to the best of my knowledge and belief and shows all the information required by law and the rules issued and prescribed by the Department of Environmental Protection.

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



SEAL

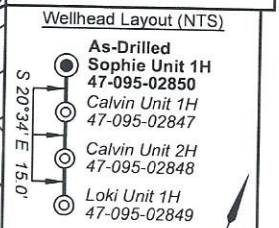
Note: 5 water wells 8 springs and 4 ponds were found within 2000' of proposed well. No occupied dwellings or buildings 2,500 square feet or larger used to house or shelter dairy cattle or poultry husbandry are located within 625' of the center of the well pad.



- 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. Sophie Unit 1H Top Hole coordinates are
N: 362,184.02' Latitude: 39°29'06.13"
E: 1,583,917.28' Longitude: 80°58'27.27"
Bottom Hole coordinates are
N: 375,278.91' Latitude: 39°31'14.53"
E: 1,577,732.52' Longitude: 80°59'48.92"
UTM Zone 17, NAD 1983
Top Hole Coordinates Bottom Hole Coordinates
N: 4,370,612.464m N: 4,374,570.382m
E: 502,229.639m E: 500,278.873m
Plat orientation and corner and well references are based upon the grid north meridian.
Well location references are based upon the magnetic meridian.

Sophie 1H As-Drilled POE Coordinates
West Virginia Coordinate System of 1927, North Zone
N: 361,693.96'
E: 1,582,230.88'
Latitude: 39°29'01.01"
Longitude: 80°58'48.68"
UTM Zone 17, NAD 1983
N: 4,370,454.573m
E: 501,718.366m



	Bearing	Dist.
L1	S 75°46' W	1,734.4'
L2	N 80°14' W	1,419.5'
L3	N 09°14' W	1,601.6'
L4	N 71°33' E	2,149.6'

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STATE OF WEST VIRGINIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
OIL AND GAS DIVISION

FILE NO: 260-54-U-22
DRAWING NO: Sophie Unit 1H As-Drilled
SCALE: 1" = 2000'
MINIMUM DEGREE OF ACCURACY: Submeter
PROVEN SOURCE OF ELEVATION: WVDOT, Harrisville, WV

DATE: January 17 20 24
OPERATOR'S WELL NO. Sophie 1H
API WELL NO
47 - 095 - 02850
STATE COUNTY PERMIT

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

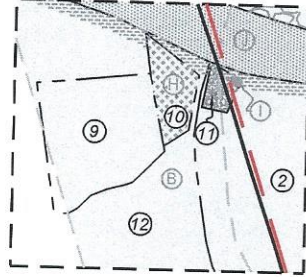
LOCATION: ELEVATION: As-Built 883' WATERSHED: Outlet Middle Island Creek QUADRANGLE: BH: Paden City 41.95; 2.0; 27; 60.38; 107.929;
DISTRICT: Union/Lincoln Ridgetop Royalties, LLC; Kevin L. Thomas, et ux; Donald H. Binegar, Jr, et ux; Ridgetop Appalachia, LLC; Shannon H. McCullough; Michael A. Howard; COUNTY: Tyler 06/20/2024
SURFACE OWNER: Antero Resources Corp. Haught Family Trust; Lester A. Smith, Jr.; David L. Stewart; Russell L. Bell; ACREAGE: 60.38 57.23; 339.71; 58.70;
ROYALTY OWNER: Berna J. Hammel; J&N Management Enterprises, LLC (2); Sally & Mitchell Dunn; Roma Hart LEASE NO: ACREAGE: 111.1; 59.9375; 26

PROPOSED WORK: DRILL CONVERT DRILL DEEPER FRACTURE OR STIMULATE PLUG OFF OLD FORMATION
 PERFORATE NEW FORMATION OTHER PHYSICAL CHANGE IN WELL (SPECIFY) As-Drilled
 PLUG AND ABANDON CLEAN OUT AND REPLUG TARGET FORMATION: Marcellus Shale ESTIMATED DEPTH: 20,838' MD 5,975' TVD

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



Detail (NTS)



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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	9-13	Kevin L. & Tammy J. Thomas	OR7/290	2.00
5	9-12	Jimmy E. Patterson, et al	OR79/645	30.00
6	9-15.3	Billy D. & Roma L. Hart	WB21/443	4.50
7	9-16	Billy D. & Roma L. Hart	154/569	20.00
8	10-5.3	Richard Daniel Bowen	344/814	25.92
9	9-9.2	Samuel P. & Katina S. Smith	370/11	2.01
10	9-10	Jennifer K. & Diane M. Thomas	AR46/754	0.56
11	9-11	Jennifer K. & Diane M. Thomas	AR46/754	0.12
12	9-9	Patrick L. & Tammy M. Smith	341/695	58.50
13	9-4	Steven D. Zechman & Linda M. Jensen	348/422	250.00
14	5-16	Charity Gas Inc.	358/516	393.00
15	5-21	Lowell P. & Sharon D. Bee	348/149	180.60
16	5-15.3	David L. Stewart	WB39/431	38.00
17	5-15.2	Warren T. Stewart	501/702	40.00
18	5-13.1	Donald A. Quinif	308/511	57.69
19	5-14	Jeff Howard & Debra Metz	295/619	41.00
20	5-9	David L. Stewart	WB39/431	24.00
21	5-5	Antero Resources Corp.	598/600	173.00
22	5-3	Christopher D. & Betsy A. Metz	384/597	111.10
23	5-25	Clyde C. & Helen S. Dowler	168/90	27.00
24	5-6	Russell L. Bell	335/942	8.00
25	5-6.1	Russell L. Bell	335/940	18.00
26	11-12	Patrick & Kevin Hill, et al	584/619	59.95
27	11-47	John M. & Kara L. Garrett	656/399	82.39

Leases	
A	Berna J. Hammel
B	Mary Faye Grove
C	Sally & Mitchell Dunn
D	Kevin L. Thomas, et ux
E	Linda Lou Dennis
F	Roma Hart
G	J&N Management Enterprises, LLC
H	J&N Management Enterprises, LLC
I	J&N Management Enterprises, LLC
J	WVDNR
K	Steven D. Zechman & Linda M. Jensen
L	Haught Family Trust
M	Greenbrier Royalty Fund II, LLC
N	David L. Stewart
O	Warren T. Stewart
P	Norma L. Smith
Q	Ridgetop Appalachia, LLC
R	Lester A. Smith, Jr.
S	David L. Stewart
T	Donald H. Binegar, Jr, et ux
U	Michael A. Howard
V	Ridgetop Royalties
W	Russell L. Bell
X	Shannon H. McCullough

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