

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

API 47 - 103 - 03588 County Wetzel District Green  
Quad Pine Grove Pad Name Furbee Field/Pool Name ----  
Farm name Antero Resources Group Well Number Makar 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 4378585.544m Easting 523130.818m  
Landing Point of Curve Northing 4379077.89m Easting 524006.56m  
Bottom Hole Northing 4383962.530m Easting 522273.816m

Elevation (ft) 1211' 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 7/10/2023 Date drilling commenced 8/1/2023 Date drilling ceased 12/2/2023  
Date completion activities began 1/31/2024 Date completion activities ceased 3/29/2024  
Verbal plugging (Y/N) N/A Date permission granted N/A Granted by N/A

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Please note: Operator is required to submit a plugging application within 5 days of verbal permission to plug

Freshwater depth(s) ft 575' Open mine(s) (Y/N) depths \_\_\_\_\_  
Salt water depth(s) ft 2284' Void(s) encountered (Y/N) depths \_\_\_\_\_  
Coal depth(s) ft 973' Cavern(s) encountered (Y/N) depths \_\_\_\_\_  
Is coal being mined in area (Y/N) No

**APPROVED**

No WV Department of  
Environmental Protection

Reviewed by:

08/16/2024

*[Handwritten signature]*  
7-20-24

API 47- 103 - 03588 Farm name Antero Resources Group Well number Makar 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"	125.5'	New	91.59#, J-55	N/A	Y
Surface	17-1/2"	13-3/8"	696'	New	54.5#, J-55	N/A	Y
Coal							
Intermediate 1	12-1/4"	9-5/8"	3737'	New	36#, J-55	N/A	Y
Intermediate 2							
Intermediate 3							
Production	8-3/4" /8-1/2"	5-1/2"	26095'	New	23#, P-110	N/A	Y
Tubing		2-3/8"	7851'		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	200 sx	15.6	1.18	236	0'	8 Hrs.
Surface	Class A	689 sx	15.6	1.20	827	0'	8 Hrs.
Coal							
Intermediate 1	Class A	1214 sx	15.6	1.20	1457	0'	8 Hrs.
Intermediate 2							
Intermediate 3							
Production	Class H	4483 sx (Tail)	13.5 (Lead), 15.2(Tail)	1.26 (Tail)	5649	~500' into Intermediate Casing	8 Hrs.
Tubing							

Drillers TD (ft) 26,095' MD, 7011' TVD (BHL), 7072' TVD (Deepest Point Drilled) Loggers TD (ft) 26065' MD  
 Deepest formation penetrated Marcellus Plug back to (ft) N/A  
 Plug back procedure N/A

Kick off depth (ft) 7035'

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 47-103-03588 Farm name Antero Resources Group Well number Makar Unit 2H

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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08/16/2024 *OM*

API 47- 103 - 03588 Farm name Antero Resources Group Well number Makar Unit 2H

PRODUCING FORMATION(S)	DEPTHS	
Marcellus	7014' (TOP) TVD	8119' (TOP) MD

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 16458.25 mcfpd Oil 646.33 bpd NGL --- bpd Water 773.82 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**


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 N Sam Houston Pkwy E. City Houston State TX Zip 77032

Please insert additional pages as applicable.

Completed by Stefan Gaspar Telephone 303-357-6959  
Signature *S Gaspar* Title Permitting Agent Date \_\_\_\_\_

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

08/16/2024

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API 47-103-03583 Farm Name Antero Resources Group Well Number Makar Unit 2H					
Exhibit 1					
Stage No.	Perforation Date	Perforated from MD ft.	Perforated to MD ft.	Number of Perforations	Formations
1	1/30/2024	25966	25922	36	Marcellus
2	1/31/2024	25882.75843	25718.5506	36	Marcellus
3	1/31/2024	25683.30899	25519.1011	36	Marcellus
4	1/31/2024	25483.85955	25319.6517	36	Marcellus
5	2/1/2024	25284.41011	25120.2022	36	Marcellus
6	2/1/2024	25084.96067	24920.7528	36	Marcellus
7	2/1/2024	24885.51124	24721.3034	36	Marcellus
8	2/1/2024	24686.0618	24521.8539	36	Marcellus
9	2/2/2024	24486.61236	24322.4045	36	Marcellus
10	2/2/2024	24287.16292	24122.9551	36	Marcellus
11	2/2/2024	24087.71348	23923.5056	36	Marcellus
12	2/3/2024	23888.26404	23724.0562	36	Marcellus
13	2/3/2024	23688.81461	23524.6067	36	Marcellus
14	2/3/2024	23489.36517	23325.1573	36	Marcellus
15	2/3/2024	23289.91573	23125.7079	36	Marcellus
16	2/3/2024	23090.46629	22926.2584	36	Marcellus
17	2/4/2024	22891.01685	22726.809	36	Marcellus
18	2/4/2024	22691.56742	22527.3596	36	Marcellus
19	2/4/2024	22492.11798	22327.9101	36	Marcellus
20	2/4/2024	22292.66854	22128.4607	36	Marcellus
21	2/5/2024	22093.2191	21929.0112	36	Marcellus
22	2/5/2024	21893.76966	21729.5618	36	Marcellus
23	2/5/2024	21694.32022	21530.1124	36	Marcellus
24	2/5/2024	21494.87079	21330.6629	36	Marcellus
25	2/6/2024	21295.42135	21131.2135	36	Marcellus
26	2/6/2024	21095.97191	20931.764	36	Marcellus
27	2/6/2024	20896.52247	20732.3146	36	Marcellus
28	2/6/2024	20697.07303	20532.8652	36	Marcellus
29	2/6/2024	20497.6236	20333.4157	36	Marcellus
30	2/7/2024	20298.17416	20133.9663	36	Marcellus
31	2/7/2024	20098.72472	19934.5169	36	Marcellus
32	2/7/2024	19899.27528	19735.0674	36	Marcellus
33	2/7/2024	19699.82584	19535.618	36	Marcellus
34	2/8/2024	19500.3764	19336.1685	36	Marcellus
35	2/8/2024	19300.92697	19136.7191	36	Marcellus
36	2/8/2024	19101.47753	18937.2697	36	Marcellus
37	2/8/2024	18902.02809	18737.8202	36	Marcellus
38	2/8/2024	18702.57865	18538.3708	36	Marcellus
39	2/9/2024	18503.12921	18338.9213	36	Marcellus
40	2/9/2024	18303.67978	18139.4719	36	Marcellus
41	2/9/2024	18104.23034	17940.0225	36	Marcellus
42	2/9/2024	17904.7809	17740.573	36	Marcellus
43	2/10/2024	17705.33146	17541.1236	36	Marcellus
44	2/10/2024	17505.88202	17341.6742	36	Marcellus
45	2/10/2024	17306.43258	17142.2247	36	Marcellus
46	2/10/2024	17106.98315	16942.7753	36	Marcellus
47	2/11/2024	16907.53371	16743.3258	36	Marcellus
48	2/11/2024	16708.08427	16543.8764	36	Marcellus
49	2/11/2024	16508.63483	16344.427	36	Marcellus
50	2/11/2024	16309.18539	16144.9775	36	Marcellus
51	2/11/2024	16109.73596	15945.5281	36	Marcellus
52	2/12/2024	15910.28652	15746.0787	36	Marcellus
53	2/12/2024	15710.83708	15546.6292	36	Marcellus
54	2/12/2024	15511.38764	15347.1798	36	Marcellus
55	2/13/2024	15311.9382	15147.7303	36	Marcellus
56	2/13/2024	15112.48876	14948.2809	36	Marcellus
57	2/13/2024	14913.03933	14748.8315	36	Marcellus
58	2/13/2024	14713.58989	14549.382	36	Marcellus
59	2/13/2024	14514.14045	14349.9326	36	Marcellus
60	2/14/2024	14314.69101	14150.4831	36	Marcellus
61	2/14/2024	14115.24157	13951.0337	36	Marcellus
62	2/14/2024	13915.79213	13751.5843	36	Marcellus
63	2/14/2024	13716.3427	13552.1348	36	Marcellus
64	2/15/2024	13516.89326	13352.6854	36	Marcellus
65	2/15/2024	13317.44382	13153.236	36	Marcellus
66	2/15/2024	13117.99438	12953.7865	36	Marcellus
67	2/15/2024	12918.54494	12754.3371	36	Marcellus
68	2/15/2024	12719.09551	12554.8876	36	Marcellus
69	2/16/2024	12519.64607	12355.4382	36	Marcellus
70	2/16/2024	12320.19663	12155.9888	36	Marcellus
71	2/16/2024	12120.74719	11956.5393	36	Marcellus
72	2/16/2024	11921.29775	11757.0899	36	Marcellus
73	2/16/2024	11721.84831	11557.6404	36	Marcellus
74	2/17/2024	11522.39888	11358.191	36	Marcellus
75	2/17/2024	11322.94944	11158.7416	36	Marcellus
76	2/17/2024	11123.5	10959.2921	36	Marcellus
77	2/17/2024	10924.05056	10759.8427	36	Marcellus
78	2/17/2024	10724.60112	10560.3933	36	Marcellus
79	2/18/2024	10525.15169	10360.9438	36	Marcellus
80	2/18/2024	10325.70225	10161.4944	36	Marcellus
81	2/18/2024	10126.25281	9962.04494	36	Marcellus
82	2/18/2024	9926.803371	9762.59551	36	Marcellus
83	2/19/2024	9727.353933	9563.14607	36	Marcellus
84	2/19/2024	9527.904494	9363.69663	36	Marcellus
85	2/19/2024	9328.455056	9164.24719	36	Marcellus
86	2/19/2024	9129.005618	8964.79775	36	Marcellus
87	2/19/2024	8929.55618	8765.34831	36	Marcellus
88	2/20/2024	8730.106742	8565.89888	36	Marcellus
89	2/20/2024	8530.657303	8366.44944	36	Marcellus
90	2/20/2024	8331.207865	8167	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	1/30/2024	75.90673	982.79	7462.59	3588.594	180780	5953.66667	N/A
2	1/31/2024	81.96392	10036.28	5754.43	4145.929	403760	6707.92857	N/A
3	1/31/2024	81.81263	10034.76	5820.2	4130.518	411300	7160.21429	N/A
4	1/31/2024	83.26539	10261.25	7079.93	3973.176	410680	6964.02381	N/A
5	2/1/2024	84.51962	10172.08	6825.61	4325.304	417220	7000.88095	N/A
6	2/1/2024	83.08699	10233.09	6910.66	4130.022	413240	7091	N/A
7	2/1/2024	80.28036	10338.93	8190.35	4021.992	413440	7160.57143	N/A
8	2/1/2024	82.90788	10185.65	6744.65	4203.359	407700	7127.21429	N/A
9	2/2/2024	83.77997	10223.15	7306.04	4194	416340	7313.19048	N/A
10	2/2/2024	84.46633	10019.44	6720.44	4123.293	415760	7267.52381	N/A
11	2/2/2024	88.93792	10249.46	6849.95	4024.475	418040	7112.5	N/A
12	2/3/2024	91.50003	10293.91	6911.36	4179.537	419780	7156.38095	N/A
13	2/3/2024	94.87259	10290.69	6760.61	4008	418320	7172.97619	N/A
14	2/3/2024	93.14842	10153.03	6915.2	4243.464	418960	7086.88095	N/A
15	2/3/2024	93.8801	10457.93	6857.75	4120.506	417560	7047.64286	N/A
16	2/3/2024	93.36131	10187.23	7368.59	4045	417400	7099.19048	N/A
17	2/4/2024	92.89612	10238.15	7249.31	4421	416600	7191.83333	N/A
18	2/4/2024	90.95055	9974.765	7229.98	4315.319	422080	7057.78571	N/A
19	2/4/2024	95.58689	10227.61	6763.08	4551	424860	7126.78571	N/A
20	2/4/2024	92.55363	9993.045	6314.53	4085.187	422060	7181.59524	N/A
21	2/5/2024	93.3352	10073.76	6512.77	4069.469	417600	7069.78571	N/A
22	2/5/2024	94.72802	10184.9	6908.3	4084.078	418340	7189.80952	N/A
23	2/5/2024	90.67448	10003.89	6937.84	4157.235	411020	7162.35714	N/A
24	2/5/2024	94.40259	10042.04	6791.72	4334	412520	7071.07143	N/A
25	2/6/2024	93.94136	10089.81	6852.32	4520.632	421240	7139.7619	N/A
26	2/6/2024	96.35712	10192.11	6777.23	4364	418260	7124.42857	N/A
27	2/6/2024	94.18054	9964.587	6922.49	4491	423540	7115.38095	N/A
28	2/6/2024	95.87028	10061.9	6703.38	4225.855	422040	6968.35714	N/A
29	2/6/2024	96.16488	10456.75	6803.12	4193.227	399310	6858.78571	N/A
30	2/7/2024	90.43216	9615.706	6498.48	4429.097	416460	7029.66667	N/A
31	2/7/2024	96.88683	10042.83	6565.38	4563	425680	7053.07143	N/A
32	2/7/2024	97.70298	10015.07	6658.26	4672	418940	6889.40476	N/A
33	2/7/2024	97.13299	10063.27	6263.11	4301	397970	6784.47619	N/A
34	2/8/2024	92.38115	9926.028	6579.88	4476	402440	6825.14286	N/A
35	2/8/2024	96.23297	10079.45	6411.28	4274	422780	6917.30952	N/A
36	2/8/2024	96.05279	10060.59	6615.36	4233	425400	6984.47619	N/A
37	2/8/2024	96.19697	9874.829	6240.44	4462	415220	7024.83333	N/A
38	2/8/2024	95.16369	9844.838	6640.6	4517	412080	7076.45238	N/A
39	2/9/2024	95.39097	9541.892	6237.63	4313	411960	7060.2619	N/A
40	2/9/2024	97.3924	9828.844	6528.66	4332	418920	7112.38095	N/A
41	2/9/2024	97.34776	10057.28	6613.96	4372	420980	7020.19048	N/A
42	2/9/2024	95.53224	9967.584	6865.79	4234.225	399340	6703.33333	N/A
43	2/10/2024	95.41497	9787.03	6434.26	4262.49	416800	7026.71429	N/A
44	2/10/2024	96.73484	9669.831	6441.64	4279	414520	6916.47619	N/A
45	2/10/2024	96.80352	9722.234	6702.8	4273	419660	6727.21429	N/A
46	2/10/2024	95.30274	9903.681	6993.13	4178	417040	6674.7619	N/A
47	2/11/2024	95.65987	9987.793	6986.74	4034	420820	7094.02381	N/A
48	2/11/2024	96.19324	9990.506	6696.18	4061	418420	6873.71429	N/A
49	2/11/2024	97.38975	9916.704	5698.12	4296	407360	6910.30952	N/A
50	2/11/2024	96.42533	9839.582	6320.42	4140	418020	6890.5	N/A
51	2/11/2024	96.24955	9901.514	6696.07	4090.924	417440	7027.61905	N/A
52	2/12/2024	97.24816	9901.013	6773.88	4156	416740	6943.04762	N/A
53	2/12/2024	97.13096	9522.397	6265.27	4198	420240	6798.45238	N/A
54	2/12/2024	95.57356	9553.807	6327.62	4207	393790	6651.83333	N/A
55	2/13/2024	96.69711	9970.431	6463.04	4001.266	416020	7075.28571	N/A
56	2/13/2024	96.14284	9089.266	6072.63	4182	409800	6869.69048	N/A
57	2/13/2024	97.59522	9164.089	5553.53	4143	419060	6669.2619	N/A
58	2/13/2024	97.59219	9094.984	6397.92	4151	414180	6742.40476	N/A
59	2/13/2024	94.89946	9032.114	6364.8	4026.7	417040	6777.54762	N/A
60	2/14/2024	97.44207	9092.676	6240.63	4127.165	415440	6852.78571	N/A
61	2/14/2024	97.17408	9075.43	6665.23	4386	416080	6836.21429	N/A
62	2/14/2024	97.25478	9082.576	6263.35	4274	412660	6769.42857	N/A
63	2/14/2024	95.32584	9066.814	6787.36	3947.356	419020	6826.42857	N/A
64	2/15/2024	95.26125	8854.286	6269.4	3926.741	418000	6598.64286	N/A
65	2/15/2024	97.2337	9098.583	6551.13	4193	416720	6862.35714	N/A
66	2/15/2024	97.60283	9080.11	6217.19	4103	417480	6747.04762	N/A
67	2/15/2024	98.48496	9011.203	6023.52	4087	415940	6850.09524	N/A
68	2/15/2024	97.11854	9013.398	5810.59	3801.779	419180	6841.83333	N/A
69	2/16/2024	97.77331	9054.589	6038.32	4121.241	420220	6898.02381	N/A
70	2/16/2024	97.36996	9100	6570.03	4101	417320	6872.85714	N/A
71	2/16/2024	97.79391	8919.022	6041.19	4196	417440	6672.28571	N/A
72	2/16/2024	96.8564	8991.677	6283.23	3508.145	415880	6687.45238	N/A
73	2/16/2024	96.99048	8683.276	6037.72	3804.666	396578	6393.85714	N/A
74	2/17/2024	96.59371	9003.545	6282.9	3726.643	416000	6754.52381	N/A
75	2/17/2024	98.1102	8916.506	6238.27	4104	420500	6767.69048	N/A
76	2/17/2024	97.99991	8473.225	6294.9	4108	420900	6994.69048	N/A
77	2/17/2024	97.35098	8481.898	6183.34	3923.003	413680	7019.07143	N/A
78	2/18/2024	97.51121	8854.494	6511.78	4021.389	395070	6736.83333	N/A
79	2/18/2024	95.48815	8521.337	6238.82	4370.36	413120	8329.66667	N/A
80	2/18/2024	97.82954	8506.387	6128.99	4223	416300	7029.30952	N/A
81	2/18/2024	98.17878	8368.164	5980.57	3998	419560	6920.35714	N/A
82	2/18/2024	98.27633	8490.773	6528.66	3990.895	414460	6914.35714	N/A
83	2/19/2024	96.56738	8229.615	6407.37	4090.879	419000	6973.45238	N/A
84	2/19/2024	98.00663	8671.383	5941.07	4248	418860	7029.78571	N/A
85	2/19/2024	96.88816	8195.831	6399.55	4102	417160	6957.90476	N/A
86	2/19/2024	96.75343	8527.928	6115.53	3999	417220	6851.5	N/A
87	2/19/2024	98.10124	8749.86	6476.74	3414	420280	6913.54762	N/A
88	2/20/2024	98.0095	8660.515	6574.56	3932	403010	6708.83333	N/A
89	2/20/2024	97.36718	7882.495	6469.78	3978.446	399384	6718.57143	N/A
90	2/20/2024	98.37122	7908.737	6280.61	3934.07	415400	7030	N/A
	AVERAGE	94	9,534	6,533	4,154	37,133,232	625,189	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
Sandy Siltstone, LS	104	324	104	324
Shaley Siltstone, tr LS	324	374	324	374
Sandy Shale	374	624	374	624
Siltstone, Occ SS, tr Shale, tr Coal	474	824	474	824
Sandy Siltstone, tr LS, tr Shale	624	824	624	824
Silty Sandstone, tr LS	824	924	824	924
Sandy Siltstone, tr LS, tr Shale	924	1024	924	1024
Silty Sandstone, tr Shale	1024	1124	1024	1124
Silty Sandstone, tr Shale, tr LS	1124	1224	1124	1224
Shaley Sandstone, occ Siltstone	1224	1424	1224	1424
Silty Sandstone, tr shale	1424	1524	1424	1524
Sandy Siltstone, tr Coal	1524	1674	1524	1674
Siltly Sandstone, tr Coal, tr Shale	1674	1874	1674	1874
Sandy Shale, tr Coal	1874	2024	1874	2024
Silty Sandstone, rr Coal	2024	2112	2024	2267
Big Lime	2138	2894	2267	3170
Fifty Foot Sandstone	2894	3021	3144	3309
Gordon	3021	3244	3283	3556
Fifth Sandstone	3244	3302	3530	3620
Bayard	3302	4092	3594	4510
Speechley	4092	4353	4484	4805
Balltown	4353	4813	4779	5326
Bradford	4813	5220	5300	5789
Benson	5220	5635	5763	6261
Alexander	5635	6828	6235	7667
Sycamore	6669	6802	7457	7641
Middlesex	6802	6900	7641	7797
Burkett	6900	6931	7797	7859
Tully	6931	7014	7859	8119
Marcellus	7014	N/A	8119	N/A

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08/16/2024

# Hydraulic Fracturing Fluid Product Component Information Disclosure

Job Start Date:	01/30/2024
Job End Date:	02/20/2024
State:	West Virginia
County:	Wetzel
API Number:	47-103-03588-00-00
Operator Name:	Antero Resources Corporation
Well Name and Number:	MAKAR UNIT 2H
Latitude:	39.5565
Longitude:	-80.7307
Datum:	WGS84
Federal Well:	NO
Indian Well:	NO
True Vertical Depth:	7072
Total Base Water Volume (gal)*:	27979888
Total Base Non Water Volume:	0



Water Source	Percent
Produced Water	100.00%

## 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					

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

08/16/2024



			Water	7732-18-5	100.00000	88.13270	None
			Crystalline silica, quartz	14808-60-7	100.00000	11.69646	None
			Water	7732-18-5	100.00000	0.14553	None
			Hydrochloric acid	7647-01-0	30.00000	0.03288	None
			Complex amine compound	Proprietary	60.00000	0.02915	None
			Hydrotreated distillate	Proprietary	30.00000	0.01458	None
			Guar gum	9000-30-0	100.00000	0.00557	None
			Ammonium chloride	12125-02-9	5.00000	0.00243	None
			Fatty nitrogen derived amides	Proprietary	5.00000	0.00243	None
			Ethoxylated alcohol	Proprietary	5.00000	0.00243	None
			Glutaraldehyde	111-30-8	30.00000	0.00204	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	0.00021	None
			Ammonium persulfate	7727-54-0	100.00000	0.00013	None
			Ethanol	64-17-5	1.00000	0.00007	None
			Mixture of dimer and trimer fatty acids of indefinite composition derived from tall oil	61790-12-3	30.00000	0.00006	None
			Modified thiourea polymer	Proprietary	30.00000	0.00006	None
			Oxylated phenolic resin	Proprietary	30.00000	0.00004	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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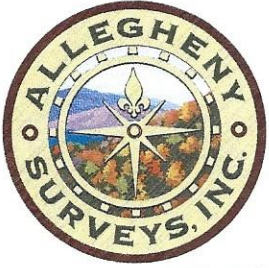
WV Department of  
Environmental Protection

08/16/2024

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

08/16/2024

**Antero Resources**  
**Well No. Makar 2H**  
**As-Drilled**  
 Antero Resources Corporation



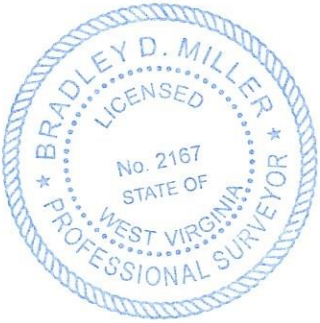
**Notes**  
 West Virginia Coordinate System of 1927, North Zone based upon Differential GPS Measurements.  
 Well No. Makar Unit 2H Top Hole coordinates are  
 N: 387,167.78' Latitude: 39°33'23.31"  
 E: 1,652,939.79' Longitude: 80°43'51.35"  
 Bottom Hole coordinates are  
 N: 405,606.84' Latitude: 39°36'25.20"  
 E: 1,650,482.92' Longitude: 80°44'25.97"  
 UTM Zone 17, NAD 1983  
 Top Hole Coordinates Bottom Hole Coordinates  
 N: 4,378,585.544m N: 4,383,962.530m  
 E: 523,130.818m E: 522,273.816m  
 Plat orientation and corner and well references are based upon the grid north meridian.  
 Well location references are based upon the magnetic meridian.

**Makar Unit 2H As-Drilled POE Coordinates**  
 West Virginia Coordinate System of 1927, North Zone  
 N: 388,498.48'  
 E: 1,655,904.54'  
 Latitude: 39°33'36.86"  
 Longitude: 80°43'13.74"  
 UTM Zone 17, NAD 1983  
 N: 4,378,996.055m  
 E: 524,027.316m

	Bearing	Dist.
L1	S 66°12' W	1,876.3'
L2	S 89°38' W	1,935.3'
L3	N 85°13' E	1,651.9'
L4	S 89°57' E	1,679.4'

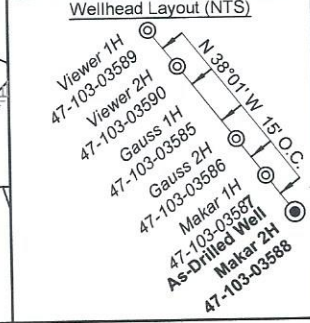
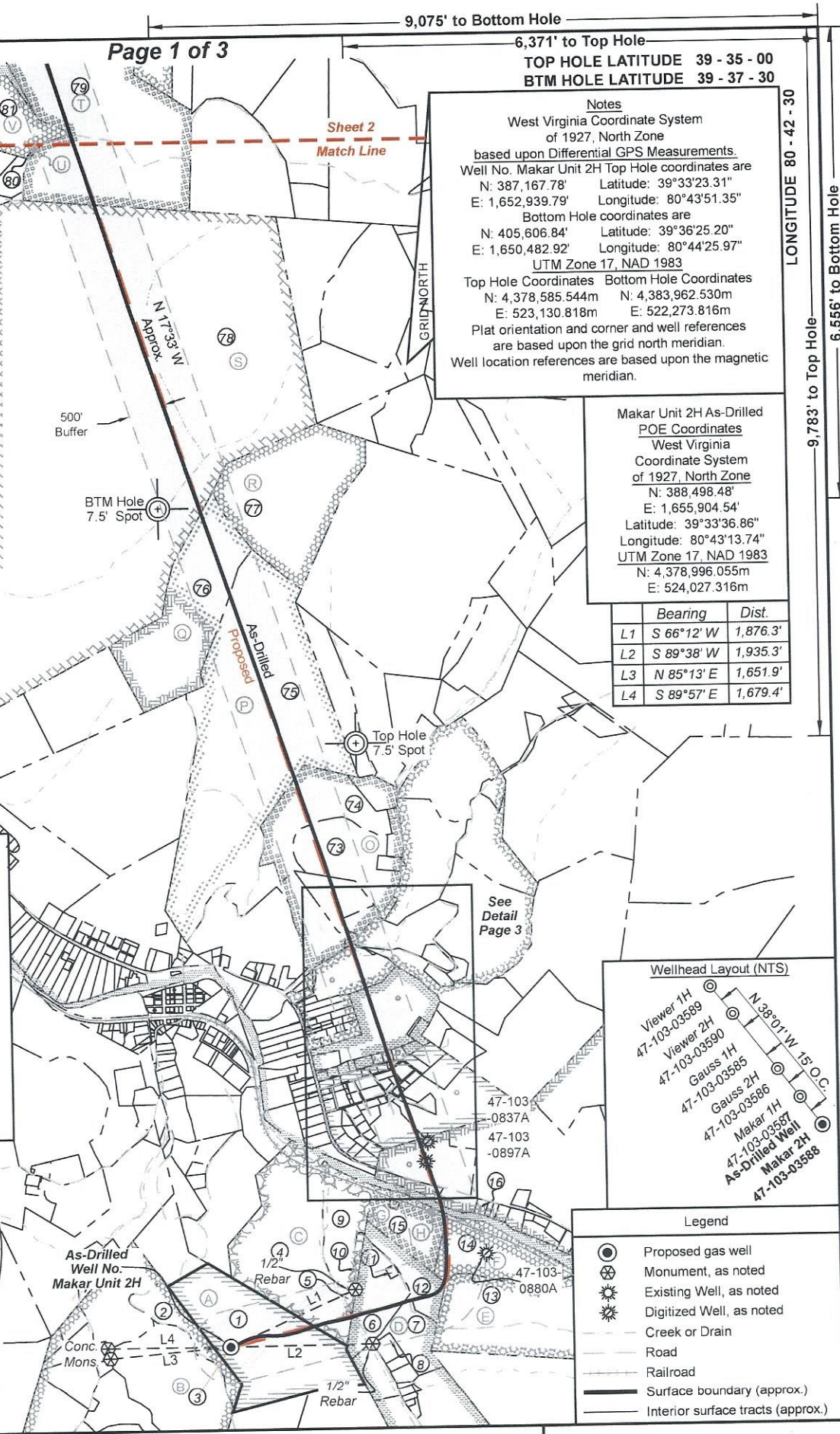
I, the undersigned, hereby certify that this plat is correct to the best of my knowledge and belief and shows all the information required by law and the rules issued and prescribed by the Department of Environmental Protection.

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



**Legend**  
 Spring  
 Water Well  
 Water Well (x2)  
 As-Drilled Well No. Makar Unit 2H  
 Spring Water Well  
 Spring

Note: 6 water wells and 3 springs 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
- Railroad
- Surface boundary (approx.)
- Interior surface tracts (approx.)

FILE NO: 53-34-G-23  
 DRAWING NO: Makar Unit 2H As-Drilled Plat  
 SCALE: 1" = 2000'  
 MINIMUM DEGREE OF ACCURACY: Submeter  
 PROVEN SOURCE OF ELEVATION: WVDOT, Harrisville, WV

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

DATE: June 20 20 24  
 OPERATOR'S WELL NO. Makar Unit 2H  
 API WELL NO  
 47 - 103 - 03588  
 STATE COUNTY PERMIT

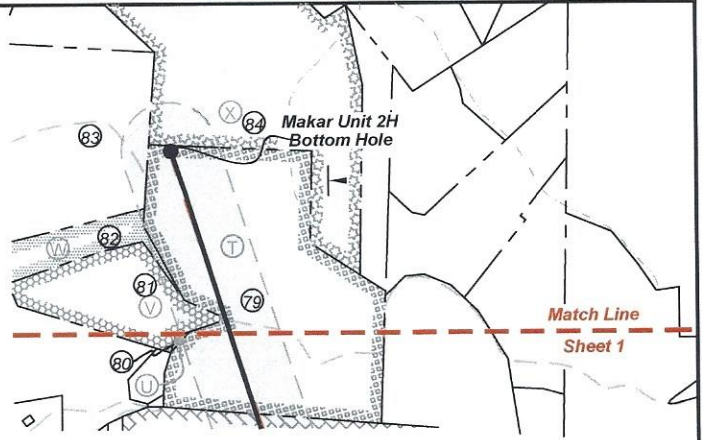
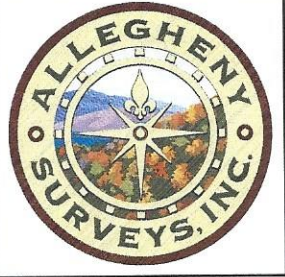
WELL TYPE:  OIL  GAS  LIQUID INJECTION  WASTE DISPOSAL  
 (IF GAS) PRODUCTION:  STORAGE  DEEP  SHALLOW

LOCATION: ELEVATION: As-Drilled 1211' WATERSHED: Fishing Creek QUADRANGLE: Pine Grove  
 DISTRICT: Green COUNTY: Wetzel  
 SURFACE OWNER: Antero Resources Corp. ACREAGE: 58.1  
 ROYALTY OWNER: James Allen Sell LEASE NO: ACREAGE: 58.1

PROPOSED WORK:  DRILL  CONVERT  DRILL DEEPER  FRACTURE OR STIMULATE  PLUG OFF OLD FORMATION  
 PERFORATE NEW FORMATION  OTHER PHYSICAL CHANGE IN WELL (SPECIFY) As-Drilled 7,011' TVD  
 PLUG AND ABANDON  CLEAN OUT AND REPLUG TARGET FORMATION: Marcellus Shale ESTIMATED DEPTH: 26,095' MD

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

08/16/2024



Leases	
A	James Allen Sell
B	William R. Stalnaker
C	Marilyn Halley Seeley
D	Tribune Resources Minerals, LLC
E	Tribune Resources Minerals, LLC
F	Marcella K. Harrison
G	Linda Darlene Straight
H	CSX Transportation, Inc.
I	WVDNR
J	Jenkins Miller
K	Antero Minerals, LLC
L	Antero Minerals, LLC

Leases	
M	Antero Minerals, LLC
N	Antero Minerals, LLC
O	Antero Minerals, LLC
P	Chesapeake Appalachia, LLC
Q	BRC Minerals, LP & BRC Appalachian Minerals, LLC
R	DWG Oil & Gas Acquisitions, LLC
S	Shiben Estates, Inc.
T	Chesapeake Appalachia, LLC
U	Elizabeth P. Orner
V	Donzel A. Hornbeck
W	Elizabeth P. Orner
X	Antero Minerals, LLC

ID	TM-Par	Owner	Bk/Pg	Acres
1	17-12	Antero Resources Corp.	483/888	58.10
2	17-1	Antero Resources Corp	483/888	15.35
3	17-60	Ross Bucher	411/765	79.00
4	13-71	Charles R. & Kay L. Blair	387/577	63.11
5	17-2	Clarence & Carol Lancaster	287/357	0.50
6	17-3	Bradford Highley	386/607	17.00
7	17-14	Bradford Highley	386/607	18.53
8	17-14.2	Michael & Tammy Lemasters	384/10	2.18
9	13-71.1	Clarence L. & Carol J. Lancaster	387/266	19.19
10	17-3.1	Bradford D. Highley	386/607	1.00
11	13-72	Straight Cemetery	---/---	0.45
12	17-4	James Straight	223/193	10.8
13	17-5	Coastal Forest Resources	444/105	90.00
14	13-78	Sebastian, Jr. & Marcella Harrison	281/94	25.37
15	13-73	James Straight, et al	WB67/427	14.60
16	13-65.3	David Pigott	416/367	0.76
17	13-65.4	Raye Anne Lloyd	445/660	2.99
18	xx-xx	WV State Road Commission	162/497	0.90
19	13-65	Raye Anne Lloyd	445/660	18.01
20	30-55	James D. Glasscock II	377/180	0.81
21	13-64	Loraine Highley	WB81/258	5.64
22	13-54	Loraine Highley	WB81/258	20.17
23	30-51	Wayne Morrison	366/58	1.00
24	13-54.1	Michelle M. Thomas	428/641	1.05
25	13-54.3	Ethel L. Highley	WB81/258	0.38
26	30-50	Forrest L. & Anna Jane Tennant	228/278	0.22
27	30-49	Forrest L. & Anna Jane Tennant	218/4	0.45
28	30-48	Forrest L. & Anna Jane Tennant	238/203	0.22
29	13-53	Roma Adams	WB51/289	0.52
30	13-53	Roma Adams	WB51/289	0.52
31	13-53.3	Roma Adams	WB51/289	0.23
32	13-53.3	Roma J. Adams	364/61	0.46
33	13-54.2	Ronald M. & Pamela Ann Jackson	315/524	3.35
34	13-37	Debra Ann Hengee, et al	398/447	2.00
35	13-37.1	Jeffrey D. Brown	394/491	1.00
36	13-52	Johnny E. & Catherine Sue Efaw	428/475	0.92
37	13-50.1	Christopher & Alona Kocher	442/218	0.30
38	13-51.1	Christopher & Alona Kocher	442/218	0.18
39	30-29	Chad A. Pittman	397/351	1.01
40	13-51	Christopher M. Kocher	435/282	---
41	30-28	Flora L. Trader, et al	WB74/931	0.91
42	13-50	Jeremy S. & Sarah J. Kinczel	423/446	0.53

ID	TM-Par	Owner	Bk/Pg	Acres
43	30-25	Edward E. Martin Jr. & Violet Lorraine Martin	428/427	0.69
44	30-24	Edward E. Martin Jr. & Violet Lorraine Martin	428/427	0.23
45	13-48	Wetzel County PSD #1	373/484	0.23
46	13-48.1	Wetzel County PSD #1	373/486	0.34
47	13-49	Johnny E. & Catherine Sue Efaw	428/475	0.20
48	30-46	David L. & Freda V. Cunningham	283/252	0.34
49	30-47	David L. Cunningham	WB42/436	0.75
50	13-33.7	Michael A. McDiffitt	388/298	0.44
51	13-33.9	Ida Racqueal Ring	420/906	0.45
52	13-33.10	Timothy L. & Tammy L. McDiffitt	369/577	0.64
53	13-33.5	Terrell K. Haught	370/320	0.72
54	13-33.4	Francis Lee & Mary F. Arnolds	379/187	1.29
55	13-33.2	Richard D. & Jacqueline M. Bucher	329/595	0.20
56	13-33.11	Richard D. & Jacqueline M. Bucher	372/601	2.00
57	30-6.2	James C. & Corinna L. Tennant	373/178	1.18
58	30-5.1	Travis C. Ice & Mandy Barker	391/275	0.25
59	30-5.3	Michael D. Lloyd	431/490	0.45
60	30-4.1	Michael D. Lloyd	431/490	0.43
61	30-4.5	Travis C. & Amanda J. Ice	395/346	0.32
62	30-3.1	Phyllis L. Willey	WB41/389	0.83
63	30-2	Wallace E. & Daisy M. Kendall	289/476	1.75
64	30-1	Robert C. & Heidi M. Brown	428/14	1.75
65	13-32.3	Board of Education	282/414	12.39
66	13-32.4	James F. & Gearldine Haught	282/436	0.13
67	13-26.4	James F. & Gearldine Haught	226/69	0.30
68	13-26.5	Stanley & Mary Jo Pittman	284/657	14.72
69	13-26.3	Chad Andrew Pittman & Andrea Danielle Highly	395/636	0.68
70	13-25.1	Dennis & Diane K. Howell	289/271	2.37
71	13-25	Wayne & Brenda Balwanz	440/693	12.15
72	13-25.2	Diane K. Howell	416/682	10.20
73	13-14.6	Ronald S. Anderson	393/630	23.90
74	13-14	Ronald S. Anderson	399/387	32.80
75	13-7	WSD Properties LLC	441/793	162.00
76	8-41	Nancy Hatfield	267/370	60.00
77	9-41	WSD Properties	441/793	48.00
78	8-28	Nancy B. Hatfield	474/48/1	449.48
79	3-37	Carlton J. Hornbeck	250/263	118.00
80	8-7	Carlton J. Hornbeck	259/335	0.25
81	3-36	Donzel A. Hornbeck	459/560	35.00
82	3-35	Richard Hornbeck, et al	483/191	19.50
83	3-27	Ronald E. Wade	433/785	100.00
84	3-28	Richard D. Hornbeck	483/191	120.00

FILE NO: 53-34-G-23  
 DRAWING NO: Makar Unit 2H As-Drilled Plat  
 SCALE: 1" = 2000'  
 MINIMUM DEGREE OF ACCURACY:  
 Submeter  
 PROVEN SOURCE OF ELEVATION:  
 WVDOT, Harrisville, WV

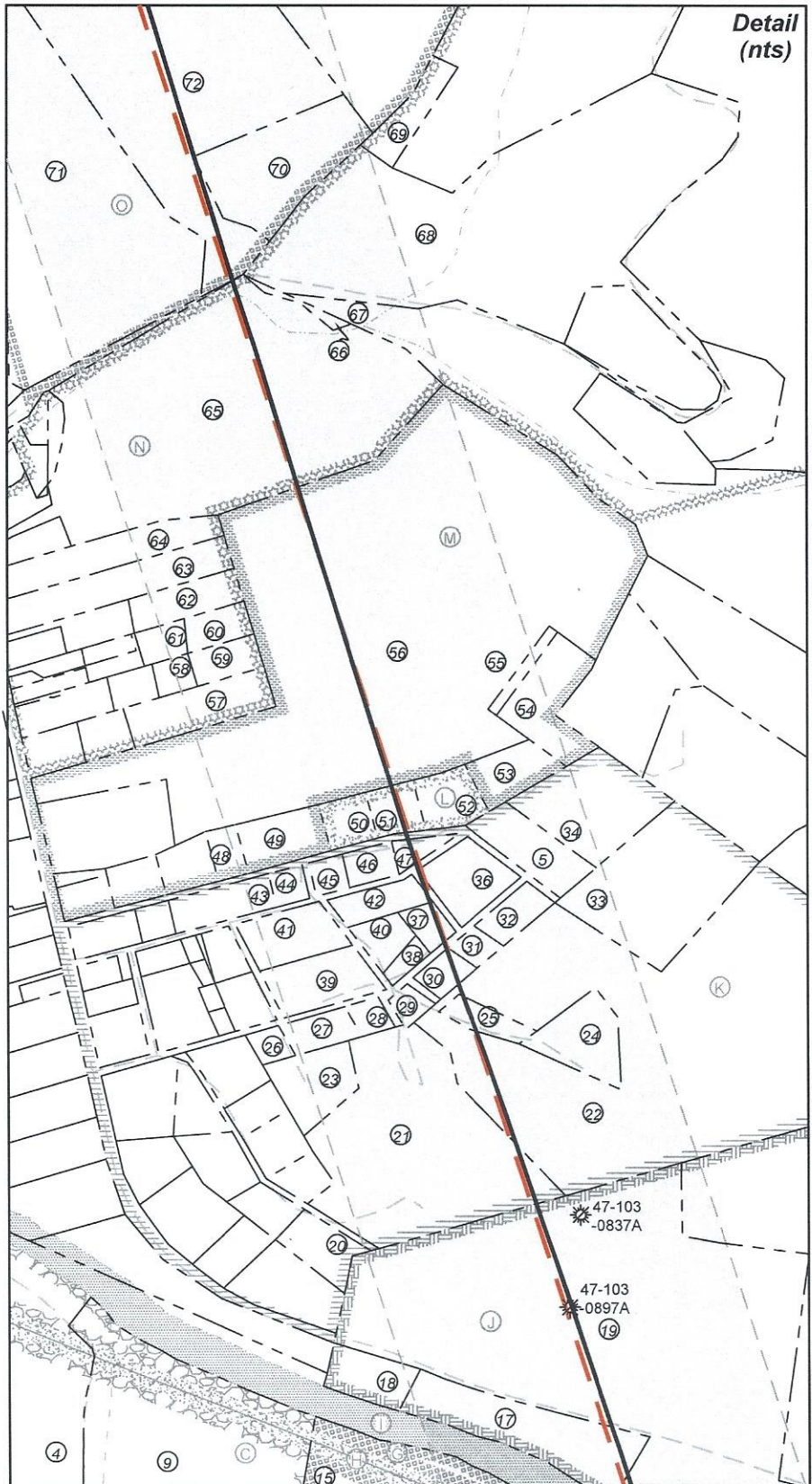
**STATE OF WEST VIRGINIA**  
 DEPARTMENT OF ENVIRONMENTAL PROTECTION  
**OIL AND GAS DIVISION**

DATE: June 20 20 24  
 OPERATOR'S WELL NO. Makar Unit 2H  
 API WELL NO  
 47 - 103 - 03588  
 STATE COUNTY PERMIT

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

LOCATION: ELEVATION: As-Drilled 1211' WATERSHED: Fishing Creek QUADRANGLE: Pine Grove  
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 ADDRESS: 1615 Wynkoop Street ADDRESS: 535 White Oaks Blvd.  
 Denver, CO 80202 Bridgeport, WV 26330



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WVDOT, Harrisville, WV

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

DATE: June 20 2024  
OPERATOR'S WELL NO. Makar Unit 2H  
API WELL NO  
47 - 103 - 03588  
STATE COUNTY PERMIT

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08/16/2024