

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

API 47 - 103 - 03633 County Wetzel District Green
Quad Porter Falls 7.5' Pad Name Fluharty Field/Pool Name ----
Farm name Antero Resources Corporation Well Number Galarraga 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 4380212m Easting 515947m
Landing Point of Curve Northing 4380398m Easting 515984.5m
Bottom Hole Northing 4385186m Easting 514349m

Elevation (ft) 1181' 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 1/2/2024 Date drilling commenced 1/28/2024 Date drilling ceased 4/14/2024
Date completion activities began 6/15/2024 Date completion activities ceased 9/5/2024
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 307' Open mine(s) (Y/N) depths No
Salt water depth(s) ft 2289' 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]
02/28/2025
[Signature]

API 47-103 - 03633 Farm name Antero Resources Corporation Well number Galarraga 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	94#, J-55	N/A	Y
Surface	17-1/2"	13-3/8"	429'	New	54.5#, J-55	N/A	Y
Coal							
Intermediate 1	12-3/8"	9-5/8"	3065'	New	36#, J-55	N/A	Y
Intermediate 2							
Intermediate 3							
Production	8-3/4" /8-1/2"	5-1/2"	23804'	New	23#, P-110	N/A	Y
Tubing		2-3/8"	6788'		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	250 sx	15.6	1.18	295	0'	8 Hrs.
Surface	Class A	368 sx	15.6	1.19	438	0'	8 Hrs.
Coal							
Intermediate 1	Class A	1142 sx	15.6	1.18	1348	0'	8 Hrs.
Intermediate 2							
Intermediate 3							
Production	Class H	4087 sx (Tail)	13.5 (Spacer), 15.2(Tail)	1.26 (Tail)	5150	-500' into Intermediate Casing	8 Hrs.
Tubing							

Drillers TD (ft) 23804' MD, 6778' TVD (BHL), 6825' TVD (Deepest Point Drilled) Loggers TD (ft) 23744' MD
 Deepest formation penetrated Marcellus Plug back to (ft) N/A
 Plug back procedure N/A

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Kick off depth (ft) 6212'

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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

02/28/2025 

API 47- 103 - 03633 Farm name Antero Resources Corporation Well number Galarraga Unit 1H

PRODUCING FORMATION(S)	DEPTHS		
		TVD	MD
Marcellus	6771' (TOP)		6996' (TOP)

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 14860.14 mcfpd Oil 762.23 bpd NGL --- bpd Water 1003.22 bpd GAS MEASURED BY Estimated Orifice Pilot

LITHOLOGY/ FORMATION	TOP	BOTTOM	TOP	BOTTOM	DESCRIBE ROCK TYPE AND RECORD QUANTITY AND TYPE OF FLUID (FRESHWATER, BRINE, OIL, GAS, H ₂ S, ETC)
	DEPTH IN FT NAME TVD	DEPTH IN FT TVD	DEPTH IN FT MD	DEPTH IN FT MD	

***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
Address 5599 San Felipe St. Fl 17 City Houston State TX Zip 77056

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 12/18/24

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

02/28/2025 

EXHIBIT 1

Stage No.	Perforation Date	Perforated from MD ft.	Perforated to MD ft.	Number of Perforations	Formations
1	6/15/2024	23720	23676	36	Marcellus
2	6/16/2024	23637.55622	23472.3373	36	Marcellus
3	6/16/2024	23436.89357	23271.6747	36	Marcellus
4	6/18/2024	23236.23092	23071.012	36	Marcellus
5	6/18/2024	23035.56827	22870.3494	36	Marcellus
6	6/19/2024	22834.90562	22669.6867	36	Marcellus
7	6/19/2024	22634.24297	22469.0241	36	Marcellus
8	6/20/2024	22433.58032	22268.3614	36	Marcellus
9	6/21/2024	22232.91767	22067.6988	36	Marcellus
10	6/21/2024	22032.25502	21867.0361	36	Marcellus
11	6/22/2024	21831.59237	21666.3735	36	Marcellus
12	6/23/2024	21630.92972	21465.7108	36	Marcellus
13	6/24/2024	21430.26707	21265.0482	36	Marcellus
14	6/25/2024	21229.60442	21064.3855	36	Marcellus
15	6/25/2024	21028.94177	20863.7229	36	Marcellus
16	6/26/2024	20828.27912	20663.0602	36	Marcellus
17	6/27/2024	20627.61647	20462.3976	36	Marcellus
18	6/28/2024	20426.95382	20261.7349	36	Marcellus
19	6/29/2024	20226.29116	20061.0723	36	Marcellus
20	6/29/2024	20025.62851	19860.4096	36	Marcellus
21	6/30/2024	19824.96586	19659.747	36	Marcellus
22	7/1/2024	19624.30321	19459.0843	36	Marcellus
23	7/2/2024	19423.64056	19258.4217	36	Marcellus
24	7/3/2024	19222.97791	19057.759	36	Marcellus
25	7/3/2024	19022.31526	18857.0964	36	Marcellus
26	7/4/2024	18821.65261	18656.4337	36	Marcellus
27	7/5/2024	18620.98996	18455.7711	36	Marcellus
28	7/6/2024	18420.32731	18255.1084	36	Marcellus
29	7/6/2024	18219.66466	18054.4458	36	Marcellus
30	7/7/2024	18019.00201	17853.7831	36	Marcellus
31	7/8/2024	17818.33936	17653.1205	36	Marcellus
32	7/9/2024	17617.67671	17452.4578	36	Marcellus
33	7/9/2024	17417.01406	17251.7952	36	Marcellus
34	7/10/2024	17216.35141	17051.1325	36	Marcellus
35	7/11/2024	17015.68876	16850.4699	36	Marcellus
36	7/12/2024	16815.0261	16649.8072	36	Marcellus
37	7/12/2024	16614.36345	16449.1446	36	Marcellus
38	7/13/2024	16413.7008	16248.4819	36	Marcellus
39	7/14/2024	16213.03815	16047.8193	36	Marcellus
40	7/14/2024	16012.3755	15847.1566	36	Marcellus
41	7/15/2024	15811.71285	15646.494	36	Marcellus
42	7/16/2024	15611.0502	15445.8313	36	Marcellus
43	7/16/2024	15410.38755	15245.1687	36	Marcellus
44	7/16/2024	15209.7249	15044.506	36	Marcellus
45	7/17/2024	15009.06225	14843.8434	36	Marcellus
46	7/18/2024	14808.3996	14643.1807	36	Marcellus
47	7/19/2024	14607.73695	14442.5181	36	Marcellus
48	7/19/2024	14407.0743	14241.8554	36	Marcellus
49	7/19/2024	14206.41165	14041.1928	36	Marcellus
50	7/20/2024	14005.749	13840.5301	36	Marcellus
51	7/20/2024	13805.08635	13639.8675	36	Marcellus
52	7/20/2024	13604.42369	13439.2048	36	Marcellus
53	7/21/2024	13403.76104	13238.5422	36	Marcellus
54	7/21/2024	13203.09839	13037.8795	36	Marcellus
55	7/21/2024	13002.43574	12837.2169	36	Marcellus
56	7/22/2024	12801.77309	12636.5542	36	Marcellus
57	7/22/2024	12601.11044	12435.8916	36	Marcellus
58	7/22/2024	12400.44779	12235.2289	36	Marcellus
59	7/23/2024	12199.78514	12034.5663	36	Marcellus
60	7/23/2024	11999.12249	11833.9036	36	Marcellus
61	7/24/2024	11798.45984	11633.241	36	Marcellus
62	7/24/2024	11597.79719	11432.5783	36	Marcellus
63	7/24/2024	11397.13454	11231.9157	36	Marcellus
64	7/25/2024	11196.47189	11031.253	36	Marcellus
65	7/25/2024	10995.80924	10830.5904	36	Marcellus
66	7/25/2024	10795.14659	10629.9277	36	Marcellus
67	7/26/2024	10594.48394	10429.2651	36	Marcellus
68	7/26/2024	10393.82129	10228.6024	36	Marcellus
69	7/27/2024	10193.15863	10027.9398	36	Marcellus
70	7/27/2024	9992.495984	9827.27711	36	Marcellus
71	7/27/2024	9791.833333	9626.61446	36	Marcellus
72	7/28/2024	9591.170683	9425.95181	36	Marcellus
73	7/28/2024	9390.508032	9225.28916	36	Marcellus
74	7/28/2024	9189.845382	9024.62651	36	Marcellus
75	7/29/2024	8989.182731	8823.96386	36	Marcellus
76	7/29/2024	8788.52008	8623.3012	36	Marcellus
77	7/29/2024	8587.85743	8422.63855	36	Marcellus
78	7/30/2024	8387.194779	8221.9759	36	Marcellus
79	7/30/2024	8186.532129	8021.31325	36	Marcellus
80	7/30/2024	7985.869478	7820.6506	36	Marcellus
81	7/31/2024	7785.206827	7619.98795	36	Marcellus
82	7/31/2024	7584.544177	7419.3253	36	Marcellus
83	7/31/2024	7383.881526	7218.66265	36	Marcellus
84	8/1/2024	7183.218876	7018	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 (bbbls)	Amount of Nitrogen/other (units)
1	6/15/2024	80.23948	9727.28	5980.71	3355.658	169020	4956.8333	N/A
2	6/16/2024	85.33368	10169.5	8608.3	4347.134	419560	8131.3095	N/A
3	6/16/2024	84.68974	10131.62	7404.87	3999.895	419120	7266.9762	N/A
4	6/18/2024	88.09107	10045.73	6941.71	4574	424720	7798.4048	N/A
5	6/18/2024	92.43003	10309.64	7886.84	4456.142	422700	7491.5	N/A
6	6/19/2024	95.01598	10300.87	7069.3	4203.227	419460	7091.1667	N/A
7	6/19/2024	96.45966	10305.92	7228.1	4066	424233	7427.5	N/A
8	6/20/2024	85.65719	9310.523	6909.67	4376.734	410300	7308.2381	N/A
9	6/21/2024	94.89437	10001.16	6552.93	4126.03	417430	7507	N/A
10	6/21/2024	94.3209	9673.072	6271.66	4207.16	417670	6990.881	N/A
11	6/22/2024	85.56952	9060.532	5844.02	4139	424020	7187.881	N/A
12	6/23/2024	90.04769	9126.847	6011.64	4286	415940	7155.7143	N/A
13	6/24/2024	92.8381	9702.061	6507.71	4291.318	422280	7483.7143	N/A
14	6/25/2024	95.03362	9625.891	6418.27	4148.777	417780	7295.8571	N/A
15	6/25/2024	94.55929	9887.31	6536.74	4182.907	419380	7326.7619	N/A
16	6/26/2024	92.40821	10047.05	7052.25	4262	418300	7456.1429	N/A
17	6/27/2024	93.95949	9708.299	7271.07	4513.126	420220	7483.2857	N/A
18	6/28/2024	94.52341	9491.717	6677.68	4282.381	421920	7445	N/A
19	6/29/2024	94.76927	9438.646	6736.86	4420	412700	7330.3333	N/A
20	6/29/2024	95.59227	9478.177	6946.16	4223.143	414340	7278.1905	N/A
21	6/30/2024	92.53561	9104.769	6506.33	4323.057	424580	7387.8095	N/A
22	7/1/2024	94.67556	9170.003	6940.21	4304.736	424480	7284.0952	N/A
23	7/2/2024	94.43555	8934.948	7272.88	4211	424900	7293.2143	N/A
24	7/3/2024	95.22916	9326.862	6556.02	4252.299	416900	7188.619	N/A
25	7/3/2024	93.16083	9511	6620.22	4385.159	400310	7273.2619	N/A
26	7/4/2024	96.53555	10029.22	6876.42	3956.35	398590	7081.0238	N/A
27	7/5/2024	94.92683	9865.366	6935.86	4156.203	398100	7111.2381	N/A
28	7/6/2024	96.66326	9755.399	6657.69	4155.855	399850	6927.3095	N/A
29	7/6/2024	95.10691	9651.981	6399.76	4185.428	417060	7090.0476	N/A
30	7/7/2024	89.2519	9043.77	6792.31	4376.477	397700	7009.3095	N/A
31	7/8/2024	93.0843	9087.958	6881.14	4415.667	406480	7025	N/A
32	7/9/2024	94.97909	9092.201	6895.39	4122	399370	6990.4048	N/A
33	7/9/2024	95.57119	9573.458	6923.98	4077.348	417280	7257.0238	N/A
34	7/10/2024	96.61889	9904.133	6586.37	4525	422320	7050.4524	N/A
35	7/11/2024	95.66347	9019.197	6455.28	4508	399540	6568.0476	N/A
36	7/12/2024	93.17953	8920.343	6018.68	4287.623	417920	6803.3571	N/A
37	7/12/2024	96.47452	9039.884	6171.86	4266.403	400160	6740.7381	N/A
38	7/13/2024	95.00899	9616.56	6377.19	4301	410180	6819.1429	N/A
39	7/14/2024	97.65946	9620.927	6294.1	4031.123	417100	6788.7381	N/A
40	7/14/2024	92.04043	9192.665	6466.31	4094.004	416760	6765.1667	N/A
41	7/15/2024	81.23369	9346.068	6461.75	3812.189	419020	10330.429	N/A
42	7/16/2024	95.576	8958.532	6014.78	4107	420620	6873.8571	N/A
43	7/16/2024	95.17928	9054.05	5935.24	4068	418900	6792	N/A
44	7/16/2024	97.35996	9053.72	6575.48	3838.252	420550	6621.0476	N/A
45	7/17/2024	97.26657	9066.472	5979	3842.603	413920	6783.7381	N/A
46	7/18/2024	95.31751	9100	6368.6	3866	419180	6618.5	N/A
47	7/19/2024	96.75463	9082.455	6380.43	3941	424300	6242.9524	N/A
48	7/19/2024	98.44196	9087.176	6873.41	3514	420900	6737.1905	N/A
49	7/19/2024	97.93164	8850.27	7066.64	4023	416400	6705.3571	N/A
50	7/20/2024	97.86878	9047.482	6615.65	3553.466	417220	6827.6429	N/A
51	7/20/2024	99.12004	8915.227	6328.36	4021	424240	6705.5476	N/A
52	7/20/2024	98.08651	8815.721	6211.98	4063	422380	6435	N/A
53	7/21/2024	97.32785	8852.336	6246.36	3344.854	418720	6749.8333	N/A
54	7/21/2024	98.75771	8922.645	6941.04	4001	416940	6778.5476	N/A
55	7/21/2024	98.56331	8267.082	6615.91	3454.52	419500	6662.3571	N/A
56	7/22/2024	97.87306	8313.774	6392	3677	420880	6682.7619	N/A
57	7/22/2024	98.58702	8442.144	6295.44	3416	421780	6618.119	N/A
58	7/22/2024	97.67318	8100.959	6410.21	3416	427600	6497.2857	N/A
59	7/23/2024	97.24625	8435.994	6297.09	3874	419680	6704.5	N/A
60	7/23/2024	92.36817	8233.385	6784.02	3876	415860	8449.2857	N/A
61	7/24/2024	97.81313	8018.142	6615.35	3556	421720	6607.3095	N/A
62	7/24/2024	97.06244	8301.29	6328.34	3879	423480	6917.7619	N/A
63	7/24/2024	97.04362	8500.404	6600.76	3849	419700	6660.6905	N/A
64	7/25/2024	96.74928	8506.23	6604.08	3933.962	425060	6678.2619	N/A
65	7/25/2024	97.68578	8451.985	6281.94	3841	417080	6814.3333	N/A
66	7/25/2024	97.68707	8072.501	6066.23	3990.128	423760	6423.6667	N/A
67	7/26/2024	93.54148	7684.665	6558.69	4103	425180	6717.4762	N/A
68	7/26/2024	97.22334	7873.232	6023	3699	426800	6869.619	N/A
69	7/27/2024	98.04722	7752.109	6452.84	3868	421840	6660.5476	N/A
70	7/27/2024	97.48069	7727	6632.41	3717.389	417140	6798.8571	N/A
71	7/27/2024	94.88188	7542.272	5870.6	3743.246	420500	6817.4762	N/A
72	7/28/2024	97.3434	7769.168	6391.14	3963.32	422580	6531.4286	N/A
73	7/28/2024	97.54799	7664.945	6389.43	4148	419820	6726.7619	N/A
74	7/28/2024	97.5985	7864.84	6367.4	4163.561	414560	6691.5238	N/A
75	7/29/2024	97.96683	7518.137	5851.43	4351	422240	6737.9762	N/A
76	7/29/2024	96.5779	7815.841	6899.35	3998.732	420040	6832.7381	N/A
77	7/29/2024	97.25873	7611.827	6313.96	4128.927	420760	6712.6429	N/A
78	7/30/2024	97.23497	7505.053	6289.84	4026.888	414900	6686.3095	N/A
79	7/30/2024	97.81908	7371.746	5871.1	3939.872	424200	6930.7143	N/A
80	7/30/2024	97.01506	7338.733	6284.69	3865	419800	6902.9048	N/A
81	7/31/2024	96.27558	7356.713	7308.08	3895.861	413960	6925	N/A
82	7/31/2024	96.95645	7314.849	6784.68	3735.344	418620	6908.4286	N/A
83	7/31/2024	96.97647	7201.522	7175.8	3884.54	418860	6812	N/A
84	8/1/2024	97.06374	6940.4	6399.07	3941.158	420920	6680.8095	N/A
	AVERAGE	95.0	8,865	6,579	4,039	34,832,783	586,728	0

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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, tr Shale	104	204	104	204
Silty Shale	204	354	204	354
Shale, Occ Siltstone, rr Sandstone	354	504	354	504
Shaley Siltstone, occ Sandstone	404	604	404	604
Sandy Siltstone, occ Shale	504	604	504	604
Silty Sandstone	604	804	604	804
Sandstone, tr Siltstone	804	954	804	954
Silty Sanstone, rr Shale	954	1,154	954	1,154
Sandstone, tr Siltstone	1,154	1,354	1,154	1,354
Sandy Siltstone	1,354	1,554	1,354	1,554
Siltstone, rr Sandstone	1,554	1,654	1,554	1,654
Silty Sandstone	1,654	1,854	1,654	1,854
Sandstone, occ Shale	1,854	2,054	1,854	2,054
Sandy Siltstone, occ Shale, tr coal	2,054	2,104	2,054	2,104
Sandy Siltstone, tr Shale	2,104	2,063	2,104	2,063
Big Lime	2,089	2,836	2,063	2,836
Fifty Foot Sandstone	2,836	2,933	2,810	2,933
Gordon	2,933	3,191	2,907	3,191
Fifth Sandstone	3,191	3,412	3,165	3,413
Bayard	3,412	3,901	3,387	3,906
Speechley	3,901	4,144	3,880	4,149
Balltown	4,144	4,622	4,123	4,630
Bradford	4,622	5,109	4,604	5,120
Benson	5,109	5,498	5,094	5,512
Alexander	5,498	6,591	5,486	6,640
Sycamore	6,453	6,565	6,481	6,614
Middlesex	6,565	6,654	6,614	6,749
Burkett	6,654	6,676	6,749	6,787
Tully	6676	6745	6787	6970
Marcellus	6745	NA	6970	NA

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LATITUDE 39°35'00"

6,441'

LATITUDE 39°37'30"

11,648' TO BOTTOM HOLE

4,355'

3,195' TO BOTTOM HOLE LONGITUDE 80°47'30"

LONGITUDE 80°47'30"

COUNTY NAME PERMIT

Antero Resources Corporation Well No. Galarraga #1H

MAGNOLIA DISTRICT	13-23.7	BARRY KIRKLAND	1-17.1	CHRISTOPHER HOWELL	
12-119	NANCY LASURE	13-23.8	JEROME SANDS	1-18	JUANITA DIXON
13-13	RUTH BLAKE	13-23.9	RICHARD JOY	1-21	JEFFERY BROWN
13-13.1	WSD PROPERTIES LLC	13-23.10	WILLIAM FLETCHER	1-22	GREGORY BRIFFITH
13-14	WYDOH	13-23.11	BARRY KIRKLAND	1-23	SHERWEN TOOTHMAN
13-21	WSD PROPERTIES LLC		GREEN DISTRICT	1-24	DIANE VASQUEZ
13-21.1	WYDOH	1-11	STEVEN HOWELL	1-25	RONALD MILLER
13-23	TH EXPLORATION II LLC	1-15	JACOB MORGAN	1-26	DEBRA MASON
13-23.1	ROBERT GORBY	1-16	MARK HOWELL	1-27	LLOYD DENNIS JR
13-23.6	ROBERT GORBY	1-17	EDGAR HOWELL	1-28	VINCENT GREENE

AS DRILLED DATA:
 WELL 1H TOP HOLE INFORMATION:
 N: 392,930ft E: 1,629,455ft
 LAT: 39°34'16.97" LON: 80°48'52.25"
 BOTTOM HOLE INFORMATION:
 N: 409,340ft E: 1,624,483ft
 LAT: 39°36'58.42" LON: 80°49'58.85"
 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: 4,380,212m E: 515,947m
 BOTTOM HOLE INFORMATION:
 N: 4,385,186m E: 514,349m

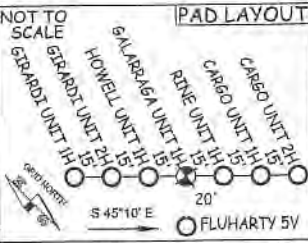
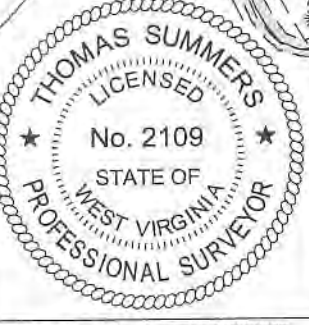
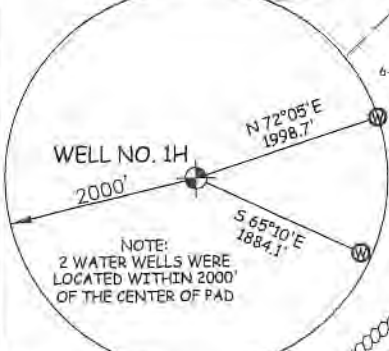
(NAD) 27 (UTM) ZONE 17 COORDS:
 WELL 1H TOP HOLE INFORMATION:
 N: 14,370,029ft E: 1,692,687ft
 POINT OF ENTRY INFORMATION:
 N: 14,370,472ft E: 1,692,930ft
 BOTTOM HOLE INFORMATION:
 N: 14,386,348ft E: 1,687,444ft

A1	LILLIE BLANCHE SMITH TESTAMENTARY TRUST
A2	LILLIE BLANCHE SMITH TESTAMENTARY TRUST
B1	BRC APPALACHIAN MINERALS I, LLC
B2	BRC APPALACHIAN MINERALS I, LLC
B3	BRC APPALACHIAN MINERALS I, LLC
C	WILLIAM W. FLETCHER, JR., ET AL
D	LILLIE BLANCHE SMITH TESTAMENTARY TRUST
E	WYNOR
F	LILLIE BLANCHE SMITH TESTAMENTARY TRUST
G	SHIRREN ESTATES, INC.
H	NANCY LOU O'NEIL LASURE
I	CSX TRANSPORTATION, INC.
J1	WILL E. MORRIS HEIRS TRUST
J2	WILL E. MORRIS HEIRS TRUST
J3	WILL E. MORRIS HEIRS TRUST
J4	WILL E. MORRIS HEIRS TRUST
K	DAVID L. SHREVE AND ESTER SHREVE
L	JEFFERY T. BROWN AND CYNTHIA J. BROWN
M1	J. WELLS BARN, ET AL
M2	J. WELLS BARN, ET AL
N	LAWRENCE P. LEMON AND ANITA M. LEMON
O	CHL PHILLIPS LYNNSON
P	BENJAMIN R. YOHO
Q	STONY HILL MINERALS HOLDINGS, LLC
R	COASTAL FOREST RESOURCES COMPANY
S	BENJAMIN R. YOHO
T1	TOMMEY J. CUMP AND JEAN ANN CUMP
T2	TOMMEY J. CUMP AND JEAN ANN CUMP
U	JOHN MATHEW STALDY
V	DAVID LEE SMITH
W	MICHAEL RICHARD SMITH
AA	DAVID LEE SMITH
AB	ROBERT HARRY MYERS, SR.
AC	JOHN MATHEW STALDY

1H BOTTOM HOLE

1H TOP HOLE

WV NORTH ZONE GRID NORTH



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.



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

1-29	DAVID SHREVE
1-30.9	KATLYN MARCEL
6-2	DALTON BAKER
6-2.1	MICHAEL MCDIFFETT
6-2.2	LAWRENCE LEMON
6-2.3	JODELL RITCHEA
6-2.4	JODELL RITCHEA
6-2.5	JODELL RITCHEA
6-2.6	FREDDIE LANDERS
6-2.7	BERNARD BUTTS
6-2.8	DENNIS WICHTERMAN
6-2.9	JOHN CAMPBELL
6-2.10	STANIS YOHO
6-2.11	STEPHANIE FAHNEUSER
6-2.12	BERNARD BUTTS
6-9.2	ALLEN LONG
6-19.1	BENJAMIN YOHO
6-19.2	BENJAMIN YOHO
6-19.3	BENJAMIN YOHO
6-28	COASTAL FOREST RESOURCES CO.
7-45	JOYCE SALAZER
11-7.1	DENNIS LYDICK
11-13	KENNETH RINE EST.
11-16	MICHAEL SMITH
11-21	FLUHARTY FAMILY TRUST

JOB # 21-011WA
 DRAWING # GALARRAGA1HAD
 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 11/22/24
 OPERATOR'S WELL# GALARRAGA UNIT #1H
 47 - 103 - 03633
 STATE COUNTY PERMIT

- NOTE
- 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.
 - TOP HOLE DATA SHOWN HEREON WAS PROVIDED BY ANTERO RESOURCES CORPORATION.
 - AS DRILLED DATA WAS PROVIDED BY ANTERO RESOURCES CORPORATION.
 - 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.
 - WLS IS BY NO MEANS RESPONSIBLE FOR ANY ERRORS OR INACCURACIES WITH THE DATA AND INFORMATION THAT HAS BEEN PROVIDED.

WELL TYPE: OIL GAS X LIQUID INJECTION WASTE DISPOSAL
 (IF "GAS") PRODUCTION X STORAGE DEEP SHALLOW X
 LOCATION: ELEVATION 1,181' WATERSHED FISHING CREEK
 QUADRANGLE PORTER FALLS 7.5' DISTRICT GREEN COUNTY WETZEL
 SURFACE OWNER ANTERO RESOURCES CORPORATION ACREAGE 46.95 ACRES±
 OIL & GAS ROYALTY OWNER DAVID L. SMITH LEASE ACREAGE 67 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 6,778' TVD 23,804' MD
 WELL OPERATOR ANTERO RESOURCES CORP. DESIGNATED AGENT KEVIN ELLIS
 ADDRESS 1615 WYNKOOP ST. ADDRESS 535 WHITE OAK BLVD.
 DENVER, CO 80202 BRIDGEPORT, WV 26330

Hydraulic Fracturing Fluid Product Component Information Disclosure



Job Start Date:	06/15/2024
Job End Date:	07/31/2024
State:	West Virginia
County:	Wetzel
API Number:	47-103-03633-00-00
Operator Name:	Antero Resources Corporation
Well Name and Number:	GALARRAGA UNIT 1H
Latitude:	39.571454
Longitude:	-80.814334
Datum:	WGS84
Federal Well:	NO
Indian Well:	NO
True Vertical Depth:	6825
Total Base Water Volume (gal)*:	25743419.3
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
Excelerate LX-21	Halliburton	Friction Reducer					
FDP-S1470-23	Halliburton	Friction Reducer					
HAI-501	Halliburton	Acid Corrosion Inhibitor					
HYDROCHLORIC ACID, 22 BAUME	Halliburton	Solvent					
MC B-8123	MultiChem	Biocide					
OPTIFLO-II DELAYED RELEASE BREAKER	Halliburton	Breaker					
Produced Water (Density 8.8)	Operator	Base Fluid					
Sand-Common White-100 Mesh, SSA-2	Halliburton	Proppant					

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WG-36 GELLING AGENT	Halliburton	Gelling Agent					
Items above are Trade Names. Items below are the individual ingredients.							
			Water	7732-18-5	100.00000	86.50639	None
			Crystalline silica, quartz	14808-60-7	100.00000	13.30111	None
			Water	7732-18-5	100.00000	0.15842	None
			Hydrochloric acid	7647-01-0	30.00000	0.03841	None
			Complex amine compound	Proprietary	60.00000	0.01921	None
			Ethanaminium, N,N,N-trimethyl-2-(1-oxo-2-propen-1-yl)oxy-, chloride (1:1), polymer with 2-propenamide	69418-26-4	60.00000	0.01103	None
			Hydrotreated distillate	Proprietary	30.00000	0.00961	None
			Guar gum	9000-30-0	100.00000	0.00562	None
			Hydrotreated light petroleum distillates	64742-47-8	30.00000	0.00551	None
			Ammonium chloride	12125-02-9	5.00000	0.00252	None
			Glutaraldehyde	111-30-8	30.00000	0.00242	None
			Ethoxylated alcohol	Proprietary	5.00000	0.00160	None
			Fatty nitrogen derived amides	Proprietary	5.00000	0.00160	None
			Amides, tall-oil fatty, N,N-bis(hydroxyethyl)	68155-20-4	5.00000	0.00092	None
			Ethoxylated branched C13 alcohol	78330-21-9	5.00000	0.00092	None
			Sorbitan, mono-9-octadecenoate, (Z)	1338-43-8	1.00000	0.00050	None
			Sorbitan monooleate polyoxyethylene derivative	9005-65-6	1.00000	0.00050	None
			Quaternary ammonium compounds, benzyl-C12-16-alkyldimethyl, chlorides	68424-85-1	5.00000	0.00040	None
			Methanol	67-56-1	100.00000	0.00024	None
			Ammonium persulfate	7727-54-0	100.00000	0.00013	None
			Citric acid	77-92-9	1.00000	0.00008	None
			Mixture of dimer and trimer fatty acids of indefinite composition derived from tall oil	61790-12-3	30.00000	0.00007	None
			Modified thiourea polymer	Proprietary	30.00000	0.00007	None
			Oxylated phenolic resin	Proprietary	30.00000	0.00004	None

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			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.

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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