

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

API 47 - 085 - 10512 County Ritchie District Clay
Quad Ellenboro 7.5' Pad Name Pinewood Field/Pool Name -----
Farm name Antero Resources Corporation Well Number Hanely 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 4351026m Easting 497361m
Landing Point of Curve Northing 4350776.63m Easting 496517.89m
Bottom Hole Northing 435591m Easting 494869m

Elevation (ft) 1066' 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 12/21/2023 Date drilling commenced 4/1/2024 Date drilling ceased 6/16/2024
Date completion activities began 8/3/2024 Date completion activities ceased 9/20/2024
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 200', 378', 878' Open mine(s) (Y/N) depths No
Salt water depth(s) ft 1490' 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

Reviewed by:

APPROVED

J. N.
04/04/2025

API 47- 085 - 10512 Farm name Antero Resources Corporation Well number Hanely 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"	130'	New	91.59#, J-55	N/A	Y
Surface	17-1/2"	13-3/8"	990'	New	54.5#, J-55	N/A	Y
Coal							
Intermediate 1	12-3/8"	9-5/8"	3369'	New	36#, J-55	N/A	Y
Intermediate 2							
Intermediate 3							
Production	8-3/4" /8-1/2"	5-1/2"	24179'	New	23#, P-110	N/A	Y
Tubing		2-3/8"	7034'		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	204 sx	15.6	1.18	241	0'	8 Hrs.
Surface	Class C	561 sx	15.8	1.16	651	0'	8 Hrs.
Coal							
Intermediate 1	Class C	1240 sx	15.8	1.16	1438	0'	8 Hrs.
Intermediate 2							
Intermediate 3							
Production	Class H	4595 sx (Tail)	13.5 (Spacer), 15.2(Tail)	1.31 (Tail)	6019	~500' Into Intermediate Casing	8 Hrs.
Tubing							

Drillers TD (ft) 24,179' MD, 6,154' TVD (BHL), 6256' TVD (Deepest Point Drilled) Loggers TD (ft) 24139' MD
 Deepest formation penetrated Marcellus Plug back to (ft) N/A
 Plug back procedure N/A

Kick off depth (ft) 6176'

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

04/04/2025

PERFORATION RECORD					
Stage No.	Perforation date	Perforated from MD ft.	Perforated to MD ft.	Number of Perforations	Formation(s)

[illegible][illegible][illegible]

04/04/2025

DEPTHS

[illegible]

***PLEASE SEE ATTACHED EXHIBIT 3**

[illegible]

Completed by Stefan Gaspar Telephone 303-357-6959
Signature  Title Permitting Agent Date 1/15/25

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

04/04/2025

API 47-085-10512 Farm Name Michael Underwood Et Al Well Number Hanely Unit 1H					
EXHIBIT 1					
Stage No.	Perforation Date	Perforated from MD ft.	Perforated to MD ft.	Number of Perforations	Formations
1	8/3/2024	24084.7	24040.7	36	Marcellus
2	8/4/2024	24001.80422	23835.3253	36	Marcellus
3	8/4/2024	23799.62952	23633.1506	36	Marcellus
4	8/5/2024	23597.45482	23430.9759	36	Marcellus
5	8/5/2024	23395.28012	23228.8012	36	Marcellus
6	8/5/2024	23193.10542	23026.6265	36	Marcellus
7	8/6/2024	22990.93072	22824.4518	36	Marcellus
8	8/6/2024	22788.75602	22622.2771	36	Marcellus
9	8/6/2024	22586.58133	22420.1024	36	Marcellus
10	8/7/2024	22384.40663	22217.9277	36	Marcellus
11	8/7/2024	22182.23193	22015.753	36	Marcellus
12	8/7/2024	21980.05723	21813.5783	36	Marcellus
13	8/8/2024	21777.88253	21611.4036	36	Marcellus
14	8/8/2024	21575.70783	21409.2289	36	Marcellus
15	8/8/2024	21373.53313	21207.0542	36	Marcellus
16	8/9/2024	21171.35843	21004.8795	36	Marcellus
17	8/9/2024	20969.18373	20802.7048	36	Marcellus
18	8/9/2024	20767.00904	20600.5301	36	Marcellus
19	8/10/2024	20564.83434	20398.3554	36	Marcellus
20	8/10/2024	20362.65964	20196.1807	36	Marcellus
21	8/10/2024	20160.48494	19994.006	36	Marcellus
22	8/11/2024	19958.31024	19791.8313	36	Marcellus
23	8/11/2024	19756.13554	19589.6566	36	Marcellus
24	8/11/2024	19553.96084	19387.4819	36	Marcellus
25	8/11/2024	19351.78614	19185.3072	36	Marcellus
26	8/12/2024	19149.61145	18983.1325	36	Marcellus
27	8/12/2024	18947.43675	18780.9578	36	Marcellus
28	8/12/2024	18745.26205	18578.7831	36	Marcellus
29	8/13/2024	18543.08735	18376.6084	36	Marcellus
30	8/13/2024	18340.91265	18174.4337	36	Marcellus
31	8/13/2024	18138.73795	17972.259	36	Marcellus
32	8/14/2024	17936.56325	17770.0843	36	Marcellus
33	8/14/2024	17734.38855	17567.9096	36	Marcellus
34	8/14/2024	17532.21386	17365.7349	36	Marcellus
35	8/15/2024	17330.03916	17163.5602	36	Marcellus
36	8/15/2024	17127.86446	16961.3855	36	Marcellus
37	8/15/2024	16925.68976	16759.2108	36	Marcellus
38	8/16/2024	16723.51506	16557.0361	36	Marcellus
39	8/16/2024	16521.34036	16354.8614	36	Marcellus
40	8/16/2024	16319.16566	16152.6867	36	Marcellus
41	8/16/2024	16116.99096	15950.512	36	Marcellus
42	8/17/2024	15914.81627	15748.3373	36	Marcellus
43	8/17/2024	15712.64157	15546.1627	36	Marcellus
44	8/17/2024	15510.46687	15343.988	36	Marcellus
45	8/18/2024	15308.29217	15141.8133	36	Marcellus
46	8/18/2024	15106.11747	14939.6386	36	Marcellus
47	8/18/2024	14903.94277	14737.4639	36	Marcellus
48	8/18/2024	14701.76807	14535.2892	36	Marcellus
49	8/19/2024	14499.59337	14333.1145	36	Marcellus
50	8/19/2024	14297.41867	14130.9398	36	Marcellus
51	8/19/2024	14095.24398	13928.7651	36	Marcellus
52	8/20/2024	13893.06928	13726.5904	36	Marcellus
53	8/20/2024	13690.89458	13524.4157	36	Marcellus
54	8/20/2024	13488.71988	13322.241	36	Marcellus
55	8/20/2024	13286.54518	13120.0663	36	Marcellus
56	8/21/2024	13084.37048	12917.8916	36	Marcellus
57	8/21/2024	12882.19578	12715.7169	36	Marcellus
58	8/21/2024	12680.02108	12513.5422	36	Marcellus
59	8/22/2024	12477.84639	12311.3675	36	Marcellus
60	8/22/2024	12275.67169	12109.1928	36	Marcellus
61	8/22/2024	12073.49699	11907.0181	36	Marcellus
62	8/22/2024	11871.32229	11704.8434	36	Marcellus
63	8/23/2024	11669.14759	11502.6687	36	Marcellus
64	8/23/2024	11466.97289	11300.494	36	Marcellus
65	8/23/2024	11264.79819	11098.3193	36	Marcellus
66	8/24/2024	11062.62349	10896.1446	36	Marcellus
67	8/24/2024	10860.4488	10693.9699	36	Marcellus
68	8/24/2024	10658.2741	10491.7952	36	Marcellus
69	8/24/2024	10456.0994	10289.6205	36	Marcellus
70	8/25/2024	10253.9247	10087.4458	36	Marcellus
71	8/25/2024	10051.75	9885.27108	36	Marcellus
72	8/25/2024	9849.575301	9683.09639	36	Marcellus
73	8/25/2024	9647.400602	9480.92169	36	Marcellus
74	8/26/2024	9445.225904	9278.74699	36	Marcellus
75	8/26/2024	9243.051205	9076.57229	36	Marcellus
76	8/26/2024	9040.876506	8874.39759	36	Marcellus
77	8/26/2024	8838.701807	8672.22289	36	Marcellus
78	8/27/2024	8636.527108	8470.04819	36	Marcellus
79	8/27/2024	8434.35241	8267.87349	36	Marcellus
80	8/27/2024	8232.177711	8065.6988	36	Marcellus
81	8/27/2024	8030.003012	7863.5241	36	Marcellus
82	8/28/2024	7827.828313	7661.3494	36	Marcellus
83	8/28/2024	7625.653614	7459.1747	36	Marcellus
84	8/28/2024	7423.478916	7257	36	Marcellus

04/04/2025

API 47-085-10512 Farm Name: Michael Underwood Et Al Well Number: Liscely Unit 1H								
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	8/3/2024	81.35955	9579.692	6012.21	3434.022	171540	4876.0714	N/A
2	8/4/2024	94.50104	10327.82	6597.55	3902.653	421020	8025.4048	N/A
3	8/4/2024	93.17111	10166.09	6925.68	3782.891	400080	7290.7619	N/A
4	8/5/2024	81.56178	10058.7	6336.93	3745.992	398940	7322.619	N/A
5	8/5/2024	91.83938	10064.09	6484.33	3793.512	414820	7332.5952	N/A
6	8/5/2024	90.77284	10065.2	6343.31	3812	420000	7479	N/A
7	8/6/2024	94.95723	10369.97	6662.22	3563.797	405530	7271.4286	N/A
8	8/6/2024	94.21697	10066.61	6575.49	3889.807	411320	7305.881	N/A
9	8/6/2024	91.73821	9595.034	6075.76	3903.109	418660	7339.3095	N/A
10	8/7/2024	93.78518	10053.54	6626.72	4391	424760	7464.381	N/A
11	8/7/2024	92.08214	9630.92	6655.75	3529.938	416480	9459.9286	N/A
12	8/7/2024	90.83574	9716.171	6090.4	3923	418420	7271.9524	N/A
13	8/8/2024	94.05392	10039.78	6366.22	3632.472	419680	7406.3571	N/A
14	8/8/2024	94.93835	10066.16	5947.51	3954	416100	7242.0476	N/A
15	8/8/2024	92.57627	9943.02	6080.4	3949.129	412640	7321.5476	N/A
16	8/9/2024	96.23612	10001.28	6254.59	3463.236	417160	7272.2619	N/A
17	8/9/2024	97.38406	9897.961	6223.64	3613.602	402640	7234.3571	N/A
18	8/9/2024	98.05714	10020.06	5834.06	3727.627	418540	7308.1429	N/A
19	8/10/2024	97.70417	9540.88	6284.06	3693.378	395190	7186.9524	N/A
20	8/10/2024	96.04628	9839.143	6103.6	3266.75	421320	7340.7857	N/A
21	8/10/2024	96.64177	9905.04	6138.04	3432	420860	7341.2143	N/A
22	8/11/2024	97.32652	9588.269	5666.73	3606.948	396310	7019.2381	N/A
23	8/11/2024	97.88135	9752.669	6626.21	3302.867	422880	7300.3095	N/A
24	8/11/2024	96.34345	9535.63	6296.74	3438.881	421540	7288.9286	N/A
25	8/11/2024	98.16972	10081.33	6538.45	3209.374	417560	7138.8571	N/A
26	8/12/2024	96.94451	10018.77	6625.5	3459.434	417520	7315.9524	N/A
27	8/12/2024	90.06445	10001.07	6402.21	4025	423300	7277	N/A
28	8/12/2024	98.0617	9702.143	6634.45	3436.191	418060	7315.381	N/A
29	8/13/2024	97.73827	9921.057	6461.46	3323.847	420640	7251.619	N/A
30	8/13/2024	96.87513	9943.396	5632.69	3254	423630	7333.5714	N/A
31	8/13/2024	96.93585	10022.85	5816.5	3423.011	420260	7330.9762	N/A
32	8/14/2024	95.93238	10043.61	6847.85	3543.353	415000	7138.7381	N/A
33	8/14/2024	92.46354	10027.05	6661.68	3377.203	424760	7151.1667	N/A
34	8/14/2024	97.04131	10012.25	6364.92	3456.017	418860	7140.8095	N/A
35	8/15/2024	96.98451	9993.839	6686.52	3654.379	414820	7155.4286	N/A
36	8/15/2024	97.18998	9957.105	6477.14	3655.06	415120	7050	N/A
37	8/15/2024	93.98522	9610.909	6482.88	3765.35	397600	6855	N/A
38	8/16/2024	97.4216	9834.149	6510.69	3663.462	400340	6883	N/A
39	8/16/2024	97.18621	9706.302	6368.06	3745	417860	7086	N/A
40	8/16/2024	95.47533	9600.95	6343.91	3500.806	401510	6911.4524	N/A
41	8/16/2024	96.84913	9557.174	6557.05	3827.956	393630	6892.381	N/A
42	8/17/2024	96.73699	9631.424	5807.84	3399.923	400230	6888.0476	N/A
43	8/17/2024	97.36213	9491.365	6203.25	3446	420700	7148.381	N/A
44	8/17/2024	96.8371	9936.358	6200.91	3599.948	393940	6978.2143	N/A
45	8/18/2024	97.461	9504.884	6028.64	3598.057	417580	7137.3571	N/A
46	8/18/2024	96.42836	9098.519	5849.24	3841.806	393660	6951.7381	N/A
47	8/18/2024	97.65285	9266.919	6133.68	3886.04	416400	7089.3571	N/A
48	8/18/2024	96.96359	9099.559	6029.34	3719.963	392980	6791.9524	N/A
49	8/19/2024	98.0961	9031.938	5661.05	3447.378	411900	7026.9048	N/A
50	8/19/2024	95.57735	9106.903	6553.22	3260.508	394990	6897.2857	N/A
51	8/19/2024	97.12686	9006.734	6116.79	3427.981	420680	6995.9524	N/A
52	8/20/2024	97.41319	9040.132	5886.08	3173.779	400660	6843.3571	N/A
53	8/20/2024	97.88124	8907	6396.5	3499	419780	7168.9048	N/A
54	8/20/2024	96.59603	9230.25	6126.43	3406	395480	6816.619	N/A
55	8/20/2024	95.42843	8638.05	5905.04	3795.475	422400	7035	N/A
56	8/21/2024	96.97725	8984.715	6518.22	4178.219	396850	6672	N/A
57	8/21/2024	95.34216	8943.793	7322.93	3431	416600	6922	N/A
58	8/21/2024	97.24195	8886.958	6001.72	3616	399240	6733	N/A
59	8/22/2024	96.81209	8564.593	6536.78	3302.827	413640	6870	N/A
60	8/22/2024	97.28961	8811.352	7267.29	3227	405460	6847	N/A
61	8/22/2024	96.93173	8727.361	6953.53	3591.716	418460	6887	N/A
62	8/22/2024	97.30173	8620.14	6267.17	3474	395820	6805	N/A
63	8/23/2024	97.47394	8762.285	6349.8	4062.819	425340	6882	N/A
64	8/23/2024	95.84021	8580.655	6211.01	3914.843	397900	6653	N/A
65	8/23/2024	96.75159	8462.528	5499.85	3692	421460	6829	N/A
66	8/24/2024	96.03112	8840.038	5995.84	4476.242	393890	6557	N/A
67	8/24/2024	97.34908	8883.499	6059.35	3548.159	408380	6754	N/A
68	8/24/2024	88.66453	8681.639	6811.56	3992.862	392670	6388	N/A
69	8/24/2024	92.18246	9400.413	6719.26	4335	416660	6980	N/A
70	8/25/2024	95.63439	8867.168	6843.46	4377.577	393170	6582	N/A
71	8/25/2024	95.43153	8904.773	7161.74	3958.946	413400	6641	N/A
72	8/25/2024	94.95768	8370.615	6704.88	4325	395450	6492	N/A
73	8/25/2024	96.23823	8340.943	6312.85	3819.114	425140	6922	N/A
74	8/26/2024	97.38855	8180.847	6406.23	4585	399290	6629	N/A
75	8/26/2024	94.85046	8072.44	6474.61	4124.608	418140	6768	N/A
76	8/26/2024	97.45547	8265.55	6950.99	3918.518	396600	6545	N/A
77	8/26/2024	97.47607	8225.208	6106.96	3814.756	421640	6798	N/A
78	8/27/2024	96.50912	8047.89	6294.66	3519	393850	6618	N/A
79	8/27/2024	97.06376	7966.561	6917.74	3918.319	411800	6531	N/A
80	8/27/2024	96.65052	8135.394	6600.12	3354.75	398430	6507	N/A
81	8/27/2024	97.36217	8113.595	6487.5	3326.641	415840	6661	N/A
82	8/28/2024	96.87906	8101.742	6042.65	3283.576	398800	7578	N/A
83	8/28/2024	96.99244	7992.225	6958.71	3261.952	419440	6988	N/A
84	8/28/2024	95.74819	7863.615	7229	3606.972	418260	6878	N/A
AVERAGE		95.7	9,303	6,375	3,662	34,250,100	590,610	0

04/04/2025

EXHIBIT 3

LITHOLOGY/ FORMATION	TOP DEPTH (TVD) From Surface	BOTTOM DEPTH (TVD) From Surface	TOP DEPTH (MD) From Surface	BOTTOM DEPTH (MD) From Surface
Silty Sandstone	100	170	100	170
Silty Sandstone, Occ LS	170	370	170	370
Silty Sandstone	370	570	370	570
Sandstone. Scat SLTST, Scat LS	570	770	570	770
Silty Sandstone, tr LS	770	970	770	970
Sandy Siltstone	970	1170	970	1170
Sandy Siltstone	1170	1370	1170	1370
Silty Sandstone, tr MICA	1370	1770	1370	1770
Silty Sandstone, tr LS, tr PYR	1770	1870	1770	1870
Sandy Limestone, rr Shale	1870	1880	1870	1917
Big Lime	1910	2621	1917	2815
Fifty Foot Sandstone	2621	2715	2785	2930
Gordon	2715	2912	2900	3169
Fifth Sandstone	2912	3146	3139	3452
Bayard	3146	4040	3422	4518
Speechley	4040	4261	4488	4782
Balltown	4261	4614	4752	5201
Bradford	4614	4831	5171	5460
Benson	4831	5135	5430	5823
Alexander	5135	6093	5793	7008
Sycamore	5981	6063	6852	6978
Middlesex	6063	6159	6978	7164
Burkett	6159	6175	7164	7205
Marcellus	6175	NA	7205	NA

$-8.710'$

0.030

DENVER, CO 80202

0 226' TO BOTTOM HOLE

LONGITUDE 81°02'30"

COUNTY NAME

PERMIT

LATITUDE 39°20'00"

8,710'

LATITUDE 39°22'30" 5,103' TO BOTTOM HOLE

Antero Resources Corporation
Well No. Hanely #1H**AS DRILLED DATA:****WELL 1H TOP HOLE INFORMATION:**

N: 298,177ft E: 1,566,866ft

LAT: 39°18'30.75" LON: 81°01'50.82"

BOTTOM HOLE INFORMATION:

N: 313,296ft E: 1,558,941ft

LAT: 39°20'58.81" LON: 81°03'34.97"

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: 4,351,026m E: 497,361m

BOTTOM HOLE INFORMATION:

N: 4,355,591m E: 494,869m

(NAD) 27 (UTM) ZONE 17 COORDS:**WELL 1H TOP HOLE INFORMATION:**

N: 14,274,277ft E: 1,631,709ft

POINT OF ENTRY INFORMATION:

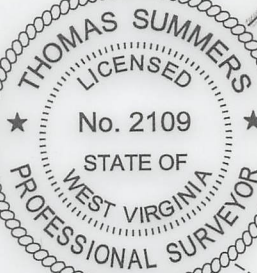
N: 14,273,259ft E: 1,629,077ft

BOTTOM HOLE INFORMATION:

N: 14,289,256ft E: 1,623,536ft

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.

NOTE:NO WATER WELLS
LOCATED WITHIN 2000'
OF PROPOSED WELL**WELL NO. 1H**STATE OF WEST VIRGINIA, DIVISION
OF ENVIRONMENTAL PROTECTION,
OFFICE OF OIL AND GASWILLOW LAND SURVEYING PLLC
220 MASONIC AVE. PENNSBORO
WEST VIRGINIA 26415

JOB # 23-027WA

DRAWING # HANELY1HAD

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

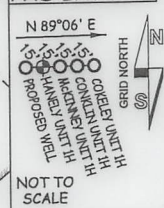
LEGEND

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

THOMAS SUMMERS P.S. 2109

DATE 12/12/24

OPERATOR'S WELL# HANELY UNIT #1H

PAD LAYOUT

NOT TO SCALE

WELL TYPE: OIL ☐ GAS ☒ LIQUID INJECTION ☐ WASTE DISPOSAL ☐ 47 - 085 - 10512
(IF "GAS") PRODUCTION ☒ STORAGE ☐ DEEP ☐ SHALLOW ☒ STATE COUNTY PERMIT
LOCATION: ELEVATION 1,066' - AS BUILT WATERSHED NORTH FORK HUGHES RIVER
QUADRANGLE ELLENBORO 7.5' DISTRICT CLAY COUNTY RITCHIE
SURFACE OWNER MICHAEL UNDERWOOD ET AL ACREAGE 50 ACRES +/- 04/04/2025
OIL & GAS ROYALTY OWNER RONNEL L. UNDERWOOD ET AL LEASE ACREAGE 266.83 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 6,154' TVD 24,179' MD
WELL OPERATOR ANTERO RESOURCES CORP. DESIGNATED AGENT KEVIN ELLIS
ADDRESS 1615 WYNKOOP ST. ADDRESS 535 WHITE OAKS BLVD
FORM WW-6 DENVER, CO 80202 BRIDGEPORT, WV 26330

CLAY DISTRICT RITCHIE COUNTY		LAFAYETTE DISTRICT PLEASANTS COUNTY	
6-18	Consolidated Timberlands LLC	9-11	Harold Anderson
11-12	Donald Ritchey	9-17	Michael Clark
11-12.1	Donald Ritchey	9-20	Alton Glatfelter
11-13	Sycamore Springs LP	9-21	Alton Glatfelter
11-14	Kevin Mossor	9-24	Matthew West
11-31	Kevin Mossor	10-25	Christopher Hackathorn II
11-32	Lorena Mossor Et Al	10-25.4	Ellery Wilson
11-32.1	Roger Mossor	10-32	Emily Williamson
11-32.2	John McDonald	10-39	Robert Jay
11-42	Judith Packman Et Al	10-40	Mark Hadley
11-42.1	Judith Packman Et Al	11-13	Vernon Rose
12-5	Wanda McKinney	11-21	Timothy Cunningham
12-6.2	Adams County Hunt Club LLP	11-22	Robert Jay
12-16	Michael Underwood Et Al	12-2	Stanley Martin
12-16.1	Michael Underwood Et Al	12-2.1	David Metz
12-16.2	Michael Underwood Et Al	12-2.3	Teresa Williamson
12-16.3	Michael Underwood Et Al	12-2.4	Teresa Williamson
12-17	Erma Smith Et Al	12-2.5	Nancy Martin
18-4	David Villers	12-3	Robert Jay
18-5	Michael Underwood Et Al	12-4	Hazel Workman
		12-4.1	Ricky Mossor
		12-4.2	Ricky Mossor
		12-4.3	Ricky Mossor

LESSOR

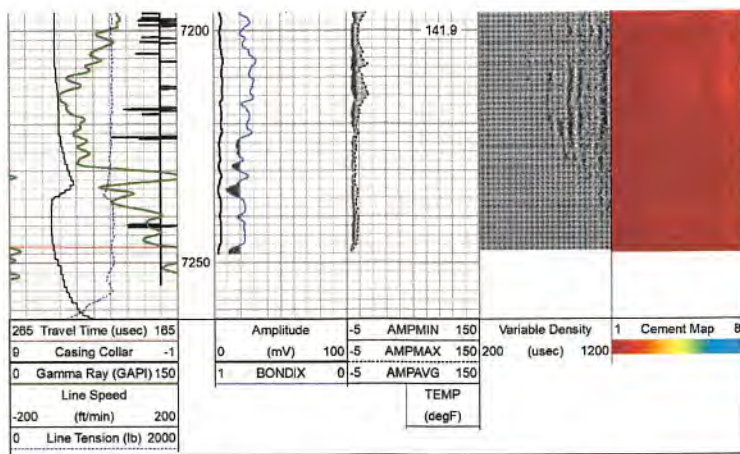
A	HAROLD REX ANDERSON, JR.
B	ANTERO MINERALS, LLC.
C	REX A. COX AND PAMELA L. COX
D	REX A. COX AND PAMELA L. COX
E	SONYA G. POLING
F	ROBERT H. JAY AND MADGE V. JAY
G	ADA WEEKLY ET AL
H	WANDA MAE GLOVER
I	RIVERSIDE RESOURCES, LLC.
J	J.R. MORRISON ET AL
K	TIMOTHY R. CUNNINGHAM
L	SHEILA R. McDONALD
M	SYCAMORE SPRINGS LIMITED PARTNERSHIP
N	NATHANIEL LYLE MASON
O	KEVIN MOSSOR
P1	STEVEN ALKIRE
P2	STEVEN ALKIRE
P3	STEVEN ALKIRE
Q	ROSE ALKIRE ET AL
R	ROSE ALKIRE ET AL
S	VERNON L. ROSE AND TERRY L. ROSE
T	M. B. LEASEBURG ET UX
U	RONNEL UNDERWOOD ET AL
V	RONNEL UNDERWOOD ET AL



04/04/2025



04/04/2025



Log Variables

Database C:\ProgramData\Warrior\Data\7_7_24_antero_hanely_unit_1h.db
Dataset field\well\run1\pass6\vars_

Top - Bottom

BHTEMP_Src	BOREID	BOTTEMP	CASEOD	CASETHCK	CASEWGHT	MAXAMPL	MINAMPL
TEMP	in	degF	in	in	lb/ft	mV	mV
	7.875	141	5.5	0	23	71.9	2.2
MINATTN	PERFS	PPT	SRFTEMP	TDEPTH			
db/ft		usec	degF	ft			
0.8	No	260	75	0			

Variable Description

BHTEMP_Src : BHTEMP Input Source Selector
BOREID : Borehole I.D.
BOTTEMP : Bottom Hole Temperature
CASEOD : Casing O.D.
CASETHCK : Casing Thickness
CASEWGHT : Casing Weight
MAXAMPL : Maximum Amplitude
MINAMPL : Minimum Amplitude
MINATTN : Minimum Attenuation
PERFS : Perforation Flag
PPT : Predicted Pipe Time
SRFTEMP : Surface Temperature
TDEPTH : Total Depth

Calibration Report

Database File 7_7_24_antero_hanely_unit_1h.db
Dataset Pathname pass6
Dataset Creation Sun Jul 07 13:20:00 2024

Gamma Ray Calibration Report

Serial Number: FW1211-88
Tool Model: Probe
Performed: Mon Feb 12 01:59:47 2024
Calibrator Value: 1.0 GAPI
Background Reading: 0.0 cps
Calibrator Reading: 1.0 cps
Sensitivity: 0.7000 GAPI/cps

Segmented Cement Bond Log Calibration Report

Serial Number: FW1312-32
Tool Model: Probe275T
Calibration Casing Diameter: 5.500 in
Calibration Depth: 384.050 ft

Master Calibration, performed Sun Jul 7 08:14:40 2024:

	Raw (v)		Calibrated (mv)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
3'	0.002	0.475	2.200	71.921	147.182	1.948
CAL	0.699	0.702				
5'	0.011	0.489	2.200	71.921	145.828	0.664
SUM						
S1	0.005	0.451	0.000	100.000	224.150	-1.182
S2	0.003	0.474	0.000	100.000	212.222	-0.544
S3	0.015	0.487	0.000	100.000	207.340	-3.027
S4	0.015	0.508	0.000	100.000	202.712	-2.840
S5	-0.000	0.468	0.000	100.000	204.636	0.977
S6	0.000	0.471	0.000	100.000	212.558	-0.101
S7	-0.002	0.462	0.000	100.000	215.692	0.384
S8	-0.002	0.449	0.000	100.000	221.951	0.347

Internal Reference Calibration, performed (Not Performed):

	Raw (v)		Calibrated (v)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
CAL	0.000	0.000	0.699	0.702	1.000	0.000

Air Zero Calibration, performed Sun Jul 7 08:45:51 2024:

	Raw (v)		Calibrated (v)		Results	
	Zero		Zero		Offset	
3'	0.000		0.000		0.000	
5'	0.000		0.000		0.000	
SUM						
S1	0.000		0.000		0.000	
S2	0.000		0.000		0.000	
S3	0.000		0.000		0.000	
S4	0.000		0.000		0.000	
S5	0.000		0.000		0.000	
S6	0.000		0.000		0.000	
S7	0.000		0.000		0.000	
S8	0.000		0.000		0.000	



Company	ANTERO RESOURCES
Well	HANLEY UNIT 1 H
Field	RITCHIE
County	RITCHIE
State	WV

04/04/2025

Hydraulic Fracturing Fluid Product Component Information Disclosure

Job Start Date:	08/03/2024
Job End Date:	08/28/2024
State:	West Virginia
County:	Ritchie
API Number:	47-085-10512-00-00
Operator Name:	Antero Resources Corporation
Well Name and Number:	HANELY UNIT 1H
Latitude:	39.308622
Longitude:	-81.03061
Datum:	WGS84
Federal Well:	NO
Indian Well:	NO
True Vertical Depth:	6256
Total Base Water Volume (gal)*:	26095418
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
Excelerate LX-21	Halliburton	Friction Reducer					
FDP-S1460-22	Halliburton	Friction Reducer					
FDP-S1470-23	Halliburton	Friction Reducer					
FDP-S1485-23	Halliburton	Friction Reducer					
HAI-501	Halliburton	Acid Corrosion Inhibitor					
HYDROCHLORIC ACID, 22 BAUME	Halliburton	Solvent					
Legend LD-1330	MultiChem	Completion/Stimulation					
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,	Halliburton	Proppant					

04/04/2025

SSA-2							
WG-36 GELLING AGENT	Halliburton	Gelling Agent					
Items above are Trade Names. Items below are the individual ingredients.							
			Water	7732-18-5	100.00000	86.85256	None
			Crystalline silica, quartz	14808-60-7	100.00000	12.95382	None
			Water	7732-18-5	100.00000	0.15599	None
			Hydrochloric acid	7647-01-0	30.00000	0.03687	None
			Complex amine compound	Proprietary	60.00000	0.01994	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	0.01142	None
			Hydrotreated distillate	Proprietary	30.00000	0.00997	None
			Hydrotreated light petroleum distillates	64742-47-8	30.00000	0.00650	None
			Guar gum	9000-30-0	100.00000	0.00501	None
			Ammonium chloride	12125-02-9	5.00000	0.00261	None
			Glutaraldehyde	111-30-8	30.00000	0.00234	None
			Ethoxylated alcohol	Proprietary	5.00000	0.00179	None
			Fatty nitrogen derived amides	Proprietary	5.00000	0.00166	None
			Polymer	Proprietary	60.00000	0.00159	None
			Complex Amine Compound	Proprietary	60.00000	0.00117	None
			Complex Alcohol	Proprietary	60.00000	0.00106	None
			Amides, tall-oil fatty, N,N-bis(hydroxyethyl)	68155-20-4	5.00000	0.00095	None
			Ethoxylated branched C13 alcohol	78330-21-9	5.00000	0.00095	None
			Petroleum distillate	Proprietary	30.00000	0.00058	None
			Sorbitan, mono-9-octadecenoate, (Z)	1338-43-8	1.00000	0.00052	None
			Sorbitan monooleate polyoxyethylene derivative	9005-65-6	1.00000	0.00052	None
			Quaternary ammonium compounds, benzyl-C12-16-	68424-85-1	5.00000	0.00039	None

04/04/2025

			alkyldimethyl, chlorides				
			Methanol	67-56-1	100.00000	0.00023	None
			Fatty acid ester	Proprietary	5.00000	0.00010	None
			Organic acid	Proprietary	5.00000	0.00010	None
			Ammonium persulfate	7727-54-0	100.00000	0.00009	None
			Bentonite	1302-78-9	5.00000	0.00009	None
			Surfactant	Proprietary	5.00000	0.00009	None
			Alcohol ethoxylates	Proprietary	5.00000	0.00009	None
			Quaternary ammonium compounds	Proprietary	5.00000	0.00009	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
			Ethoxylated alcohols	Proprietary	5.00000	0.00003	None
			Oxylated phenolic resin	Proprietary	30.00000	0.00003	None
			Alcohols, C12-14, ethoxylated	68439-50-9	1.00000	0.00002	None
			Fatty acid ether	Proprietary	1.00000	0.00002	None
			Organic chloride compound	Proprietary	1.00000	0.00002	None
			Ethoxylated fatty acid	Proprietary	1.00000	0.00002	None
			Fatty amine salt	Proprietary	1.00000	0.00002	None
			Ethoxylated alcohols #2	Proprietary	1.00000	0.00002	None
			Propargyl alcohol	107-19-7	5.00000	0.00001	None
			Hexadecene	629-73-2	5.00000	0.00001	None
			Diethylene triaminepentaacetic acid, pentasodiumsalt	140-01-2	0.10000	0.00000	None
			Isopropanol	67-63-0	0.10000	0.00000	None
			Ethylene oxide	75-21-8	0.10000	0.00000	None
			Sodium chloride	7647-14-5	0.10000	0.00000	None
			Acrylamide	79-06-1	0.10000	0.00000	None

04/04/2025

			Ethoxylated alcohols #3	Proprietary	0.10000	0.00000	None
			C.I. pigment Orange 5	3468-63-1	1.00000	0.00000	None
			Ethylene glycol	107-21-1	0.01000	0.00000	None
			Diethylene glycol	111-46-6	0.01000	0.00000	None
			1,4-Dioxane	123-91-1	0.01000	0.00000	None
			Potassium acetate	127-08-2	0.01000	0.00000	None
			Polyethylene glycol	25322-68-3	0.01000	0.00000	None
			Acetic acid	64-19-7	0.01000	0.00000	None
			Chloroacetic acid	79-11-8	0.01000	0.00000	None
			Dichloroacetic acid	79-43-6	0.01000	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)

04/04/2025