

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

API 47-095-02576 County Tyler District Ellsworth  
Quad Shirley 7.5' Pad Name State Ridge Pad Field/Pool Name -----  
Farm name John D. Mendenhall & Jeffery A. Davis Well Number Keller 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 4373208.483m Easting 510791.705m  
Landing Point of Curve Northing 4373298.31m Easting 510995.40m  
Bottom Hole Northing 4376594.240m Easting 509645.214m

Elevation (ft) 1064' 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

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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 5/16/2019 Date drilling commenced 7/24/2019 Date drilling ceased 1/9/2020  
Date completion activities began 4/19/2020 Date completion activities ceased 5/11/2020  
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 44' Open mine(s) (Y/N) depths No  
Salt water depth(s) ft 1490' Void(s) encountered (Y/N) depths No  
Coal depth(s) ft 100' Cavern(s) encountered (Y/N) depths No  
Is coal being mined in area (Y/N) No

Reviewed by:  
Gas  
11/6/2020

API 47-095 - 02576 Farm name John D. Mendenhall & Jeffery A. Davis Well number Keller 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"	105'	New	94#, H-40	N/A	Y
Surface	17-1/2"	13-3/8"	397'	New	54.5#, J-55	N/A	Y
Coal							
Intermediate 1	12-1/4"	9-5/8"	2591'	New	36#, J-55	N/A	Y
Intermediate 2							
Intermediate 3							
Production	8-3/4"/8-1/2"	5-1/2"	17351'	New	23#, HCP-110	N/A	Y
Tubing		2-3/8"	6765'		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	242 sx	15.6	1.18	241	0'	8 Hrs.
Surface	Class A	319 sx	15.6	1.20	635	0'	8 Hrs.
Coal							
Intermediate 1	Class A	885 sx	15.6	1.19	1082	0'	8 Hrs.
Intermediate 2							
Intermediate 3							
Production	Class H	792 sx (Lead) 2607 sx (Tail)	14.5 (Lead), 15.2 (Tail)	1.4 (Lead), 1.6 (Tail)	3003	-500' into Intermediate Casing	8 Hrs.
Tubing							

Drillers TD (ft) 17379' MD, 6460' TVD (BHL), 6462' (Deepest Point Drilled) Loggers TD (ft) 17379' MD  
 Deepest formation penetrated Marcellus Plug back to (ft) N/A  
 Plug back procedure N/A

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Kick off depth (ft) 6050'

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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





API 47-095-02576 Farm Name John D. Mendenhall & Jeffrey A. Davis Well Number Keller Unit 1H

Stage No.	Perforation Date	Perforated from MD ft.	Perforated to MD ft.	Number of Perforations	Formations
1	3/19/2020	17244	17200.5	60	Marcellus
2	3/20/2020	17163.17244	16999.5346	60	Marcellus
3	3/20/2020	16964.40705	16800.7692	60	Marcellus
4	3/20/2020	16765.64167	16602.0038	60	Marcellus
5	3/20/2020	16566.87628	16403.2385	60	Marcellus
6	3/20/2020	16368.1109	16204.4731	60	Marcellus
7	3/21/2020	16169.34551	16005.7077	60	Marcellus
8	3/21/2020	15970.58013	15806.9423	60	Marcellus
9	3/21/2020	15771.81474	15608.1769	60	Marcellus
10	3/21/2020	15573.04936	15409.4115	60	Marcellus
11	3/22/2020	15374.28397	15210.6462	60	Marcellus
12	3/23/2020	15175.51859	15011.8808	60	Marcellus
13	3/23/2020	14976.75321	14813.1154	60	Marcellus
14	3/23/2020	14777.98782	14614.35	60	Marcellus
15	3/23/2020	14579.22244	14415.5846	60	Marcellus
16	3/23/2020	14380.45705	14216.8192	60	Marcellus
17	3/23/2020	14181.69167	14018.0538	60	Marcellus
18	3/24/2020	13982.92628	13819.2885	60	Marcellus
19	3/24/2020	13784.1609	13620.5231	60	Marcellus
20	3/24/2020	13585.39551	13421.7577	60	Marcellus
21	3/24/2020	13386.63013	13222.9923	60	Marcellus
22	3/24/2020	13187.86474	13024.2269	60	Marcellus
23	3/25/2020	12989.09936	12825.4615	60	Marcellus
24	3/25/2020	12790.33397	12626.6962	60	Marcellus
25	3/25/2020	12591.56859	12427.9308	60	Marcellus
26	3/25/2020	12392.80321	12229.1654	60	Marcellus
27	3/25/2020	12194.03782	12030.4	60	Marcellus
28	3/25/2020	11995.27244	11831.6346	60	Marcellus
29	3/26/2020	11796.50705	11632.8692	60	Marcellus
30	3/26/2020	11597.74167	11434.1038	60	Marcellus
31	3/26/2020	11398.97628	11235.3385	60	Marcellus
32	3/26/2020	11200.2109	11036.5731	60	Marcellus
33	3/26/2020	11001.44551	10837.8077	60	Marcellus
34	3/27/2020	10802.68013	10639.0423	60	Marcellus
35	3/27/2020	10603.91474	10440.2769	60	Marcellus
36	3/27/2020	10405.14936	10241.5115	60	Marcellus
37	3/27/2020	10206.38397	10042.7462	60	Marcellus
38	3/28/2020	10007.61859	9843.98077	60	Marcellus
39	3/28/2020	9808.853205	9645.21538	60	Marcellus
40	3/28/2020	9610.087821	9446.45	60	Marcellus
41	3/28/2020	9411.322436	9247.68462	60	Marcellus
42	3/29/2020	9212.557051	9048.91923	60	Marcellus
43	3/29/2020	9013.791667	8850.15385	60	Marcellus
44	3/29/2020	8815.026282	8651.38846	60	Marcellus
45	3/29/2020	8616.260897	8452.62308	60	Marcellus
46	3/29/2020	8417.495513	8253.85769	60	Marcellus
47	3/30/2020	8218.730128	8055.09231	60	Marcellus
48	3/30/2020	8019.964744	7856.32692	60	Marcellus
49	3/30/2020	7821.199359	7657.56154	60	Marcellus
50	3/30/2020	7622.433974	7458.79615	60	Marcellus
51	3/30/2020	7423.66859	7260.03077	60	Marcellus
52	3/30/2020	7224.903205	7061.26538	60	Marcellus
53	3/30/2020	7026.137821	6862.5	60	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	3/19/2020	82.7	8246.663	7315	3371	164260	4637.686	N/A
2	3/20/2020	0	8045.447	5946	4174	408620	7310.496	N/A
3	3/20/2020	87.1	8071.989	6498	4026	407560	7141.68	N/A
4	3/20/2020	87.7	8211.355	5968	3925	401140	7185.3	N/A
5	3/20/2020	86.2	8359.372	5865	4235	389340	7152.27	N/A
6	3/20/2020	86.1	8389.419	6110	3804	399960	7231.31	N/A
7	3/21/2020	85.8	8117.565	6160	4142	397720	7174.2	N/A
8	3/21/2020	86	7959.878	5905	4233	402720	7048.92	N/A
9	3/21/2020	86	7938.638	5861	4017	412220	7113.44	N/A
10	3/21/2020	84.7	7699.849	5614	3594	415340	7268.61	N/A
11	3/22/2020	86	7744.136	5766	4355	411499.6246	12324.9	N/A
12	3/23/2020	85.7	8134.964	5778	4187	412420	7113.4	N/A
13	3/23/2020	85.5	7956.895	5798	4183	407400	7143.4	N/A
14	3/23/2020	86.2	7810.934	5814	4571	407700	6989.84	N/A
15	3/23/2020	86.3	7672.034	5613	4238	412760	7133.54	N/A
16	3/23/2020	86.4	7616.561	4916	3739	403980	7127.04	N/A
17	3/23/2020	83.4	7856.879	5961	3954	412720	7397.27	N/A
18	3/24/2020	83.3	7869.517	5711	4443	412240	7176.54	N/A
19	3/24/2020	91	7840.716	5763	4075	406880	7141.14	N/A
20	3/24/2020	92.1	7865.388	5652	4047	408520	7110.72	N/A
21	3/24/2020	96.5	8303.504	5567	3760	404980	7104.32	N/A
22	3/24/2020	95.2	8255.42	5599	3842	408340	7099.08	N/A
23	3/25/2020	94.3	8175.482	6065	3868	405140	6948.69	N/A
24	3/25/2020	95.6	7792.76	5536	3649	405720	7008.14	N/A
25	3/25/2020	95.3	7816.245	6442	3531	413280	7065.72	N/A
26	3/25/2020	94.1	7644.835	6025	3938	406860	6976.17	N/A
27	3/25/2020	95.7	7798.169	5765	4138	405280	7014.67	N/A
28	3/25/2020	95.5	7766.872	5995	3748	396740	6982.83	N/A
29	3/26/2020	95	7811.265	5863	3945	409640	7086.69	N/A
30	3/26/2020	95.9	7628.579	5619	4385	410120	7000.93	N/A
31	3/26/2020	95.8	7425.962	5813	4172	398590	6884.32	N/A
32	3/26/2020	96.1	7648.639	6114	4305	402560	6879.08	N/A
33	3/26/2020	96.4	7887	5874	4131	410460	6907.19	N/A
34	3/27/2020	96.6	7716	5842	4070	409820	6814.02	N/A
35	3/27/2020	94.5	7867	5688	4634	405640	6846.91	N/A
36	3/27/2020	96.6	7716	5542	4152	406420	6894.65	N/A
37	3/27/2020	96	7667	6018	4199	409140	6889.18	N/A
38	3/28/2020	94.4	7600	5949	4079	406640	6856.48	N/A
39	3/28/2020	95.3	7681	5648	4001	404820	7423.46	N/A
40	3/28/2020	95	7481	5637	4282	408360	6909.82	N/A
41	3/28/2020	94.6	7572	6195	4320	408020	6826.74	N/A
42	3/29/2020	95	7552	5822	4129	407720	6755.94	N/A
43	3/29/2020	96.9	7433	5249	3875	405000	6780.74	N/A
44	3/29/2020	96.9	7168	5597	4017	390450	8230.34	N/A
45	3/29/2020	96	7227	6142	3919	407140	6791.98	N/A
46	3/29/2020	97.1	7211	5604	4019	409180	6819.89	N/A
47	3/30/2020	96.5	7133	5925	4310	405000	6748.52	N/A
48	3/30/2020	94.5	7021	5759	3886	406040	6747.24	N/A
49	3/30/2020	95.4	6944	6111	4112	411480	6770.94	N/A
50	3/30/2020	95.5	7076	5850	4230	406740	6757.6	N/A
51	3/30/2020	96.5	7318	5400	4311	403000	6763.28	N/A
52	3/30/2020	96.4	7271	5537	4011	394460	6664.8	N/A
53	3/30/2020	96.2	6890	5805	3702	399720	6695.04	N/A
	AVG=	87	7,920	5,888	4,022	13,172,710	236,880	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
Sandstone	100	300	100	300
Siltstone	300	450	300	450
Siltstone w/ trace coal	450	510	450	510
Shaly Siltstone	510	630	510	630
Sandstone	630	700	630	700
Siltstone w/ trace coal	700	850	700	850
Silty Shale	850	970	850	970
Shale	970	1,010	970	1,010
Limestone w/ trace coal	1,010	1,130	1,010	1,130
Shaly Siltstone	1,130	1,510	1,130	1,510
Shaly Sandstone	1,510	1,830	1,510	1,830
Sandstone w/ interbedded coals	1,830	1,870	1,830	1,870
Shale	1,870	1,910	1,870	1,910
Sandy Siltstone	1,910	1,942	1,910	1,942
Big Lime	1,942	2,585	1,917	2,585
Fifty Foot Sandstone	2,585	2,664	2,560	2,664
Gordon	2,664	2,985	2,639	2,985
Fifth Sandstone	2,985	3,060	2,960	3,061
Bayard	3,060	3,944	3,036	3,954
Speechley	3,944	4,222	3,929	4,242
Balltown	4,222	4,594	4,217	4,627
Bradford	4,594	5,026	4,602	5,075
Benson	5,026	5,246	5,050	5,303
Alexander	5,246	6,311	5,278	6,451
Sycamore	6,176	6,286	6,286	6,426
Middlesex	6,286	6,372	6,426	6,558
Burkett	6,372	6,393	6,558	6,595
Tully	6,393	6,437	6,595	6,695
Marcellus	6,437	NA	6,695	NA

\*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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