

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

APR 01 2023

API 47-085-10420 County Ritchie District Union
Quad Oxford 7.5' Pad Name Cashew Field/Pool Name -----
Farm name Elmer W. Pierce Well Number Elklick 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 4335827m Easting 512290m
Landing Point of Curve Northing 4335691.82m Easting 512815.72m
Bottom Hole Northing 4331746m Easting 514178m

Elevation (ft) 1040' 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 4/6/2022 Date drilling commenced 5/17/2022 Date drilling ceased 9/14/2022
Date completion activities began 11/11/2022 Date completion activities ceased 1/2/2023
Verbal plugging (Y/N) N/A Date permission granted N/A Granted by N/A

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

Freshwater depth(s) ft 184,53,236' Open mine(s) (Y/N) depths No
Salt water depth(s) ft 1847,1759,1709' Void(s) encountered (Y/N) depths No
Coal depth(s) ft None Reported Cavern(s) encountered (Y/N) depths No
Is coal being mined in area (Y/N) No

APPROVED

Reviewed by:
IMK
05/11/2023

API 47- 085 - 10420 Farm name Elmer W. Pierce Well number Elklick 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	20"	16"	130'	New	62.64#, X-60	N/A	Y
Surface	13-1/2"	10-3/4"	390'	New	40.5#, J-55	N/A	Y
Coal							
Intermediate 1	9-7/8"	7-5/8"	2657'	New	26.4#, L-80	N/A	Y
Intermediate 2							
Intermediate 3							
Production	6-3/4"	5"	20905'	New	18#, P-110CY	N/A	Y
Tubing		2-3/8"	6605'		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	81 sx	15.6	1.18	96	0'	8 Hrs.
Surface	Class A	220 sx	15.8	1.17	257	0'	8 Hrs.
Coal							
Intermediate 1	Class A	563 sx	15.8	1.16	653	0'	8 Hrs.
Intermediate 2							
Intermediate 3							
Production	Class H	757 sx (Lead)	11 (Lead), 8.33 (Tail)	2.7 (Lead)	2044	~500' into Intermediate Casing	8 Hrs.
Tubing							

Drillers TD (ft) 21600' MD, 6900' TVD (BHL), 6434' (Deepest Point Drilled) Loggers TD (ft) 21600' MD

Deepest formation penetrated Marcellus Plug back to (ft) N/A

Plug back procedure N/A

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Kick off depth (ft) 5948'

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Check all wireline logs run caliper density deviated/directional induction temperature sonic
 neutron resistivity gamma ray

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

05/11/2023

API 47- 085 - 10420 Farm name Elmer W. Pierce Well number Elklick Unit 2H

PERFORATION RECORD

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

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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)
*PLEASE SEE ATTACHED EXHIBIT 2								

Please insert additional pages as applicable.

API 47- 085 - 10420 Farm name Elmer W. Pierce Well number Elklick Unit 2H

<u>PRODUCING FORMATION(S)</u>	<u>DEPTHS</u>	
<u>Marcellus</u>	<u>6368' (TOP)</u> TVD	<u>6924' (TOP)</u> MD
_____	_____	_____
_____	_____	_____
_____	_____	_____

Please insert additional pages as applicable.

GAS TEST Build up Drawdown Open Flow OIL TEST Flow Pump

SHUT-IN PRESSURE Surface 1768 psi Bottom Hole --- psi DURATION OF TEST --- hrs

OPEN FLOW Gas 11669 mcfpd Oil 150 bpd NGL --- bpd Water 2222 bpd GAS MEASURED BY Estimated Orifice Pilot

LITHOLOGY/ FORMATION	TOP DEPTH IN FT	BOTTOM DEPTH IN FT	TOP DEPTH IN FT	BOTTOM DEPTH IN FT	DESCRIBE ROCK TYPE AND RECORD QUANTITY AND TYPE OF FLUID (FRESHWATER, BRINE, OIL, GAS, H ₂ S, ETC)
	NAME TVD	TVD	MD	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 16009

Logging Company Baker Hughes
Address 1681 E Main St City Bridgeport State WV Zip 26330

Cementing Company Halliburton Energy Services
Address 3000 W. Sam Houston Pkwy City Houston State TX Zip 76114

Stimulating Company Halliburton
Address 3000 W. Sam Houston Pkwy City Houston State TX Zip 76114

Please insert additional pages as applicable.

Completed by Carly Marvel Telephone 303-357-7373
Signature *Carly Marvel* Title Permitting Agent Date 3/14/2023

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

05/11/2023

Exhibit 1

Stage No.	Perforation Date	Perforated from MD ft.	Perforated to MD ft.	Number of Perforations	Formations
1	11/11/2022	20773.5	20733.5	60	Marcellus
2	11/12/2022	20695.78554	20529.21	60	Marcellus
3	11/12/2022	20493.49877	20326.93	60	Marcellus
4	11/13/2022	20291.21201	20124.64	60	Marcellus
5	11/13/2022	20088.92525	19922.35	60	Marcellus
6	11/14/2022	19886.63848	19720.07	60	Marcellus
7	11/14/2022	19684.35172	19517.78	60	Marcellus
8	11/14/2022	19482.06495	19315.49	60	Marcellus
9	11/15/2022	19279.77819	19113.21	60	Marcellus
10	11/15/2022	19077.49142	18910.92	60	Marcellus
11	11/15/2022	18875.20466	18708.63	60	Marcellus
12	11/16/2022	18672.91789	18506.35	60	Marcellus
13	11/16/2022	18470.63113	18304.06	60	Marcellus
14	11/17/2022	18268.34436	18101.77	60	Marcellus
15	11/17/2022	18066.0576	17899.49	60	Marcellus
16	11/18/2022	17863.77083	17697.20	60	Marcellus
17	11/18/2022	17661.48407	17494.91	60	Marcellus
18	11/19/2022	17459.1973	17292.62	60	Marcellus
19	11/19/2022	17256.91054	17090.34	60	Marcellus
20	11/19/2022	17054.62377	16888.05	60	Marcellus
21	11/20/2022	16852.33701	16685.76	60	Marcellus
22	11/20/2022	16650.05025	16483.48	60	Marcellus
23	11/20/2022	16447.76348	16281.19	60	Marcellus
24	11/20/2022	16245.47672	16078.90	60	Marcellus
25	11/21/2022	16043.18995	15876.62	60	Marcellus
26	11/21/2022	15840.90319	15674.33	60	Marcellus
27	11/21/2022	15638.61642	15472.04	60	Marcellus
28	11/22/2022	15436.32966	15269.76	60	Marcellus
29	11/22/2022	15234.04289	15067.47	60	Marcellus
30	11/22/2022	15031.75613	14865.18	60	Marcellus
31	11/23/2022	14829.46936	14662.90	60	Marcellus
32	11/23/2022	14627.1826	14460.61	60	Marcellus
33	11/23/2022	14424.89583	14258.32	60	Marcellus
34	11/24/2022	14222.60907	14056.04	60	Marcellus
35	11/24/2022	14020.3223	13853.75	60	Marcellus
36	11/25/2022	13818.03554	13651.46	60	Marcellus
37	11/25/2022	13615.74877	13449.18	60	Marcellus
38	11/25/2022	13413.46201	13246.89	60	Marcellus
39	11/26/2022	13211.17525	13044.60	60	Marcellus
40	11/26/2022	13008.88848	12842.32	60	Marcellus
41	11/26/2022	12806.60172	12640.03	60	Marcellus
42	11/27/2022	12604.31495	12437.74	60	Marcellus
43	11/27/2022	12402.02819	12235.46	60	Marcellus
44	11/27/2022	12199.74142	12033.17	60	Marcellus
45	11/27/2022	11997.45466	11830.88	60	Marcellus
46	11/28/2022	11795.16789	11628.60	60	Marcellus
47	11/28/2022	11592.88113	11426.31	60	Marcellus
48	11/28/2022	11390.59436	11224.02	60	Marcellus
49	11/29/2022	11188.3076	11021.74	60	Marcellus
50	11/29/2022	10986.02083	10819.45	60	Marcellus
51	11/29/2022	10783.73407	10617.16	60	Marcellus
52	11/30/2022	10581.4473	10414.87	60	Marcellus
53	11/30/2022	10379.16054	10212.59	60	Marcellus
54	11/30/2022	10176.87377	10010.30	60	Marcellus
55	12/1/2022	9974.58701	9808.01	60	Marcellus
56	12/1/2022	9772.300245	9605.73	60	Marcellus
57	12/2/2022	9570.01348	9403.44	60	Marcellus
58	12/2/2022	9367.726716	9201.15	60	Marcellus
59	12/2/2022	9165.439951	8998.87	60	Marcellus
60	12/2/2022	8963.153186	8796.58	60	Marcellus
61	12/2/2022	8760.866422	8594.29	60	Marcellus
62	12/2/2022	8558.579657	8392.01	60	Marcellus
63	12/3/2022	8356.292892	8189.72	60	Marcellus
64	12/3/2022	8154.006127	7987.43382	60	Marcellus
65	12/3/2022	7951.719363	7785.14706	60	Marcellus
66	12/3/2022	7749.432598	7582.86029	60	Marcellus
67	12/3/2022	7547.145833	7380.57353	60	Marcellus
68	12/4/2022	7344.859069	7178.28676	60	Marcellus
69	12/4/2022	7142.572304	6976	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 (bbls)	Amount of Nitrogen/ other (units)
1	11/11/2022	59.9	8487	7904	3032	157230	235224	N/A
2	11/12/2022	63.2	8390	7092	3633	399530	310618	N/A
3	11/12/2022	69.4	8574	6862	3510	413775	334337	N/A
4	11/13/2022	61.4	8086	7431	3493	395363	370220	N/A
5	11/13/2022	68.9	8330	6883	3596	412897	324264	N/A
6	11/14/2022	68.0	8518	6985	3305	363872	306796	N/A
7	11/14/2022	63.7	8234	6830	3459	398745	308202	N/A
8	11/14/2022	71.1	8388	6525	3322	397776	320434	N/A
9	11/15/2022	70.3	8407	6999	3483	414107	319612	N/A
10	11/15/2022	67.1	8041	6086	3967	400865	301643	N/A
11	11/15/2022	70.0	8363	8425	3297	408323	368621	N/A
12	11/16/2022	68.4	8201	6865	3642	404200	313331	N/A
13	11/16/2022	65.8	8501	6902	3463	407873	306253	N/A
14	11/17/2022	67.8	8131	7695	3439	401664	446670	N/A
15	11/17/2022	66.2	7901	5912	3406	404597	288949	N/A
16	11/18/2022	73.1	8272	5291	3421	408822	310334	N/A
17	11/18/2022	68.8	8261	6619	3532	413830	290989	N/A
18	11/19/2022	69.8	8318	8227	3375	410850	297661	N/A
19	11/19/2022	73.1	8126	6052	3695	414820	305721	N/A
20	11/19/2022	72.4	8307	6413	3658	400380	283131	N/A
21	11/20/2022	69.5	8235	7884	3234	401460	295067	N/A
22	11/20/2022	72.7	8215	7406	3623	407690	288158	N/A
23	11/20/2022	70.7	8254	6568	3910	413370	295566	N/A
24	11/20/2022	72.5	8404	6841	3284	404678	291817	N/A
25	11/21/2022	73.5	8106	7989	3459	401290	288525	N/A
26	11/21/2022	75.0	8264	6175	4152	399640	285349	N/A
27	11/21/2022	75.4	8404	5815	3234	401060	292599	N/A
28	11/22/2022	71.8	8026	7657	3304	399858	292149	N/A
29	11/22/2022	78.2	8300	5739	3722	401065	298877	N/A
30	11/22/2022	80.6	8313	5595	3156	400131	297095	N/A
31	11/23/2022	80.3	8389	6289	3376	409291	298349	N/A
32	11/23/2022	66.9	8040	6751	3144	400987	401109	N/A
33	11/23/2022	75.7	8290	5164	3816	412756	387279	N/A
34	11/24/2022	63.3	8092	6615	3388	399242	392847	N/A
35	11/24/2022	66.8	8557	6957	4043	413163	349060	N/A
36	11/25/2022	75.6	8289	7180	4251	411650	305282	N/A
37	11/25/2022	77.1	7840	6585	3445	408715	302737	N/A
38	11/25/2022	80.8	8090	7051	3576	413699	310773	N/A
39	11/26/2022	80.3	8281	6276	4515	412240	301095	N/A
40	11/26/2022	69.3	7287	6773	3172	412689	425141	N/A
41	11/26/2022	67.3	8315	6441	3807	412757	353520	N/A
42	11/27/2022	80.6	8157	7319	4040	407974	297939	N/A
43	11/27/2022	74.8	8129	6603	3010	405680	303097	N/A
44	11/27/2022	77.5	8001	6670	3178	395588	289049	N/A
45	11/27/2022	81.2	8217	6024	4240	407168	293690	N/A
46	11/28/2022	81.2	7974	6696	4555	410964	290502	N/A
47	11/28/2022	80.5	7945	6844	3224	397477	287126	N/A
48	11/28/2022	82.8	8020	6115	4325	412287	293283	N/A
49	11/29/2022	80.3	7838	6997	4430	397329	284310	N/A
50	11/29/2022	81.4	7897	8044	3083	395158	286283	N/A
51	11/29/2022	81.7	7857	6526	3066	397889	285320	N/A
52	11/30/2022	70.6	7756	7098	3000	396863	295519	N/A
53	11/30/2022	83.6	8207	7474	2693	405590	300067	N/A
54	11/30/2022	73.6	7733	6082	2866	410849	319562	N/A
55	12/1/2022	84.1	7748	8200	2771	416565	319648	N/A
56	12/1/2022	83.8	7610	5725	3168	398750	282909	N/A
57	12/2/2022	83.8	7462	3886	3173	396600	347555	N/A
58	12/2/2022	83.8	7919.0	6375.0	3012.0	415730.0	282272.0	N/A
59	12/2/2022	85.7	7890.0	7369.0	2998.0	399000.0	282041.0	N/A
60	12/2/2022	83.7	7662.0	7744.0	3067.0	396830.0	280512.0	N/A
61	12/2/2022	85.7	7539.0	7368.0	2835.0	401550.0	281852.0	N/A
62	12/2/2022	89.6	7369.0	6666.0	2678.0	399626.0	302302.0	N/A
63	12/3/2022	86.7	7239.0	3841.0	3106.0	404238.0	280428.0	N/A
64	12/3/2022	87.1	7360.0	7626.0	2737.0	412822.0	294684.0	N/A
65	12/3/2022	85.4	7310.0	7167.0	2599.0	401961.0	284403.0	N/A
66	12/3/2022	86.5	6843.0	6533.0	2518.0	415202.0	293392.0	N/A
67	12/3/2022	87.9	6975.0	6641.0	2861.0	398151.0	285555.0	N/A
68	12/4/2022	75.4	6439.0	6768.0	2966.0	415887.0	317253.0	N/A
69	12/4/2022	82.3	6792.0	7154.0	2766.0	403932.0	299772.0	N/A
	AVERAGE	75	7,996	6,744	3,396	27,679,310	21,355,729	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, tr LS	100	280	100	280
Sandy Siltstone, occ LS	280	430	280	430
Shaly Siltstone, tr SS	430	490	430	490
Shaly Siltstone, Coal	490	520	490	520
Shaly Siltstone, occ SS, tr Coal	520	610	520	610
Shaly Siltstone	610	730	610	730
Silty Shale, tr ls, coal	730	820	730	820
Sandy Shale, tr coal	820	970	820	970
Shaly Sandstone, tr coal	970	1,300	970	1,300
Sandy Shale, occ Siltstone	1,300	1,540	1,300	1,540
Silty Shale, occ sandstone	1,540	1,930	1,540	1,930
Shale, occ sandstone	1,930	2,050	1,930	2,050
Sandy Siltstone, occ shale	2,050	1,848	2,050	1,874
Big Lime	1,878	2,389	1,874	2,453
Fifty Foot Sandstone	2,389	2,584	2,423	2,658
Gordon	2,584	2,872	2,628	2,963
Fifth Sandstone	2,872	2,957	2,933	3,055
Bayard	2,957	3,678	3,025	3,812
Speechley	3,678	3,832	3,782	3,971
Balltown	3,832	4,380	3,941	4,536
Bradford	4,380	4,781	4,506	4,950
Benson	4,781	5,027	4,920	5,205
Alexander	5,027	6,222	5,175	6,504
Sycamore	6,013	6,192	6,242	6,474
Middlesex	6,192	6,301	6,474	6,677
Burkett	6,301	6,345	6,677	6,819
Tully	6,345	6,368	6,819	6,924
Marcellus	6,368	NA	6,924	NA

Marcellus

*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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Wv Department of
Environmental Protection

05/11/2023

LATITUDE 39°12'30"

6,964'

LATITUDE 39°10'00" 792' TO BOTTOM HOLE

Antero Resources Corporation Well No. Ellick 2H

AS DRILLED DATA: WELL 2H TOP HOLE INFORMATION: N: 247,481ft E: 1,615,026ft ... BOTTOM HOLE INFORMATION: N: 233,982ft E: 1,620,998ft ... WEST VIRGINIA COORDINATE SYSTEM OF 1927 NORTH ZONE.

(NAD) 83 (UTM) ZONE 17 COORDS: WELL 2H TOP HOLE INFORMATION: N: 4,335,827m E: 512,290m ... BOTTOM HOLE INFORMATION: N: 4,331,744m E: 514,178m

(NAD) 27 (UTM) ZONE 17 COORDS: WELL 2H TOP HOLE INFORMATION: N: 14,224,411ft E: 1,680,691ft ... POINT OF ENTRY INFORMATION: N: 14,224,216ft E: 1,682,389ft ... BOTTOM HOLE INFORMATION: N: 14,211,017ft E: 1,686,885ft

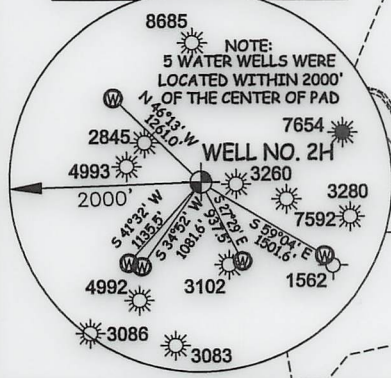
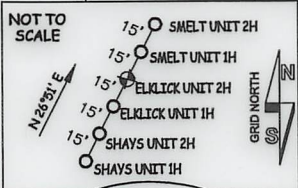


Table listing landowners and lease information for various tracts, including David Ball, Ralph Jett, David D. Ball, Della M. Shepler, R.F. Keister, Jay-Bee Royalty, T.M. Griffing, James V. Pierce, Wallace B. Haught, Mary Lucille Deberry, and Antero Minerals LLC.

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 PERSCRIBED BY THE DEPARTMENT OF ENVIRONMENTAL PROTECTION.



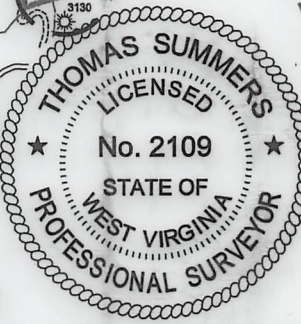
STATE OF WEST VIRGINIA, DIVISION OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS

WILLOW LAND SURVEYING PLLC 220 MASONIC AVE. PENNSBORO WEST VIRGINIA 26415

JOB # 21-015WA DRAWING # ELCLICK2HAD SCALE 1" = 2000' MINIMUM DEGREE OF ACCURACY SUBMETER PROVEN SOURCE OF ELEV. SUBMETER MAPPING GRADE GPS

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

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.



STATE OF WEST VIRGINIA DEPARTMENT OF ENERGY DIVISION OF OIL AND GAS

DATE 03/17/23 OPERATOR'S WELL# ELCLICK 2H

WELL TYPE: OIL GAS X LIQUID INJECTION WASTE DISPOSAL 47 - 085 - 10420 (IF "GAS") PRODUCTION X STORAGE DEEP SHALLOW X STATE COUNTY PERMIT LOCATION: ELEVATION 1,019'-AS BUILT WATERSHED SOUTH FORK HUGHES RIVER QUADRANGLE OXFORD 7.5' DISTRICT UNION COUNTY RITCHIE SURFACE OWNER ELMER W. PIERCE ACREAGE 67.78 ACRES +/- 05/11/2023 OIL & GAS ROYALTY OWNER R. F. KEISTER ET AL; RALPH JETT ET UX; DAVID D. BALL ET UX; LEASE ACREAGE 70 AC +/-; 148 AC +/-; 260 AC +/-; JAY-BEE ROYALTY, LLC; T. M. GRIFFIN ET UX; MAUDE PIERCE ET AL; WALLACE B. HAUGHT ET AL; E. W. SUMMERS ET UX 38 AC +/-; 140 AC +/-; 60.26 AC +/-; 100 AC +/-; 125 AC +/-; MARY LUCILLE DEBERRY; LUCILLE DEBERRY; MARY LUCILLE DEBERRY; MARY LUCILLE DEBERRY; ANTERO MINERALS LLC; LUCILLE DEBERRY ET VIR 3.5 AC +/-; 147 AC +/-; 81.26 AC +/-; 46 AC +/-; 107.16 AC +/-; 90 AC +/- 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 6,382' TVD 20,905' MD WELL OPERATOR ANTERO RESOURCES CORP. DESIGNATED AGENT KEVIN ELLIS ADDRESS 1615 WYNKOOP ST. DENVER, CO 80202 ADDRESS 535 WHITE OAKS BLVD BRIDGEPORT, WV 26330

WV NORTH ZONE GRID NORTH

11,651' TO BOTTOM HOLE

13,418'

2H BOTTOM HOLE

LONGITUDE 80°50'00"

LONGITUDE 80°50'00"

LATITUDE 39°12'30"

6,964'

LATITUDE 39°10'00" 792' TO BOTTOM HOLE

Antero Resources Corporation Well No. Elklick 2H

AS DRILLED DATA: WELL 2H TOP HOLE INFORMATION: N: 247,481ft E: 1,615,026ft ... WEST VIRGINIA COORDINATE SYSTEM OF 1927 NORTH ZONE.

(NAD) 83 (UTM) ZONE 17 COORDS: WELL 2H TOP HOLE INFORMATION: N: 4,335,827m E: 512,290m ... BOTTOM HOLE INFORMATION: N: 4,331,744m E: 514,178m

(NAD) 27 (UTM) ZONE 17 COORDS: WELL 2H TOP HOLE INFORMATION: N: 14,224,411ft E: 1,680,691ft ... POINT OF ENTRY INFORMATION: N: 14,224,216ft E: 1,682,389ft

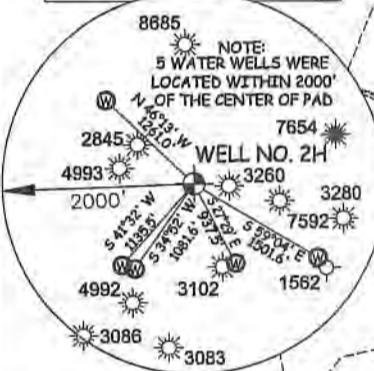
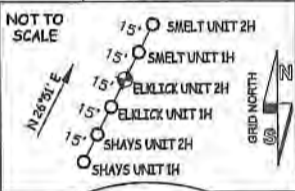


Table listing well numbers and names for Southwest District - Doddridge County and Union District - Ritchie County. Includes names like David Ball, Larry Gander, W.F. Smith, etc.

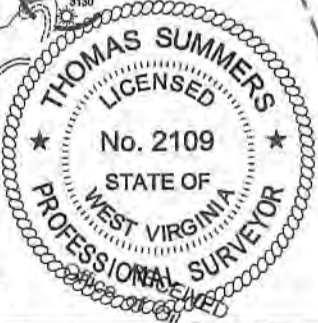
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STATE OF WEST VIRGINIA, DIVISION OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS. WILLOW LAND SURVEYING PLLC 220 MASONIC AVE. PENNSBORO WEST VIRGINIA 26415

Table with columns for JOB # (21-015WA), DRAWING # (ELKCLICK2HAD), SCALE (1" = 2000'), MINIMUM DEGREE OF ACCURACY (SUBMETER), and LEGEND (Surface Owner Boundary Lines +/-, Interior Surface Tracts +/-, Proposed Well Path, As Drilled Well Path).

- 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.



WELL TYPE: OIL GAS X LIQUID INJECTION WASTE DISPOSAL 47 - STATE COUNTY PERMIT (IF "GAS") PRODUCTION X STORAGE DEEP SHALLOW X LOCATION: ELEVATION 1,019' -AS BUILT WATERSHED SOUTH FORK HUGHES RIVER QUADRANGLE OXFORD 7.5' DISTRICT UNION SURFACE OWNER ELMER W. PIERCE ACREAGE 67.78 ACRES +/- OIL & GAS ROYALTY OWNER R. F. KEISTER ET AL; RALPH JETT ET UX; DAVID D. BALL ET UX; LEASE ACREAGE 70 AC +/-; 148 AC +/-; 260 AC +/-

Hydraulic Fracturing Fluid Product Component Information Disclosure

Job Start Date:	11/11/2022
Job End Date:	12/4/2022
State:	West Virginia
County:	Ritchie
API Number:	47-085-10420-00-00
Operator Name:	Antero Resources Corporation
Well Name and Number:	ELKCLICK UNIT 2H
Latitude:	39.17149000
Longitude:	-80.85790000
Datum:	WGS84
Federal Well:	NO
Indian Well:	NO
True Vertical Depth:	6,434
Total Base Water Volume (gal):	22,422,613
Total Base Non Water Volume:	0



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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
Produced Water	Halliburton	Base Fluid					
			Water	7732-18-5	100.00000	87.09700	Density = 8.50
Ingredients	Listed Above	Listed Above					
			Water	7732-18-5	100.00000	0.14868	

HYDROCHLORIC ACID, 22 BAUME	Halliburton	Solvent					
				Listed Below			
HAI-501	Halliburton	Acid Corrosion Inhibitor					
				Listed Below			
Chemstream StimSTREAM FR 2800	Chemstream, Inc.	Friction Reducer					
				Listed Below			
SAND, COMMON BROWN 100 MESH	Halliburton	Proppant					
				Listed Below			
WG-36 GELLING AGENT	Halliburton	Gelling Agent					
				Listed Below			
Excelerate LX-15	Halliburton	Friction Reducer					
				Listed Below			
OPTIFLO-II DELAYED RELEASE BREAKER	Halliburton	Breaker					
				Listed Below			
Sand-Common White-100 Mesh, SSA-2	Halliburton	Proppant					

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				Listed Below			
MC B-8614A	MultiChem	Biocide					
				Listed Below			
Sand-Premium White-30/70	Halliburton	Proppant					
				Listed Below			
LCA-1	Halliburton	Solvent					
				Listed Below			

Items above are Trade Names with the exception of Base Water . Items below are the individual ingredients.

			Crystalline silica, quartz	14808-60-7	100.00000	12.64900	
			Hydrochloric acid	7647-01-0	30.00000	0.04194	
			Guar gum	9000-30-0	100.00000	0.02573	
			Distillates, (petroleum), hydrotreated light	64742-47-8	25.00000	0.01953	
			Alcohols, C11-14-iso, C-13-rich, ethoxylated	78330-21-9	5.00000	0.00391	
			Glutaraldehyde	111-30-8	30.00000	0.00245	
			Ammonium persulfate	7727-54-0	100.00000	0.00079	
			Complex Amine Compound	Proprietary	60.00000	0.00071	
			Alkyl (C12-16) dimethylbenzyl ammonium chloride	68424-85-1	5.00000	0.00041	
			Hydrotreated light petroleum distillate	64742-47-8	30.00000	0.00035	
			Methanol	67-56-1	100.00000	0.00026	
			Oxylated phenolic resin	Proprietary	30.00000	0.00024	
			Ethanol	64-17-5	1.00000	0.00008	
			Modified thiourea polymer	Proprietary	30.00000	0.00008	

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			Mixture of dimer and trimer fatty acids of indefinite composition derived from tall oil	61790-12-3	30.00000	0.00008	
			Sobitan, mono-9-octadecenoate, (Z)	1338-43-8	5.00000	0.00006	
			Surfactant	Proprietary	5.00000	0.00006	
			Hydrotreated distillate	Proprietary	100.00000	0.00005	
			Ethoxylated alcohols	Proprietary	5.00000	0.00002	
			Propargyl alcohol	107-19-7	5.00000	0.00001	
			Hexadecene	629-73-2	5.00000	0.00001	
			Alkoxylated polyhydric alcohol	Proprietary	1.00000	0.00001	
			Organic chloride compound	Proprietary	1.00000	0.00001	
			C.I. pigment Orange 5	3468-63-1	1.00000	0.00001	
			Sodium glycolate	2836-32-0	0.01000	0.00000	
			Formaldehyde	50-00-0	0.01000	0.00000	
			Sodium hydroxide	1310-73-2	0.01000	0.00000	
			Nitrated acetate salt	Proprietary	0.01000	0.00000	
			Organic salt #2	Proprietary	0.01000	0.00000	
			Organic salt #1	Proprietary	0.01000	0.00000	
			Acrylamide	79-06-1	0.01000	0.00000	

* 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%

*** If you are calculating a percentage of total ingredients do not add the water volume below the green line to the water volume above the green line

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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