

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

API 47 - 095 - 02819 County Tyler/Wetzel District Ellsworth/Magnolia
Quad Porter Falls 7.5' Pad Name Heintzman Field/Pool Name -----
Farm name Dennis & Clista Heintzman Well Number Leap 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 4377051.817m Easting 512402.815m
Landing Point of Curve Northing 4377394.66m Easting 511964.36m
Bottom Hole Northing 4381995.465m Easting 510404.550m

Elevation (ft) 1193' 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 9/20/2022 Date drilling commenced 10/31/2022 Date drilling ceased 1/2/2023
Date completion activities began 2/24/2023 Date completion activities ceased 5/4/2023
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 479' Open mine(s) (Y/N) depths No
Salt water depth(s) ft 1774' Void(s) encountered (Y/N) depths No
Coal depth(s) ft 412' Cavern(s) encountered (Y/N) depths No
Is coal being mined in area (Y/N) No

Reviewed by:

APPROVED


02/09/2024
12-5-23

API 47-095 - 02819 Farm name Dennis & Clista Heintzman Well number Leap Unit 2H

CASING STRINGS	Hole Size	Casing Size	Depth	New or Used	Grade wt/ft	Basket Depth(s)	Did cement circulate (Y/ N) * Provide details below*
Conductor	28"	20"	130'	New	78.67#, X-60	N/A	Y
Surface	17-1/2"	13-3/8"	584'	New	54.5#, J-55	N/A	Y
Coal							
Intermediate 1	12-1/4"	9-5/8"	3435'	New	36#, J-55	N/A	Y
Intermediate 2							
Intermediate 3							
Production	8-3/4"/8-1/2"	5-1/2"	23140'	New	23#, P-110	N/A	Y
Tubing		2-3/8"	6769'		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	266 sx	15.6	1.18	313	0'	8 Hrs.
Surface	Class C	645 sx	15.8	1.17	754	0'	8 Hrs.
Coal							
Intermediate 1	Class C	1185 sx	15.8	1.16	1374	0'	8 Hrs.
Intermediate 2							
Intermediate 3							
Production	Class H	3715 sx (Tail)	13.5 (Lead), 15.2(Tail)	1.25 (Tail)	4643	-500' into Intermediate Casing	8 Hrs.
Tubing							

Drillers TD (ft) 23140' MD, 6592' TVD (BHL), 6634' TVD (Deepest Point Drilled) Loggers TD (ft) 23140' MD
 Deepest formation penetrated Marcellus Plug back to (ft) N/A
 Plug back procedure N/A

Kick off depth (ft) 6121'

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

Well cored Yes No Conventional Sidewall Were cuttings collected Yes No

DESCRIBE THE CENTRALIZER PLACEMENT USED FOR EACH CASING STRING _____

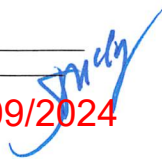
Conductor - 0
 Surface - 1 above guide shoe, 1 above insert float, 1 every 4th joint to surface
 Intermediate - 1 above float joint, 1 above float collar, 1 every 4th joint to surface
 Production - 1 above float joint, 1 below float collar, 1 every 3rd joint to top of cement

WAS WELL COMPLETED AS SHOT HOLE Yes No DETAILS _____

WAS WELL COMPLETED OPEN HOLE? Yes No DETAILS _____

WERE TRACERS USED Yes No TYPE OF TRACER(S) USED N/A

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API 47- 095 - 02819 Farm name Dennis & Clista Heintzman Well number Leap 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					

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.

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<u>PRODUCING FORMATION(S)</u>	<u>DEPTHS</u>		
Marcellus	6572' (TOP)	TVD	6930' (TOP) MD
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

Please insert additional pages as applicable.

GAS TEST Build up Drawdown Open Flow OIL TEST Flow Pump

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

OPEN FLOW Gas Oil NGL Water GAS MEASURED BY
13939.78 mcfpd 618.53 bpd --- bpd 863.21 bpd Estimated Orifice Pilot

LITHOLOGY/ FORMATION	TOP DEPTH IN FT NAME TVD	BOTTOM DEPTH IN FT TVD	TOP DEPTH IN FT MD	BOTTOM DEPTH IN FT MD	DESCRIBE ROCK TYPE AND RECORD QUANTITY AND TYPE OF FLUID (FRESHWATER, BRINE, OIL, GAS, H ₂ S, ETC)
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***PLEASE SEE ATTACHED EXHIBIT 3**

Please insert additional pages as applicable.

Drilling Contractor H & P Drilling
 Address 912 N Eagle Valley Rd City Howard State PA Zip 16841

Logging Company Nine Energy Services
 Address 6500 West Fwy City Fort Worth State TX Zip 76116

Cementing Company 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 Stefan Gaspar Telephone 303-357-6959
 Signature  Title Permitting Agent Date 8/7/23

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


02/09/2024

EXHIBIT 1

Stage No.	Perforation Date	Perforated from MD ft.	Perforated to MD ft.	Number of Perforations	Formations
1	2/24/2023	23015	22973	60	Marcellus
2	2/24/2023	22934.69167	22770.15	60	Marcellus
3	2/24/2023	22734.84167	22570.3	60	Marcellus
4	2/24/2023	22534.99167	22370.45	60	Marcellus
5	2/25/2023	22335.14167	22170.6	60	Marcellus
6	2/25/2023	22135.29167	21970.75	60	Marcellus
7	2/25/2023	21935.44167	21770.9	60	Marcellus
8	2/25/2023	21735.59167	21571.05	60	Marcellus
9	2/25/2023	21535.74167	21371.2	60	Marcellus
10	2/25/2023	21335.89167	21171.35	60	Marcellus
11	2/26/2023	21136.04167	20971.5	60	Marcellus
12	2/26/2023	20936.19167	20771.65	60	Marcellus
13	2/26/2023	20736.34167	20571.8	60	Marcellus
14	2/26/2023	20536.49167	20371.95	60	Marcellus
15	2/26/2023	20336.64167	20172.1	60	Marcellus
16	2/26/2023	20136.79167	19972.25	60	Marcellus
17	2/27/2023	19936.94167	19772.4	60	Marcellus
18	2/27/2023	19737.09167	19572.55	60	Marcellus
19	2/27/2023	19537.24167	19372.7	60	Marcellus
20	2/27/2023	19337.39167	19172.85	60	Marcellus
21	2/27/2023	19137.54167	18973	60	Marcellus
22	2/28/2023	18937.69167	18773.15	60	Marcellus
23	2/28/2023	18737.84167	18573.3	60	Marcellus
24	2/28/2023	18537.99167	18373.45	60	Marcellus
25	2/28/2023	18338.14167	18173.6	60	Marcellus
26	2/28/2023	18138.29167	17973.75	60	Marcellus
27	2/28/2023	17938.44167	17773.9	60	Marcellus
28	3/1/2023	17738.59167	17574.05	60	Marcellus
29	3/1/2023	17538.74167	17374.2	60	Marcellus
30	3/1/2023	17338.89167	17174.35	60	Marcellus
31	3/1/2023	17139.04167	16974.5	60	Marcellus
32	3/1/2023	16939.19167	16774.65	60	Marcellus
33	3/1/2023	16739.34167	16574.8	60	Marcellus
34	3/2/2023	16539.49167	16374.95	60	Marcellus
35	3/2/2023	16339.64167	16175.1	60	Marcellus
36	3/2/2023	16139.79167	15975.25	60	Marcellus
37	3/2/2023	15939.94167	15775.4	60	Marcellus
38	3/2/2023	15740.09167	15575.55	60	Marcellus
39	3/2/2023	15540.24167	15375.7	60	Marcellus
40	3/3/2023	15340.39167	15175.85	60	Marcellus
41	3/3/2023	15140.54167	14976	60	Marcellus
42	3/3/2023	14940.69167	14776.15	60	Marcellus
43	3/3/2023	14740.84167	14576.3	60	Marcellus
44	3/3/2023	14540.99167	14376.45	60	Marcellus
45	3/3/2023	14341.14167	14176.6	60	Marcellus
46	3/4/2023	14141.29167	13976.75	60	Marcellus
47	3/4/2023	13941.44167	13776.9	60	Marcellus
48	3/4/2023	13741.59167	13577.05	60	Marcellus
49	3/4/2023	13541.74167	13377.2	60	Marcellus
50	3/4/2023	13341.89167	13177.35	60	Marcellus
51	3/5/2023	13142.04167	12977.5	60	Marcellus
52	3/5/2023	12942.19167	12777.65	60	Marcellus
53	3/5/2023	12742.34167	12577.8	60	Marcellus
54	3/5/2023	12542.49167	12377.95	60	Marcellus
55	3/5/2023	12342.64167	12178.1	60	Marcellus
56	3/6/2023	12142.79167	11978.25	60	Marcellus
57	3/6/2023	11942.94167	11778.4	60	Marcellus
58	3/6/2023	11743.09167	11578.55	60	Marcellus
59	3/6/2023	11543.24167	11378.7	60	Marcellus
60	3/6/2023	11343.39167	11178.85	60	Marcellus
61	3/6/2023	11143.54167	10979	60	Marcellus
62	3/6/2023	10943.69167	10779.15	60	Marcellus
63	3/7/2023	10743.84167	10579.3	60	Marcellus
64	3/7/2023	10543.99167	10379.45	60	Marcellus
65	3/7/2023	10344.14167	10179.6	60	Marcellus
66	3/7/2023	10144.29167	9979.75	60	Marcellus
67	3/7/2023	9944.441667	9779.9	60	Marcellus
68	3/7/2023	9744.591667	9580.05	60	Marcellus
69	3/7/2023	9544.741667	9380.2	60	Marcellus
70	3/8/2023	9344.891667	9180.35	60	Marcellus
71	3/8/2023	9145.041667	8980.5	60	Marcellus
72	3/8/2023	8945.191667	8780.65	60	Marcellus
73	3/8/2023	8745.341667	8580.8	60	Marcellus
74	3/8/2023	8545.491667	8380.95	60	Marcellus
75	3/8/2023	8345.641667	8181.1	60	Marcellus
76	3/9/2023	8145.791667	7981.25	60	Marcellus
77	3/9/2023	7945.941667	7781.4	60	Marcellus
78	3/9/2023	7746.091667	7581.55	60	Marcellus
79	3/9/2023	7546.241667	7381.7	60	Marcellus
80	3/9/2023	7346.391667	7181.85	60	Marcellus
81	3/9/2023	7146.541667	6982	60	Marcellus

Smiley
02/09/2024

API 47-095-02819 Farm Name Dennis & Clista Heintzman, Well Number Leap Unit 2H

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	2/24/2023	78.17	9582	6086	3882	175140	5556	N/A	
2	2/24/2023	95.05806	10469.82	5130.16	4069.604	410700	7365.2262	N/A	
3	2/24/2023	96.19838	10076.85	5068.83	4135.383	393830	6873.974	N/A	
4	2/24/2023	91.62297	10250.44	4863.97	3709.056	411700	7115.0069	N/A	
5	2/25/2023	92.13164	10079.09	4872.46	4106.576	413810	7229.5695	N/A	
6	2/25/2023	91.10645	10023.76	4664.2	4046.05	412100	7240.5424	N/A	
7	2/25/2023	95.90414	10337.89	5257.43	4059.935	394270	6781.2319	N/A	
8	2/25/2023	96.14541	10095.98	5463.21	4205.511	405910	7409.2457	N/A	
9	2/25/2023	95.44675	10009.13	5088.35	4186.672	409550	6940.9724	N/A	
10	2/25/2023	95.28873	9992.864	4989.56	3640.248	395460	6923.4869	N/A	
11	2/26/2023	97.2581	10064.16	4798.61	4079.491	396330	7035.799	N/A	
12	2/26/2023	95.46986	9979.103	5406.82	4085.646	396770	6951.3276	N/A	
13	2/26/2023	96.10335	10076.32	6201.16	4115.702	405330	6969.731	N/A	
14	2/26/2023	97.47955	10273.58	5643.05	4234.67	392200	6700.7962	N/A	
15	2/26/2023	87.03	9256	5892	5347	303540	6112.2645	N/A	
16	2/26/2023	97.28	10393	5590	4035	395490	6957.3579	N/A	
17	2/27/2023	97.48844	10033.18	5128.82	3856.652	409070	7225.2348	N/A	
18	2/27/2023	94.61	9745	5129	4387	395750	7716.8507	N/A	
19	2/27/2023	97.87182	9709.755	5409.8	4418.211	410600	6964.9657	N/A	
20	2/27/2023	97.95324	9713.855	5249.69	4254.715	403100	6844.2774	N/A	
21	2/27/2023	94.41	9570	5527	4170	398700	8256.5629	N/A	
22	2/28/2023	97.25692	9677.406	5190.54	4350.71	406850	7092.4255	N/A	
23	2/28/2023	96.75203	9774.259	5138.48	4193.103	410430	7083.5912	N/A	
24	2/28/2023	98.53099	9453.749	5415.45	4187.785	401822	6744.7569	N/A	
25	2/28/2023	98.68467	9795.497	5594.51	4191.878	395350	6799.7843	N/A	
26	2/28/2023	95.21345	9065.922	5483.36	4097.485	392584	6520.5112	N/A	
27	2/28/2023	93.61	9067	5316	4009	397480	6858.2557	N/A	
28	3/1/2023	93.76	9088	5177	4006	398020	6797.9945	N/A	
29	3/1/2023	94.77	9295	5333	4000	394551	6902.28	N/A	
30	3/1/2023	97.86489	9470.781	5598.93	3936.594	405150	6601.9719	N/A	
31	3/1/2023	62.0878	7159.456	5058.58	4312.789	408770	8451.5631	N/A	
32	3/1/2023	96.02612	9575.938	5384.43	3813.007	400190	6701.0019	N/A	
33	3/1/2023	95.6	9506	5651	4093	405490	6801.6176	N/A	
34	3/2/2023	93.88474	9399.877	5319.33	3963.32	410270	6678.3988	N/A	
35	3/2/2023	94.69013	8869.232	4953.27	4243.899	412520	6911.3964	N/A	
36	3/2/2023	97.34	9096	5217	4091	395160	6386.02	N/A	
37	3/2/2023	98.37	9087	5288	4052	401320	6899.0848	N/A	
38	3/2/2023	96.26	9348	5269	4127	393210	6987.8502	N/A	
39	3/2/2023	96.72187	9247.348	5332.91	3986.331	393790	6761.8852	N/A	
40	3/3/2023	96.5877	9328.613	5518.62	4435.11	411730	6886.6971	N/A	
41	3/3/2023	97.43349	9071.769	5119.96	4239.603	408510	6805.2662	N/A	
42	3/3/2023	96.59371	9094.229	5230.9	4320.698	394810	6538.4536	N/A	
43	3/3/2023	98.22716	8991.578	5153.9	3962.47	397450	6562.8671	N/A	
44	3/3/2023	97.64109	8834.539	5066.66	3596.677	406150	6594.9869	N/A	
45	3/3/2023	96.63	8974	5230	3838	413100	6547.0952	N/A	
46	3/4/2023	97.18	8950	5142	4001	416000	6610.4807	N/A	
47	3/4/2023	98.96923	8872.123	5124.83	3780.235	407400	6573.0188	N/A	
48	3/4/2023	98.69468	8987.586	5301.19	4121.626	401980	6481.9686	N/A	
49	3/4/2023	98.25321	9022.47	5643.4	3897.409	405720	6706.0412	N/A	
50	3/4/2023	97.958	8770.314	4984.04	3964.45	405100	6515.6167	N/A	
51	3/5/2023	97.79482	8705.919	5022.06	3965.175	403590	6812.5502	N/A	
52	3/5/2023	98.08457	8705.688	5241.36	3819.999	410480	6775.8048	N/A	
53	3/5/2023	98.3247	8588.608	5757.44	3804.057	392820	6393.0986	N/A	
54	3/5/2023	96.82	8503	5497	3861	406700	6893.7805	N/A	
55	3/5/2023	97.2	8625	5760	3828	407910	7218.6614	N/A	
56	3/6/2023	97.2	8635	5300	3891	390170	6834.8648	N/A	
57	3/6/2023	97.76214	8642.571	5479.89	3818.85	411190	7000.0648	N/A	
58	3/6/2023	98.21315	8640	5613.89	3543.817	411530	6907.9648	N/A	
59	3/6/2023	97.74478	8682.912	5521.13	3891.741	401560	6931.646	N/A	
60	3/6/2023	98.7024	8732.682	5675.28	3699.292	409340	7150.8643	N/A	
61	3/6/2023	97.95	8555	5495	3565	411430	7108.4298	N/A	
62	3/6/2023	96.27006	8236.562	5641.42	4021.23	401210	6822.9662	N/A	
63	3/7/2023	96.8067	8229.028	5466.29	3676.099	403810	6969.6819	N/A	
64	3/7/2023	98.83158	8093.292	5539.99	3716.544	406250	6877.1093	N/A	
65	3/7/2023	98.79	8094	5336	3784	396150	6869.286	N/A	
66	3/7/2023	98.96	8244	5205	3555	395670	6978.0926	N/A	
67	3/7/2023	99.30433	7992.306	5360.14	3798.33	410880	7104.016	N/A	
68	3/7/2023	99.46	7875	5468	3470	400750	7250.96	N/A	
69	3/7/2023	96.35	7688	5711	3529	401260	6977.9762	N/A	
70	3/8/2023	95.80255	7563.092	5423.73	3796.113	406260	7101.9567	N/A	
71	3/8/2023	97.77815	7753.743	5173.96	3247.758	415200	7048.0248	N/A	
72	3/8/2023	99.26763	7482.328	5140.07	3187.455	411160	6999.8645	N/A	
73	3/8/2023	99.10539	7422.024	5079.53	3285.33	402050	7669.5479	N/A	
74	3/8/2023	97.70489	7488.192	4998.15	3787.844	394940	7735.3155	N/A	
75	3/8/2023	98.5721	7360.967	4531.51	3963.439	398670	8097.3271	N/A	
76	3/9/2023	97.96	7253	4826	3653	408880	8001.6302	N/A	
77	3/9/2023	99.16	7218	5581	3551	410940	7902.6102	N/A	
78	3/9/2023	99.46639	7218.995	6109.42	3594.638	394500	7638.1602	N/A	
79	3/9/2023	99.51221	7149.813	5872.33	3896.754	395730	7589.1357	N/A	
80	3/9/2023	98.78644	7335.804	5818.27	3874.197	402250	7724.6857	N/A	
81	3/9/2023	99.82	6905	5931	3970	396270	7902.8898	N/A	
	AVERAGE	96.2	8,916	5,349	3,949	32,329,807	567,262	0	

02/09/2024



EXHIBIT 3

LITHOLOGY/ FORMATION	TOP DEPTH (TVD) From Surface	BOTTOM DEPTH (TVD) From Surface	TOP DEPTH (MD) From Surface	BOTTOM DEPTH (MD) From Surface
Shaley Siltstone	70	190	70	190
Shaley Sandstone	190	280	190	280
Shaley Siltstone	280	360	280	360
Limestone, Tr Shale	360	490	360	490
Sandstone	490	580	490	580
Limestone, Tr Shale	580	790	580	790
Shaley Sandstone	790	880	790	880
Shale, Tr Sandstone	880	1,130	880	1,130
Sandy Shale, Limestone	1,130	1,240	1,130	1,240
Sandy Shale	1,240	1,480	1,240	1,480
Sandstone, Tr Shale	1,480	1,660	1,480	1,660
Silty Shale, tr SS	1,660	1,750	1,660	1,750
Shale, Tr Sst	1,750	2,008	1,750	2,033
Big Lime	2,038	2,833	2,033	2,879
Fifty Foot Sandstone	2,833	2,893	2,849	2,940
Gordon	2,893	3,125	2,910	3,177
Fifth Sandstone	3,125	3,207	3,147	3,261
Bayard	3,207	4,033	3,231	4,106
Speechley	4,033	4,300	4,076	4,382
Balltown	4,300	4,764	4,352	4,857
Bradford	4,764	5,168	4,827	5,272
Benson	5,168	5,375	5,242	5,483
Alexander	5,375	6,444	5,453	6,633
Sycamore	6,307	6,414	6,461	6,603
Middlesex	6,414	6,500	6,603	6,745
Burkett	6,500	6,518	6,745	6,780
Tully	6,518	6,572	6,780	6,930
Marcellus	6,572	NA	6,930	NA

02/09/2024

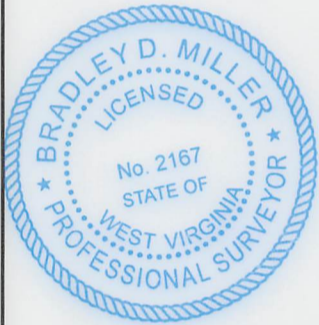
Antero Resources
Well No. Leap 2H
As-Drilled
 Antero Resources Corporation



Top Hole Coordinates, As-drilled data, and information was provided by Antero Resources Corporation. Allegheny Surveys Inc. (ASI) is not certifying the data and information provided. ASI is not responsible for any errors or inaccuracies with the data and information that has been provided.

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

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



SEAL

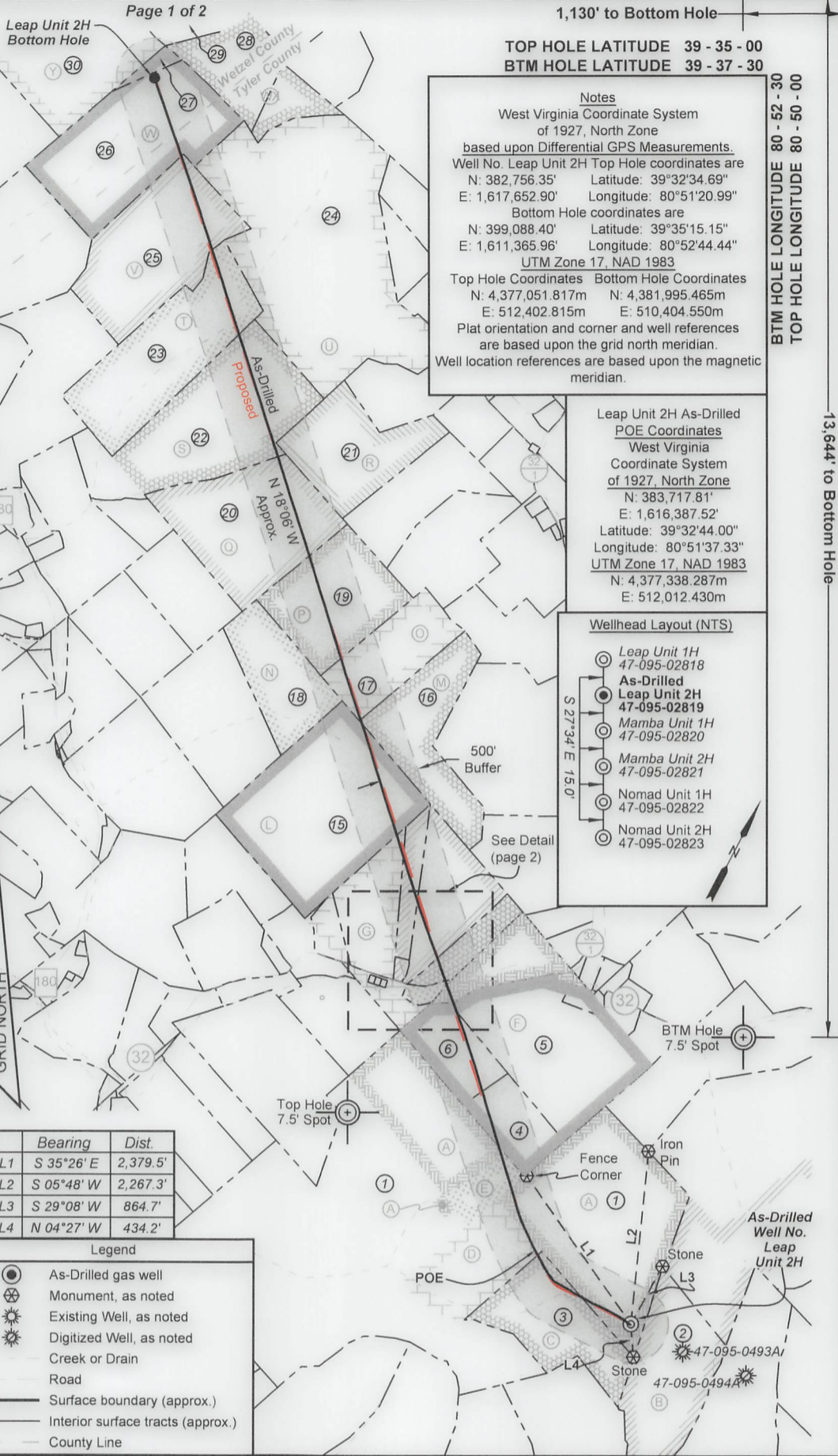
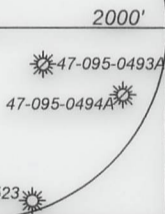
Note: 0 water wells or springs were found within 2000' of proposed well. No occupied dwellings or buildings 2,500 square feet or larger used to house or shelter dairy cattle or poultry husbandry are located within 625' of the center of the well pad.

	Bearing	Dist.
L1	S 35°26' E	2,379.5'
L2	S 05°48' W	2,267.3'
L3	S 29°08' W	864.7'
L4	N 04°27' W	434.2'

Legend

- As-Drilled gas well
- Monument, as noted
- Existing Well, as noted
- Digitized Well, as noted
- Creek or Drain
- Road
- Surface boundary (approx.)
- Interior surface tracts (approx.)
- County Line

As-Drilled Well Leap 2H

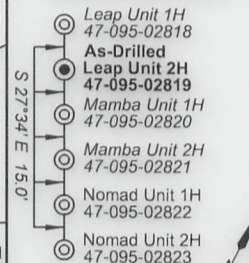


TOP HOLE LATITUDE 39 - 35 - 00
 BTM HOLE LATITUDE 39 - 37 - 30

Notes
 West Virginia Coordinate System of 1927, North Zone based upon Differential GPS Measurements.
 Well No. Leap Unit 2H Top Hole coordinates are
 N: 382,756.35' Latitude: 39°32'34.69"
 E: 1,617,652.90' Longitude: 80°51'20.99"
 Bottom Hole coordinates are
 N: 399,088.40' Latitude: 39°35'15.15"
 E: 1,611,365.96' Longitude: 80°52'44.44"
 UTM Zone 17, NAD 1983
 Top Hole Coordinates Bottom Hole Coordinates
 N: 4,377,051.817m N: 4,381,995.465m
 E: 512,402.815m E: 510,404.550m
 Plat orientation and corner and well references are based upon the grid north meridian.
 Well location references are based upon the magnetic meridian.

Leap Unit 2H As-Drilled POE Coordinates
 West Virginia Coordinate System of 1927, North Zone
 N: 383,717.81'
 E: 1,616,387.52'
 Latitude: 39°32'44.00"
 Longitude: 80°51'37.33"
 UTM Zone 17, NAD 1983
 N: 4,377,338.287m
 E: 512,012.430m

Wellhead Layout (NTS)



FILE NO: 77-54-E-22
 DRAWING NO: Leap Unit 2H As-Drilled
 SCALE: 1" = 2000'
 MINIMUM DEGREE OF ACCURACY: Submeter
 PROVEN SOURCE OF ELEVATION: WVDOT, Harrisville, WV

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

DATE: July 28 2023
 OPERATOR'S WELL NO. Leap Unit 2H
 API WELL NO
 47 - 095 - 02819
 STATE COUNTY PERMIT

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

LOCATION: ELEVATION: As-Built: 1,193' WATERSHED: Outlet Middle Island Creek QUADRANGLE: TH:Porter Falls 82.06250; BH:Paden City 67; 63.3125; 38; 60.7850; 56; 60.7850; 56; 60.7850; 56; 60.7850; 56;
 DISTRICT: Ellsworth/Magnolia SURFACE OWNER: Dennis & Clista Heintzman ROYALTY OWNER: BRC Appalachian Minerals I, LLC; Dennis R. & Clista A. Heintzman; Jeffrey Seckman LEASE NO: COUNTY: Tyler/Wetzel ACREAGE: 417.6 ACREAGE: 10; 45; 66.5; 2.66; 28.8375; 67; 9.1875; 40; 30.9625; 100
 PROPOSED WORK: DRILL CONVERT DRILL DEEPER FRACTURE OR STIMULATE PLUG OFF OLD FORMATION
 PERFORATE NEW FORMATION OTHER PHYSICAL CHANGE IN WELL (SPECIFY) As-Drilled
 PLUG AND ABANDON CLEAN OUT AND REPLUG TARGET FORMATION: Marcellus Shale ESTIMATED DEPTH: 23,140' MD 6,592' TVD

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

02/09/2024

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



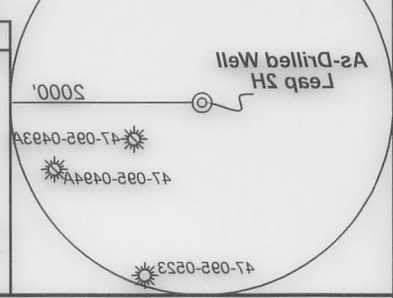
Top Hole Coordinates, As-drilled data, and information was provided by Antero Resources Corporation. Allegheny Surveys, Inc. (ASI) is not certifying the data and information provided. ASI is not responsible for any errors or inaccuracies with the data and information that has been provided.

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

Bradley D. Miller, P. S. 2167



Note: 0 water wells or springs were found within 2000' of proposed well. No occupied dwellings or buildings 2500 square feet or larger used for house or shelter, dairy cattle or poultry husbandry are located within 625' of the center of the well pad.



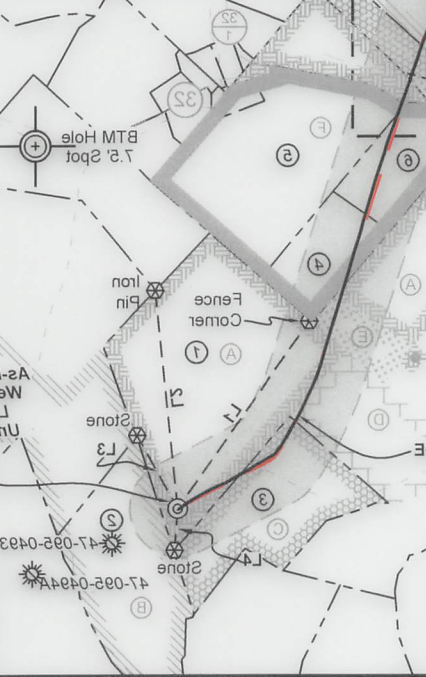
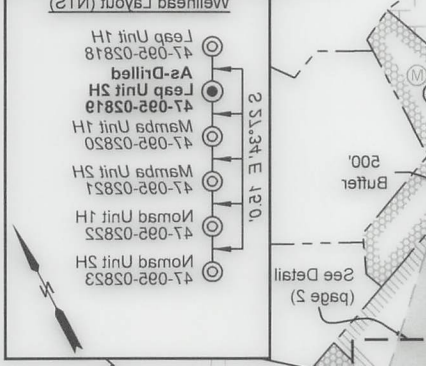
Dist.	Bearing
L1 2 35°26' E 2 279.5	
L2 2 02°48' W 2 267.3	
L3 2 29°08' W 864.7	
L4 N 04°27' W 434.2	

Legend

- As-Drilled gas well
- Monument, as noted
- Existing Well, as noted
- Digitized Well, as noted
- Creek or Drain
- Road
- Surface boundary (approx.)
- Interior surface tracts (approx.)
- County Line

Notes
West Virginia Coordinate System based upon Differential GPS Measurements. Well No. Leap Unit 2H Top Hole coordinates are: N: 382 756 35, Latitude: 39°32'34.69", E: 1 617 652 90, Longitude: 80°51'20.99". Bottom Hole coordinates are: N: 399 088 40, Latitude: 39°35'12.15", E: 1 611 365 96, Longitude: 80°52'44.44".
UTM Zone 17, NAD 1983
Top Hole Coordinates Bottom Hole Coordinates
N: 4 377 021 817m E: 2 124 402 815m
N: 4 381 995 465m E: 2 104 404 520m
Flat orientation and corner and well references are based upon the grid north meridian. Well location references are based upon the magnetic meridian.

POE Coordinates
West Virginia Coordinate System of 1927, North Zone
N: 383 717 81, E: 1 618 387 52, Latitude: 39°32'44.00", Longitude: 80°51'37.33", UTM Zone 17, NAD 1983
N: 4 377 338 287m E: 2 124 012 430m



14' 103' to Top Hole
13' 644' to Bottom Hole
BTM HOLE LONGITUDE 80 - 52 - 33 - 30
TOP HOLE LONGITUDE 80 - 52 - 33 - 30
BTM HOLE LATITUDE 39 - 32 - 30
TOP HOLE LATITUDE 39 - 32 - 30

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

DATE: July 28 2023
OPERATOR'S WELL NO.: Leap Unit 2H
API WELL NO.
STATE COUNTY PERMIT
47 - 085 - 02819

FILE NO.: 77-64-E-22
DRAWING NO.: Leap Unit 2H As-Drilled
SCALE: 1" = 2000'
MINIMUM DEGREE OF ACCURACY:
2mmeter
PROVEN SOURCE OF ELEVATION:
WVDT, Harisville, WV

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

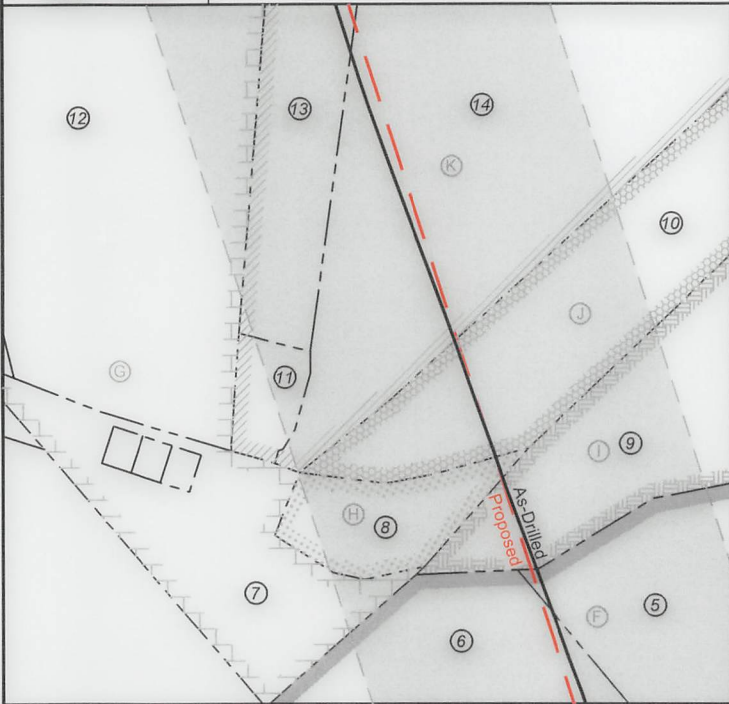
LOCATION: ELEVATION: As-Drilled: 1,193' WATERSHED: Middle Island Creek
COUNTY: Tyler/Wetzel QUADRANGLE: BH: Padgett City TH: Porter Falls
ACREAGE: 417.6 SURFACE OWNER: Dennis & Cista Heintzman LARRY R. & KIM M. HEINTZMAN; WACO OIL & GAS CO. INC.; JUDY P. MEYERS; LEASE NO.: 30 9625; 100
ACREAGE: 10; 45; 66.5; 5.66; 28.8325; 67.9; 1825; 40; 30 9625; 100
PROPOSED WORK: DRILL CONVERT DRILL DEEPER FRACTURE OR STIMULATE PLUG OFF OLD FORMATION
 PERFORATE NEW FORMATION OTHER PHYSICAL CHANGE IN WELL (SPECIFY) As-Drilled
TARGET FORMATION: Marcellus Shale ESTIMATED DEPTH: 23 140. MD
DESIGNATED AGENT: Kevin Ellis
WELL OPERATOR: Antero Resources Corporation
ADDRESS: 1615 Wynkoop Street
DENVER, CO 80202
ADDRESS: 535 White Oaks Blvd.
BRIDGEPORT WV, 26330

2024-09-09



Leases	
A	BRC Appalachian Minerals I, LLC
B	Rose Enterprises, LLC
C	Dennis R. & Clista A. Heintzman
D	Larry R. & Kim M. Henthorn
E	Waco Oil & Gas Co. Inc.
F	Judy P. Meyers
G	Larry F. Hughes
H	Michael L. West, et ux
I	Jeffrey Seckman
J	Linda J. & Jack E. Mason
K	Paula Sue Porfeli
L	Gary A. Midcap, et ux
M	Gary A. Midcap, et ux
N	Ruth E. VanCamp Estate
O	Gary A. Midcap, et ux
P	Sara Ann Midcap
Q	Will E. Morris Heirs Trust
R	William G. Baker
S	Gary A. Midcap, et ux
T	Lowmax R. Kunkel
U	Beverly Kay Campbell
V	Joel Potts III
W	Robert D. Wetzel
X	Michael Stillwagner
Y	Bounty Minerals, LLC

Detail 1 (NTS)



ID	TM/Par	Owner	Bk/Pg	Acres
1	6-36	Dennis & Clista Heintzman	297/640	417.60
2	10-4	Stefan L. & Alberta B. Smolski	356/467	56.08
3	6-49	Dennis & Clista A. Heintzman	297/637	45.00
4	6-26.1	-	52/185	18.00
5	6-27	Ronnie L. VanCamp, et al	568/32	69.88
6	6-26	Ronnie L. VanCamp, et al	670/641	23.00
7	6-17.3	Tracy Postlewait	354/74	3.00
8	6-17.2	Michael L. & Donna S. West	243/175	2.66
9	6-47	Jeffrey Seckman	545/70	19.00
10	6-19	Linda J. & Jack E. Mason	OR 101/678	10.00
11	6-18.1	Maxine M. Ankrom	362/75	1.16
12	6-17.1	Larry Henthorn	560/660	25.00
13	6-18.2	Kirk Family Trust	511/169	11.00
14	6-18	Kirk Family Trust	511/171	39.00
15	6-6	Gary A. & Penny K. Midcap	301/265	100.00
16	6-7	Gary A. & Penny K. Midcap	301/265	30.90
17	3-26.1	Gary A. & Penny K. Midcap	301/265	40.00
18	3-32	Gary A. & Penny K. Midcap	301/265	38.09
19	3-26	Gary A. Midcap	318/496	50.00
20	3-24	Gary A. & Penny K. Midcap	301/265	66.50
21	3-25	Gary A. & Penny K. Midcap	301/265	42.47
22	3-18	Gary A. Midcap	322/108	80.33
23	3-13	Lomax R. Kunkel (L/E)	297/692	63.50
24	3-9	Steven D. & Brenda M. Higgins	313/623	163.34
25	3-8	Steven D. & Brenda M. Higgins	313/623	67.00
26	16-67	Robert D. Wetzel	404/372	82.06
27	16-61.1	Robert D. Wetzel	184/351	3.00
28	16-64	Richard Todd Kay	420/650	29.00
29	16-63	Richard E. Kay, et al	395/329	19.00
30	16-61	Kenneth W. & Norma A. Headley	355/347	41.75

FILE NO: 77-54-E-22
 DRAWING NO: Leap Unit 2H As-Drilled
 SCALE: 1" = 2000'
 MINIMUM DEGREE OF ACCURACY:
Submeter
 PROVEN SOURCE OF ELEVATION:
WVDOT, Harrisville, WV

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

DATE: 2023
 OPERATOR'S WELL NO. Leap Unit 2H
API WELL NO
47 — 095 — 02819
 STATE COUNTY PERMIT

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

LOCATION: ELEVATION: As-Built: 1,193' WATERSHED: Outlet Middle Island Creek QUADRANGLE: TH:Porter Falls 82.06250; BH:Paden City 67; 63.3125; 38; 29.78.50; 59
 DISTRICT: Ellsworth/Magnolia COUNTY: Tyler/Wetzel ACREAGE: 417.6 **02/09/2024**
 SURFACE OWNER: Dennis & Clista Heintzman; Larry F. Hughes; Gary A. Midcap, et ux (4); Paula Sue Porfeli;
 ROYALTY OWNER: BRC Appalachian Minerals I, LLC; Dennis R. & Clista A. Heintzman; Jeffrey Seckman LEASE NO: _____ ACREAGE: 30.9625; 100

PROPOSED WORK: DRILL CONVERT DRILL DEEPER FRACTURE OR STIMULATE PLUG OFF OLD FORMATION
 PERFORATE NEW FORMATION OTHER PHYSICAL CHANGE IN WELL (SPECIFY) As-Drilled 6,592' TVD
 PLUG AND ABANDON CLEAN OUT AND REPLUG TARGET FORMATION: Marcellus Shale ESTIMATED DEPTH: 23,140' MD

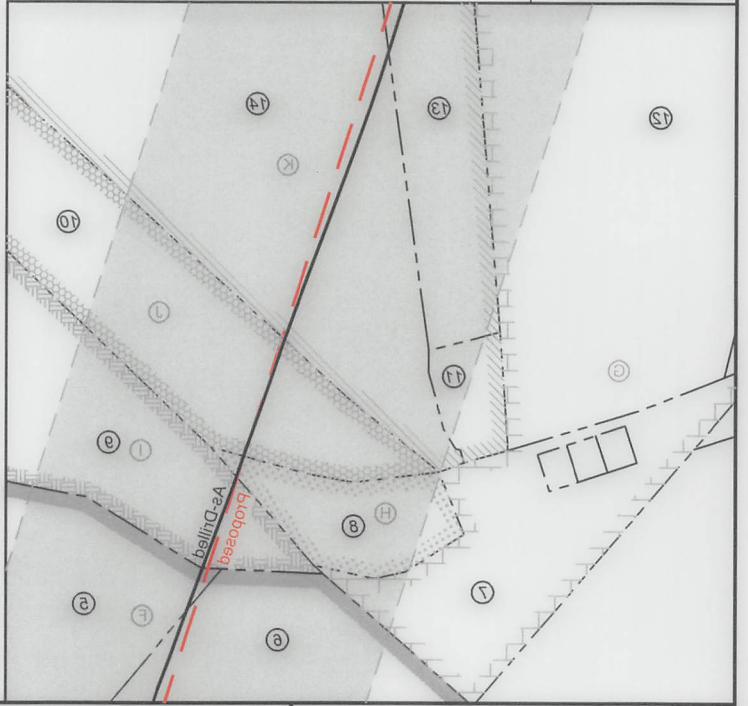
WELL OPERATOR: Antero Resources Corporation DESIGNATED AGENT: Kevin Ellis
 ADDRESS: 1615 Wynkoop Street ADDRESS: 535 White Oaks Blvd.
Denver, CO 80202 Bridgeport WV, 26330



Leases	
A	BRC Appalachia Minerals I, LLC
B	Rose Enterprises, LLC
C	Dennis R. & Clista A. Heintzman
D	Lary R. & Kim M. Heintzman
E	Waco Oil & Gas Co. Inc.
F	Judy P. Meyers
G	Lary F. Hughes
H	Michael L. West, et ux
I	Jeffrey Seckman
J	Linda J. & Jack E. Mason
K	Paula Sue Porelli
L	Gary A. Midcap, et ux
M	Gary A. Midcap, et ux
N	Ruth E. VanCamp Estate
O	Gary A. Midcap, et ux
P	Sara Ann Midcap
Q	Will E. Morris Heirs Trust
R	William G. Baker
S	Gary A. Midcap, et ux
T	Lomax R. Kunkel
U	Beverly Kay Campbell
V	Joel Potts III
W	Robert D. Wetzel
X	Michael Stillwagner
Y	Bounty Minerals, LLC

ID	TMPr	Owner	BRP#	Acres
1	6-38	Dennis & Clista Heintzman	2971640	417.60
2	10-4	Stefan L. & Alberta B. Smolaski	3261467	66.08
3	6-49	Dennis & Clista A. Heintzman	2971637	42.00
4	6-28.1	-	521185	18.00
5	6-27	Ronnie L. VanCamp, et al	588132	69.88
6	6-26	Ronnie L. VanCamp, et al	670641	23.00
7	6-17.3	Tacy Postlewait	324174	3.00
8	6-17.2	Michael L. & Donna S. West	243175	2.66
9	6-47	Jeffrey Seckman	645170	19.00
10	6-19	Linda J. & Jack E. Mason	1011678	10.00
11	6-18.1	Maxine M. Aukrom	382175	1.16
12	6-17.1	Lary Heintzman	5801680	22.00
13	6-18.2	Kirk Family Trust	511169	11.00
14	6-18	Kirk Family Trust	511171	38.00
15	6-6	Gary A. & Penny K. Midcap	3011265	30.00
16	6-7	Gary A. & Penny K. Midcap	3011265	30.90
17	3-26.1	Gary A. & Penny K. Midcap	3011265	40.00
18	3-32	Gary A. & Penny K. Midcap	3011265	38.09
19	3-26	Gary A. Midcap	3181496	60.00
20	3-24	Gary A. & Penny K. Midcap	3011265	66.50
21	3-26	Gary A. & Penny K. Midcap	3011265	42.47
22	3-18	Gary A. Midcap	3221108	80.33
23	3-13	Lomax R. Kunkel (L/E)	2971622	62.50
24	3-9	Steven D. & Brenda M. Higgins	3131623	163.34
25	3-8	Steven D. & Brenda M. Higgins	3131623	61.00
26	16-67	Robert D. Wetzel	4041372	82.08
27	16-61.1	Robert D. Wetzel	1841361	3.00
28	16-64	Richard Todd Kay	4201650	29.00
29	16-63	Richard E. Kay, et al	3851329	19.00
30	16-61	Kenneth W. & Norma A. Headley	3251347	41.75

Detail 1 (NTS)



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

FILE NO.: 77-84-E-22
DRAWING NO.: Leap Unit 2H As-Dilled
SCALE: 1" = 2000'
MINIMUM DEGREE OF ACCURACY:
Submeter
PROVEN SOURCE OF ELEVATION:
WVDT, Harrisville, WV

DATE: 20 23
OPERATOR'S WELL NO.: Leap Unit 2H
API WELL NO
47 095 02819
STATE COUNTY PERMIT

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

LOCATION: ELEVATION: As-Built: 1,193' WATERSHED: Middle Island Creek
OUTLET: TH: Porel Falls
QUADRANGLE: BH: Paden City

ROYALTY OWNER: BRC Appalachia Minerals I, LLC; Dennis R. & Clista A. Heintzman; Jeffrey Seckman
LEASE NO.: ACRES: 417.6
SURFACE OWNER: Dennis & Clista Heintzman; Lary F. Hughes; Gary A. Midcap, et ux (4); Paula Sue Porelli; Lary R. & Kim M. Heintzman; Waco Oil & Gas Co. Inc.; Judy P. Meyers
COUNTY: Tyler/Wetzel
ACRES: 417.6
PROPOSED WORK: DRILL CONVERT DRILL DEEPER FRACTURE OR STIMULATE PLUG OFF OLD FORMATION
 PERFORATE NEW FORMATION OTHER PHYSICAL CHANGE IN WELL (SPECIFY) As-Dilled
 PLUG AND ABANDON CLEAN OUT AND REPLUG TARGET FORMATION: Marcellus Shale ESTIMATED DEPTH: 23140.00 MD
DESIGNATED AGENT: Kevin Ellis

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

02/09/2024

Hydraulic Fracturing Fluid Product Component Information Disclosure



Job Start Date:	2/23/2023
Job End Date:	3/9/2023
State:	West Virginia
County:	Tyler
API Number:	47-095-02819-00-00
Operator Name:	Antero Resources Corporation
Well Name and Number:	Leap Unit 2H
Latitude:	39.54297000
Longitude:	-80.85583000
Datum:	WGS84
Federal Well:	NO
Indian Well:	NO
True Vertical Depth:	6,633
Total Base Water Volume (gal):	25,077,565
Total Base Non Water Volume:	0

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	86.65252	Density = 8.50
Ingredients	Listed Above	Listed Above					
			Water	7732-18-5	100.00000	0.13563	

02/09/2024

HYDROCHLORIC ACID, 22 BAUME	Halliburton	Solvent											
						Listed Below							
MC B-8614A	MultiChem	Biocide											
						Listed Below							
Chemstream StimSTREAM FR 2800	Chemstream, Inc.	Friction Reducer											
						Listed Below							
WG-36 GELLING AGENT	Halliburton	Gelling Agent											
						Listed Below							
OPTIFLO-II DELAYED RELEASE BREAKER	Halliburton	Breaker											
						Listed Below							
Sand-Common White-100 Mesh, SSA-2	Halliburton	Proppant											
						Listed Below							
HAI-501	Halliburton	Acid Corrosion Inhibitor											
						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	13.14257				
						Hydrochloric acid	7647-01-0	30.00000	0.03823				

				Distillates, (petroleum), hydrotreated light	64742-47-8	25.00000	0.01609	
				Guar gum	9000-30-0	100.00000	0.00458	
				Alcohols, C11-14-iso, C-13-rich, ethoxylated	78330-21-9	5.00000	0.00322	
				Glutaraldehyde	111-30-8	30.00000	0.00246	
				Alkyl (C12-16) dimethylbenzyl ammonium chloride	68424-85-1	5.00000	0.00041	
				Methanol	67-56-1	100.00000	0.00024	
				Ammonium persulfate	7727-54-0	100.00000	0.00010	
				Ethanol	64-17-5	1.00000	0.00008	
				Mixture of dimer and trimer fatty acids of indefinite composition derived from tall oil	61790-12-3	30.00000	0.00007	
				Modified thiourea polymer	Proprietary	30.00000	0.00007	
				Oxylated phenolic resin	Proprietary	30.00000	0.00003	
				Hexadecene	629-73-2	5.00000	0.00001	
				Propargyl alcohol	107-19-7	5.00000	0.00001	
				Ethoxylated alcohols	Proprietary	5.00000	0.00001	
				C.I. pigment Orange 5	3468-63-1	1.00000	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)