

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

API 47 - 095 - 02696 County Tyler District Ellsworth
Quad Porter Falls Pad Name Pyles Pad Field/Pool Name -----
Farm name Richard D Pyles Well Number Friend 2H
Operator (as registered with the OOG) Antero Resources Corporation
Address 1615 Wynkoop St 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 4372706m Easting 514002m
Landing Point of Curve Northing 4372778.45m Easting 514028.36m
Bottom Hole Northing 4377297m Easting 512480m

Elevation (ft) 1081' GL Type of Well New Existing Type of Report Interim Final
Permit Type Deviated Horizontal Horizontal 6A Vertical Depth Type Deep Shallow
Type of Operation Convert Deepen Drill Plug Back Redrilling Rework Stimulate
Well Type Brine Disposal CBM Gas Oil Secondary Recovery Solution Mining Storage Other _____
Type of Completion Single Multiple Fluids Produced Brine Gas NGL Oil Other _____
Drilled with Cable Rotary

Drilling Media Surface hole Air Mud Fresh Water Intermediate hole Air Mud Fresh Water Brine
Production hole Air Mud Fresh Water Brine

Mud Type(s) and Additive(s)
Air-Foam & 4% KCL

Mud - Polymer

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Date permit issued 06/05/2020 Date drilling commenced 8/18/2020 Date drilling ceased 9/12/2020
Date completion activities began 1/2/2021 Date completion activities ceased 2/11/2021
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 61 Open mine(s) (Y/N) depths N
Salt water depth(s) ft 2200 Void(s) encountered (Y/N) depths N
Coal depth(s) ft None Identified Cavern(s) encountered (Y/N) depths N
Is coal being mined in area (Y/N) N

APPROVED

Reviewed by:
[Signature]
12/06/2023

API 47-095 - 02696 Farm name Richard D Pyles Well number Friend 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	24"	20"	80'	New	94# H-40	N/A	Y
Surface	17-1/2"	13-3/8"	346'	New	54.5# J-55	N/A	Y
Coal							
Intermediate 1	12-1/4"	9-5/8"	2566'	New	36# J-55	N/A	Y
Intermediate 2							
Intermediate 3							
Production	8-3/4"	5-1/2"	22853'	New	23# P-110	N/A	Y
Tubing		2-3/8"	6882'		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	285 sx	15.6	1.18	60	0	8 Hrs
Surface	Class A	357 sx	15.6	1.20	76	0	8 Hrs
Coal							
Intermediate 1	Class A	920 sx	15.6	1.19	195	0	8 Hrs
Intermediate 2							
Intermediate 3							
Production	Class H	792 sx (Lead) 3616 sx (Tail)	13.5 (Lead), 15.2(Tail)	1.4 (Lead), 1.26 (Tail)	808	-500' into Intermediate Casing	8 Hrs
Tubing							

Drillers TD (ft) 22898' MD, 6527' TVD (BHL), 6635' (Deepest Point Drilled) Loggers TD (ft) 22898' MD
 Deepest formation penetrated Marcellus Plug back to (ft) N/A
 Plug back procedure N/A

Kick off depth (ft) 5926'

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 ever 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 on top of cement

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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 _____

12/06/2024

API 47- 095 - 02696 Farm name Richard D Pyles Well number Friend 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								

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Please insert additional pages as applicable.

12/06/2024
SM 2/6/23

Exhibit 1

Stage No.	Perforation Date	Perforated from MD ft.	Perforated to MD ft.	Number of Perforations	Formations
1	01/02/2021	22774.9	22728.5	60	Marcellus
2	01/02/2021	22689.66474	22523.4885	60	Marcellus
3	01/03/2021	22487.85321	22321.6769	60	Marcellus
4	01/03/2021	22286.04167	22119.8654	60	Marcellus
5	01/04/2021	22084.23013	21918.0538	60	Marcellus
6	01/04/2021	21882.41859	21716.2423	60	Marcellus
7	01/05/2021	21680.60705	21514.4308	60	Marcellus
8	01/05/2021	21478.79551	21312.6192	60	Marcellus
9	01/05/2021	21276.98397	21110.8077	60	Marcellus
10	01/06/2021	21075.17244	20908.9962	60	Marcellus
11	01/06/2021	20873.3609	20707.1846	60	Marcellus
12	01/07/2021	20671.54936	20505.3731	60	Marcellus
13	01/07/2021	20469.73782	20303.5615	60	Marcellus
14	01/07/2021	20267.92628	20101.75	60	Marcellus
15	01/08/2021	20066.11474	19899.9385	60	Marcellus
16	01/08/2021	19864.30321	19698.1269	60	Marcellus
17	01/09/2021	19662.49167	19496.3154	60	Marcellus
18	01/09/2021	19460.68013	19294.5038	60	Marcellus
19	01/09/2021	19258.86859	19092.6923	60	Marcellus
20	01/10/2021	19057.05705	18890.8808	60	Marcellus
21	01/10/2021	18855.24551	18689.0692	60	Marcellus
22	01/11/2021	18653.43397	18487.2577	60	Marcellus
23	01/11/2021	18451.62244	18285.4462	60	Marcellus
24	01/11/2021	18249.8109	18083.6346	60	Marcellus
25	01/11/2021	18047.99936	17881.8231	60	Marcellus
26	01/12/2021	17846.18782	17680.0115	60	Marcellus
27	01/12/2021	17644.37628	17478.2	60	Marcellus
28	01/13/2021	17442.56474	17276.3885	60	Marcellus
29	01/13/2021	17240.75321	17074.5769	60	Marcellus
30	01/13/2021	17038.94167	16872.7654	60	Marcellus
31	01/14/2021	16837.13013	16670.9538	60	Marcellus
32	01/14/2021	16635.31859	16469.1423	60	Marcellus
33	01/14/2021	16433.50705	16267.3308	60	Marcellus
34	01/15/2021	16231.69551	16065.5192	60	Marcellus
35	01/15/2021	16029.88397	15863.7077	60	Marcellus
36	01/15/2021	15828.07244	15661.8962	60	Marcellus
37	01/16/2021	15626.2609	15460.0846	60	Marcellus
38	01/16/2021	15424.44936	15258.2731	60	Marcellus
39	01/16/2021	15222.63782	15056.4615	60	Marcellus
40	01/16/2021	15020.82628	14854.65	60	Marcellus
41	01/17/2021	14819.01474	14652.8385	60	Marcellus
42	01/17/2021	14617.20321	14451.0269	60	Marcellus
43	01/18/2021	14415.39167	14249.2154	60	Marcellus
44	01/18/2021	14213.58013	14047.4038	60	Marcellus
45	01/18/2021	14011.76859	13845.5923	60	Marcellus
46	01/18/2021	13809.95705	13643.7808	60	Marcellus
47	01/19/2021	13608.14551	13441.9692	60	Marcellus
48	01/19/2021	13406.33397	13240.1577	60	Marcellus
49	01/19/2021	13204.52244	13038.3462	60	Marcellus
50	01/20/2021	13002.7109	12836.5346	60	Marcellus
51	01/20/2021	12800.89936	12634.7231	60	Marcellus
52	01/20/2021	12599.08782	12432.9115	60	Marcellus
53	01/21/2021	12397.27628	12231.1	60	Marcellus
54	01/21/2021	12195.46474	12029.2885	60	Marcellus
55	01/21/2021	11993.65321	11827.4769	60	Marcellus
56	01/22/2021	11791.84167	11625.6654	60	Marcellus
57	01/22/2021	11590.03013	11423.8538	60	Marcellus
58	01/22/2021	11388.21859	11222.0423	60	Marcellus
59	01/23/2021	11186.40705	11020.2308	60	Marcellus
60	01/23/2021	10984.59551	10818.4192	60	Marcellus
61	01/23/2021	10782.78397	10616.6077	60	Marcellus
62	01/23/2021	10580.97244	10414.7962	60	Marcellus
63	01/24/2021	10379.1609	10212.9846	60	Marcellus
64	01/24/2021	10177.34936	10011.1731	60	Marcellus
65	01/24/2021	9975.537821	9809.36154	60	Marcellus
66	01/25/2021	9773.726282	9607.55	60	Marcellus
67	01/25/2021	9571.914744	9405.73846	60	Marcellus
68	01/25/2021	9370.103205	9203.92692	60	Marcellus
69	01/25/2021	9168.291667	9002.11538	60	Marcellus
70	01/26/2021	8966.480128	8800.30385	60	Marcellus
71	01/26/2021	8764.66859	8598.49231	60	Marcellus
72	01/26/2021	8562.857051	8396.68077	60	Marcellus
73	01/27/2021	8361.045513	8194.86923	60	Marcellus
74	01/27/2021	8159.233974	7993.05769	60	Marcellus
75	01/27/2021	7957.422436	7791.24615	60	Marcellus
76	01/27/2021	7755.610897	7589.43462	60	Marcellus
77	01/28/2021	7553.799359	7387.62308	60	Marcellus
78	01/28/2021	7351.987821	7185.81154	60	Marcellus
79	01/28/2021	7150.176282	6984	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	01/02/2021	79.58	9903	7292	3367	179000	218966	N/A
2	01/02/2021	84.75	10280	5836	3061	401490	313280	N/A
3	01/03/2021	83.07	9883	4928	3019	397670	315288	N/A
4	01/03/2021	87.73	10144	5726	4054	407360	314276	N/A
5	01/04/2021	88.26	10049	5570	3834	419040	311608	N/A
6	01/04/2021	87.08	9851	4941	3515	401910	309670	N/A
7	01/05/2021	89.63	10049	5656	3998	400270	309623	N/A
8	01/05/2021	90.2	10034	4779	3567	401310	320278	N/A
9	01/05/2021	88.99	10023	4667	3973	400010	309587	N/A
10	01/06/2021	87.82	10091	0	3475	401380	310720	N/A
11	01/06/2021	91.85	9781	4568	4137	399850	309746	N/A
12	01/07/2021	88.85	9997	5817	3742	403660	312721	N/A
13	01/07/2021	88.03	10087	5914	3375	409990	314215	N/A
14	01/07/2021	92.57	10051	5738	4021	410180	319400	N/A
15	01/08/2021	90.73	9951	6498	5047	400670	312610	N/A
16	01/08/2021	91.99	10099	5021	3969	410190	316282	N/A
17	01/09/2021	88.72	9747	5405	4146	404650	308850	N/A
18	01/09/2021	88.53	9774	5660	3381	408060	305058	N/A
19	01/09/2021	93.53	9937	5194	4077	400780	307739	N/A
20	01/10/2021	92.12	10035	5377	4071	409610	311161	N/A
21	01/10/2021	91.66	9700	5327	4116	402070	306972	N/A
22	01/11/2021	93.14	9948	5520	4482	411440	313282	N/A
23	01/11/2021	89.47	9557.2	5299	4455.05	401700	307407	N/A
24	01/11/2021	93.06	9850	5052	4146	396150	304693	N/A
25	01/11/2021	92.19	10038	5287	3630	408740	307436	N/A
26	01/12/2021	94.1	9814	5355	3613	404170	297818	N/A
27	01/12/2021	95.88	9948	5333	4092	407530	305288	N/A
28	01/13/2021	91.79	10071	5341	4823.78	389060	333019	N/A
29	01/13/2021	94.63	9549	5364	4428	403700	298201	N/A
30	01/13/2021	91.58	9539	5402	3648	407760	304673	N/A
31	01/14/2021	88.44	9393	5581	3633.4	408510	303752	N/A
32	01/14/2021	94.25	9673	5292	3794	411590	302688	N/A
33	01/14/2021	94.56	9613	5159	3870.37	408610	297387	N/A
34	01/15/2021	93.8	9386	5155	4726	398190	302773	N/A
35	01/15/2021	93.75	9523	5047	3407	401800	358698	N/A
36	01/15/2021	95.08	9606	5646	3791	413240	301956	N/A
37	01/16/2021	94.48	9379	4603	3952	413900	302346	N/A
38	01/16/2021	97.17	9606	5588	4164	402430	296467	N/A
39	01/16/2021	97.13	9470	5498	3722	403270	296360	N/A
40	01/16/2021	95.44	9689	5811	3810	399360	299776	N/A
41	01/17/2021	92.72	9123	5319	3974	409510	303114	N/A
42	01/17/2021	94.1	9733	5221	3955	404030	293697	N/A
43	01/18/2021	95.72	10004	5822	3638	409020	298772	N/A
44	01/18/2021	95.5	9582	5230	3611	403510	295021	N/A
45	01/18/2021	95.35	9099	5702	4385	401010	292405	N/A
46	01/18/2021	96.02	8986	5808	4147	410970	298420	N/A
47	01/19/2021	96.65	9059	6137	4738	401290	296423	N/A
48	01/19/2021	95.66	8757	5882	4013	397280	288291	N/A
49	01/19/2021	93.23	8904	5717	3913	403620	298714	N/A
50	01/20/2021	96.5	9047	4382	3619	415440	301157	N/A
51	01/20/2021	95.46	9066	5688	3972	406540	289847	N/A
52	01/20/2021	96.95	9069	5535	3726	412530	296500	N/A
53	01/21/2021	95.98	9081	5630	4288	407110	295226	N/A
54	01/21/2021	96.34	9099	5552	3850	405560	289242	N/A
55	01/21/2021	95.1	9035	5918	3555	411790	289456	N/A
56	01/22/2021	96.76	8850	5153	3687	406970	293909	N/A
57	01/22/2021	96.48	8990	5919	4071	406220	286220	N/A
58	01/22/2021	95.93	8703	5823	4203	406400	287574	N/A
59	01/23/2021	97	8956	5835	3608	394560	280782	N/A
60	01/23/2021	95.97	8683	5484	3977	403990	288347	N/A
61	01/23/2021	96.67	8995	6648	3771	407730	289401	N/A
62	01/23/2021	97.49	8448	5535	4118	398800	296638	N/A
63	01/24/2021	95.97	8097	5524	4067	401970	292498	N/A
64	01/24/2021	96.54	8138	5988	3932	407090	286860	N/A
65	01/24/2021	95.94	8409	5780	4296	397190	280225	N/A
66	01/25/2021	92.71	8150	5481	5007	397210	297930	N/A
67	01/25/2021	95.87	8137	6509	3628	401420	282915	N/A
68	01/25/2021	96.42	8221	6082	3631	401900	283467	N/A
69	01/25/2021	97.58	8018	5613	3742	406820	298796	N/A
70	01/26/2021	95.7	7850	5859	4044	403990	300579	N/A
71	01/26/2021	97.71	8125	6108	3914	402600	288562	N/A
72	01/26/2021	97.62	7889	5741	4268	402400	285741	N/A
73	01/27/2021	97.92	7959	5758	4057	405630	287152	N/A
74	01/27/2021	97.52	7905	5592	3969	396880	286419	N/A
75	01/27/2021	96.71	7858	5881	3529	399200	285546	N/A
76	01/27/2021	97.08	7531	5453	3703	408930	293808	N/A
77	01/28/2021	97.55	7656	5920	3813	403770	286942	N/A
78	01/28/2021	98.4	7471	6370	3925	396450	288281	N/A
79	01/28/2021	98.54	7367	5515	4289	443130	299431	N/A
	AVG=	94	9,205	5,498	3,934	31,760,760	23,666,378	TOTAL

JPM
9/22/2023
12/06/2024

EXHIBIT 3

LITHOLOGY/ FORMATION	TOP DEPTH (TVD)	BOTTOM DEPTH (TVD)	TOP DEPTH (MD)	BOTTOM DEPTH (MD)
	From Surface	From Surface	From Surface	From Surface
Shale	79	124	79	124
Shaley Siltstone	124	474	124	474
Silty Shale	474	574	474	574
Siltstone, Tr Shale	574	724	574	724
Silty Shale	724	824	724	824
Shaley Sandstone	824	1,024	824	1,024
Shale, Tr Siltstone	1,024	1,274	1,024	1,274
Shale, Tr Sandstone	1,274	1,524	1,274	1,524
Silty Shale	1,524	1,624	1,524	1,624
Sandstone, Tr Shale	1,624	1,724	1,624	1,724
Sandy Shale	1,724	1,774	1,724	1,774
Shaley Siltstone	1,774	1,824	1,774	1,824
Shale	1,824	1,949	1,824	1,949
Big Lime	1,975	2,685	1,975	2,685
Fifty Foot Sandstone	2,685	2,794	2,685	2,794
Gordon	2,794	3,095	2,794	3,097
Fifth Sandstone	3,095	3,166	3,097	3,169
Bayard	3,166	4,044	3,169	4,067
Speechley	4,044	4,171	4,067	4,198
Balltown	4,171	4,698	4,198	4,736
Bradford	4,698	4,983	4,736	5,029
Benson	4,983	5,365	5,029	5,422
Alexander	5,365	6,440	5,422	6,564
Sycamore	6,301	6,414	6,390	6,538
Middlesex	6,414	6,511	6,538	6,703
Burkett	6,511	6,536	6,703	6,757
Tully	6,536	6,589	6,757	6,936
Marcellus	6,589	NA	6,936	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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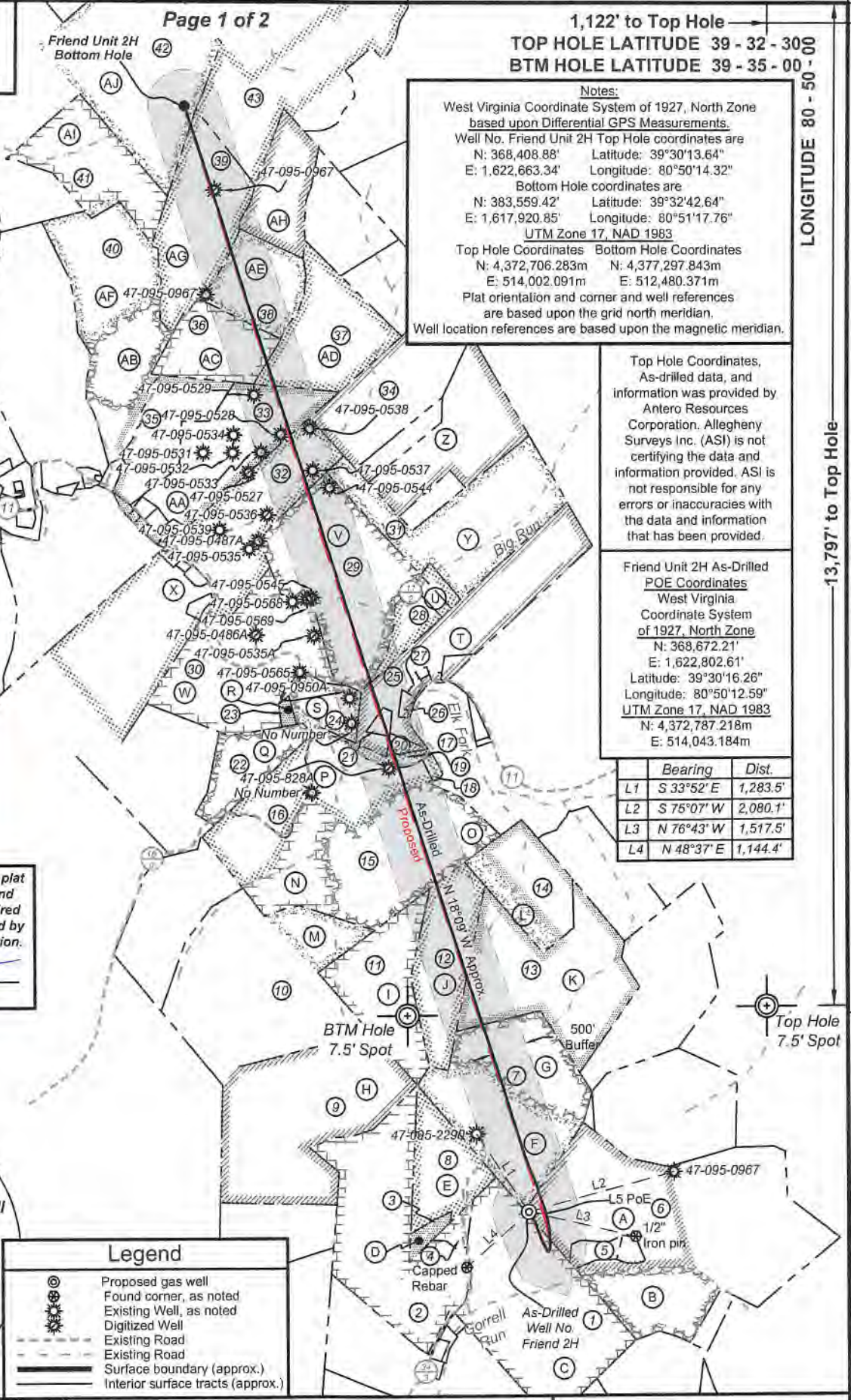
**Antero Resources
Well No. Friend 2H
As-Drilled
Antero Resources Corporation**



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

Note: 3 water wells 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.



Notes:
West Virginia Coordinate System of 1927, North Zone based upon Differential GPS Measurements.
Well No. Friend Unit 2H Top Hole coordinates are
N: 368,408.88' Latitude: 39°30'13.64"
E: 1,622,663.34' Longitude: 80°50'14.32"
Bottom Hole coordinates are
N: 383,559.42' Latitude: 39°32'42.64"
E: 1,617,920.85' Longitude: 80°51'17.76"
UTM Zone 17, NAD 1983
Top Hole Coordinates Bottom Hole Coordinates
N: 4,372,706.283m N: 4,377,297.843m
E: 514,002.091m E: 512,480.371m
Plat orientation and corner and well references are based upon the grid north meridian.
Well location references are based upon the magnetic meridian.

Top Hole Coordinates, As-drilled data, and information was provided by Antero Resources Corporation. Allegany 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.

Friend Unit 2H As-Drilled POE Coordinates
West Virginia Coordinate System of 1927, North Zone
N: 368,672.21'
E: 1,622,802.61'
Latitude: 39°30'16.26"
Longitude: 80°50'12.59"
UTM Zone 17, NAD 1983
N: 4,372,787.218m
E: 514,043.184m

	Bearing	Dist.
L1	S 33°52' E	1,283.5'
L2	S 75°07' W	2,080.1'
L3	N 76°43' W	1,517.5'
L4	N 48°37' E	1,144.4'

FILE NO: 45-54-E-19
DRAWING NO: Friend 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: February 24 2021
OPERATOR'S WELL NO. Friend 2H
API WELL NO
47 - 095 - 02696
STATE COUNTY PERMIT

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

LOCATION: ELEVATION: As-Built 1081' WATERSHED: Outlet Middle Island Creek QUADRANGLE: Porter Falls
DISTRICT: Ellsworth COUNTY: Tyler
SURFACE OWNER: Richard D. Pyles Sharon Rose Faini; Rose Enterprises, LLC; Darrell Sole; Allen Smith; B&C Oil and Gas Company (2); Will E. Morris Trust; Jerry Shoemaker; Haught Family Trust; Karen J. Wolfe; ACREAGE: 168.5
ROYALTY OWNER: Richard D. Pyles, et ux; Joseph L. Sitko, et ux; Helen E. Boggs; BRC Appalachian Minerals I, LLC (5) LEASE NO: ACREAGE: 30; 30; 67
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: 6,527' TVD 22,898' MD

WELL OPERATOR: Antero Resources Corporation DESIGNATED AGENT: Dianna Stamper - CT Corporation System
ADDRESS: 1615 Wynkoop Street ADDRESS: 5400 D Big Tyler Road
Denver, CO 80202 Charleston, WV 25313

6,088' to Bottom Hole

1,122' to Top Hole

TOP HOLE LATITUDE 39 - 32 - 30.00
BTM HOLE LATITUDE 39 - 35 - 00.00

LONGITUDE 80 - 50 - 50.00

13,797' to Top Hole

13,896' to Bottom Hole

12/06/2024



ID	TM/Par	Owner	DB/PG	Acres
1	16-44	Robert A. Pyles, et al	335/482	87.82
2	15-38	Rodney A. & Candis L. Nash	351/701	85.48
3	16-23.1	Bruce Winkelmann	334/195	3.30
4	16-44.1	Carl Straight	543/598	3.70
5	16-42.1	Richard D. Pyles	336/815	4.56
6	16-42	Richard D. Pyles	379/20	168.50
7	16-22	Joesph L. Jr. & Karen Sitko	296/13	81.70
8	16-23	Joseph L. Sitko	314/462	29.7
9	15-30.1	Roger D. Blizzard & Ruth E. Spencer	343/427	101.38
10	15-11	Roger Matthess	318/137	115.47
11	15-10	Antero Midstream, Inc.	617/739	34.13
12	16-1	Antero Midstream, Inc.	617/739	35.25
13	16-2	David E. Bowyer	622/775	80.75
14	16-4	Darrell J. Sole	227/376	35.00
15	15-9	Antero Midstream, LLC	586/544	132.19
16	15-8	William A. & Joyce L. Caputo	245/485	14.00
17	11-36	David W. Fiber	574/847	21.16
18	10-53	Kathy M. & Doug O. Smith	331/220	1.10
19	10-52	Darwin & Shirley Martin	306/537	5.00
20	10-72	Darwin & Shirley Martin	322/28	1.99
21	10-73	Darwin & Shirley Martin	306/537	1.90
22	10-56	Mary K. Neff	413/731	22.06
23	10-55	Charles & Shirley E. Neff	218/46	1.47
24	10-54	Michael W. & Brenda S. Schmidt	244/409	14.06
25	11-32	Darwin & Shirley Martin	348/344	60.66
26	10-70	Darwin & Shirley Martin	326/490	1.19
27	11-32.2	Bernard R. & Denise F. McDougal	636/587	0.54
28	10-51	Charles E. & Laura Lynn Friend	334/839	8.03
29	10-49	Charles E. & Laura Lynn Friend	334/836	71.52
30	10-57	Charles E. & Laura Lynn Friend	334/836	84.39
31	11-1	Gertrude L. Pugh	314/140	70.00
32	10-46	Opal Carol Tallman	282/382	114.00
33	10-10	Ronald D. & Sandra Sue Martin	378/322	58.35
34	10-8	Helen M. Young	198/126	50.50
35	10-12	Sandra K. Metz	376/458	30.50
36	10-11	J.R. Schamp	318/543	30.00
37	10-9	Brian E. & Barbara J. Courtney	344/626	52.00
38	10-5	Brian E. & Barbara J. Courtney	344/626	30.00
39	10-4	Stefan L. & Alberta B. Smolski	356/467	56.08
40	10-13	Kevin S. & Melinda S. Goff	597/808	87.19
41	6-49	Dennis & Clista A. Heintzman	297/637	45.00
42	6-36	Dennis & Clista A. Heintzman	297/640	417.06
43	6-30.1	Larry M. & Amy B. Adams	369/344	150.34

Leases	
A	Richard D. Pyles, et ux
B	Richard D. Pyles, et ux
C	Helen E. Boggs
D	Bruce Winkelmann
E	Joseph L. Sitko, et ux
F	Joseph L. Sitko, et ux
G	BRC Appalachian Minerals I, LLC
H	Roger D. Blizzard
I	BRC Appalachian Minerals I, LLC
J	BRC Appalachian Minerals I, LLC
K	BRC Appalachian Minerals I, LLC
L	BRC Appalachian Minerals I, LLC
M	James Matthess
N	James L. Newsom Revocable Trust
O	Will E. Morris Trust
P	Jerry Shoemaker
Q	Kenneth R. Baker
R	Shirley E. Neff
S	Michael W. Schmidt, et ux
T	Haught Family Trust
U	Karen J. Wolfe
V	Darrell Sole
W	Charles Eugene Friend, et ux
X	Allen Smith
Y	Ridgetop Capital II, LP
Z	Helen M. Karcinski, et al
AA	B&C Oil and Gas Company
AB	BRC Appalachian Minerals I, LLC
AC	Sharon Rose Faini
AD	BRC Appalachian Minerals I, LLC
AE	B&C Oil and Gas Company
AF	Bounty Minerals, LLC
AG	Rose Enterprises, LLC
AH	B&C Oil and Gas Company
AI	Dennis R. & Clista A. Heintzman
AJ	BRC Appalachian Minerals I, LLC

FILE NO: 45-54-E-19
DRAWING NO: Friend Unit 2H As-Drilled
SCALE: 1" = 2000'
MINIMUM DEGREE OF ACCURACY:
Submeter
PROVEN SOURCE OF ELEVATION:
WVDOT, Harrisville, WV



DATE: February 24 2021
OPERATOR'S WELL NO. Friend 2H
API WELL NO
47 - 095 - 02696
STATE COUNTY PERMIT

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

LOCATION: ELEVATION: As-Built 1081' WATERSHED: Outlet Middle Island Creek QUADRANGLE: Porter Falls
DISTRICT: Ellsworth COUNTY: Tyler 81.482; 45; 177;
SURFACE OWNER: Richard D. Pyles Sharon Rose Faini; Rose Enterprises, LLC; 02696-095-02696; 64.65;
ROYALTY OWNER: Richard D. Pyles, et ux; Joseph L. Sitko, et ux; Helen E. Boggs; BRC Appalachian Minerals I, LLC (5) Darrell Sole; Allen Smith; B&C Oil and Gas Company (2); 36.3625; 70.0; 134;
PROPOSED WORK: DRILL CONVERT DRILL DEEPER FRACTURE OR STIMULATE PLUG OFF OLD FORMATION
 PERFORATE NEW FORMATION OTHER PHYSICAL CHANGE IN WELL (SPECIFY) As-Drilled 71.283; 13.025;
 PLUG AND ABANDON CLEAN OUT AND REPLUG TARGET FORMATION: Marcellus Shale ESTIMATED DEPTH: 22,898' MD 30; 30; 67;
6,527' TVD

WELL OPERATOR: Antero Resources Corporation DESIGNATED AGENT: Dianna Stamper - CT Corporation System
ADDRESS: 1615 Wynkoop Street ADDRESS: 5400 D Big Tyler Road
Denver, CO 80202 Charleston, WV 25313

6,088' to Bottom Hole

1,122' to Top Hole

TOP HOLE LATITUDE 39 - 32 - 30.0
BTM HOLE LATITUDE 39 - 35 - 00.0

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



Wellhead Layout

- Vulcan Unit 1H
47-095-02701
- Vulcan Unit 2H
47-095-02702
- Prosper Unit 1H
47-095-02699
- Prosper Unit 2H
47-095-02700
- Friend Unit 1H
47-095-02695
As-Drilled
- Friend Unit 2H
47-095-02696
As-Drilled
- Seagrave Unit 1H
47-095-02697
- Seagrave Unit 2H
47-095-02698



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

Note: 3 water wells 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.



Legend

- Proposed gas well
- Found corner, as noted
- Existing Well, as noted
- Digitized Well
- Existing Road
- Existing Road
- Surface boundary (approx.)
- Interior surface tracts (approx.)

Notes:
West Virginia Coordinate System of 1927, North Zone based upon Differential GPS Measurements.
Well No. Friend Unit 2H Top Hole coordinates are
N: 368,408.88' Latitude: 39°30'13.64"
E: 1,622,663.34' Longitude: 80°50'14.32"
Bottom Hole coordinates are
N: 383,559.42' Latitude: 39°32'42.64"
E: 1,617,920.85' Longitude: 80°51'17.76"
UTM Zone 17, NAD 1983
Top Hole Coordinates Bottom Hole Coordinates
N: 4,372,706.283m N: 4,377,297.843m
E: 514,002.091m E: 512,480.371m
Plat orientation and corner and well references are based upon the grid north meridian.
Well location references are based upon the magnetic meridian.

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.

Friend Unit 2H As-Drilled POE Coordinates
West Virginia Coordinate System of 1927, North Zone
N: 368,672.21'
E: 1,622,802.61'
Latitude: 39°30'16.26"
Longitude: 80°50'12.58"
UTM Zone 17, NAD 1983
N: 4,372,787.218m
E: 514,043.184m

	Bearing	Dist.
L1	S 33°52' E	1,283.5'
L2	S 75°07' W	2,080.1'
L3	N 76°43' W	1,517.5'
L4	N 48°37' E	1,144.4'

FILE NO: 45-54-E-19
DRAWING NO: Friend 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: February 24 2021
OPERATOR'S WELL NO. Friend 2H
API WELL NO
47 - 095 - 02696
STATE COUNTY PERMIT

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

LOCATION: ELEVATION: As-Built 1081' WATERSHED: Outlet Middle Island Creek QUADRANGLE: Porter Falls
DISTRICT: Ellsworth COUNTY: Tyler
SURFACE OWNER: Richard D. Pyles Sharon Rose Faini; Rose Enterprises, LLC; Darrell Sole; Allen Smith; B&C Oil and Gas Company (2);
ROYALTY OWNER: Richard D. Pyles, et ux; Joseph L. Sitko, et ux; Helen E. Boggs; BRC Appalachian Minerals I, LLC (5) LEASE NO: ACREAGE: 168.5
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: 6,527' TVD 22,898' MD

WELL OPERATOR: Antero Resources Corporation DESIGNATED AGENT: Dianna Stamper - CT Corporation System
ADDRESS: 1615 Wynkoop Street ADDRESS: 5400 D Big Tyler Road
Denver, CO 80202 Charleston, WV 25313

12/06/2024



ID	TM/Par	Owner	DB/PG	Acres
1	16-44	Robert A. Pyles, et al	335/482	87.82
2	15-38	Rodney A. & Candis L. Nash	351/701	85.48
3	16-23.1	Bruce Winkelmann	334/195	3.30
4	16-44.1	Carl Straight	543/598	3.70
5	16-42.1	Richard D. Pyles	336/815	4.56
6	16-42	Richard D. Pyles	379/20	168.50
7	16-22	Joseph L. Jr. & Karen Sitko	296/13	81.70
8	16-23	Joseph L. Sitko	314/462	29.7
9	15-30.1	Roger D. Blizzard & Ruth E. Spencer	343/427	101.38
10	15-11	Roger Matthess	318/137	115.47
11	15-10	Antero Midstream, Inc.	617/739	34.13
12	16-1	Antero Midstream, Inc.	617/739	35.25
13	16-2	David E. Bowyer	622/775	80.75
14	16-4	Darrell J. Sole	227/376	35.00
15	15-9	Antero Midstream, LLC	586/544	132.19
16	15-8	William A. & Joyce L. Caputo	245/485	14.00
17	11-36	David W. Fiber	574/847	21.16
18	10-53	Kathy M. & Doug O. Smith	331/220	1.10
19	10-52	Darwin & Shirley Martin	306/537	5.00
20	10-72	Darwin & Shirley Martin	322/28	1.99
21	10-73	Darwin & Shirley Martin	306/537	1.90
22	10-56	Mary K. Neff	413/731	22.06
23	10-55	Charles & Shirley E. Neff	218/46	1.47
24	10-54	Michael W. & Brenda S. Schmidt	244/409	14.06
25	11-32	Darwin & Shirley Martin	348/344	60.66
26	10-70	Darwin & Shirley Martin	326/490	1.19
27	11-32.2	Bernard R. & Denise F. McDougal	636/587	0.54
28	10-51	Charles E. & Laura Lynn Friend	334/839	8.03
29	10-49	Charles E. & Laura Lynn Friend	334/836	71.52
30	10-57	Charles E. & Laura Lynn Friend	334/836	84.39
31	11-1	Gertrude L. Pugh	314/140	70.00
32	10-46	Opal Carol Tallman	282/382	114.00
33	10-10	Ronald D. & Sandra Sue Martin	378/322	58.35
34	10-8	Helen M. Young	198/126	50.50
35	10-12	Sandra K. Metz	376/458	30.50
36	10-11	J.R. Schamp	318/543	30.00
37	10-9	Brian E. & Barbara J. Courtney	344/626	52.00
38	10-5	Brian E. & Barbara J. Courtney	344/626	30.00
39	10-4	Stefan L. & Alberta B. Smolski	356/467	56.08
40	10-13	Kevin S. & Melinda S. Goff	597/808	87.19
41	6-49	Dennis & Clista A. Heintzman	297/637	45.00
42	6-36	Dennis & Clista A. Heintzman	297/640	417.06
43	6-30.1	Larry M. & Amy B. Adams	369/344	150.34

Leases	
A	Richard D. Pyles, et ux
B	Richard D. Pyles, et ux
C	Helen E. Boggs
D	Bruce Winkelmann
E	Joseph L. Sitko, et ux
F	Joseph L. Sitko, et ux
G	BRC Appalachian Minerals I, LLC
H	Roger D. Blizzard
I	BRC Appalachian Minerals I, LLC
J	BRC Appalachian Minerals I, LLC
K	BRC Appalachian Minerals I, LLC
L	BRC Appalachian Minerals I, LLC
M	James Matthess
N	James L. Newsom Revocable Trust
O	Will E. Morris Trust
P	Jerry Shoemaker
Q	Kenneth R. Baker
R	Shirley E. Neff
S	Michael W. Schmidt, et ux
T	Haught Family Trust
U	Karen J. Wolfe
V	Darrell Sole
W	Charles Eugene Friend, et ux
X	Allen Smith
Y	Ridgetop Capital II, LP
Z	Helen M. Karcinski, et al
AA	B&C Oil and Gas Company
AB	BRC Appalachian Minerals I, LLC
AC	Sharon Rose Faini
AD	BRC Appalachian Minerals I, LLC
AE	B&C Oil and Gas Company
AF	Bounty Minerals, LLC
AG	Rose Enterprises, LLC
AH	B&C Oil and Gas Company
AI	Dennis R. & Clista A. Heintzman
AJ	BRC Appalachian Minerals I, LLC

FILE NO: 45-54-E-19
 DRAWING NO: Friend Unit 2H As-Drilled
 SCALE: 1" = 2000'
 MINIMUM DEGREE OF ACCURACY:
 Submeter
 PROVEN SOURCE OF ELEVATION:
 WV DOT, Harrisville, WV



DATE: February 24 2021
 OPERATOR'S WELL NO. Friend 2H
 API WELL NO
 47 - 095 - 02696
 STATE COUNTY PERMIT

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

LOCATION: ELEVATION: As-Built 1081' WATERSHED: Outlet Middle Island Creek QUADRANGLE: Porter Falls
 DISTRICT: Ellsworth COUNTY: Tyler
 SURFACE OWNER: Richard D. Pyles Sharon Rose Faini; Rose Enterprises, LLC; Darrell Sole; Allen Smith; B&C Oil and Gas Company (2); Will E. Morris Trust; Jerry Shoemaker; Haught Family Trust; Karen J. Wolfe;
 ROYALTY OWNER: Richard D. Pyles, et ux; Joseph L. Sitko, et ux; Helen E. Boggs; BRC Appalachian Minerals I, LLC (5) LEASE NO: ACREAGE: 168.5
 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: 6,527' TVD 22,898' MD

WELL OPERATOR: Antero Resources Corporation DESIGNATED AGENT: Dianna Stamper - CT Corporation System
 ADDRESS: 1615 Wynkoop Street ADDRESS: 5400 D Big Tyler Road
 Denver, CO 80202 Charleston, WV 25313

Hydraulic Fracturing Fluid Product Component Information Disclosure

Job Start Date:	1/2/2021
Job End Date:	1/28/2021
State:	West Virginia
County:	Tyler
API Number:	47-095-02696-00-00
Operator Name:	Antero Resources Corporation
Well Name and Number:	FRIEND 2H
Latitude:	39.50378900
Longitude:	-80.83730800
Datum:	NAD83
Federal Well:	NO
Indian Well:	NO
True Vertical Depth:	6,635
Total Base Water Volume (gal):	24,723,373
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 W/ Department of Environmental Protection				
				7732-18-5	100.00000	86.68557	Density = 8.50
Ingredients	Listed Above	Listed Above	Water W/ Department of Environmental Protection				
				7732-18-5	100.00000	0.18244	

Handwritten mark

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WG-36 GELLING AGENT	Halliburton	Gelling Agent					
				Listed Below			
Sand-Common White-100 Mesh, SSA-2	Halliburton	Proppant					
				Listed Below			
HAI-501	Halliburton	Acid Corrosion Inhibitor					
				Listed Below			
OPTIFLO-II DELAYED RELEASE BREAKER	Halliburton	Breaker					
				Listed Below			
Excelerate LX-15	Halliburton	Friction Reducer					
				Listed Below			
HYDROCHLORIC ACID, 22 BAUME	Halliburton	Solvent					
				Listed Below			
Sand-Premium White-30/70	Halliburton	Proppant					
				Listed Below			
MC B-8614	Halliburton	Biocide					
				Listed Below			

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 Environmental Protection

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	13.10121	
			Hydrochloric acid	7647-01-0	30.00000	0.04216	
			Complex Amine Compound	Proprietary	60.00000	0.03389	
			Hydrotreated light petroleum distillate	64742-47-8	30.00000	0.01695	
			Guar gum	9000-30-0	100.00000	0.00783	
			Sorbitan, mono-9-octadecenoate, (Z)	1338-43-8	5.00000	0.00282	
			Surfactant	Proprietary	5.00000	0.00282	
			Glutaraldehyde	111-30-8	30.00000	0.00240	
			Ethoxylated alcohols	Proprietary	5.00000	0.00058	
			Organic chloride compound	Proprietary	1.00000	0.00056	
			Alkoxyated polyhydric alcohol	Proprietary	1.00000	0.00056	
			Quaternary ammonium compounds, benzyl-C12-16-alkyldimethyl chlorides	68424-85-1	5.00000	0.00040	
			Methanol	67-56-1	100.00000	0.00034	
			Ammonium persulfate	7727-54-0	100.00000	0.00011	
			Ethanol	64-17-5	1.00000	0.00008	
			Modified thiourea polymer	Proprietary	30.00000	0.00008	
			Mixture of dimer and trimer fatty acids of indefinite composition derived from tall oil	61790-12-3	30.00000	0.00008	
			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	
			Phosphoric acid	7664-38-2	0.10000	0.00001	
			Formaldehyde	50-00-0	0.01000	0.00001	
			Organic salt #2	Proprietary	0.01000	0.00001	
			Organic salt #1	Proprietary	0.01000	0.00001	

WV Department of
 Environmental Protection

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			Sodium hydroxide	1310-73-2	0.01000	0.00001	
			Sodium glycolate	2836-32-0	0.01000	0.00001	
			Acrylamide	79-06-1	0.01000	0.00001	
			Nitrated acetate salt	Proprietary	0.01000	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)

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FEB 06 2023
WV Department of
Environmental Protection

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WV Department of
Environmental Protection

12/06/2024