

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

API 47 - 085 - 10379 County Ritchie District Clay
Quad Pennsboro 7.5' Pad Name Lynn Camp Pad Field/Pool Name ----
Farm name Terry Lee Richards Well Number Buzzard Run Unit 1H
Operator (as registered with the OOG) Antero Resources Corporation
Address 1615 Wynkoop Street City Denver State CO Zip 80202

As Drilled location NAD 83/UTM Attach an as-drilled plat, profile view, and deviation survey
Top hole Northing 4340514m Easting 504734m
Landing Point of Curve Northing 4340673.28m Easting 504981.95m
Bottom Hole Northing 4343852m Easting 503898m

Elevation (ft) 1149' 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 2/1/2019 Date drilling commenced 2/13/2019 Date drilling ceased 5/7/2019
Date completion activities began 12/28/2019 Date completion activities ceased 3/22/2020
Verbal plugging (Y/N) N/A Date permission granted N/A Granted by N/A

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

Freshwater depth(s) ft 222', 459' Open mine(s) (Y/N) depths No
Salt water depth(s) ft 1221', 1247' Void(s) encountered (Y/N) depths No
Coal depth(s) ft 210', 784' Cavern(s) encountered (Y/N) depths No
Is coal being mined in area (Y/N) No

Reviewed by:
DmH
12-7-20

API 47- 085 - 10379 Farm name Terry Lee Richards Well number Buzzard Run Unit 1H

CASING STRINGS	Hole Size	Casing Size	Depth	New or Used	Grade wt/ft	Basket Depth(s)	Did cement circulate (Y/ N) * Provide details below*
Conductor	24"	20"	95'	New	94#, H-40	N/A	Y
Surface	17-1/2"	13-3/8"	576'	New	54#, J-55	N/A	Y
Coal							
Intermediate 1	12-1/4"	9-5/8"	2590'	New	36#, H-40	N/A	Y
Intermediate 2							
Intermediate 3							
Production	8-3/4"/8-1/2"	5-1/2"	18006'	New	23#, P-110	N/A	Y
Tubing		2-3/8"	6719'		4.7#, N-80		
Packer type and depth set		N/A					

Comment Details _____

CEMENT DATA	Class/Type of Cement	Number of Sacks	Slurry wt (ppg)	Yield (ft ³ /sks)	Volume (ft ³)	Cement Top (MD)	WOC (hrs)
Conductor	Class A	204 sx	15.6	1.18	244	0'	8 Hrs.
Surface	Class A	490 sx	15.6	1.19	402	0'	8 Hrs.
Coal							
Intermediate 1	Class A	895 sx	15.6	1.18	1047	0'	8 Hrs.
Intermediate 2							
Intermediate 3							
Production	Class H	798sx (Lead) 2640 sx (Tail)	13.5 (Lead), 15.2 (Tail)	1.53 (Lead), 1.83 (Tail)	2819	~500' into Intermediate Casing	8 Hrs.
Tubing							

Drillers TD (ft) 18026' MD, 6412' TVD (BHL), 6414' (Deepest Point Drilled) Loggers TD (ft) 18026' MD
 Deepest formation penetrated Marcellus Plug back to (ft) N/A
 Plug back procedure N/A

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Kick off depth (ft) 5700'

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

Well cored Yes No Conventional Sidewall Were cuttings collected Yes No

DESCRIBE THE CENTRALIZER PLACEMENT USED FOR EACH CASING STRING _____

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

WAS WELL COMPLETED AS SHOT HOLE Yes No DETAILS _____

WAS WELL COMPLETED OPEN HOLE? Yes No DETAILS _____

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

API 47- 085 - 10379 Farm name Terry Lee Richards Well number Buzzard Run Unit 1H

<u>PRODUCING FORMATION(S)</u>	<u>DEPTHS</u>			
<u>Marcellus</u>	<u>6363' (TOP)</u>	<u>TVD</u>	<u>6775' (TOP)</u>	<u>MD</u>
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____

Please insert additional pages as applicable.

GAS TEST Build up Drawdown Open Flow OIL TEST Flow Pump

SHUT-IN PRESSURE Surface 2800 psi Bottom Hole --- psi DURATION OF TEST --- hrs

OPEN FLOW Gas 8960 mcfpd Oil 106 bpd NGL --- bpd Water 639 bpd GAS MEASURED BY 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**

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Please insert additional pages as applicable.

Drilling Contractor Frontier Drilling LLC
Address 562 Spring Run Road City Pennsboro State WV Zip 26415

Logging Company Nine Energy Services
Address 125 Museum Road City Washington State PA Zip 15301

Cementing Company C&J Energy Services
Address 1650 Hackers Creek City Jane Lew State WV Zip 26378

Stimulating Company Baker Hughes
Address 837 Philippi Pike City Clarksburg State WV Zip 26301

Please insert additional pages as applicable.

Completed by Megan Griffith Telephone 303-357-7223
Signature [Signature] Title Permitting Agent Date 8-26-20

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

EXHIBIT 1

Stage No.	Perforation Date	Perforated from MD ft.	Perforated to MD ft.	Number of Perforations	Formations
1	2/22/2020	17896	17851	60	Marcellus
2	2/22/2020	17813.58485	17648.5091	60	Marcellus
3	2/22/2020	17613.09394	17448.0182	60	Marcellus
4	2/23/2020	17412.60303	17247.5273	60	Marcellus
5	2/23/2020	17212.11212	17047.0364	60	Marcellus
6	2/24/2020	17011.62121	16846.5455	60	Marcellus
7	2/24/2020	16811.1303	16646.0545	60	Marcellus
8	2/24/2020	16610.63939	16445.5636	60	Marcellus
9	2/25/2020	16410.14848	16245.0727	60	Marcellus
10	2/25/2020	16209.65758	16044.5818	60	Marcellus
11	2/25/2020	16009.16667	15844.0909	60	Marcellus
12	2/26/2020	15808.67576	15643.6	60	Marcellus
13	2/26/2020	15608.18485	15443.1091	60	Marcellus
14	2/27/2020	15407.69394	15242.6182	60	Marcellus
15	2/28/2020	15207.20303	15042.1273	60	Marcellus
16	2/28/2020	15006.71212	14841.6364	60	Marcellus
17	2/28/2020	14806.22121	14641.1455	60	Marcellus
18	2/29/2020	14605.7303	14440.6545	60	Marcellus
19	2/29/2020	14405.23939	14240.1636	60	Marcellus
20	2/29/2020	14204.74848	14039.6727	60	Marcellus
21	3/1/2020	14004.25758	13839.1818	60	Marcellus
22	3/1/2020	13803.76667	13638.6909	60	Marcellus
23	3/1/2020	13603.27576	13438.2	60	Marcellus
24	3/2/2020	13402.78485	13237.7091	60	Marcellus
25	3/2/2020	13202.29394	13037.2182	60	Marcellus
26	3/3/2020	13001.80303	12836.7273	60	Marcellus
27	3/3/2020	12801.31212	12636.2364	60	Marcellus
28	3/4/2020	12600.82121	12435.7455	60	Marcellus
29	3/4/2020	12400.3303	12235.2545	60	Marcellus
30	3/5/2020	12199.83939	12034.7636	60	Marcellus
31	3/5/2020	11999.34848	11834.2727	60	Marcellus
32	3/5/2020	11798.85758	11633.7818	60	Marcellus
33	3/6/2020	11598.36667	11433.2909	60	Marcellus
34	3/6/2020	11397.87576	11232.8	60	Marcellus
35	3/6/2020	11197.38485	11032.3091	60	Marcellus
36	3/7/2020	10996.89394	10831.8182	60	Marcellus
37	3/7/2020	10796.40303	10631.3273	60	Marcellus
38	3/7/2020	10595.91212	10430.8364	60	Marcellus
39	3/8/2020	10395.42121	10230.3455	60	Marcellus
40	3/8/2020	10194.9303	10029.8545	60	Marcellus
41	3/8/2020	9994.439394	9829.36364	60	Marcellus
42	3/9/2020	9793.948485	9628.87273	60	Marcellus
43	3/9/2020	9593.457576	9428.38182	60	Marcellus
44	3/9/2020	9392.966667	9227.89091	60	Marcellus
45	3/10/2020	9192.475758	9027.4	60	Marcellus
46	3/10/2020	8991.984848	8826.90909	60	Marcellus
47	3/10/2020	8791.493939	8626.41818	60	Marcellus
48	3/11/2020	8591.00303	8425.92727	60	Marcellus
49	3/11/2020	8390.512121	8225.43636	60	Marcellus
50	3/11/2020	8190.021212	8024.94545	60	Marcellus
51	3/12/2020	7989.530303	7824.45455	60	Marcellus
52	3/12/2020	7789.039394	7623.96364	60	Marcellus
53	3/12/2020	7588.548485	7423.47273	60	Marcellus
54	3/13/2020	7388.057576	7222.98182	60	Marcellus
55	3/13/2020	7187.566667	7022.49091	60	Marcellus
56	3/13/2020	6987.075758	6822	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	2/22/2020	78	7905.067	7850	3945	161540	4592.376	N/A
2	2/22/2020	85.2	8230.854	5860	3982	404800	7239.776	N/A
3	2/22/2020	82.9	8097.161	6105	4376	399880	9012.31	N/A
4	2/23/2020	82.5	8091.99	5971	3472	406400	7958.49	N/A
5	2/23/2020	84.1	8074.751	5528	3652	397480	7245.97	N/A
6	2/24/2020	83.6	8077.606	6087	3518	400940	7235.93	N/A
7	2/24/2020	85.1	8450.754	7025	3646	405160	7242.4	N/A
8	2/24/2020	84.1	8306.011	6312	3887	397420	7212.13	N/A
9	2/25/2020	84.5	8134.259	5997	3993	402700	7275.88	N/A
10	2/25/2020	84.5	8117.311	5339	3586	403820	7200.94	N/A
11	2/25/2020	84.7	7997.088	5277	3557	407920	7274	N/A
12	2/26/2020	80.8	7779.922	5917	3679	407580	7225.99	N/A
13	2/26/2020	84.9	8210.393	6107	3442	399400	7230.1	N/A
14	2/27/2020	82.3	8305.965	5306	3435	419510	7392.67	N/A
15	2/28/2020	82.5	8340.673	6498	3521	405360	7168.14	N/A
16	2/28/2020	85.3	8601.337	6792	3901	399880	7216.23	N/A
17	2/28/2020	83.8	8043.553	6670	3804	397620	7180.37	N/A
18	2/29/2020	85.5	7954.41	6553	3473	405840	7182.77	N/A
19	2/29/2020	84.9	8376.765	6938	3295	405480	7202.97	N/A
20	2/29/2020	84.1	8151	5599	3589	403760	7079.39	N/A
21	3/1/2020	84.9	8320.955	6498	3470	402180	7081.15	N/A
22	3/1/2020	71.5	8934.955	5790	4126	406280	7809.31	N/A
23	3/1/2020	84.7	8132.369	6616	3641	400600	7327.376	N/A
24	3/2/2020	83.9	7886.603	6950	3682	400440	7111.806	N/A
25	3/2/2020	83.3	7783.548	6605	3772	396340	6979.876	N/A
26	3/3/2020	85.5	7924.182	7325	3502	405280	7153.216	N/A
27	3/3/2020	84.1	7877.339	6983	3598	394240	6949.196	N/A
28	3/4/2020	85	7719.371	6660	3564	397160	6978.136	N/A
29	3/4/2020	84.4	7631.323	6859	3788	401920	7112.536	N/A
30	3/5/2020	84.7	7935.058	6545	3755	403160	6972.736	N/A
31	3/5/2020	84.9	7740.327	6932	3522	402660	6959.086	N/A
32	3/5/2020	84.9	7815.555	6720	3689	400900	6996.29	N/A
33	3/6/2020	84.8	7831.008	6937	3543	390800	6942.1	N/A
34	3/6/2020	85.5	7642.825	6734	3564	395700	6888.95	N/A
35	3/6/2020	85.5	7733.354	6431	3798	397320	6858.32	N/A
36	3/7/2020	85.1	7662.693	6905	3634	404580	6958.31	N/A
37	3/7/2020	86.1	7521.675	6557	3676	403680	6946.89	N/A
38	3/7/2020	85.6	7436.743	6568	3725	405360	6838.3	N/A
39	3/8/2020	85.2	7456.979	6242	3626	410020	6943.71	N/A
40	3/8/2020	85.5	7475.331	7282	3748	402160	6931.05	N/A
41	3/8/2020	85.3	7577.272	6547	3798	404660	6975.61	N/A
42	3/9/2020	85.4	7526.613	7207	3760	409140	6954.75	N/A
43	3/9/2020	85.1	7618.471	6239	3734	407340	6934.17	N/A
44	3/9/2020	84.6	7822.986	6894	3874	402860	6858.57	N/A
45	3/10/2020	84.5	7503.061	6480	3729	406640	6848.3	N/A
46	3/10/2020	0	7379.426	6175	3871	396500	6785.84	N/A
47	3/10/2020	84.7	7320.65	6797	3820	409460	6967.01	N/A
48	3/11/2020	85.8	7236.08	5915	3831	406980	6954.87	N/A
49	3/11/2020	85.7	6999.041	7040	3826	402800	6829.51	N/A
50	3/11/2020	85.8	7226.779	6649	3844	404580	6790.18	N/A
51	3/12/2020	85.3	7146.987	7036	3961	406680	6790.09	N/A
52	3/12/2020	85.3	7053.316	7216	3747	402940	6788.23	N/A
53	3/12/2020	84.8	6849.435	7167	3798	404260	6802.75	N/A
54	3/13/2020	85.1	6989.161	7433	3885	401000	6848.49	N/A
55	3/13/2020	84.8	7265.434	6836	3874	398680	6805.87	N/A
56	3/13/2020	84.6	7115.333	7030	3418	403880	6743.012	N/A
	AVG=	84.0	7,983	6,449	3,682	16,257,930	292,083	TOTAL

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Category	2019	2020	2021	2022
Production	100	100	100	100
Consumption	100	100	100	100
Exports	100	100	100	100
Imports	100	100	100	100
Stocks	100	100	100	100
Production	100	100	100	100
Consumption	100	100	100	100
Exports	100	100	100	100
Imports	100	100	100	100
Stocks	100	100	100	100
Production	100	100	100	100
Consumption	100	100	100	100
Exports	100	100	100	100
Imports	100	100	100	100
Stocks	100	100	100	100

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ANTERO RESOURCES CORPORATION

Location: Ritchie County, WV
 Field: Ritchie
 Facility: Lynn Camp Pad
 Well: Buzzard Run Unit 1H
 Wellbore: Buzzard Run Unit 1H PWB

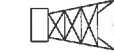
Slot: Slot #01
 Grid System: NAD27/UTM Zone 17 North, US feet
 North Reference: Grid north
 Scale: True distance
 Depths are in feet
 Patterson 342 (RKB) to Mean Sea Level: 1174 feet
 Mean Sea Level to Ground level (At Slot #01): -1149 feet
 Coordinates are in feet referenced to Slot

Location Information

Facility Name	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude
Lynn Camp Pad	1659924.222	14239626.049	39°12'50.070"N	80°56'42.900"W
Slot #01	-38.46	-23.58	39°12'46.900"N	80°56'43.200"W
Patterson 342 (RKB) to Ground level (At Slot #01)	1659800.842	14239787.603	29ft	
Mean Sea Level to Ground level (At Slot #01)			-1149ft	
Patterson 342 (RKB) to Mean Sea Level			1174ft	

Well Data

Slot	Well	Wellbore	Wellbore
Slot #01	Buzzard Run Unit 1H	Buzzard Run Unit 1H PWB	Buzzard Run Unit 1H AWP
Slot #01	Buzzard Run Unit 1H	Buzzard Run Unit 1H PWB	Buzzard Run Unit 1H AWP Proj: 18026
			Buzzard Run Unit 1H PWP Rev-A.0



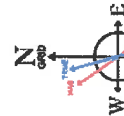
Gyrodata MS Gyro <17-1/2">(100-543) : 0.10° Inc, 110.00ft MD, 110.00ft TVD, -0.05ft VS

WFT EM <12-1/4">(543)(642-2509) : 0.16° Inc, 652.00ft MD, 651.99ft TVD, -2.14ft VS

WFT EM <8-3/4">(2509)(2676-6088) : 11.73° Inc, 2686.00ft MD, 2649.91ft TVD, -200.05ft VS

Well Profile Data

Design Comment	MD (ft)	Inc (°)	As (°)	TVD (ft)	Local N (ft)	Local E (ft)	DLS (°/100ft)	VS (ft)
Tie On	6095.00	26.550	2.400	6975.09	-144.04	1025.60	7.14	-487.84
Proj. To Bottom	6171.00	27.030	4.170	6040.26	-111.20	1027.49	1.28	-437.37
End of 3D Arc	6609.08	66.544	340.483	6339.31	189.34	965.36	9.50	-132.88
POE	8758.45	75.823	341.138	6388.00	320.53	919.73	6.99	6.01
Landing Pt.	8959.56	90.000	341.138	6413.00	510.77	854.73	6.96	207.05
BHL	18256.44	90.000	341.138	6413.00	11200.80	-2797.77	0.00	11503.93



Line specified (HDCM) Dip: 88.21° Field: 51890 nT
 Magnetic North is 7.76 degrees West of True North (at 4/22/2019)
 Grid North is 0.05 degrees East of True North
 To correct azimuth from True to Grid subtract 7.76 degrees
 To correct azimuth from Magnetic to Grid subtract 7.76 degrees

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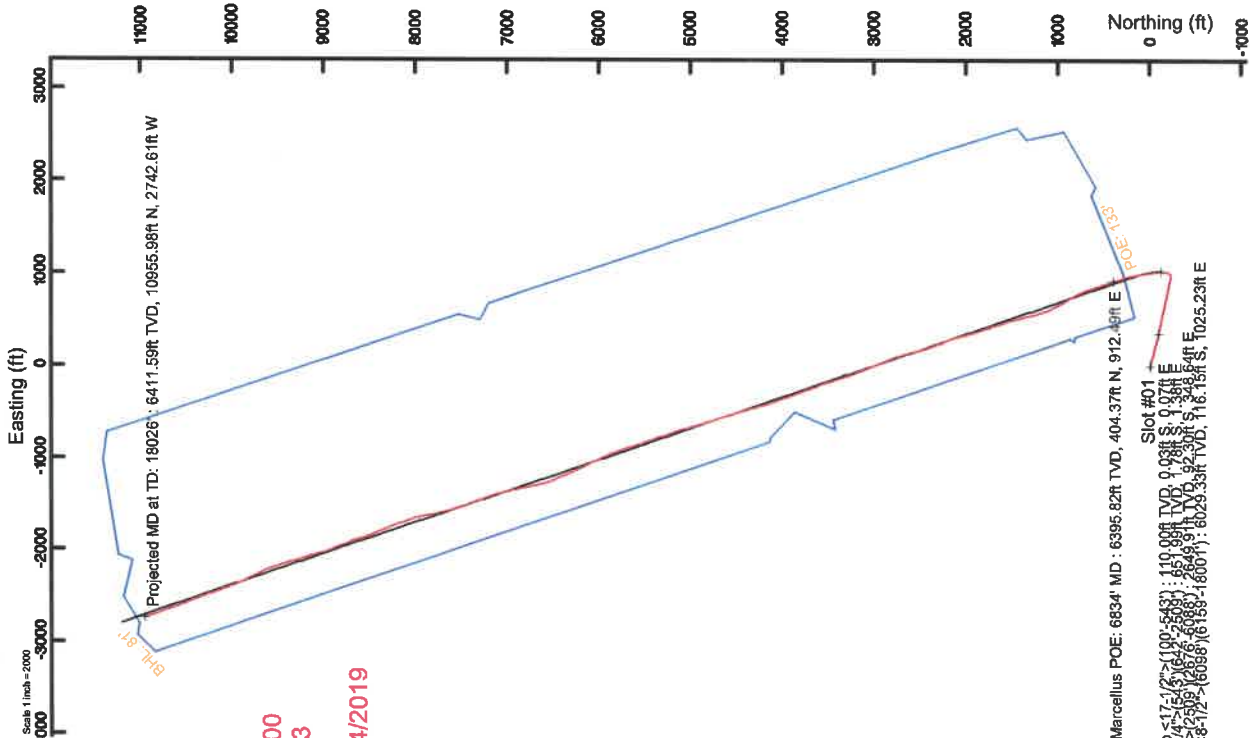
Marcellus POE: 6634° MD : 77.13° Inc, 6834.00ft MD, 6395.82ft TVD, 87.69ft VS

BH AT Curve <8-1/2">(6098)(6159-18001) : 27.96° Inc, 6159.00ft MD, 6029.33ft TVD, -441.32ft VS

Projected MD at TD: 18026 : 89.72° Inc, 18026.00ft MD, 6411.59ft TVD, 11254.34ft VS

Vertical Section (ft)

Azimuth 341.14° with reference 0.00 N, 0.00 E



API: 47-085-10379-0000
 BHI Job #: 109788593
 Rig: Patterson 342
 Duration: 05/01/2019-05/04/2019

Scale 1 inch = 2000

Scale 1 inch = 1500

Hydraulic Fracturing Fluid Product Component Information Disclosure

Job Start Date:	2/22/2020
Job End Date:	3/13/2020
State:	West Virginia
County:	Ritchie
API Number:	47-085-10379-00-00
Operator Name:	Antero Resources Corporation
Well Name and Number:	Buzzard Run Unit 1H
Latitude:	39.21380280
Longitude:	-80.94533300
Datum:	NAD83
Federal Well:	NO
Indian Well:	NO
True Vertical Depth:	6,399
Total Base Water Volume (gal):	17,335,037
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
Water	Supplied by Operator	Base Fluid					
			Water	7732-18-5	100.00000	86.29484	
Hydrochloric Acid	CWS	Clean Perforations					
				Listed Below			

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					64742-46-7	60.00000	0.01603	
			Distillates (petroleum), hydrotreated middle					
			Distillates (petroleum), hydrotreated light		64742-47-8	30.00000	0.01390	
			Biotite		1302-27-8	0.10000	0.01331	
			Apatite		64476-38-6	0.10000	0.01331	
			Ilmenite		98072-94-7	0.10000	0.01331	
			Goethite		1310-14-1	0.10000	0.01331	
			Ammonium chloride		12125-02-9	11.00000	0.00509	
			Sorbitan monooleate		1338-43-8	4.00000	0.00185	
			Glutaraldehyde		111-30-8	14.00000	0.00178	
			Polyethylene glycol monooleate		9004-96-0	3.00000	0.00139	
			Quaternary ammonium compounds, bis (hydrogenated tallow alkyl)dimethyl, salts with bentonite		68953-58-2	5.00000	0.00134	
			Sorbitol tetraoleate		61723-83-9	2.00000	0.00093	
			Amines, tallow alkyl, ethoxylated		61791-26-2	1.00000	0.00046	
			Oxirane, 2-methyl-, polymer with oxirane, monodecyl ether		37251-67-5	1.50000	0.00040	
			Didecyl dimethyl ammonium chloride		7173-51-5	3.00000	0.00038	
			Ammonium Persulfate		7727-54-0	100.00000	0.00038	
			Ethanol		64-17-5	3.00000	0.00038	
			Alkyl dimethyl benzyl ammonium chloride		68424-85-1	3.00000	0.00038	
			Alkyloxypolyethyleneoxy ethanol		84133-50-6	0.50000	0.00023	
			Vinylidene chloride-methyl acrylate copolymer		25038-72-6	20.00000	0.00008	
			Ethylene Glycol		107-21-1	40.00000	0.00007	
			Acrylamide		79-06-1	0.10000	0.00005	

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				Diethylene glycol, monomethyl ether	34590-94-8	20.00000	0.00003
				Ethoxylated Alcohols	68131-39-5	10.00000	0.00002
				Cinnamaldehyde	104-55-2	10.00000	0.00002
				Formic acid	64-18-6	10.00000	0.00002
				Tar bases, quinolone derivs, benzyl chloride-quaternized	72480-70-7	10.00000	0.00002
				Isopropyl alcohol	67-63-0	5.00000	0.00001

* 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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LATITUDE 39°15'00"

8,123'

LATITUDE 39°15'00"

LONGITUDE 80°55'00"

13,184'

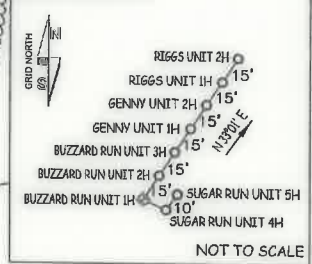
LONGITUDE 80°55'00"

Antero Resources Corporation
Well No. Buzzard Run Unit 1H

1H BOTTOM HOLE

Clay District - Ritchie County	
31-12	Steven Stanley
31-16	Austin Jones
31-16.1	Jason Flanigan
31-17	E L F LLC
31-17.2	Austin Jones
31-18	E L F LLC
35-05	E L F LLC
35-12	E L F LLC
35-28	Brian Taylor
36-06	E L F LLC
36-6.1	E L F LLC
36-6.3	E L F LLC
36-07	Suzanne Janotha
36-14.1	Brian Taylor
36-15	Brian Taylor
36-26	Mei Han Clovis
36-27	James Elder
36-28	James Masters
36-29	Brian Taylor
36-30	Terry Lee Richards
36-30.1	Terry Lee Richards
40-02	Scott Williams
40-03	Tommy Postlethwait
40-05	Terry Lee Richards
40-07	James Masters
40-7.1	Terry Lee Richards
40-08	Terry Lee Richards
40-8.1	Terry Lee Richards
40-09	Terry Lee Richards
40-10	Roger Richards
40-13	Tommy Postlethwait
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40-18	Duane Riggs
40-19	Duane Riggs
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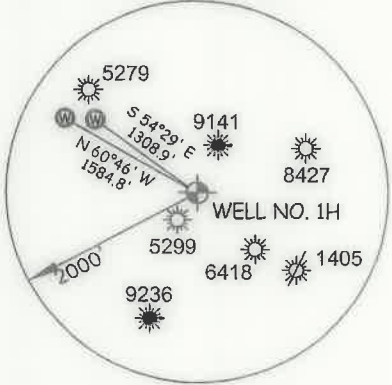
PAD LAYOUT



AS DRILLED DATA:
 WELL 1H TOP HOLE INFORMATION:
 N: 263,276ft E: 1,590,486ft
 LAT: 39°12'49.69" LON: 80°56'43.20"
 BOTTOM HOLE INFORMATION:
 N: 274,276ft E: 1,587,927ft
 LAT: 39°14'38.00" LON: 80°57'17.98"
 WEST VIRGINIA COORDINATE SYSTEM OF 1927 NORTH ZONE. ZONE WAS DERIVED FROM MEASUREMENTS TAKEN WITH TRIMBLE GEOXT SUBMETER MAPPING GRADE GPS UNIT. PLAT ORIENTATION, CORNER, AND WELL REFERENCE TIE LINES ARE BASED ON GRID NORTH.

(NAD) 83 (UTM) ZONE 17 COORDS:
 WELL 1H TOP HOLE INFORMATION:
 N: 4,340,514m E: 504,734m
 BOTTOM HOLE INFORMATION:
 N: 4,343,852m E: 503,898m

NOTE:
 2 WATER WELLS WERE LOCATED WITHIN 2000' OF THE CENTER OF PAD



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

LEGEND	
-----	Surface Owner Boundary Lines +/-
-----	Interior Surface Tracts +/-
○-----○	Proposed Well Path
○-----○	As Drilled Well Path
DOUGLAS R. ROWE P.S. 2202	
DATE	06/04/20
OPERATOR'S WELL #	BUZZARD RUN UNIT #1H

- NOTE
1. NO OCCUPIED DWELLINGS OR BUILDINGS TWO THOUSAND FIVE HUNDRED (2,500) SQUARE FEET OR LARGER USED TO HOUSE OR SHELTER DAIRY CATTLE OR POULTRY HUSBANDRY ARE LOCATED WITHIN SIX HUNDRED TWENTY-FIVE (625) FEET OF THE CENTER OF THE WELL PAD.
 2. TOP HOLE DATA SHOWN HEREON WAS PROVIDED BY ANTERO RESOURCES CORPORATION.
 3. AS DRILLED DATA WAS PROVIDED BY ANTERO RESOURCES CORPORATION.
 4. WLS IS NOT CERTIFYING THE DATA AND INFORMATION PROVIDED LISTED IN NOTES 2 AND 3, ONLY THE RELATIONSHIP TO THE DATA AND INFORMATION PROVIDED TO THE LEASE BOUNDARIES.
 5. WLS IS BY NO MEANS RESPONSIBLE FOR ANY ERRORS OR INACCURACIES WITH THE DATA AND INFORMATION THAT HAS BEEN PROVIDED.

WELL TYPE: OIL GAS LIQUID INJECTION WASTE DISPOSAL 47 - 085 - 10379
 (IF "GAS") PRODUCTION STORAGE DEEP SHALLOW
 LOCATION: ELEVATION 1,149' AS BUILT WATERSHED NORTH FORK HUGHES RIVER QUADRANGLE PULLMAN 7.5' (SHL) PENNSBORO 7.5' (BHL) STATE COUNTY PERMIT
 SURFACE OWNER TERRY LEE RICHARDS ACREAGE 60 ACRES +/- DISTRICT CLAY COUNTY RITCHIE
 OIL & GAS ROYALTY OWNER LORETTA K. CLARK BARE ET AL; S. A. SMITH & C. BURKE MORRIS TRUST; LEASE ACREAGE 60 AC±; 46.48 AC±
 MARY A. TUCKER ET AL; LAWRENCE E. DOTSON ET UX; FRANKLIN MAXWELL HEIRS; A. C. PRIMM ET AL; 50 AC±; 57 AC±; 12 AC±; 174 AC±
 HARRY J. TAYLOR; GROVER C. TAYLOR ET AL; LENA R. CARR ET AL 155 AC±; 577 AC±; 163 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 6,412' TVD 18,026' MD
 WELL OPERATOR ANTERO RESOURCES CORP. DESIGNATED AGENT DIANNA STAMPER - CT CORPORATION SYSTEM
 ADDRESS 1615 WYNKOOP ST. ADDRESS 5400 D BIG TYLER ROAD
 DENVER, CO 80202 CHARLESTON, WV 25313

LATITUDE 39°15'00"

8,123'

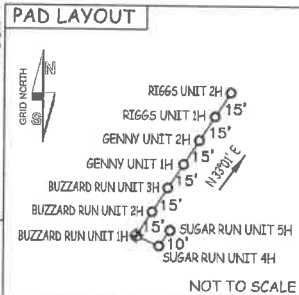
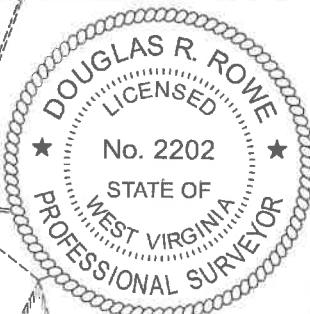
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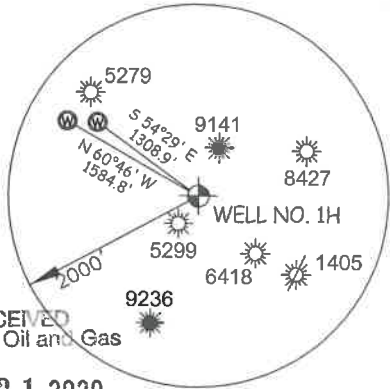


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WILLOW LAND SURVEYING PLLC
220 MASONIC AVE. PENNSBORO WEST VIRGINIA 26415

JOB # 18-025WA
DRAWING # BUZZARDRUN1HAD
SCALE 1" = 2000'
MINIMUM DEGREE OF ACCURACY SUBMETER
PROVEN SOURCE OF ELEV. SUBMETER MAPPING GRADE GPS
STATE OF WEST VIRGINIA DEPARTMENT OF ENERGY DIVISION OF OIL AND GAS

LEGEND
----- Surface Owner Boundary Lines +/-
----- Interior Surface Tracts +/-
O----- Proposed Well Path
O----- As Drilled Well Path
DOUGLAS R. ROWE P.S. 2202
DATE 06/04/20
OPERATOR'S WELL# BUZZARD RUN UNIT #1H

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FORM WW-6 DENVER, CO 80202 CHARLESTON, WV 25313

COUNTY NAME

PERMIT