

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

API 47-085-10381 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 3H

Operator (as registered with the OOG) Antero Resources Corporation
Address 1615 Wynkoop Street City Denver State CO Zip 80202

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As Drilled location NAD 83/UTM Attach an as-drilled plat, profile view, and deviation survey
Top hole Northing 4340521m Easting 504739m
Landing Point of Curve Northing 4340881.54m Easting 505446.85m
Bottom Hole Northing 4343968m Easting 504400m

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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

Date permit issued 2/1/2019 Date drilling commenced 2/26/2019 Date drilling ceased 5/22/2019

Date completion activities began 12/28/2019 Date completion activities ceased 3/27/2020

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:

Dm14
12-7-20

API 47- 085 - 10381 Farm name Terry Lee Richards Well number Buzzard Run Unit 3H

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"	574'	New	54#, J-55	N/A	Y
Coal							
Intermediate 1	12-1/4"	9-5/8"	2673'	New	36#, H-40	N/A	Y
Intermediate 2							
Intermediate 3							
Production	8-3/4"/8-1/2"	5-1/2"	18254'	New	23#, P-110	N/A	Y
Tubing		2-3/8"	7290'		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	495 sx	15.6	1.19	402	0'	8 Hrs.
Coal							
Intermediate 1	Class A	940 sx	15.6	1.18	1047	0'	8 Hrs.
Intermediate 2							
Intermediate 3							
Production	Class H	798sx (Lead) 2773 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) 18273' MD, 6420' TVD (BHL), 6422' (Deepest Point Drilled) Loggers TD (ft) 18273' 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 - 10381 Farm name Terry Lee Richards Well number Buzzard Run Unit 3H

PRODUCING FORMATION(S)	DEPTHS		
Marcellus	6383' (TOP)	TVD	7354' (TOP) MD

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 7456 mcfpd Oil 106 bpd NGL --- bpd Water 537 bpd GAS MEASURED BY Estimated Orifice Pilot

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

***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 Griffin Telephone 303-357-7223
Signature  Title Permitting Agent Date 6-26-20

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

API 47-085-10381 Farm Name Terry Lee Richards Well Number Buzzard Run Unit 3H

EXHIBIT 1

Stage No.	Perforation Date	Perforated from MD ft.	Perforated to MD ft.	Number of Perforations	Formations
1	2/21/2020	18143	18099	60	Marcellus
2	2/22/2020	18061.36478	17895.1887	60	Marcellus
3	2/22/2020	17859.55346	17693.3774	60	Marcellus
4	2/23/2020	17657.74214	17491.566	60	Marcellus
5	2/23/2020	17455.93082	17289.7547	60	Marcellus
6	2/23/2020	17254.1195	17087.9434	60	Marcellus
7	2/24/2020	17052.30818	16886.1321	60	Marcellus
8	2/24/2020	16850.49686	16684.3208	60	Marcellus
9	2/25/2020	16648.68553	16482.5094	60	Marcellus
10	2/25/2020	16446.87421	16280.6981	60	Marcellus
11	2/25/2020	16245.06289	16078.8868	60	Marcellus
12	2/26/2020	16043.25157	15877.0755	60	Marcellus
13	2/26/2020	15841.44025	15675.2642	60	Marcellus
14	2/27/2020	15639.62893	15473.4528	60	Marcellus
15	2/28/2020	15437.81761	15271.6415	60	Marcellus
16	2/28/2020	15236.00629	15069.8302	60	Marcellus
17	2/29/2020	15034.19497	14868.0189	60	Marcellus
18	2/29/2020	14832.38365	14666.2075	60	Marcellus
19	2/29/2020	14630.57233	14464.3962	60	Marcellus
20	3/1/2020	14428.76101	14262.5849	60	Marcellus
21	3/1/2020	14226.94969	14060.7736	60	Marcellus
22	3/1/2020	14025.13836	13858.9623	60	Marcellus
23	3/2/2020	13823.32704	13657.1509	60	Marcellus
24	3/2/2020	13621.51572	13455.3396	60	Marcellus
25	3/3/2020	13419.7044	13253.5283	60	Marcellus
26	3/3/2020	13217.89308	13051.717	60	Marcellus
27	3/3/2020	13016.08176	12849.9057	60	Marcellus
28	3/4/2020	12814.27044	12648.0943	60	Marcellus
29	3/4/2020	12612.45912	12446.283	60	Marcellus
30	3/5/2020	12410.6478	12244.4717	60	Marcellus
31	3/5/2020	12208.83648	12042.6604	60	Marcellus
32	3/6/2020	12007.02516	11840.8491	60	Marcellus
33	3/6/2020	11805.21384	11639.0377	60	Marcellus
34	3/6/2020	11603.40252	11437.2264	60	Marcellus
35	3/7/2020	11401.59119	11235.4151	60	Marcellus
36	3/7/2020	11199.77987	11033.6038	60	Marcellus
37	3/7/2020	10997.96855	10831.7925	60	Marcellus
38	3/7/2020	10796.15723	10629.9811	60	Marcellus
39	3/8/2020	10594.34591	10428.1698	60	Marcellus
40	3/8/2020	10392.53459	10226.3585	60	Marcellus
41	3/9/2020	10190.72327	10024.5472	60	Marcellus
42	3/9/2020	9988.91195	9822.73585	60	Marcellus
43	3/9/2020	9787.100629	9620.92453	60	Marcellus
44	3/10/2020	9585.289308	9419.11321	60	Marcellus
45	3/10/2020	9383.477987	9217.30189	60	Marcellus
46	3/10/2020	9181.666667	9015.49057	60	Marcellus
47	3/10/2020	8979.855346	8813.67925	60	Marcellus
48	3/11/2020	8778.044025	8611.86792	60	Marcellus
49	3/11/2020	8576.232704	8410.0566	60	Marcellus
50	3/11/2020	8374.421384	8208.24528	60	Marcellus
51	3/12/2020	8172.610063	8006.43396	60	Marcellus
52	3/12/2020	7970.798742	7804.62264	60	Marcellus
53	3/13/2020	7768.987421	7602.81132	60	Marcellus
54	3/13/2020	7567.176101	7401	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	2/21/2020	81.5	7696.408	6438	3654	161920	4713.116	N/A
2	2/22/2020	81.5	8140.373	5480	4390	407380	7469.876	N/A
3	2/22/2020	85.1	8253.722	5954	4470	400540	7288.73	N/A
4	2/23/2020	85.9	8136.75	6131	3522	407320	7357.05	N/A
5	2/23/2020	84.8	8228.238	5915	3230	399780	7247.54	N/A
6	2/23/2020	82.1	7889.074	5800	3295	399900	8626.61	N/A
7	2/24/2020	84.2	8556.405	6539	3090	401600	7268.72	N/A
8	2/24/2020	83.3	8166.819	6455	3209	399840	7213.56	N/A
9	2/25/2020	84.4	8278.621	6511	3525	405320	7286.14	N/A
10	2/25/2020	84.1	8254.2	5851	3542	406720	7208.02	N/A
11	2/25/2020	83.7	8149.46	5864	3848	404640	7300.45	N/A
12	2/26/2020	83.6	8277.794	5952	3503	409240	7241.18	N/A
13	2/26/2020	84.9	8301.305	6313	3702	405380	7174	N/A
14	2/27/2020	69	8474.003	6171	3327	390070	10694.82	N/A
15	2/28/2020	82.4	8225.686	5740	3891	401880	7190.29	N/A
16	2/28/2020	75.6	8411.793	6341	4290	405240	10249.68	N/A
17	2/29/2020	79.6	8288.003	5774	3872	402780	7394.336	N/A
18	2/29/2020	83.3	8007.655	5882	3772	405020	7123.966	N/A
19	2/29/2020	84.5	8184	5881	4022	404300	7122.89	N/A
20	3/1/2020	84.4	8430	5970	3836	405420	7089.79	N/A
21	3/1/2020	72.2	8942.812	5980	4408	408300	10613.38	N/A
22	3/1/2020	85	8092.6	5975	3739	406660	7214.446	N/A
23	3/2/2020	83.7	8167.183	6087	3768	401300	7177.986	N/A
24	3/2/2020	81.2	7870.008	6370	3756	400260	7024.856	N/A
25	3/3/2020	85.1	8282.784	6141	4181	401360	7074.606	N/A
26	3/3/2020	86.3	8211.334	6107	3761	401920	7007.616	N/A
27	3/3/2020	83.3	7860.787	6361	3640	404860	7079.776	N/A
28	3/4/2020	85.4	7942.157	5547	3795	399600	6843.156	N/A
29	3/4/2020	84.5	8297	6521	3765	402520	6930.9	N/A
30	3/5/2020	85.2	8135.12	6533	3633	404040	6966.476	N/A
31	3/5/2020	85.4	7811.883	5902	3798	406460	6964.87	N/A
32	3/6/2020	84.7	7735.739	5450	3624	410360	6930.63	N/A
33	3/6/2020	85.2	7641.115	5241	3321	397600	6938.73	N/A
34	3/6/2020	85.7	7690.907	5926	3516	402360	6914.21	N/A
35	3/7/2020	85.3	7756.072	6540	3503	402760	6868.17	N/A
36	3/7/2020	84.9	7569.787	5497	3404	407360	6912.65	N/A
37	3/7/2020	85	7432.258	6329	3606	401440	6889.11	N/A
38	3/7/2020	85	7581	5765	3494	404160	6910.6	N/A
39	3/8/2020	83.5	7783.5	7254	3828	399820	6871	N/A
40	3/8/2020	85	7488.941	5917	3643	402340	6953.28	N/A
41	3/9/2020	85.2	7440.2	6562	3494	406720	6891.78	N/A
42	3/9/2020	85.2	7437.08	6116	3404	404460	6926.15	N/A
43	3/9/2020	85.2	7258.027	5896	3348	406700	6879.88	N/A
44	3/10/2020	85	7202.898	6187	3891	406700	6862.98	N/A
45	3/10/2020	85.4	7209.646	6555	3458	406520	6842.22	N/A
46	3/10/2020	85	7356.743	6854	3302	401480	6891.36	N/A
47	3/10/2020	85.8	7271.429	6098	3417	405280	6908.79	N/A
48	3/11/2020	85.5	7304.352	6505	3359	400000	6851.46	N/A
49	3/11/2020	85.8	7243.58	6681	3304	400020	6791.86	N/A
50	3/11/2020	86	7562.394	6280	3375	402920	6759.53	N/A
51	3/12/2020	85.8	7134.021	7174	3557	409660	7094.05	N/A
52	3/12/2020	85.1	6967.204	5929	3708	411500	6892.18	N/A
53	3/13/2020	84.3	7004.27	6315	3733	402660	6918.98	N/A
54	3/13/2020	84.3	7275.443	6506	3606	401340	6684.9	N/A
	AVG=	83.3	8,051	6,072	3,699	16,296,490	300,239	TOTAL

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LITHOLOGY/ FORMATION	TOP DEPTH (TVD) From Surface	BOTTOM DEPTH (TVD) From Surface	TOP DEPTH (MD) From Surface	BOTTOM DEPTH (MD) From Surface
Black/Gray Shale	85	145	85	145
Sandy Shale	145	655	145	655
Silty Sandstone	655	865	655	865
Silty Shale	865	1,085	865	1,085
Sandy Siltstone	1,085	1,175	1,085	1,175
Silty Shale	1,175	1,365	1,175	1,365
Sandstone	1,365	1,295	1,365	1,295
Sandstone	1,295	1,645	1,295	1,645
Shale	1,645	1,745	1,645	1,745
Sandstone	1,745	1,805	1,745	1,805
Silty Sandstone	1,805	1,795	1,805	1,795
Sandstone	1,795	1,835	1,795	1,835
Sandstone	1,835	1,849	1,835	1,941
Big Lime	1,864	2,582	1,916	2,756
Fifty Foot Sandstone	2,582	2,738	2,731	2,931
Gordon	2,738	3,254	2,906	3,516
Fifth Sandstone	3,254	3,353	3,491	3,629
Bayard	3,353	3,889	3,604	4,229
Speechley	3,889	4,278	4,204	4,672
Balltown	4,278	4,654	4,647	5,094
Bradford	4,654	4,941	5,069	5,417
Benson	4,941	5,197	5,392	5,709
Alexander	5,197	6,257	5,684	7,042
Sycamore	6,084	6,232	6,759	7,017
Middlesex	6,232	6,334	7,017	7,213
Burkett	6,334	6,362	7,213	7,286
Tully	6,362	6,383	7,286	7,354
Marcellus	6,383	NA	7,354	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 CORPORATION

Location: Ritchie County, WV
 Field: Ritchie
 Facility: Lynn Camp Pad
 Slot: Slot #03
 Well: Buzzard Run Unit 3H
 Wellbore: Buzzard Run Unit 3H PWB

Plot reference wellbore is Buzzard Run Unit 3H PWB Rev-A-0
 True vertical depths are referenced to Patterson 342 (RKB)
 Measured depths are referenced to Patterson 342 (RKB)
 Patterson 342 (RKB) to Mean Sea Level: 1174 feet
 Mean Sea Level to Ground level (At Slot Slot #03) -1140 feet
 Coordinates are in feet referenced to Slot

Location Information			
Facility Name	Grid East (US ft)	Grid North (US ft)	Longitude
Lynn Camp Pad	1655924.222	14236926.049	80°55'42.800"W
Slot	Local E (ft)	Local N (US ft)	Longitude
Slot #03	-13.16	1655916.363	80°55'43.000"W
Patterson 342 (RKB) to Ground level (At Slot Slot #03)	25R		
Mean Sea Level to Ground level (At Slot Slot #03)	-1140ft		
Patterson 342 (RKB) to Mean Sea Level	1174ft		

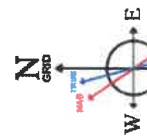
Well Data		
Slot	Well	Wellpath
Slot #03	Buzzard Run Unit 3H	Buzzard Run Unit 3H AWB
Slot #03	Buzzard Run Unit 3H	Buzzard Run Unit 3H PWB
Slot #03	Buzzard Run Unit 3H	Buzzard Run Unit 3H PWB Rev-A-0

Gyrodia MS Gyro <17-1/2">(100-627'): 0.26° Inc, 110.00R MD, 110.00R TVD, -0.19R VS

WFT EM <12-1/4">(627)(742-2623'): 3.11° Inc, 752.00R MD, 751.94R TVD, -1.24R VS

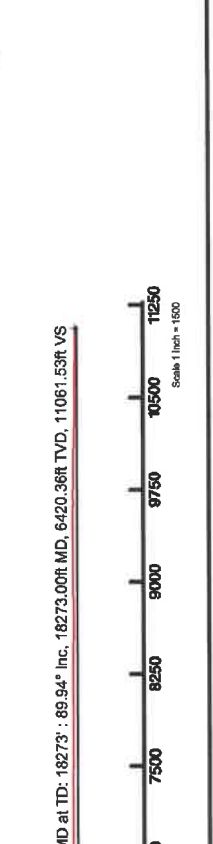
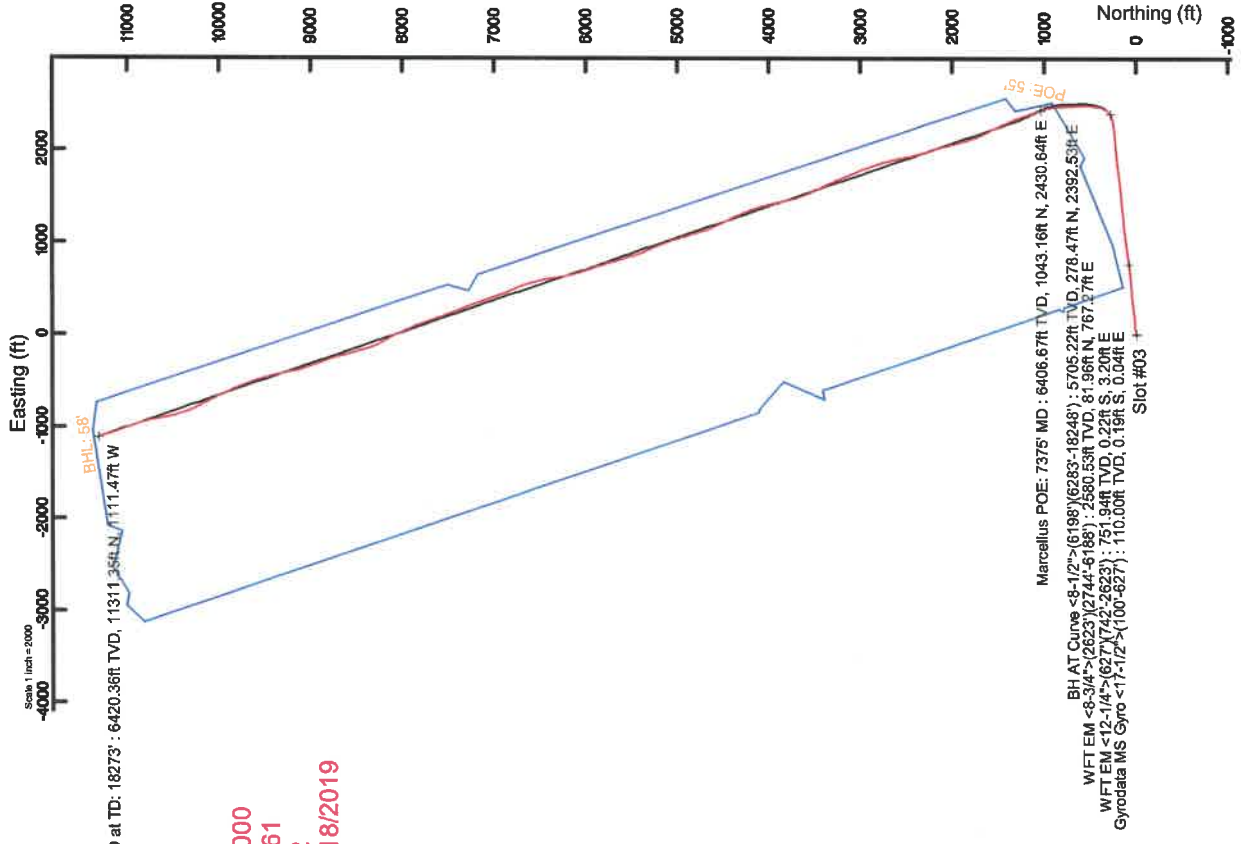
WFT EM <8-3/4">(2623)(2744-6188'): 25.53° Inc, 2754.00R MD, 2580.53R TVD, -170.99R VS

Well Profile Data						
Design Comment	MD (ft)	Inc (°)	Az (°)	Local E (ft)	Local N (ft)	VS (ft)
Top On	6198.00	26.890	72.320	6929.34	263.24	-514.59
Proj. To Bottom	6271.00	26.610	62.010	6994.56	275.83	-512.34
End of 3D Arc	6676.21	65.992	357.991	6162.96	610.10	-234.42
End of Hold	7107.70	66.902	357.991	6292.74	601.68	-50.99
POE	7375.39	73.012	355.000	6409.00	1032.67	186.67
Landing Pl.	7545.26	90.000	335.000	6434.00	1194.39	353.13
On Admuth	7748.64	90.000	341.101	6434.00	1372.93	658.11
BHL	8291.07	90.000	341.101	6434.00	11316.65	-1111.81



User specified (HDGM) Dip: 66.21° Field: 51676 nT
 Magnetic declination for this location (8/12/2019)
 Grid North is 0.03 degrees East of True North
 To correct azimuth from True to Grid subtract 0.03 degrees
 To correct azimuth from Magnetic to Grid subtract 7.79 degrees

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Projected MD at TD: 18273' : 89.94° Inc, 18273.00R MD, 6420.36R TVD, 11061.53R VS

Vertical Section (ft)
 Azimuth 341.10° with reference 0.00 N, 0.00 E

Scale 1 inch = 1500

Scale 1 inch = 2000

Hydraulic Fracturing Fluid Product Component Information Disclosure

Job Start Date:	2/21/2020
Job End Date:	3/13/2020
State:	West Virginia
County:	Ritchie
API Number:	47-085-10381-00-00
Operator Name:	Antero Resources Corporation
Well Name and Number:	Buzzard Run Unit 3H
Latitude:	39.21387220
Longitude:	-80.94527770
Datum:	NAD83
Federal Well:	NO
Indian Well:	NO
True Vertical Depth:	6,405
Total Base Water Volume (gal):	17,185,226
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	86.57850	
Calbreak 5501	CWS	Breaker		Listed Below			

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CalGel 4000	CWS	Gel Slurry								
					Listed Below					
DWP-641	CWS	Friction Reducer								
					Listed Below					
Sand (Proppant)	CWS	Propping Agent								
					Listed Below					
CI-9100G	CWS	Corrosion Inhibitor								
					Listed Below					
Hydrochloric Acid	CWS	Clean Perforations								
					Listed Below					
SaniFrac 8123	CWS	Microbiocide								
					Listed Below					
Other Chemical (s)	Listed Above	See Trade Name (s) List								
					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	13.01512					
		Hydrochloric acid	7647-01-0	37.00000	0.13021					
		White Oil	12173-60-3	1.00000	0.13013					
		Polymer	26100-47-0	45.00000	0.02192					
		Distillates (petroleum), hydrotreated middle	64742-46-7	60.00000	0.02050					

2020
 Environmental
 Department of
 Gas

			Formic acid	64-18-6	10.00000	0.00002
			Cinnamaldehyde	104-55-2	10.00000	0.00002
			Ethoxylated Alcohols	68131-39-5	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)

RECEIVED
 Office of Oil and Gas
 AUG 31 2020
 WV Department of
 Environmental Protection

LATITUDE 39°15'00"

8,107'

LATITUDE 39°15'00"

9,208' TO BOTTOM HOLE

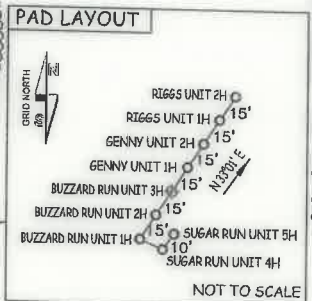
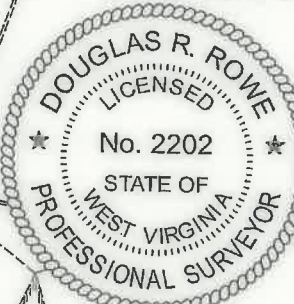
LONGITUDE 80°55'00"

1,3159'

LONGITUDE 80°55'00"

Antero Resources Corporation
Well No. Buzzard Run Unit 3H

3H BOTTOM HOLE

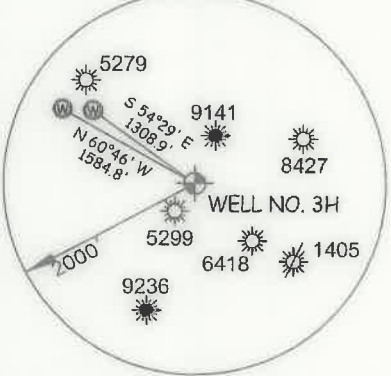


Clay District - Ritchie County	
31-12	Steven Stanley
31-16	Austin Jones
31-16.1	Jason Florian
31-17	E L F LLC
31-17.2	Austin Jones
31-18	E L F LLC
35-05	E L F LLC
35-12	E L F LLC
35-28	Brian Taylor
36-06	E L F LLC
36-6.1	E L F LLC
36-6.3	E L F LLC
36-07	Suzanne Janatha
36-14.1	Brian Taylor
36-15	Brian Taylor
36-26	Meghan 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	Ranger Richards
40-13	Tommy Postlethwait
40-14	Duane Riggs
40-18	Duane Riggs
40-19	Duane Riggs
40-20	Duane Riggs
40-20.1	Duane Riggs

AS DRILLED DATA:
 WELL 3H TOP HOLE INFORMATION:
 N: 263,301ft E: 1,590,503ft
 LAT: 39°12'49.94" LON: 80°56'43.00"
 BOTTOM HOLE INFORMATION:
 N: 274,629ft E: 1,589,580ft
 LAT: 39°14'41.75" LON: 80°56'57.04"
 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 3H TOP HOLE INFORMATION:
 N: 4,340,521m E: 504,739m
 BOTTOM HOLE INFORMATION:
 N: 4,343,968m E: 504,400m

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

JOB # 18-025WA
 DRAWING # BUZZARDRUN3HAD
 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
 As Drilled Well Path
 DOUGLAS R. ROWE P.S. 2202
 DATE 06/04/20
 OPERATOR'S WELL # BUZZARD RUN UNIT #3H

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 X LIQUID INJECTION ___ WASTE DISPOSAL ___ 47 - 085 - 10381
 (IF "GAS") PRODUCTION X STORAGE ___ DEEP ___ SHALLOW X STATE COUNTY PERMIT
 LOCATION: ELEVATION 1,149' AS BUILT WATERSHED NORTH FORK HUGHES RIVER QUADRANGLE PULLMAN 7.5 (SHL) PENNSBORO 7.5 (BHL)
 SURFACE OWNER TERRY LEE RICHARDS ACREAGE 60 ACRES +/- DISTRICT CLAY COUNTY RITCHIE
 OIL & GAS ROYALTY OWNER LORETTA K. CLARK BARE ET AL; BERNARD W. RICHARD ET UX; LEASE ACREAGE 60 AC±: 114 AC±
 S. A. SMITH & C. BURKE MORRIS TRUST; MARY A. TUCKER ET AL; 46.48 AC±: 50 AC±
 TERRY LEE RICHARDS; A. C. PRIMM ET AL; GROVER C. TAYLOR ET AL 121.5 AC±: 174 AC±: 577 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 6,420' TVD 18,273' 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"

8,107'

LATITUDE 39°15'00"

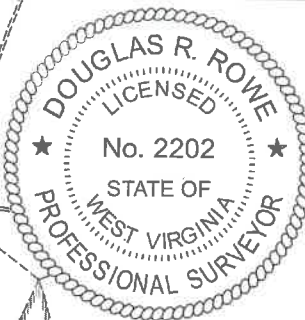
LONGITUDE 80°55'00"

1,847' TO BOTTOM HOLE

LONGITUDE 80°55'00"

Antero Resources Corporation
Well No. Buzzard Run Unit 3H

3H BOTTOM HOLE



PAD LAYOUT

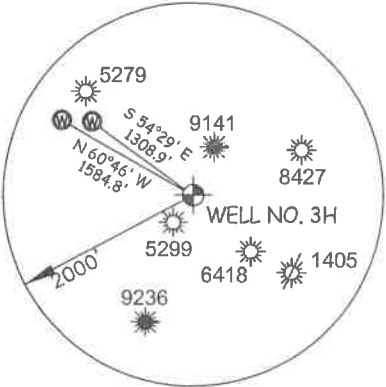


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STATE OF WEST VIRGINIA DEPARTMENT OF ENERGY DIVISION OF OIL AND GAS

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
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