

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

API 47-085-10382 County Ritchie District Clay
Quad Pennsboro 7.5' Pad Name Lynn Camp Pad Field/Pool Name ----
Farm name Terry Lee Richards Well Number Genny 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 4340525m Easting 504741m
Landing Point of Curve Northing 4340413.58m Easting 503982.73m
Bottom Hole Northing 4344568m Easting 502586m

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

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

Date permit issued 2/1/2019 Date drilling commenced 3/6/2019 Date drilling ceased 5/31/2019
Date completion activities began 1/3/2020 Date completion activities ceased 3/30/2020
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 - 10382 Farm name Terry Lee Richards Well number Genny 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"	80'	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"	2676'	New	36#, H-40	N/A	Y
Intermediate 2							
Intermediate 3							
Production	8-3/4"/8-1/2"	5-1/2"	21806'	New	23#, P-110	N/A	Y
Tubing		2-3/8"	7175'		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	925 sx	15.6	1.18	1047	0'	8 Hrs.
Intermediate 2							
Intermediate 3							
Production	Class H	798sx (Lead) 3483sx (Tail)	13.5 (Lead), 15.2 (Tail)	1.53 (Lead), 1.83 (Tail)	2819	~500' into Intermediate Casing	8 Hrs.
Tubing							

Drillers TD (ft) 21825' MD, 6441' TVD (BHL), 6443' (Deepest Point Drilled) Loggers TD (ft) 21825' MD
 Deepest formation penetrated Marcellus Plug back to (ft) N/A
 Plug back procedure N/A

RECEIVED
Office of Oil and Gas
AUG 31 2020

Kick off depth (ft) 5800' WV Department of Environmental Protection

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 - 10382 Farm name Terry Lee Richards Well number Genny Unit 1H

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.

RECEIVED
Office of Oil and Gas
AUG 31 2020

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)	Environmental Protection WV Department of Agriculture Nitrogen/other (units)
*PLEASE SEE ATTACHED EXHIBIT 2								

Please insert additional pages as applicable.

API 47- 085 - 10382 Farm name Terry Lee Richards Well number Genny Unit 1H

PRODUCING FORMATION(S)	DEPTHS	
Marcellus	6344' (TOP) TVD	7231' (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 15735 mcfpd Oil 265 bpd NGL --- bpd Water 968 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)
-------------------------	--------------------------------	------------------------------	--------------------------	-----------------------------	--

***PLEASE SEE ATTACHED EXHIBIT 3**

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

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 Phillippi Pike City Clarksburg State WV Zip 26301

Please insert additional pages as applicable.

Completed by Megan Griffith Telephone 303-357-7223
Signature  Title Permitting Agent Date 6-20-20

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

API 47-085-10382 Farm Name Terry Lee Richards Well Number Genny Unit 1H					
EXHIBIT 1					
Stage No.	Perforation Date	Perforated from MD ft.	Perforated to MD ft.	Number of Perforations	Formations
1	2/1/2020	21700	21656	60	Marcellus
2	2/1/2020	21618.25352	21451.5211	60	Marcellus
3	2/1/2020	21415.77465	21249.0423	60	Marcellus
4	2/2/2020	21213.29577	21046.5634	60	Marcellus
5	2/2/2020	21010.8169	20844.0845	60	Marcellus
6	2/2/2020	20808.33803	20641.6056	60	Marcellus
7	2/2/2020	20605.85915	20439.1268	60	Marcellus
8	2/3/2020	20403.38028	20236.6479	60	Marcellus
9	2/3/2020	20200.90141	20034.169	60	Marcellus
10	2/3/2020	19998.42254	19831.6901	60	Marcellus
11	2/4/2020	19795.94366	19629.2113	60	Marcellus
12	2/4/2020	19593.46479	19426.7324	60	Marcellus
13	2/4/2020	19390.98592	19224.2535	60	Marcellus
14	2/4/2020	19188.50704	19021.7746	60	Marcellus
15	2/4/2020	18986.02817	18819.2958	60	Marcellus
16	2/5/2020	18783.5493	18616.8169	60	Marcellus
17	2/5/2020	18581.07042	18414.338	60	Marcellus
18	2/5/2020	18378.59155	18211.8592	60	Marcellus
19	2/5/2020	18176.11268	18009.3803	60	Marcellus
20	2/6/2020	17973.6338	17806.9014	60	Marcellus
21	2/6/2020	17771.15493	17604.4225	60	Marcellus
22	2/6/2020	17568.67606	17401.9437	60	Marcellus
23	2/6/2020	17366.19718	17199.4648	60	Marcellus
24	2/7/2020	17163.71831	16996.9859	60	Marcellus
25	2/7/2020	16961.23944	16794.507	60	Marcellus
26	2/7/2020	16758.76056	16592.0282	60	Marcellus
27	2/8/2020	16556.28169	16389.5493	60	Marcellus
28	2/8/2020	16353.80282	16187.0704	60	Marcellus
29	2/8/2020	16151.32394	15984.5915	60	Marcellus
30	2/9/2020	15948.84507	15782.1127	60	Marcellus
31	2/9/2020	15746.3662	15579.6338	60	Marcellus
32	2/9/2020	15543.88732	15377.1549	60	Marcellus
33	2/9/2020	15341.40845	15174.6761	60	Marcellus
34	2/10/2020	15138.92958	14972.1972	60	Marcellus
35	2/10/2020	14936.4507	14769.7183	60	Marcellus
36	2/10/2020	14733.97183	14567.2394	60	Marcellus
37	2/10/2020	14531.49296	14364.7606	60	Marcellus
38	2/11/2020	14329.01408	14162.2817	60	Marcellus
39	2/11/2020	14126.53521	13959.8028	60	Marcellus
40	2/12/2020	13924.05634	13757.3239	60	Marcellus
41	2/12/2020	13721.57746	13554.8451	60	Marcellus
42	2/12/2020	13519.09859	13352.3662	60	Marcellus
43	2/12/2020	13316.61972	13149.8873	60	Marcellus
44	2/13/2020	13114.14085	12947.4085	60	Marcellus
45	2/13/2020	12911.66197	12744.9296	60	Marcellus
46	2/14/2020	12709.1831	12542.4507	60	Marcellus
47	2/14/2020	12506.70423	12339.9718	60	Marcellus
48	2/14/2020	12304.22535	12137.493	60	Marcellus
49	2/14/2020	12101.74648	11935.0141	60	Marcellus
50	2/15/2020	11899.26761	11732.5352	60	Marcellus
51	2/15/2020	11696.78873	11530.0563	60	Marcellus
52	2/15/2020	11494.30986	11327.5775	60	Marcellus
53	2/16/2020	11291.83099	11125.0986	60	Marcellus
54	2/16/2020	11089.35211	10922.6197	60	Marcellus
55	2/16/2020	10886.87324	10720.1408	60	Marcellus
56	2/16/2020	10684.39437	10517.662	60	Marcellus
57	2/16/2020	10481.91549	10315.1831	60	Marcellus
58	2/17/2020	10279.43662	10112.7042	60	Marcellus
59	2/17/2020	10076.95775	9910.22535	60	Marcellus
60	2/17/2020	9874.478873	9707.74648	60	Marcellus
61	2/17/2020	9672	9505.26761	60	Marcellus
62	2/18/2020	9469.521127	9302.78873	60	Marcellus
63	2/18/2020	9267.042254	9100.30986	60	Marcellus
64	2/18/2020	9064.56338	8897.83099	60	Marcellus
65	2/18/2020	8862.084507	8695.35211	60	Marcellus
66	2/19/2020	8659.605634	8492.87324	60	Marcellus
67	2/19/2020	8457.126761	8290.39437	60	Marcellus
68	2/19/2020	8254.647887	8087.91549	60	Marcellus
69	2/19/2020	8052.169014	7885.43662	60	Marcellus
70	2/20/2020	7849.690141	7682.95775	60	Marcellus
71	2/20/2020	7647.211268	7480.47887	60	Marcellus
72	2/20/2020	7444.732394	7278	60	Marcellus

RECEIVED
Office of Oil and Gas

AUG 31 2020

WV Department of
Environmental Protection

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 (bbbls)	Amount of Nitrogen/ other (units)
1	2/1/2020	75.00887	9388.275	6824	3556	163180	163180	N/A
2	2/1/2020	80.06611	9799.178	6413	3407	409700	409700	N/A
3	2/1/2020	83.26119	9848.962	6112	3004	406280	406280	N/A
4	2/2/2020	84.00992	9831.253	6019	3217	399960	399960	N/A
5	2/2/2020	83.36995	9957.695	6039	3278	404820	404820	N/A
6	2/2/2020	82.42953	9747.364	5962	3093	405260	405260	N/A
7	2/2/2020	81.71219	10135.16	6563	3286	399980	399980	N/A
8	2/3/2020	84.19079	10145.38	6860	3435	404100	404100	N/A
9	2/3/2020	76.63518	9848.957	5731	3343	408040	408040	N/A
10	2/3/2020	82.6307	9891.956	6223	3477	401460	401460	N/A
11	2/4/2020	75.99293	9853.094	6689	3470	402320	402320	N/A
12	2/4/2020	74.13636	9284.253	6535	3529	406840	406840	N/A
13	2/4/2020	78.89268	9454.263	6476	3555	405780	405780	N/A
14	2/4/2020	89.8	9788.906	6516	3193	403540	403540	N/A
15	2/4/2020	86.9	9843.521	6506	3340	401600	401600	N/A
16	2/5/2020	84.7	9495.485	6039	3598	404920	404920	N/A
17	2/5/2020	84.1	9515.761	6324	3508	403680	403680	N/A
18	2/5/2020	86.7	10002.14	6415	3339	403960	403960	N/A
19	2/5/2020	83.2	10130.53	6198	3382	402180	402180	N/A
20	2/6/2020	86.4	9575.453	6291	3478	405560	405560	N/A
21	2/6/2020	84.8	9236.569	5868	3348	403180	403180	N/A
22	2/6/2020	88.3	9682.066	5687	3238	402000	402000	N/A
23	2/6/2020	88.3	9574.501	5820	3215	399480	399480	N/A
24	2/7/2020	79.2	9845.852	6401	3446	406780	406780	N/A
25	2/7/2020	86.1	9865.845	5902	3238	405340	405340	N/A
26	2/7/2020	85.6	9870.572	5744	3154	403980	403980	N/A
27	2/8/2020	84.3	9095.083	6107	3440	408160	408160	N/A
28	2/8/2020	86.7	9420.03	6506	3311	404280	404280	N/A
29	2/8/2020	86.9	9030.214	5627	3529	401880	401880	N/A
30	2/9/2020	87.9	9021.905	6676	3609	408060	408060	N/A
31	2/9/2020	85.6	9016.013	5108	3208	404980	404980	N/A
32	2/9/2020	89.7	8879.513	6121	3056	403600	403600	N/A
33	2/9/2020	90.4	8825.38	6308	3147	401840	401840	N/A
34	2/10/2020	89.8	8929.22	6363	3304	405220	405220	N/A
35	2/10/2020	86.3	8403.7	6131	3304	406120	406120	N/A
36	2/10/2020	88.4	8840.175	5001	3268	406160	406160	N/A
37	2/10/2020	89.4	8488.303	6339	3238	401160	401160	N/A
38	2/11/2020	87.3	8326.789	5934	3261	395220	395220	N/A
39	2/11/2020	86.5	8333.895	6132	3453	401860	401860	N/A
40	2/12/2020	83.1	8113.397	6238	3942	402080	402080	N/A
41	2/12/2020	83.9	9231.556	5940	3435	401320	401320	N/A
42	2/12/2020	86.7	8427.092	6660	3304	407120	407120	N/A
43	2/12/2020	86.44	7814.506	6464	3231	403220	403220	N/A
44	2/13/2020	85.79	7942.958	5880	3460	406380	406380	N/A
45	2/13/2020	86.1	8306.497	6298	3526	409620	409620	N/A
46	2/14/2020	82.1	7904.71	7039	3418	406420	406420	N/A
47	2/14/2020	84.3	8128.277	7220	3410	398860	398860	N/A
48	2/14/2020	85.6	8178.507	5451	3307	402260	402260	N/A
49	2/14/2020	85.8	7957.79	6272	3384	408200	408200	N/A
50	2/15/2020	84.8	7812.52	5052	3451	408420	408420	N/A
51	2/15/2020	84.3	8247.792	6335	3376	402540	402540	N/A
52	2/15/2020	85	7919.297	6595	3584	400520	400520	N/A
53	2/16/2020	84.4	7638.677	6088	3612	405160	405160	N/A
54	2/16/2020	84.5	7971.297	5214	3474	402120	402120	N/A
55	2/16/2020	85.8	7907.334	6677	3341	405800	405800	N/A
56	2/16/2020	85.2	7979.54	6696	3453	409200	409200	N/A
57	2/16/2020	85.1	7546.945	6153	3458	404120	404120	N/A
58	2/17/2020	85	7377.83	5993	3436	409480	409480	N/A
59	2/17/2020	84.5	7888.841	6045	3375	405580	405580	N/A
60	2/17/2020	85.8	8091.864	5780	3600	410140	410140	N/A
61	2/17/2020	85.4	7619.609	5511	3450	409760	409760	N/A
62	2/18/2020	84.9	7456.138	6589	3298	407140	407140	N/A
63	2/18/2020	85.2	7512.527	6529	3472	405460	405460	N/A
64	2/18/2020	84.8	7862.985	5904	3572	409040	409040	N/A
65	2/18/2020	84.6	7282.084	5822	3570	408380	408380	N/A
66	2/19/2020	85.1	7335.327	6090	3284	406980	406980	N/A
67	2/19/2020	84.9	7480.722	5288	3418	407900	407900	N/A
68	2/19/2020	85.3	7456.982	6291	3627	403740	403740	N/A
69	2/19/2020	85	7400.001	5580	3369	405820	405820	N/A
70	2/20/2020	84.9	7112.931	5983	3420	408620	408620	N/A
71	2/20/2020	85.1	7407.725	6508	3497	405260	405260	N/A
72	2/20/2020	85.3	7184.292	5826	3246	405540	405540	N/A
	AVG=	84.5	9,404	6,163	3,357	16,315,860		TOTAL

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

EXHIBIT 3

LITHOLOGY/ FORMATION	TOP DEPTH (TVD)		BOTTOM DEPTH (TVD)		TOP DEPTH (MD)		BOTTOM DEPTH (MD)	
	From Surface		From Surface		From Surface		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		1,858		1,835		1,932	
Big Lime	1,873		2,564		1,907		2,699	
Fifty Foot Sandstone	2,564		2,728		2,674		2,880	
Gordon	2,728		3,265		2,855		3,478	
Fifth Sandstone	3,265		3,343		3,453		3,565	
Bayard	3,343		3,883		3,540		4,170	
Speechley	3,883		4,279		4,145		4,611	
Balltown	4,279		4,646		4,586		5,019	
Bradford	4,646		4,925		4,994		5,328	
Benson	4,925		5,179		5,303		5,611	
Alexander	5,179		6,222		5,586		6,838	
Sycamore	6,049		6,197		6,586		6,813	
Middlesex	6,197		6,297		6,813		7,053	
Burkett	6,297		6,327		7,053		7,164	
Tully	6,327		6,344		7,164		7,231	
Marcellus	6,344		NA		7,231		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.

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

ANTERO RESOURCES CORPORATION

Location: Ritchie County, WV

Field: Ritchie

Facility: Lynn Camp Pad

Slot: Slot #04

Well: Genny Unit 1H

Wellbore: Genny Unit 1H PWB

Plot reference wellbore is Genny Unit 1H PWP Rev#3.0	Grid System: NAD27 / UTM Zone 17 North, US feet
True vertical depths are referenced to Patterson 342 (RKB)	North Reference: Grid north
Measured depths are referenced to Patterson 342 (RKB)	Scale: True distance
Patterson 342 (RKB) to Mean Sea Level: 1174 feet	Depths are in feet
Mean Sea Level to Ground level (At Slot: Slot #04): -1149 feet	Created by: dcaison on 2019-05-08
Coordinates are in feet referenced to Slot	Database: WA, MPL, EasternUS, Drefn

Location Information

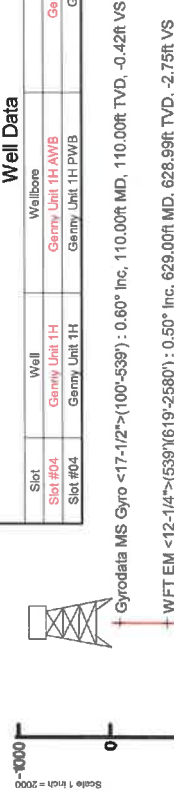
Facility Name	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude
Lynn Camp Pad	1655924.222	14239928.049	39°12'50.070"N	80°56'42.900"W
Slot #04	0.00	14239928.049	39°12'50.070"N	80°56'42.900"W
Patterson 342 (RKB) to Ground level (At Slot: Slot #04)	28ft			
Mean Sea Level to Ground level (At Slot: Slot #04)	-1149ft			
Patterson 342 (RKB) to Mean Sea Level	1174ft			

Well Profile Data

Design Comment	MD (ft)	Inc (°)	Az (°)	TVD (ft)	Local N (ft)	Local E (ft)	DLS (7100ft)	VS (ft)
This On	6394.00	24.980	298.160	5883.88	-1085.29	-2005.99	12.35	-349.01
Prof. to Bottom	6437.00	32.750	305.720	5947.60	-1038.93	-2035.91	12.35	-321.95
End of 3D Arc	7047.04	68.089	331.872	6321.23	-887.98	-2305.66	6.80	95.54
POE	7173.48	74.347	341.108	6392.00	-878.33	-2353.16	8.50	214.66
Landing Pt.	7357.63	90.000	341.108	6397.00	-405.25	-2412.04	8.50	396.53
BHL	21808.63	90.000	341.108	13288.28	-7091.07	0.00	0.00	14847.53

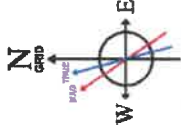
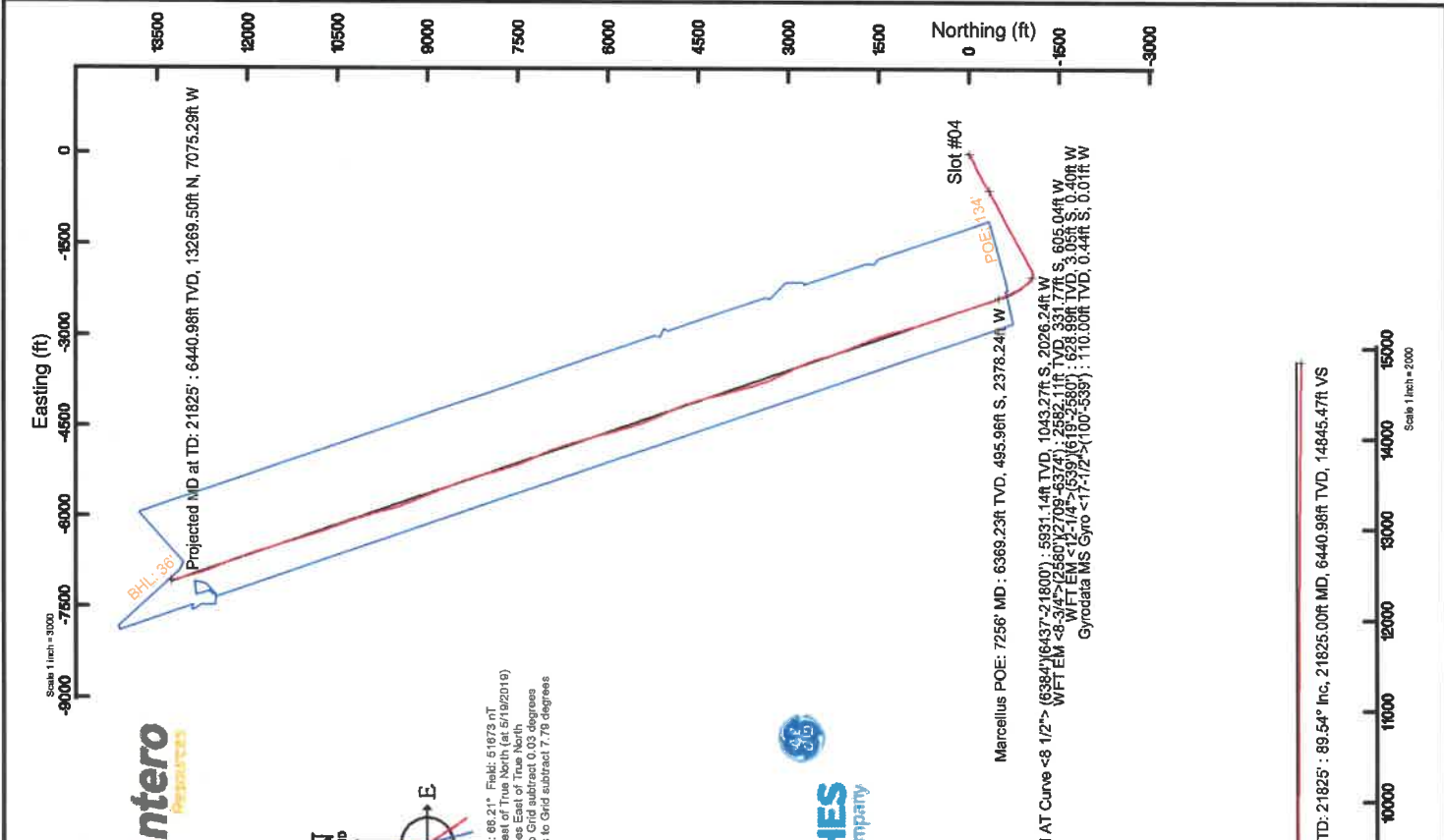
Well Data

Slot	Well	Wellbore
Slot #04	Genny Unit 1H	Genny Unit 1H AWB
Slot #04	Genny Unit 1H	Genny Unit 1H PWB
		Genny Unit 1H PWP Rev#3.0



API: 47-085-10382-0000
 BHI Job #: 109825541
 Rig: Patterson 342
 Duration: 05/25/2019-05/28/2019

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



Hydraulic Fracturing Fluid Product Component Information Disclosure

Job Start Date:	2/1/2020
Job End Date:	2/20/2020
State:	West Virginia
County:	Ritchie
API Number:	47-085-10382-00-00
Operator Name:	Antero Resources Corporation
Well Name and Number:	Genny 1H
Latitude:	39.21390830
Longitude:	-80.94525000
Datum:	NAD83
Federal Well:	NO
Indian Well:	NO
True Vertical Depth:	6,395
Total Base Water Volume (gal):	22,425,657
Total Base Non Water Volume:	0

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



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	86.30950	
DWP-641	CWS	Friction Reducer		Listed Below			

Sand (Proppant)	CWS	Propping Agent								
Calbreak 5501	CWS	Breaker			Listed Below					
SaniFrac 8123	CWS	Microbiocide			Listed Below					
CI-9100G	CWS	Corrosion Inhibitor			Listed Below					
Hydrochloric Acid	CWS	Clean Perforations			Listed Below					
CalGel 4000	CWS	Gel Slurry			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		13.33152		
			Illite	12173-60-3		1.00000		0.13331		
			Hydrochloric acid	7647-01-0		37.00000		0.11172		
			Polymer	26100-47-0		45.00000		0.01776		
			Biotite	1302-27-8		0.10000		0.01333		

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

					Apatite	64476-38-6	0.10000	0.01333
					Ilmenite	98072-94-7	0.10000	0.01333
					Goethite	1310-14-1	0.10000	0.01333
					Distillates (petroleum), hydrotreated light	64742-47-8	30.00000	0.01184
					Guar gum	9000-30-0	60.00000	0.00912
					Distillates (petroleum), hydrotreated middle	64742-46-7	60.00000	0.00912
					Ammonium chloride	12125-02-9	11.00000	0.00434
					Glutaraldehyde	111-30-8	14.00000	0.00167
					Sorbitan monooleate	1338-43-8	4.00000	0.00158
					Polyethylene glycol monooleate	9004-96-0	3.00000	0.00118
					Sorbitol tetraoleate	61723-83-9	2.00000	0.00079
					Quaternary ammonium compounds, bis (hydrogenated tallow alkyl)dimethyl, salts with bentonite	68953-58-2	5.00000	0.00076
					Amines, tallow alkyl, ethoxylated	61791-26-2	1.00000	0.00039
					Ethanol	64-17-5	3.00000	0.00036
					Alkyl dimethyl benzyl ammonium chloride	68424-85-1	3.00000	0.00036
					Didecyl dimethyl ammonium chloride	7173-51-5	3.00000	0.00036
					Ammonium Persulfate	7727-54-0	100.00000	0.00031
					Oxirane, 2-methyl-, polymer with oxirane, monodecyl ether	37251-67-5	1.50000	0.00023
					Alkyloxypolyethyleneoxy ethanol	84133-50-6	0.50000	0.00020
					Vinylidene chloride-methyl acrylate copolymer	25038-72-6	20.00000	0.00006
					Ethylene Glycol	107-21-1	40.00000	0.00006
					Acrylamide	79-06-1	0.10000	0.00004

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

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

8,099'

LATITUDE 39°17'30"

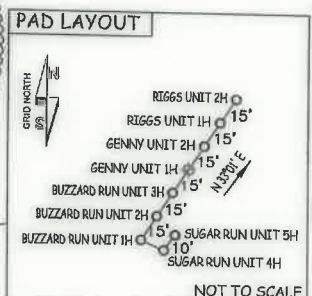
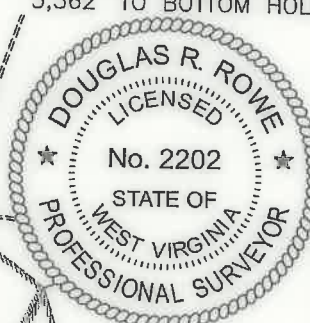
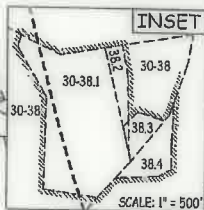
LONGITUDE 80°57'30"

15,049' TO BOTTOM HOLE

13,146'

LONGITUDE 80°55'00"

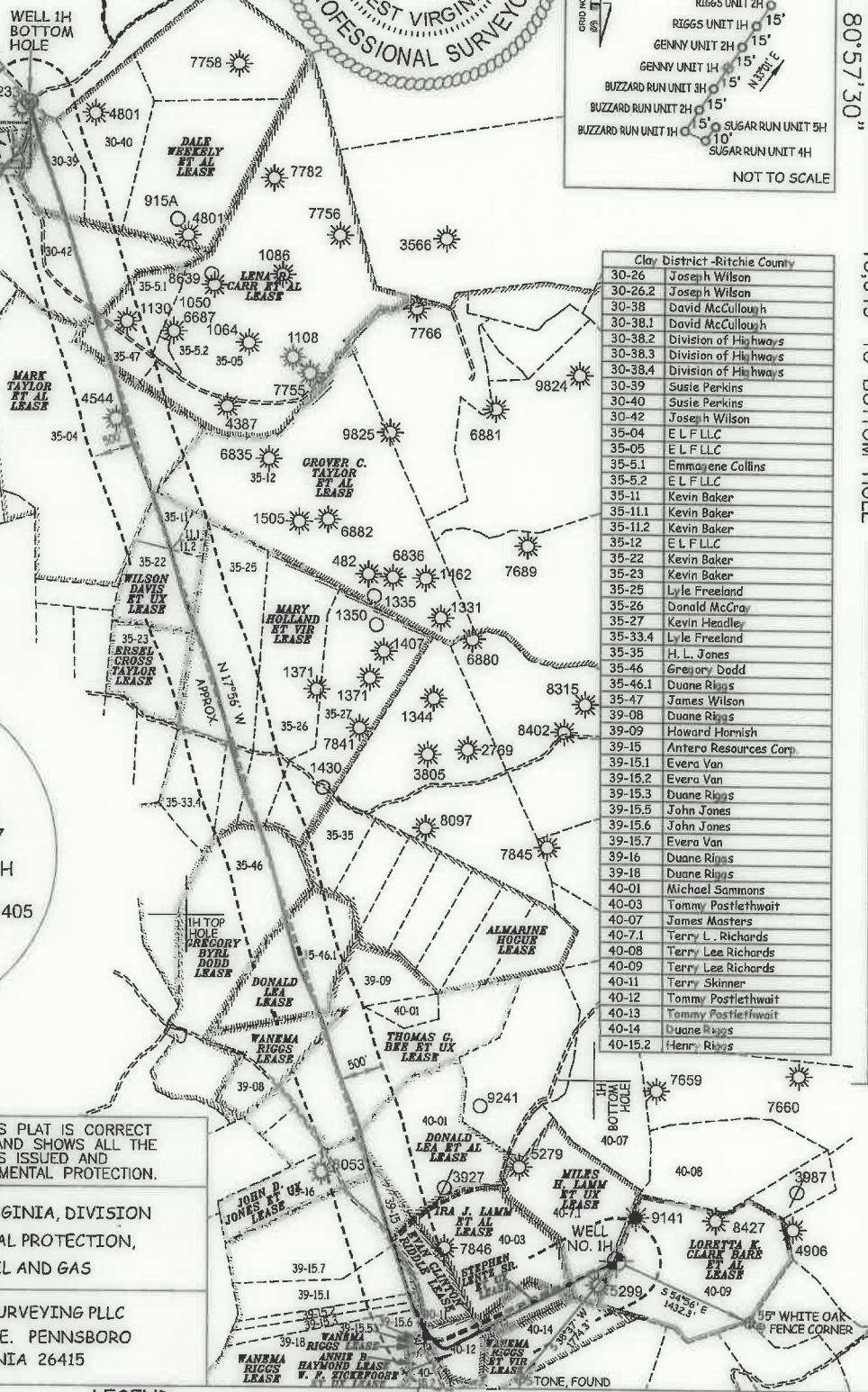
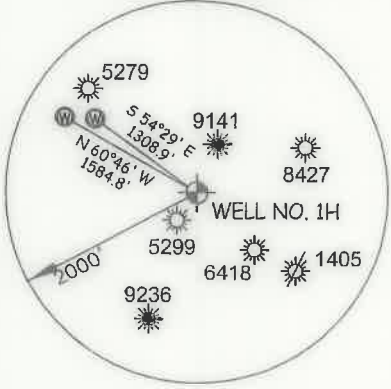
Antero Resources Corporation Well No. Genny Unit 1H



AS DRILLED DATA:
 WELL 1H TOP HOLE INFORMATION:
 N: 263,314ft E: 1,590,511ft
 LAT: 39°12'50.07" LON: 80°56'42.90"
 BOTTOM HOLE INFORMATION:
 N: 276,699ft E: 1,583,658ft
 LAT: 39°15'01.26" LON: 80°58'12.73"
 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: 4,340,525m E: 504,741m
 BOTTOM HOLE INFORMATION:
 N: 4,344,568m E: 502,586m

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



Clay District - Ritchie County	
30-26	Joseph Wilson
30-26.2	Joseph H. Wilson
30-38	David McCullough
30-38.1	David McCullough
30-38.2	Division of Highways
30-38.3	Division of Highways
30-38.4	Division of Highways
30-39	Susie Perkins
30-40	Susie Perkins
30-42	Joseph Wilson
35-04	E L F LLC
35-05	E L F LLC
35-5.1	Emmalyne Collins
35-5.2	E L F LLC
35-11	Kevin Baker
35-11.1	Kevin Baker
35-11.2	Kevin Baker
35-12	E L F LLC
35-22	Kevin Baker
35-23	Kevin Baker
35-25	Lyle Freeland
35-26	Donald McCray
35-27	Kevin Headley
35-33.4	Lyle Freeland
35-35	H. L. Jones
35-46	Gregory Dodd
35-46.1	Duane Riggs
35-47	James Wilson
39-08	Duane Riggs
39-09	Howard Hornish
39-15	Antero Resources Corp.
39-15.1	Evera Van
39-15.2	Evera Van
39-15.3	Duane Riggs
39-15.5	John Jones
39-15.6	John Jones
39-15.7	Evera Van
39-16	Duane Riggs
39-18	Duane Riggs
40-01	Michael Sammons
40-03	Tommy Postlethwait
40-07	James Masters
40-7.1	Terry L. Richards
40-08	Terry Lee Richards
40-09	Terry Lee Richards
40-11	Terry Skinner
40-12	Tommy Postlethwait
40-13	Tommy Postlethwait
40-14	Duane Riggs
40-15.2	Henry Riggs

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 # 18-023WA
 DRAWING # GENNY1HAD
 SCALE 1" = 2000'
 MINIMUM DEGREE OF ACCURACY SUBMETER
 PROVEN SOURCE OF ELEV. SUBMETER MAPPING GRADE GPS

LEGEND
 - - - - - Surface Owner Boundary Lines +/-
 - - - - - Interior Surface Tracts +/-
 O - - - - - Proposed Well Path
 X - - - - - Drilled Well Path

Douglas R. Rowe
 DOUGLAS R. ROWE P.S. 2202

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

DATE 06/04/20
 OPERATOR'S WELL# GENNY UNIT #1H

WELL TYPE: OIL GAS LIQUID INJECTION WASTE DISPOSAL
 (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; MILES H. LAMM ET UX; IRA J. LAMM ET AL; STEPHEN LENTZ SR. ET UX; EVAN CLINTON RIDDLE LEASE ACREAGE 60 AC±; 44 AC±; 38 AC±; 7.35 AC±; 8.58 AC±;
 W. F. ZICKEL ET UX; WANEMA RIGGS; WANEMA RIGGS; JOHN D. JONES ET UX; DONALD LEA ET AL; THOMAS G. BEE ET UX; WANEMA RIGGS; DONALD LEA 9.66 AC±; 142.07 AC±; 1 AC±; 31.25 AC±; 40.825 AC±; 63.19 AC±; 15 AC±; 34.36 AC±;
 GREGORY BYRD; MARY HOLLAND ET VIR; WILSON DAVIS ET UX; MARK TAYLOR ET AL; LENA R. CARR ET AL; C. A. WILSON ET AL; DALE WEEKELY ET AL 78.8 AC±; 220 AC±; 27.5 AC±; 160 AC±; 183 AC±; 178 AC±; 140 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 6,441' TVD 21,825' 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

COUNTY NAME PERMIT

LATITUDE 39°15'00"

8,099'

LATITUDE 39°17'30"

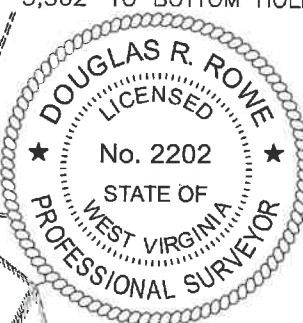
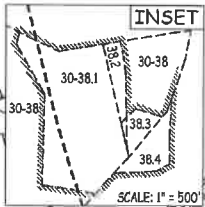
LONGITUDE 80°57'30"

13,146'

15,049' TO BOTTOM HOLE

LONGITUDE 80°55'00"

Antero Resources Corporation
Well No. Genny Unit 1H



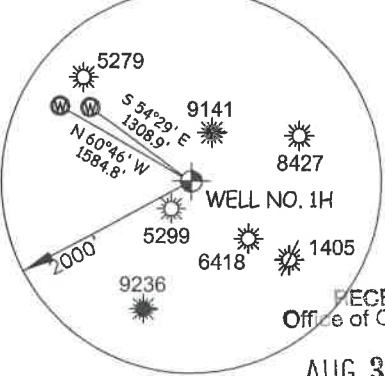
PAD LAYOUT



AS DRILLED DATA:
WELL 1H TOP HOLE INFORMATION:
N: 263,314ft E: 1,590,511ft
LAT: 39°12'50.07" LON: 80°56'42.90"
BOTTOM HOLE INFORMATION:
N: 276,699ft E: 1,583,658ft
LAT: 39°15'01.26" LON: 80°58'12.73"
WEST VIRGINIA COORDINATE SYSTEM OF 1927 NORTH ZONE. ZONE WAS DERIVED FROM MEASUREMENTS TAKEN WITH TRIANGLE 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: 4,340,525m E: 504,741m
BOTTOM HOLE INFORMATION:
N: 4,344,568m E: 502,586m

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



Clay District - Ritchie County	
30-26	Joseph Wilson
30-26.2	Joseph Wilson
30-38	David McCullough
30-38.1	David McCullough
30-38.2	Division of Highways
30-38.3	Division of Highways
30-38.4	Division of Highways
30-39	Susie Perkins
30-40	Susie Perkins
30-42	Joseph Wilson
35-04	E L F LLC
35-05	E L F LLC
35-5.1	Emmagene Collins
35-5.2	E L F LLC
35-11	Kevin Baker
35-11.1	Kevin Baker
35-11.2	Kevin Baker
35-12	E L F LLC
35-22	Kevin Baker
35-23	Kevin Baker
35-25	Lyle Freeland
35-26	Donald McCray
35-27	Kevin Headley
35-33.4	Lyle Freeland
35-35	H. L. Jones
35-46	Gregory Dodd
35-46.1	Duane Riggs
35-47	James Wilson
39-08	Duane Riggs
39-09	Howard Harnish
39-15	Antero Resources Corp.
39-15.1	Evera Van
39-15.2	Evera Van
39-15.3	Duane Riggs
39-15.5	John James
39-15.6	John James
39-15.7	Evera Van
39-16	Duane Riggs
39-18	Duane Riggs
40-01	Michael Sammons
40-03	Tommy Postlethwait
40-07	James Masters
40-7.1	Terry L. Richards
40-08	Terry Lee Richards
40-09	Terry Lee Richards
40-11	Terry Skinner
40-12	Tommy Postlethwait
40-13	Tommy Postlethwait
40-14	Duane Riggs
40-15.2	Henry Riggs

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

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 # 18-023WA
DRAWING # GENNY1HAD
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 # GENNY 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 X LIQUID INJECTION ___ WASTE DISPOSAL ___ 47 - 085 - 10382
(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; MILES H. LAMM ET AL; IRA J. LAMM ET AL; STEPHEN LENTZ SR. ET UX; EVAN CLUNTON RIDDLE; W. F. ZICKEFOOSE ET UX; WANEMA RIGGS; JOHN D. JONES ET UX; DONALD LEA ET AL; THOMAS G. BEE ET UX; WANEMA RIGGS; DONALD LEA; GREGORY BYRL DODD; MARY HOLLAND ET VIR; WILSON DAVIS ET UX; MARK TAYLOR ET AL; LENA R. CARR ET AL; C. A. WILSON ET AL; DALE WEEKELY ET AL
LEASE ACREAGE 60 AC±; 44 AC±; 38 AC±; 7.35 AC±; 8.58 AC±; 9.66 AC±; 142.07 AC±; 1 AC±; 31.25 AC±; 40.625 AC±; 63.19 AC±; 15 AC±; 34.36 AC±; 78.8 AC±; 220 AC±; 27.5 AC±; 160 AC±; 163 AC±; 178 AC±; 140 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 6,441' TVD 21,825' 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