

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

API 47 - 085 - 10367 County Ritchie District Clay
Quad Pennsboro 7.5' Pad Name Pool Pad Field/Pool Name -----
Farm name Dennis J. Sellers Well Number Barr 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 4349865m Easting 507633m
Landing Point of Curve Northing 4349983m Easting 506636.80m
Bottom Hole Northing 4347138m Easting 507585m

Elevation (ft) 1181' 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 6/14/2018 Date drilling commenced 6/17/2018 Date drilling ceased 8/11/2018
Date completion activities began 8/28/2018 Date completion activities ceased 10/17/2018
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 None Identified Open mine(s) (Y/N) depths No
Salt water depth(s) ft None Identified Void(s) encountered (Y/N) depths No
Coal depth(s) ft None Identified Cavern(s) encountered (Y/N) depths No
Is coal being mined in area (Y/N) No

Reviewed by:

WR-35
Rev. 8/23/13

API 47-085 - 10367 Farm name Dennis J. Sellers Well number Barr 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"	105'	New	94#, H-40	N/A	Y
Surface	17-1/2"	13-3/8"	400'	New	54.5#, J-55	N/A	Y
Coal							
Intermediate 1	12-1/4"	9-5/8"	2724'	New	40#, J-55	N/A	Y
Intermediate 2							
Intermediate 3							
Production	8-3/4"/8-1/2"	5-1/2"	17884'	New	23#, P-110	N/A	Y
Tubing		2-3/8"	7751'		4.7#, L-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	1.21	247	0'	8 Hrs.
Surface	Class A	376 sx	15.6	1.21	455	0'	8 Hrs.
Coal							
Intermediate 1	Class A	956 sx	15.6	1.19	1138	0'	8 Hrs.
Intermediate 2							
Intermediate 3							
Production	Class H	875 sx (Lead) 1884 sx (Tail)	14.5 (Lead), 15.2 (Tail)	1.39 (Lead), 1.60 (Tail)	4231	~500' into intermediate casing	8 Hrs.
Tubing							

Drillers TD (ft) 17898' MD, 6512' TVD (BHL), 6513' (Deepest Point Drilled) Loggers TD (ft) 17898' MD

Deepest formation penetrated Marcellus Plug back to (ft) N/A

Plug back procedure N/A

Kick off depth (ft) 7166'

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 - 10367 Farm name Dennis J. Sellers Well number Barr 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.

STIMULATION INFORMATION PER STAGE

Complete a separate record for each stimulation stage.

Stage No.	Stimulations Date	Ave Pump Rate (BPM)	Ave Treatment Pressure (PSI)	Max Breakdown Pressure (PSI)	ISIP (PSI)	Amount of Proppant (lbs)	Amount of Water (bbls)	Amount of Nitrogen/other (units)
*PLEASE SEE ATTACHED EXHIBIT 2								

Please insert additional pages as applicable.

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<u>PRODUCING FORMATION(S)</u>	<u>DEPTHS</u>			
<u>Marcellus</u>	<u>6444' (TOP)</u>	<u>TVD</u>	<u>7810' (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 3000 psi Bottom Hole --- psi DURATION OF TEST --- hrs

OPEN FLOW Gas 10408 mcfpd Oil 126 bpd NGL --- bpd Water 1099 bpd GAS MEASURED BY Estimated Orifice Pilot

<u>LITHOLOGY/ FORMATION</u>	<u>TOP</u>		<u>BOTTOM</u>		<u>DESCRIBE ROCK TYPE AND RECORD QUANTITY AND TYPE OF FLUID (FRESHWATER, BRINE, OIL, GAS, H₂S, ETC)</u>
	<u>DEPTH IN FT NAME TVD</u>	<u>DEPTH IN FT TVD</u>	<u>DEPTH IN FT MD</u>	<u>DEPTH IN FT MD</u>	

***PLEASE SEE ATTACHED EXHIBIT 3**

Please insert additional pages as applicable.


Drilling Contractor Patterson - UTI Drilling Company LLC
Address 207 Carlton Drive City Eighty Four State PA Zip 15330

Logging Company Nine Energy Service
Address 125 Museum Rd City Washington State PA Zip 15307

Cementing Company Schlumberger
Address 300 Schlumberger Dr City Sugar Land State TX Zip 77478

Stimulating Company Halliburton
Address 121 Champion Way Suite 200 City Canonsburg State PA Zip 15317

Please insert additional pages as applicable.

Completed by Karin Cox Telephone 303-357-7310
Signature  Title Permitting Agent Date 2/25/2019

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

API 47-085-10367 Farm Name Dennis J Sellers Well Number Barr Unit 1H

EXHIBIT 1

Stage No.	Perforation Date	Perforated from MD ft.	Perforated to MD ft.	Number of Perforations	Formations
1	8/28/2018	17633.6	17732	60	Marcellus
2	8/28/2018	17434.04	17602.34	60	Marcellus
3	8/29/2018	17234.48	17402.78	60	Marcellus
4	8/29/2018	17034.92	17203.22	60	Marcellus
5	8/30/2018	16835.36	17003.66	60	Marcellus
6	8/31/2018	16635.8	16804.1	60	Marcellus
7	8/31/2018	16436.24	16604.54	60	Marcellus
8	9/1/2018	16236.68	16404.98	60	Marcellus
9	9/2/2018	16037.12	16205.42	60	Marcellus
10	9/3/2018	15837.56	16005.86	60	Marcellus
11	9/3/2018	15638	15806.3	60	Marcellus
12	9/4/2018	15438.44	15606.74	60	Marcellus
13	9/5/2018	15238.88	15407.18	60	Marcellus
14	9/5/2018	15039.32	15207.62	60	Marcellus
15	9/5/2018	14839.76	15008.06	60	Marcellus
16	9/6/2018	14640.2	14808.5	60	Marcellus
17	9/6/2018	14440.64	14608.94	60	Marcellus
18	9/7/2018	14241.08	14409.38	60	Marcellus
19	9/8/2018	14041.52	14209.82	60	Marcellus
20	9/8/2018	13841.96	14010.26	60	Marcellus
21	9/8/2018	13642.4	13810.7	60	Marcellus
22	9/9/2018	13442.84	13611.14	60	Marcellus
23	9/10/2018	13243.28	13411.58	60	Marcellus
24	9/11/2018	13043.72	13212.02	60	Marcellus
25	9/12/2018	12844.16	13012.46	60	Marcellus
26	9/12/2018	12644.6	12812.9	60	Marcellus
27	9/13/2018	12445.04	12613.34	60	Marcellus
28	9/13/2018	12245.48	12413.78	60	Marcellus
29	9/14/2018	12045.92	12214.22	60	Marcellus
30	9/14/2018	11846.36	12014.66	60	Marcellus
31	9/15/2018	11646.8	11815.1	60	Marcellus
32	9/16/2018	11447.24	11615.54	60	Marcellus
33	9/16/2018	11247.68	11415.98	60	Marcellus
34	9/16/2018	11048.12	11216.42	60	Marcellus
35	9/17/2018	10848.56	11016.86	60	Marcellus
36	9/17/2018	10649	10817.3	60	Marcellus
37	9/17/2018	10449.44	10617.74	60	Marcellus
38	9/18/2018	10249.88	10418.18	60	Marcellus
39	9/18/2018	10050.32	10218.62	60	Marcellus
40	9/18/2018	9850.76	10019.06	60	Marcellus
41	9/19/2018	9651.2	9819.5	60	Marcellus
42	9/19/2018	9451.64	9619.94	60	Marcellus
43	9/19/2018	9252.08	9420.38	60	Marcellus
44	9/20/2018	9052.52	9220.82	60	Marcellus
45	9/20/2018	8852.96	9021.26	60	Marcellus
46	9/21/2018	8653.4	8821.7	60	Marcellus
47	9/21/2018	8453.84	8622.14	60	Marcellus
48	9/22/2018	8254.28	8422.58	60	Marcellus
49	9/22/2018	8054.72	8223.02	60	Marcellus
50	9/22/2018	7855.16	8023.46	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	8/28/2018	32.27	8782	2271	6591	10010	4907.595	N/A
2	8/28/2018	68.91	7436	5954	3075	513580	11408.93	N/A
3	8/29/2018	75.85	7603	5816	2960	507350	10430.9	N/A
4	8/29/2018	74.59	7518	5671	3016	511960	12080.86	N/A
5	8/30/2018	77.4	7568	5264	3112	510720	10841.55	N/A
6	8/31/2018	75.21	7379	5916	3123	509380	11807.5	N/A
7	8/31/2018	72.21	7163	5740	2851	503840	12310.93	N/A
8	9/1/2018	74.95	7229	5738	2936	507040	10899.02	N/A
9	9/2/2018	74.27	7205	5897	3726	505680	10480.07	N/A
10	9/3/2018	76.6	7371	5752	3180	496260	10588.05	N/A
11	9/3/2018	71.08	7105	5868	3111	503800	11270.45	N/A
12	9/4/2018	70.26	7174	5649	2969	507340	10487.38	N/A
13	9/5/2018	73.51	7350	5357	3129	508190	10588.5	N/A
14	9/5/2018	76.46	7219	4198	3138	503350	10582.64	N/A
15	9/5/2018	74.57	7011	3542	3172	509200	10567.57	N/A
16	9/6/2018	75.96	7021	4367	3131	508360	10630.52	N/A
17	9/6/2018	73.14	6947	5617	3273	504320	10408.57	N/A
18	9/7/2018	75.16	7021	5516	3154	507340	10700.4	N/A
19	9/8/2018	74.96	7016	5873	3290	500130	10643.52	N/A
20	9/8/2018	75.93	7092	5885	3549	508290	10632.81	N/A
21	9/8/2018	74.86	7065	5557	3673	498990	10385.55	N/A
22	9/9/2018	74.6	7133	5784	3556	503720	10383.93	N/A
23	9/10/2018	76.23	7355	5478	3712	513540	10674.33	N/A
24	9/11/2018	72.86	6944	5214	3210	506340	10268.62	N/A
25	9/12/2018	74.82	6939	5112	3031	497680	10738.19	N/A
26	9/12/2018	71.86	6988	5240	3319	502390	10898.57	N/A
27	9/13/2018	72.89	6760	5028	3550	506390	10279.52	N/A
28	9/13/2018	74.4	6738	4254	3575	499850	10463.74	N/A
29	9/14/2018	69.52	6780	5456	3373	500940	10402.67	N/A
30	9/14/2018	73.1	6858	4454	3345	494940	10117.05	N/A
31	9/15/2018	72.84	6750	5345	3738	496680	10645.26	N/A
32	9/16/2018	77.8	6897	4759	3654	503100	10103.33	N/A
33	9/16/2018	78.14	7095	5508	3334	501500	10436.02	N/A
34	9/16/2018	77.8	7146	5763	3655	501500	10353.31	N/A
35	9/17/2018	76.1	7009	6187	3451	499260	11099.71	N/A
36	9/17/2018	73	6660	6003	3221	498410	10154.64	N/A
37	9/17/2018	76.8	6553	5598	3380	503650	9867.976	N/A
38	9/18/2018	77.7	6583	5749	3407	513480	10396.55	N/A
39	9/18/2018	78.86	6587	6161	3584	515240	10318.26	N/A
40	9/18/2018	77.08	6581	5106	3639	501620	10991.4	N/A
41	9/19/2018	69.02	6697	7238	3348	503972	10378.57	N/A
42	9/19/2018	77.2	6490	5861	3561	517800	10503.17	N/A
43	9/19/2018	78.15	6553	5997	3535	502060	10106.81	N/A
44	9/20/2018	76.34	6384	6072	3371	503640	10434.45	N/A
45	9/20/2018	78.32	6518	5876	3515	501440	10229.02	N/A
46	9/21/2018	76.89	6573	6150	3591	495360	10015.19	N/A
47	9/21/2018	79.1	6616	5995	3589	500820	10394.14	N/A
48	9/22/2018	78.11	6673	6254	3742	499410	10405.67	N/A
49	9/22/2018	75.11	6445	6597	3590	496160	10150	N/A
50	9/22/2018	76.53	6306	6554	3751	502600	10223.5	N/A
AVG=		74	6,978	5,525	3,430	24,718,622	524,087	TOTAL

API 47-085-10367 Farm Name Dennis J Sellers Well Number Barr Unit 1H				
EXHIBIT 3				
LITHOLOGY/ FORMATION	TOP DEPTH (TVD)	BOTTOM DEPTH (TVD)	TOP DEPTH (MD)	BOTTOM DEPTH (MD)
	From Surface	From Surface	From Surface	From Surface
Sandy siltstone	0	275	0	275
Limey sandstone	est 275	415	est 275	415
silty shale	est 415	695	est 415	695
limey siltstone	est 695	875	est 695	875
sandy shale	est 875	1,335	est 875	1,335
silty shale, tr. coal	est 1335	1,465	est 1335	1,465
Sandy siltstone	est 1465	1,595	est 1465	1,595
silty shale	est 1595	1,675	est 1595	1,675
silty sandstone	est 1675	1,755	est 1675	1,755
shaly sand	est 1755	1,825	est 1755	1,825
silty sand tr. Coal	est 1825	1,895	est 1825	1,895
Sandstone	est 1895	1,935	est 1895	1,935
siltstone	est 1935	2,003	est 1935	2,102
Big Lime	2,003	2,192	2,102	2,310
Big Injun	2,192	2,528	2,310	2,677
Gantz Sand	2,528	2,865	2,677	3,061
Fifty Foot Sandstone	2,865	2,982	3,061	3,205
Gordon	2,982	3,148	3,205	3,419
Fifth Sandstone	3,148	3,477	3,419	3,856
Bayard	3,477	3,654	3,856	4,120
Warren	3,654	3,893	4,120	4,399
Speechley	3,893	4,633	4,399	5,369
Balltown	4,147	5,035	4,724	5,893
Bradford	4,633	5,035	5,369	5,893
Benson	5,035	5,254	5,893	6,183
Alexander	5,254	5,855	6,183	6,929
Rhinestreet	5,830	6,175	6,904	7,306
Sycamore	6,175	6,277	7,306	7,448
Middlesex	6,277	6,387	7,448	7,647
Burkett	6,387	6,420	7,647	7,733
Tully	6,420	6,444	7,733	7,810
Marcellus	6,444	NA	7,810	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.

Hydraulic Fracturing Fluid Product Component Information Disclosure

Job Start Date:	8/28/2018
Job End Date:	9/25/2018
State:	West Virginia
County:	Ritchie
API Number:	47-085-10367-00-00
Operator Name:	Antero Resources Corporation
Well Name and Number:	Barr Unit 1H
Latitude:	39.29802000
Longitude:	-80.91163056
Datum:	NAD83
Federal Well:	NO
Indian Well:	NO
True Vertical Depth:	6,513
Total Base Water Volume (gal):	22,546,352
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
Fresh Water	Operator	Base Fluid					
			Water	7732-18-5	100.00000	88.15495	Density = 8.330
Ingredients	Listed Above	Listed Above					
			Water	7732-18-5	100.00000	0.19418	

HYDROCHLORIC ACID	Halliburton	Solvent								
MC B-8614	Halliburton	Biocide			Listed Below					
SCALECHEK LP-70	Halliburton	Scale Inhibitor			Listed Below					
SP BREAKER	Halliburton	Breaker			Listed Below					
HAI-OS ACID INHIBITOR	Halliburton	Corrosion Inhibitor			Listed Below					
EXCELERATE PS-2	Halliburton	Friction Reducer			Listed Below					
SAND-PREMIUM WHITE-40/70, BULK	Halliburton	Proppant			Listed Below					
WG-36 GELLING AGENT	Halliburton	Gelling Agent			Listed Below					

SAND-COMMON WHITE-100 MESH, SSA-2, BULK (100003676)	Halliburton	Proppant							
				Listed Below					
SAND- PREMIUM WHITE-30/50, BULK	Halliburton	Proppant							
				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	11.60782			
			Hydrochloric acid	7647-01-0	15.00000	0.02212			
			Inorganic salt	Proprietary	30.00000	0.01523			
			Hydrotreated light petroleum distillate	64742-47-8	30.00000	0.01523			
			Acrylamide acrylate polymer	Proprietary	30.00000	0.01523			Denise Tuck, Halliburton, 3000 N. Sam Houston Pkwy E., Houston, TX 77032, 281-871-6226
			Guar gum	9000-30-0	100.00000	0.01505			
			Ethylene glycol	107-21-1	60.00000	0.00832			
			Glutaraldehyde	111-30-8	30.00000	0.00286			
			Teimer	Proprietary	10.00000	0.00139			
			Quaternary ammonium compounds, benzyl-C12-16-alkyldimethyl chlorides	68424-85-1	5.00000	0.00048			
			Sodium persulfate	7775-27-1	100.00000	0.00042			
			Sodium polyacrylate	9003-04-7	1.00000	0.00014			
			Ethanol	64-17-5	1.00000	0.00010			
			Methanol	67-56-1	60.00000	0.00008			
			Fatty acids, tall oil	Proprietary	30.00000	0.00003			

			Modified thiourea polymer	Proprietary	30.00000	0.00003	
			Ethoxylated alcohols	Proprietary	30.00000	0.00003	
			Olefins	Proprietary	5.00000	0.00001	
			Propargyl alcohol	107-19-7	10.00000	0.00001	
			Phosphoric acid	7664-38-2	0.10000	0.00001	
			Acrylic acid	79-10-7	0.01000	0.00000	
			Sodium sulfate	7757-82-6	0.10000	0.00000	
			Crystalline silica, quartz	14808-60-7			

* 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)

LATITUDE 39°20'00"

10,371'

10,542' TO BOTTOM HOLE

LATITUDE 39°17'30"

6,626' BOTTOM HOLE

12,853' LONGITUDE 80°52'30"

LONGITUDE 80°52'30"

03/08/2019

Antero Resources Corporation Well No. Barr Unit 1H A.P.I. 47-085-10367

AS DRILLED DATA: WELL 1H TOP HOLE INFORMATION: N: 293,803ft E: 1,600,513ft LAT: 39°17'52.96" LON: 80°54'41.92" BOTTOM HOLE INFORMATION: N: 284,857ft E: 1,600,204ft LAT: 39°16'24.51" LON: 80°54'44.06" 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: 4,349,865m E: 807,633m BOTTOM HOLE INFORMATION: N: 4,347,138m E: 807,585m

PAD LAYOUT

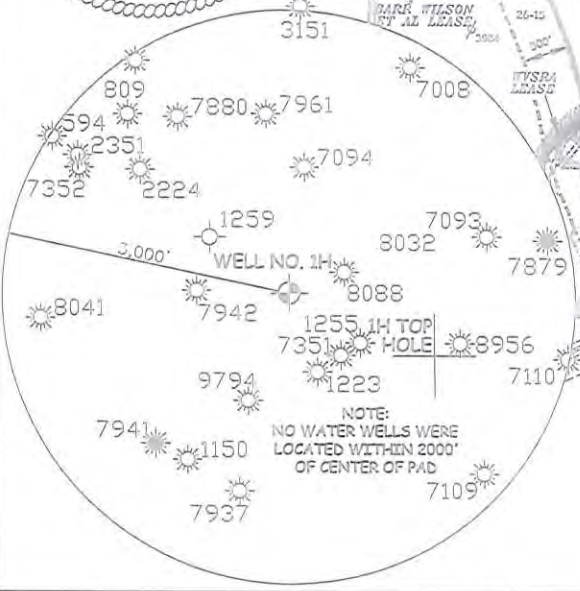
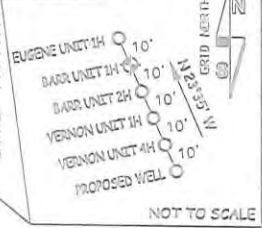
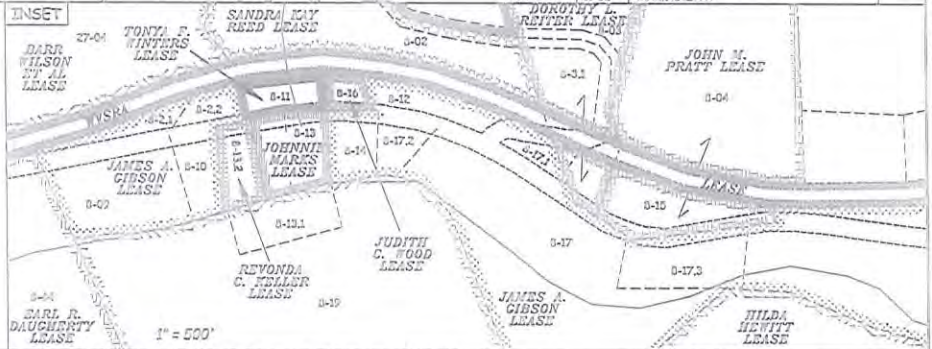


Table listing landowners and their well numbers, including names like Gerald Hall, Sam Wells, Glenn Poole, and various 'et al' entries.



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 ALLEGHENY SURVEYS, INC. 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.

I, THE UNDERSIGNED, HEREBY CERTIFY THAT THIS PLAN 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

THOMAS SUMMERS P.S. 2109 DATE 01/21/19 OPERATOR'S WELL# BARR UNIT 1H

Form containing well details: JOB # 16-056WA, DRAWING # BARR1HAD, 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, WELL TYPE: OIL GAS X LIQUID INJECTION WASTE DISPOSAL, (IF "GAS") PRODUCTION X STORAGE DEEP SHALLOW X, LOCATION: ELEVATION 1,181' AS BUILT WATERSHED NORTH FORK HUGHES RIVER, QUADRANGLE PENNSBORO 7.5' DISTRICT CLAY COUNTY RITCHIE, SURFACE OWNER DENNIS J. SELLERS ACREAGE 39.26 ACRES +/-, OIL & GAS ROYALTY OWNER B.H. HICKMAN HEIRS; JOHN H. POOLE ET AL; GEORGE A. DOTSON; LEASE ACREAGE 400 AC±; 75 AC±; 11 AC±; HELEN M. GRIFFITH; GERALD S. HALL ET UX; SEFCO ENTERPRISES INC.; BARR WILSON ET AL; 18.3 AC±; 73.83 AC±; 15 AC±; 107 AC±; WVSRA; EARL R. DAUGHERTY; CHARLES M. LINDER 6.68 AC±; 62.13 AC±; 8.11 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 6,512' TVD 17,898' MD, WELL OPERATOR ANTERO RESOURCES CORP. DESIGNATED AGENT DIANNA STAMPER - CT CORPORATION SYSTEM, ADDRESS 1615 WYNKOOP ST. ADDRESS 5400 D BIG TYLER ROAD CHARLESTON, WV 25313