

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

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WV Department of  
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API 47 - 085 - 10310 County Ritchie District Clay  
Quad Ellenboro 7.5' Pad Name Bachelor Pad Field/Pool Name -----  
Farm name Marion R. Bachelor Well Number Anderson Unit 2H  
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 4351346m Easting 498702m  
Landing Point of Curve Northing 4351154.38m Easting 499215.29m  
Bottom Hole Northing 4348415m Easting 500282m

Elevation (ft) 1193' 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 3/23/2017 Date drilling commenced 5/12/2017 Date drilling ceased 9/28/2017  
Date completion activities began 12/27/2017 Date completion activities ceased 3/12/2018  
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 202', 402' Open mine(s) (Y/N) depths No  
Salt water depth(s) ft 1355' 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:

**Reviewed**  
*Michael Gaff 4-5-18*

09/07/2018

API 47-085 - 10310 Farm name Marion R. Bachelor Well number Anderson Unit 2H

CASING STRINGS	Hole Size	Casing Size	Depth	New or Used	Grade wt/ft	Basket Depth(s)	Did cement circulate (Y/ N) * Provide details below*
Conductor	24"	20"	85'	New	94#, H-40	N/A	Y
Surface	17-1/2"	13-3/8"	608'	New	48#, H-40	N/A	Y
Coal							
Intermediate 1	12-1/4"	9-5/8"	2558'	New	36#, J-55	N/A	Y
Intermediate 2							
Intermediate 3							
Production	8-3/4"/8-1/2"	5-1/2"	17400'	New	23#, P-110	N/A	Y
Tubing		2-3/8"	6649'		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 <sup>3</sup> /sks)	Volume (ft <sup>3</sup> )	Cement Top (MD)	WOC (hrs)
Conductor	Class A	204 sx	15.6	1.18	120	0'	8 Hrs.
Surface	Class A	535 sx	15.6	1.18	826	0'	8 Hrs.
Coal							
Intermediate 1	Class A	950 sx	15.6	1.18	1181	0'	8 Hrs.
Intermediate 2							
Intermediate 3							
Production	Class H	755 sx (Lead) 1485 sx (Tail)	13.5 (Lead), 15.2 (Tail)	1.44 (Lead), 1.87 (Tail)		~500' into Intermediate Casing	8 Hrs.
Tubing							

Drillers TD (ft) 17430' MD, 6463' TVD (BHL), 6463' (Deepest Point Drilled) Loggers TD (ft) 17430' MD  
 Deepest formation penetrated Marcellus Plug back to (ft) N/A RECEIVED  
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 Plug back procedure N/A JUL 2 2018

Kick off depth (ft) 5976' WV Department of  
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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 - 10310 Farm name Marion R. Bachelor Well number Anderson Unit 2H

PERFORATION RECORD

Stage No.	Perforation date	Perforated from MD ft.	Perforated to MD ft.	Number of Perforations	Formation(s)
<b>*PLEASE SEE ATTACHED EXHIBIT 1</b>					

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)
<b>*PLEASE SEE ATTACHED EXHIBIT 2</b>								

Please insert additional pages as applicable.

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PRODUCING FORMATION(S)	DEPTHS		
Marcellus	6363' (TOP)	TVD	6770' (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 12581 mcfpd Oil 219 bpd NGL --- bpd Water 1305 bpd GAS MEASURED BY  Estimated  Orifice  Pilot

LITHOLOGY/ FORMATION	TOP		BOTTOM		DESCRIBE ROCK TYPE AND RECORD QUANTITY AND TYPE OF FLUID (FRESHWATER, BRINE, OIL, GAS, H <sub>2</sub> 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 Patterson - UTI Drilling Company LLC  
Address 207 Carlton Drive City Eighty Four State PA Zip 15330

Logging Company Kodiak Services Int'l  
Address 2219 Sawdust Road, Unit 1604-1605 City The Woodlands State TX Zip 77380

Cementing Company BJ Services  
Address 1036 East Main Street City Bridgeport State WV Zip 26330

Stimulating Company US Well Services  
Address 533 Industrial Park Drive City Jane Lew State WV Zip 26378

Please insert additional pages as applicable.

Completed by Megan Griffith Telephone 303-357-7223  
Signature  Title Permitting Agent Date 6/29/2018

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

09/07/2018

API 47-085-10310 Farm Name Marion R. Bachelor Well Number Anderson Unit 2H					
EXHIBIT 1					
Stage No.	Perforation Date	Perforated from MD ft.	Perforated to MD ft.	Number of Perforations	Formations
1	12/27/2017	17205	17307	60	Marcellus
2	1/5/2018	17005	17174	60	Marcellus
3	1/4/2018	16804	16973	60	Marcellus
4	1/8/2018	16604	16773	60	Marcellus
5	1/8/2018	16404	16573	60	Marcellus
6	1/9/2018	16204	16372	60	Marcellus
7	1/9/2018	16003	16172	60	Marcellus
8	1/10/2018	15803	15972	60	Marcellus
9	1/11/2018	15603	15772	60	Marcellus
10	1/11/2018	15402	15571	60	Marcellus
11	1/12/2018	15202	15371	60	Marcellus
12	1/12/2018	15002	15171	60	Marcellus
13	1/13/2018	14802	14970	60	Marcellus
14	1/14/2018	14601	14770	60	Marcellus
15	1/14/2018	14401	14570	60	Marcellus
16	1/15/2018	14201	14370	60	Marcellus
17	1/16/2018	14000	14169	60	Marcellus
18	1/17/2018	13800	13969	60	Marcellus
19	1/17/2018	13600	13769	60	Marcellus
20	1/18/2018	13400	13568	60	Marcellus
21	1/18/2018	13199	13368	60	Marcellus
22	1/19/2018	12999	13168	60	Marcellus
23	1/19/2018	12799	12968	60	Marcellus
24	1/20/2018	12598	12767	60	Marcellus
25	1/21/2018	12398	12567	60	Marcellus
26	1/21/2018	12198	12367	60	Marcellus
27	1/23/2018	11998	12167	60	Marcellus
28	1/23/2018	11797	11966	60	Marcellus
29	1/25/2018	11597	11766	60	Marcellus
30	1/26/2018	11397	11566	60	Marcellus
31	1/27/2018	11197	11365	60	Marcellus
32	1/27/2018	10996	11165	60	Marcellus
33	1/28/2018	10796	10965	60	Marcellus
34	1/29/2018	10596	10765	60	Marcellus
35	1/30/2018	10395	10564	60	Marcellus
36	1/31/2018	10195	10364	60	Marcellus
37	1/31/2018	9995	10164	60	Marcellus
38	2/1/2018	9795	9963	60	Marcellus
39	2/2/2018	9594	9763	60	Marcellus
40	2/3/2018	9394	9563	60	Marcellus
41	2/5/2018	9194	9363	60	Marcellus
42	2/5/2018	8993	9162	60	Marcellus
43	2/5/2018	8793	8962	60	Marcellus
44	2/6/2018	8593	8762	60	Marcellus
45	2/6/2018	8393	8561	60	Marcellus
46	2/7/2018	8192	8361	60	Marcellus
47	2/8/2018	7992	8161	60	Marcellus
48	2/8/2018	7792	7961	60	Marcellus
49	2/8/2018	7591	7760	60	Marcellus
50	2/9/2018	7391	7560	60	Marcellus
51	2/9/2018	7191	7360	60	Marcellus
52	2/9/2018	6991	7160	60	Marcellus
53	2/10/2018	6790	6959	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	12/27/2017	63.9	7969		5237	321,180	11339	N/A
2	1/5/2018	65.8	7708		4561	512,480	11154	N/A
3	1/4/2018	86.8	7837	5125	5134	504,300	10336	N/A
4	1/8/2018	74.6	7521	7927	5303	518,220	10522	N/A
5	1/8/2018	78.8	7430	4309	5782	499,420	10508	N/A
6	1/9/2018	79	7452	4947	4257	510,200	10427	N/A
7	1/9/2018	69.9	7380	5686	3338	503,080	10637	N/A
8	1/10/2018	79.2	7249	5873	3487	506,460	10522	N/A
9	1/11/2018	76.9	7519	6284	3321	501,200	11057	N/A
10	1/11/2018	73	7229	5837	3654	500,840	10584	N/A
11	1/12/2018	79.2	7668	5728	3762	506,000	12003	N/A
12	1/12/2018	76	7188	6881	3040	502,180	10664	N/A
13	1/13/2018	76	7185	6586	3129	496,620	10402	N/A
14	1/14/2018	78.9	7175	5149	2930	503,680	10566	N/A
15	1/14/2018	77	7152	6191	2859	510,820	10506	N/A
16	1/15/2018	78	7378	5405	3291	497,320	10662	N/A
17	1/16/2018	76.8	7272	6369	3406	498,180	10698	N/A
18	1/17/2018	76	7062	5696	3047	500,520	10704	N/A
19	1/17/2018	76	6769	7186	3315	510,160	10705	N/A
20	1/18/2018	72.2	7047	6046	4047	498,620	10533	N/A
21	1/18/2018	73	6957	6029	3682	503,275	10755	N/A
22	1/19/2018	73	6863	5680	3296	503,930	10460	N/A
23	1/19/2018	76	7123	7404	3174	503,260	10555	N/A
24	1/20/2018	72	7124	6118	3128	503,275	10860	N/A
25	1/21/2018	69	6753	6721	3142	511,410	10616	N/A
26	1/21/2018	77	6976	6376	3039	507,260	10681	N/A
27	1/23/2018	76.1	7174	5751	4051	505,820	12719	N/A
28	1/23/2018	57	7695	6600	4885	390,065	12155	N/A
29	1/25/2018	76.9	6506	5027	3187	520,340	11000	N/A
30	1/26/2018	78	6713	6206	4271	503,420	10735	N/A
31	1/27/2018	76	6712	6865	4305	503,420	10912	N/A
32	1/27/2018	77.2	6600	6366	2951	521,050	10676	N/A
33	1/28/2018	76.6	6741	6225	3450	504,700	10806	N/A
34	1/29/2018	76	6655	6609	4221	503,740	10644	N/A
35	1/30/2018	68	6242	6259	3802	503,320	12770	N/A
36	1/31/2018	79.1	6924	5638	3321	508,820	10238	N/A
37	1/31/2018	77	7100	6307	3129	500,640	10997	N/A
38	2/1/2018	77.5	7123	6600	3087	502,400	12117	N/A
39	2/2/2018	79.6	7099	11	3916	501,600	11274	N/A
40	2/3/2018	75.5	6678	6210	3188	503,980	10301	N/A
41	2/5/2018	78.9	6716	6071	3404	497,700	10405	N/A
42	2/5/2018	78.7	6632	6409	3311	510,660	10034	N/A
43	2/5/2018	79.4	6749	5980	4071	501,140	10467	N/A
44	2/6/2018	79.8	6951	6069	2891	498,540	10227	N/A
45	2/6/2018	78	6554	6307	3916	507,340	10231	N/A
46	2/7/2018	77.4	6587	5665	4051	472,005	9587	N/A
47	2/8/2018	78	6244	5687	4373	507,320	10191	N/A
48	2/8/2018	76.6	6406	6858	2923	502,600	10322	N/A
49	2/8/2018	76	6293	5786	3340	503,900	10319	N/A
50	2/9/2018	54.2	7555	5799	4594	251,140	8773	N/A
51	2/9/2018	78.1	6083	5481	2925	515,020	10716	N/A
52	2/9/2018	73	5937	6062	3523	513,780	10288	N/A
53	2/10/2018	77.4	5919	6009	3222	517,420	10269	N/A
	AVG=	75.3	6,973	5,969	3,673	26,205,770	567,629	TOTAL

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**EXHIBIT 3**

<b>LITHOLOGY/ FORMATION</b>	<b>TOP DEPTH (TVD) From Surface</b>	<b>BOTTOM DEPTH (TVD) From Surface</b>	<b>TOP DEPTH (MD) From Surface</b>	<b>BOTTOM DEPTH (MD) From Surface</b>
Fresh Water	227'	N/A	227'	N/A
Shale	FALSE	320	85	305
Sandstone	320	500	305	485
Siltstone	500	980	485	965
Shale	980	1,490	965	1,475
Sandstone	1,490	1,700	1,475	1,685
Sandstone	1,700	1,840	1,685	1,825
Sandstone	1,840	1,800	1,825	1,785
Sandstone	1,800	1,850	1,785	1,835
Sandstone	1,850	2,030	1,835	2,015
Shale	2,030	2,021	2,015	2,046
Big Lime	2,021	2,021	2,046	2,663
Gantz	2,609	2,920	2,663	2,959
Fifty Foot Sandstone	2,920	3,035	2,959	3,078
Gordon	3,035	3,476	3,078	3,540
Fifth Sandstone	3,476	3,549	3,540	3,617
Bayard	3,549	3,990	3,617	4,077
Speechley	3,990	4,259	4,077	4,356
Baltown	4,259	4,695	4,356	4,809
Bradford	4,695	5,035	4,809	5,164
Benson	5,035	5,261	5,164	5,403
Alexander	5,261	5,554	5,403	5,711
Elk	5,554	5,788	5,711	5,952
Rhinestreet	5,788	6,154	5,952	6,375
Sycamore	6,154	6,244	6,375	6,510
Middlesex	6,244	6,339	6,510	6,690
Burkett	6,339	6,363	6,690	6,770
Marcellus (Tully-Not Present)	6,363	0	6,770	0

\*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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# Hydraulic Fracturing Fluid Product Component Information Disclosure

Job Start Date:	12/27/2017
Job End Date:	2/10/2018
State:	West Virginia
County:	Ritchie
API Number:	47-085-10310-00-00
Operator Name:	Antero Resources Corporation
Well Name and Number:	Anderson 2H
Latitude:	39.31158200
Longitude:	-81.01509400
Datum:	NAD83
Federal Well:	NO
Indian Well:	NO
True Vertical Depth:	6,463
Total Base Water Volume (gal):	23,868,012
Total Base Non Water Volume:	0

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## 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	Ascent	Carrier/Base Fluid	Water	7732-18-5	100.00000	88.14396	None
Sand (Proppant)	Keane	Proppant	Crystalline silica: Quartz (SiO2)	14808-60-7	100.00000	11.58434	None
KWG-111LS	Keane	Gel	Guar gum	9000-30-0	55.00000	0.02995	None
			Distillates (petroleum), hydrotreated light	64742-47-8	55.00000	0.02995	None
KFR-16FW	Keane	Friction Reducer	Water	7732-18-5	60.00000	0.03531	None
			Distillates (petroleum), hydrotreated light	64742-47-8	20.00000	0.01177	None
			ammonium chloride	12125-02-9	1.50000	0.00088	None
			oleic acid diethanolamide	93-83-4	1.50000	0.00088	None
			alcohols, C12-16, ethoxylated	68551-12-2	1.00000	0.00059	None
Hydrochloric Acid (15%)	Keane	Acidizing	Hydrochloric Acid	7647-01-0	15.00000	0.01991	None
MBC-516	Keane	Biocide					



			Water	7732-18-5	56.70000	0.00555	None
			Glutaral	111-30-8	26.70000	0.00261	None
			didecyl dimethyl ammonium chloride	7173-51-5	8.00000	0.00078	None
			quaternary ammonium compounds, benzyl-C12-16-alkyldimethyl, chlorides	68424-85-1	5.30000	0.00052	None
			ethonal	64-17-5	2.80000	0.00027	None
KSI-19	Keane	Scale Inhibitor					
			Methanol	67-56-1	30.00000	0.00424	None
KWBO-2	Keane	Breaker					
			Sodium persulfate	7775-27-1	99.00000	0.00122	None
KAI-12	Keane	Acid Inhibitor					
			Ethylene glycol	107-21-1	40.00000	0.00006	None
			dipropylene glycol, monomethyl ether	34590-94-8	20.00000	0.00003	None
			Tar bases, quinoline derivs., benzyl chloride-quaternized	72480-70-7	10.00000	0.00002	None
			Ethoxylated alcohol	68131-39-5	10.00000	0.00002	None
			formic acid	64-18-6	10.00000	0.00002	None
			Cinnamaldehyde	104-55-2	10.00000	0.00002	None
			isopropyl alcohol	67-63-0	5.00000	0.00001	None
KFEAC-30	Keane	Iron Control					
			Citric acid	77-92-9	30.00000	0.00010	None
			Acetic acid	64-19-7	5.00000	0.00002	None

Ingredients shown above are subject to 29 CFR 1910.1200(i) and appear on Material Safety Data Sheets (MSDS). Ingredients shown below are Non-MSDS.

Other Chemical(s)	Listed Above	See Trade Name(s) List					
			Distillates (petroleum), hydrotreated light	64742-47-8	55.00000	0.02995	
			Distillates (petroleum), hydrotreated light	64742-47-8	20.00000	0.01177	
			Glutaral	111-30-8	26.70000	0.00261	
			ammonium chloride	12125-02-9	1.50000	0.00088	
			oleic acid diethanolamide	93-83-4	1.50000	0.00088	
			didecyl dimethyl ammonium chloride	7173-51-5	8.00000	0.00078	
			alcohols, C12-16, ethoxylated	68551-12-2	1.00000	0.00059	
			quaternary ammonium compounds, benzyl-C12-16-alkyldimethyl, chlorides	68424-85-1	5.30000	0.00052	
			ethonal	64-17-5	2.80000	0.00027	
			Citric acid	77-92-9	30.00000	0.00010	
			dipropylene glycol, monomethyl ether	34590-94-8	20.00000	0.00003	
			Cinnamaldehyde	104-55-2	10.00000	0.00002	
			Ethoxylated alcohol	68131-39-5	10.00000	0.00002	
			formic acid	64-18-6	10.00000	0.00002	
			Tar bases, quinoline derivs., benzyl chloride-quaternized	72480-70-7	10.00000	0.00002	

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					57-63-0		5.00000		0.00001
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\* Total Water Volume sources may include fresh water, produced water, and/or recycled water  
 \*\* Information is based on the maximum potential for concentration and thus the total may be over 100%

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°20'00"

4,307

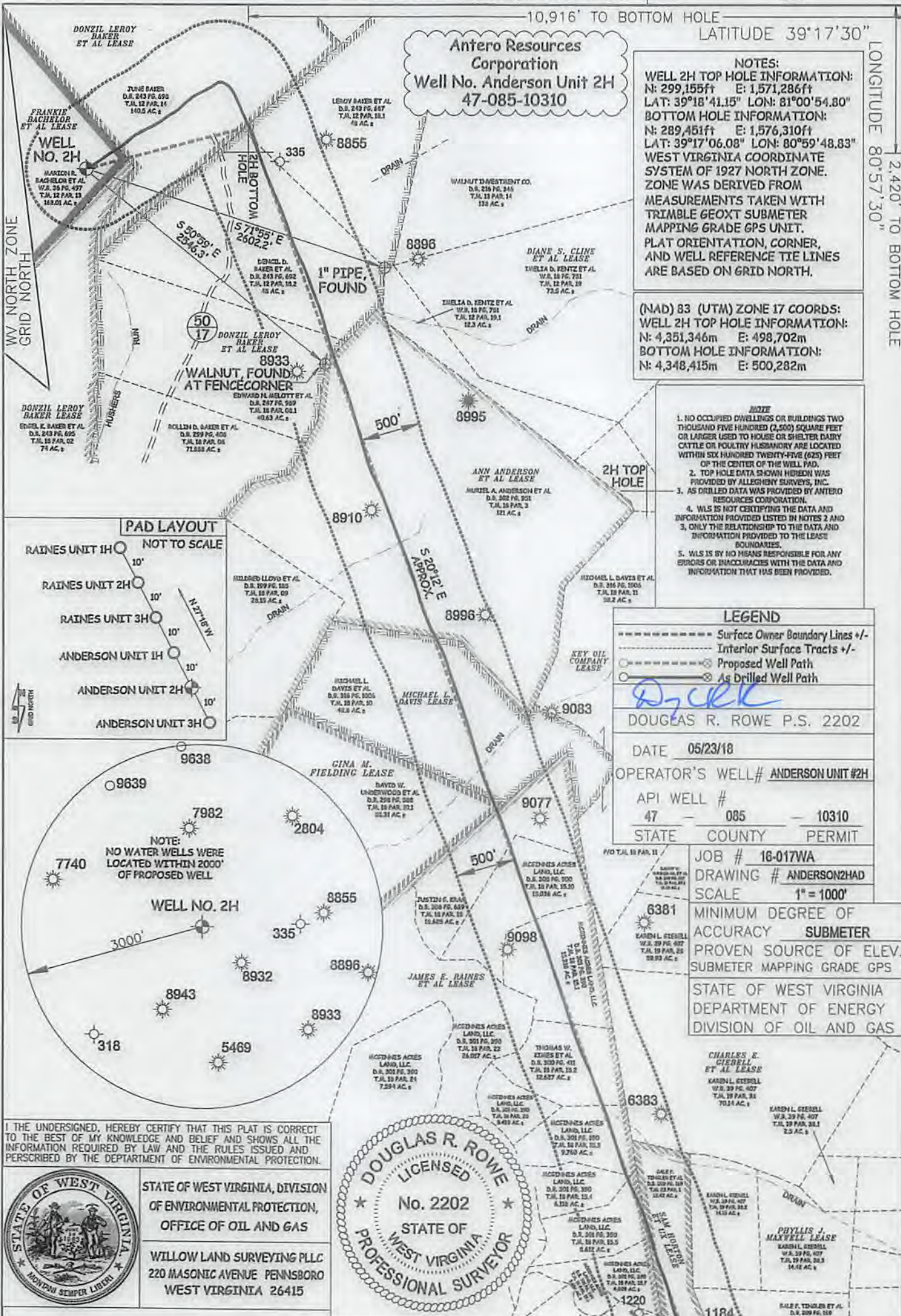
10,916' TO BOTTOM HOLE

LATITUDE 39°17'30"

LONGITUDE 80°57'30"

7,978'

LONGITUDE 81°00'00"



**Antero Resources Corporation**  
**Well No. Anderson Unit 2H**  
**47-085-10310**

**NOTES:**  
**WELL 2H TOP HOLE INFORMATION:**  
 N: 299,155ft E: 1,571,286ft  
 LAT: 39°18'41.15" LON: 81°00'54.80"  
**BOTTOM HOLE INFORMATION:**  
 N: 289,451ft E: 1,576,310ft  
 LAT: 39°17'06.08" LON: 80°59'48.83"  
 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 2H TOP HOLE INFORMATION:**  
 N: 4,351,346m E: 498,702m  
**BOTTOM HOLE INFORMATION:**  
 N: 4,348,415m E: 500,282m

**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 AND BOUNDARIES.  
 5. WLS IS BY NO MEANS RESPONSIBLE FOR ANY ERRORS OR INACCURACIES WITH THE DATA AND INFORMATION THAT HAS BEEN PROVIDED.

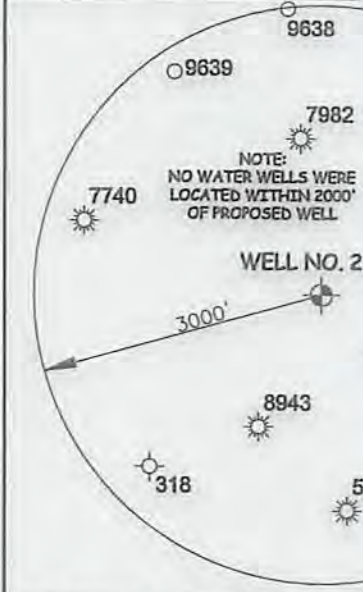
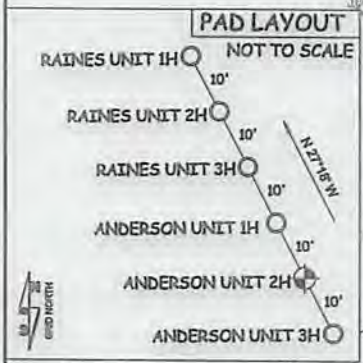
**LEGEND**  
 - - - - - Surface Owner Boundary Lines +/-  
 - - - - - Interior Surface Tracts +/-  
 - - - - - Proposed Well Path  
 (Symbol) As Drilled Well Path

*Dyck*  
 DOUGLAS R. ROWE P.S. 2202

DATE 05/23/18  
 OPERATOR'S WELL# ANDERSON UNIT #2H  
 API WELL #  
47 - 085 - 10310  
 STATE COUNTY PERMIT

JOB # 16-017WA  
 DRAWING # ANDERSON2HAD  
 SCALE 1" = 1000'  
 MINIMUM DEGREE OF ACCURACY SUBMETER  
 PROVEN SOURCE OF ELEV. SUBMETER MAPPING GRADE GPS

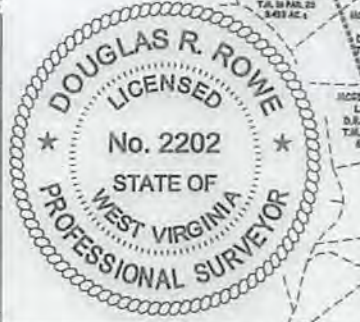
STATE OF WEST VIRGINIA  
 DEPARTMENT OF ENERGY  
 DIVISION OF OIL AND GAS



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 AVENUE PENNSBORO WEST VIRGINIA 26415



WELL TYPE: OIL    GAS X LIQUID INJECTION    WASTE DISPOSAL     
 (IF "GAS") PRODUCTION X STORAGE    DEEP    SHALLOW X  
 LOCATION: ELEVATION 1,193' AS BUILT    WATERSHED NORTH FORK HUGHES RIVER  
 QUADRANGLE ELLENBORO 7.5' (TH) PENNSBORO 7.5' (BH) DISTRICT CLAY COUNTY RITCHIE  
 SURFACE OWNER MARION R. BACHELOR ET AL ACREAGE 168.01 ACRES +/-  
 OIL & GAS ROYALTY OWNER FRANKIE BACHELOR ET AL; DONZIL LEROY BAKER; DONZIL LEROY BAKER ET AL; DONZIL LEROY BAKER ET AL;  
ANN ANDERSON ET AL; MICHAEL L. DAVIS; GINA M. FIELDING; JAMES E. RAINES ET AL; SAM HORTON ET UX LEASE ACREAGE 168 AC±; 74 AC±; 140.5 AC±; 169 AC±;  
180 AC±; 48.8 AC±; 68.2 AC±; 300 AC±; 15.75 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 6,463' TVD 17,430' MD  
 WELL OPERATOR ANTERO RESOURCES CORPORATION DESIGNATED AGENT DIANNA STAMPER - CT CORPORATION SYSTEM  
 ADDRESS 1615 WYNKOOP STREET ADDRESS 5400 D BIG TYLER ROAD  
DENVER, CO 80202 CHARLESTON, WV 25313

FORM WW-6

09/07/2018

COUNTY NAME PERMIT

LATITUDE 39°20'00"

4,307

LATITUDE 39°17'30"

LONGITUDE 80°57'30"

7,978'

LONGITUDE 81°00'00"

Antero Resources Corporation  
Well No. Anderson Unit 2H  
47-085-10310

NOTES:  
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LEGEND

- Surface Owner Boundary Lines +/-
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- - - Proposed Well Path
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DOUGLAS R. ROWE P.S. 2202

DATE 05/23/18

OPERATOR'S WELL# ANDERSON UNIT #2H

API WELL # 47 - 085 - 10310

STATE COUNTY PERMIT

JOB # 16-017WA

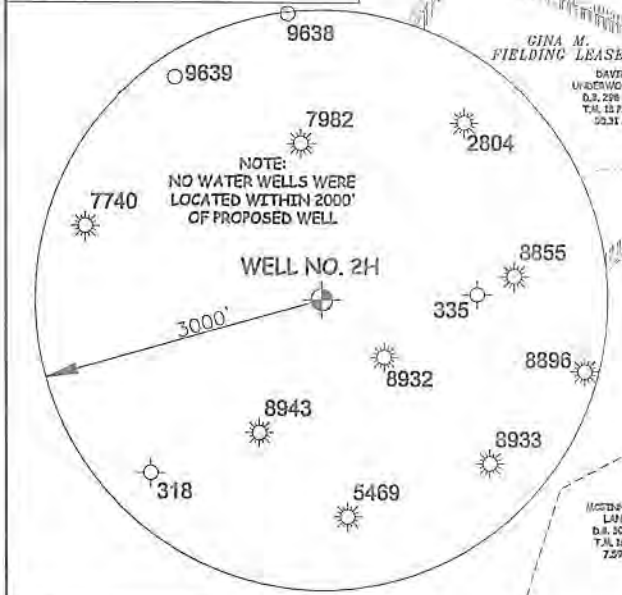
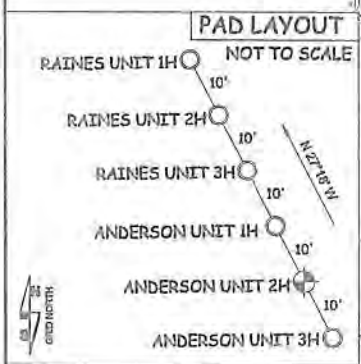
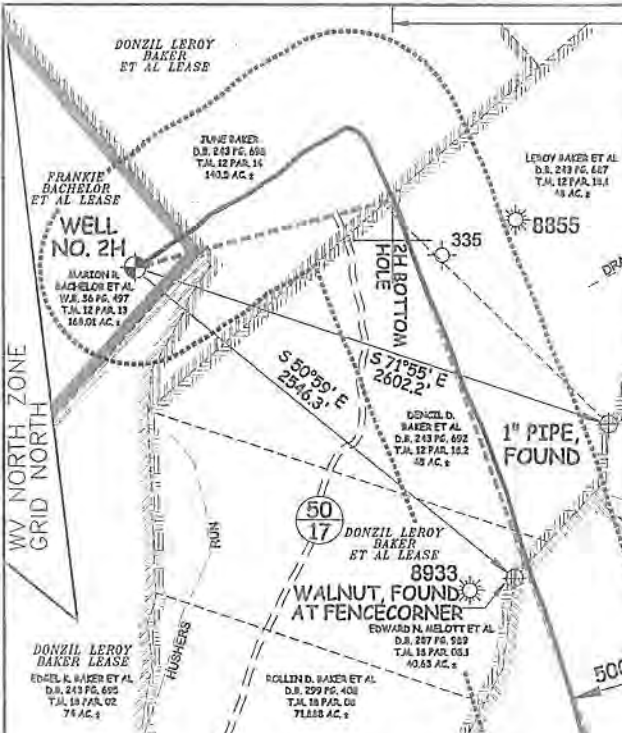
DRAWING # ANDERSON2HAD

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MINIMUM DEGREE OF ACCURACY SUBMETER

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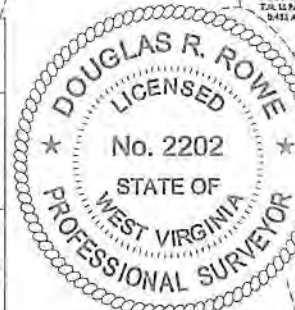
STATE OF WEST VIRGINIA DEPARTMENT OF ENERGY DIVISION OF OIL AND GAS



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