

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

API 47 - 085 - 10368 County Ritchie District Clay
 Quad Pennsboro 7.5' Pad Name Pool Pad Field/Pool Name -----
 Farm name Dennis J. Sellers Well Number Barr 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 4349862m Easting 507635m
 Landing Point of Curve Northing 4349799m Easting 507016m
 Bottom Hole Northing 4347164m Easting 507897m

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 8/2/2018
 Date completion activities began 8/26/2018 Date completion activities ceased 10/12/2018
 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 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 - 10368 Farm name Dennis J. Sellers Well number Barr 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"	105'	New	94#, H-40	N/A	Y
Surface	17-1/2"	13-3/8"	408'	New	54.5#, J-55	N/A	Y
Coal							
Intermediate 1	12-1/4"	9-5/8"	2706'	New	36#, J-55	N/A	Y
Intermediate 2							
Intermediate 3							
Production	8-3/4"/8-1/2"	5-1/2"	16575'	New	23#, P-110	N/A	Y
Tubing		2-3/8"	7134'		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	375 sx	15.6	1.20	450	0'	8 Hrs.
Coal							
Intermediate 1	Class A	932 sx	15.6	1.19	1109	0'	8 Hrs.
Intermediate 2							
Intermediate 3							
Production	Class H	757 sx (Lead) 1752 sx (Tail)	14.5 (Lead), 15.2 (Tail)	1.40 (Lead), 1.60 (Tail)	3863	~500' into Intermediate Casing	8 Hrs.
Tubing							

Drillers TD (ft) 16595' MD, 6520' TVD (BHL), 6520' (Deepest Point Drilled) Loggers TD (ft) 16595' MD

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

Plug back procedure N/A

Kick off depth (ft) 6601'

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 - 10368 Farm name Dennis J. Sellers Well number Barr Unit 2H

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>	
Marcellus	6462' (TOP) TVD	7192' (TOP) MD

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 10151 mcfpd Oil 125 bpd NGL --- bpd Water 1066 bpd GAS MEASURED BY Estimated Orifice Pilot

LITHOLOGY/ FORMATION	TOP DEPTH IN FT NAME TVD	BOTTOM DEPTH IN FT TVD	TOP DEPTH IN FT MD	BOTTOM DEPTH IN FT MD	DESCRIBE ROCK TYPE AND RECORD QUANTITY AND TYPE OF FLUID (FRESHWATER, BRINE, OIL, GAS, H ₂ S, ETC)
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***PLEASE SEE ATTACHED EXHIBIT 3**

Please insert additional pages as applicable.

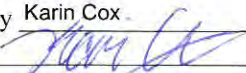
Drilling Contractor Patterson - UTI Drilling Company LLC
Address 207 Carlton Drive City Eighty Four State PA Zip 15330

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 2/15/2019

API 47-085-10368 Farm Name <u>Dennis J Sellers</u> Well Number <u>Barr Unit 2H</u>					
EXHIBIT 1					
Stage No.	Perforation Date	Perforated from MD ft.	Perforated to MD ft.	Number of Perforations	Formations
1	8/26/2018	16365.8	16470.6	60	Marcellus
2	8/27/2018	16167.338	16334.723	60	Marcellus
3	8/27/2018	15968.876	16136.261	60	Marcellus
4	8/28/2018	15770.414	15937.799	60	Marcellus
5	8/29/2018	15571.952	15739.337	60	Marcellus
6	8/29/2018	15373.49	15540.875	60	Marcellus
7	8/30/2018	15175.028	15342.413	60	Marcellus
8	8/30/2018	14976.566	15143.951	60	Marcellus
9	8/31/2018	14778.104	14945.489	60	Marcellus
10	9/1/2018	14579.642	14747.027	60	Marcellus
11	9/1/2018	14381.18	14548.565	60	Marcellus
12	9/3/2018	14182.718	14350.103	60	Marcellus
13	9/3/2018	13984.256	14151.641	60	Marcellus
14	9/4/2018	13785.794	13953.179	60	Marcellus
15	9/5/2018	13587.332	13754.717	60	Marcellus
16	9/5/2018	13388.87	13556.255	60	Marcellus
17	9/5/2018	13190.408	13357.793	60	Marcellus
18	9/6/2018	12991.946	13159.331	60	Marcellus
19	9/6/2018	12793.484	12960.869	60	Marcellus
20	9/7/2018	12595.022	12762.407	60	Marcellus
21	9/7/2018	12396.56	12563.945	60	Marcellus
22	9/8/2018	12198.098	12365.483	60	Marcellus
23	9/8/2018	11999.636	12167.021	60	Marcellus
24	9/9/2018	11801.174	11968.559	60	Marcellus
25	9/10/2018	11602.712	11770.097	60	Marcellus
26	9/10/2018	11404.25	11571.635	60	Marcellus
27	9/11/2018	11205.788	11373.173	60	Marcellus
28	9/12/2018	11007.326	11174.711	60	Marcellus
29	9/13/2018	10808.864	10976.249	60	Marcellus
30	9/13/2018	10610.402	10777.787	60	Marcellus
31	9/14/2018	10411.94	10579.325	60	Marcellus
32	9/14/2018	10213.478	10380.863	60	Marcellus
33	9/15/2018	10015.016	10182.401	60	Marcellus
34	9/15/2018	9816.554	9983.939	60	Marcellus
35	9/16/2018	9618.092	9785.477	60	Marcellus
36	9/17/2018	9419.63	9587.015	60	Marcellus
37	9/17/2018	9221.168	9388.553	60	Marcellus
38	9/18/2018	9022.706	9190.091	60	Marcellus
39	9/18/2018	8824.244	8991.629	60	Marcellus
40	9/19/2018	8625.782	8793.167	60	Marcellus
41	9/19/2018	8427.32	8594.705	60	Marcellus
42	9/19/2018	8228.858	8396.243	60	Marcellus
43	9/20/2018	8030.396	8197.781	60	Marcellus
44	9/20/2018	7831.934	7999.319	60	Marcellus
45	9/21/2018	7633.472	7800.857	60	Marcellus
46	9/21/2018	7435.01	7602.395	60	Marcellus
47	9/22/2018	7236.548	7403.933	60	Marcellus

API 47-085-10368 Farm Name Dennis J. Sellers Well Number Barr Unit 2H

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	8/26/2018	69.87	7687	0	2675	282020	7319.024	N/A
2	8/27/2018	65.76	7644	5509	2662	406660	8709.119	N/A
3	8/27/2018	66.21	7459	5738	2949	406040	8452.167	N/A
4	8/28/2018	69.56	7217	7127	2971	411360	10308.4	N/A
5	8/29/2018	74.52	7729	6029	3088	410900	8533.452	N/A
6	8/29/2018	73.06	7310	5442	3125	404120	8570.167	N/A
7	8/30/2018	77.72	7441	5548	3219	407440	8628.738	N/A
8	8/30/2018	71.84	7441	5744	3004	408740	9954.333	N/A
9	8/31/2018	72.21	7473	5006	2935	404180	10796.9	N/A
10	9/1/2018	77.28	7096	5255	3323	402560	9919.714	N/A
11	9/1/2018	75.25	7164	5838	3097	404900	8295.524	N/A
12	9/3/2018	69.75	7135	5494	3011	411220	8636.238	N/A
13	9/3/2018	72.92	6952	5423	3153	402900	8509.262	N/A
14	9/4/2018	73.13	6834	5255	3278	399080	8262.452	N/A
15	9/5/2018	71.89	7023	5453	3052	402500	9724.405	N/A
16	9/5/2018	77.1	7294	4019	3047	411120	8603.548	N/A
17	9/5/2018	77.32	3766	3766	3025	405700	8617.119	N/A
18	9/6/2018	66.6	6687	5565	3628	402760	9316.714	N/A
19	9/6/2018	74.73	6904	5944	3690	409260	8547.881	N/A
20	9/7/2018	77.58	6925	5295	3280	407440	8405.548	N/A
21	9/7/2018	70.34	7099	5201	3067	401240	8625.786	N/A
22	9/8/2018	74.24	7021	5172	3354	399900	8594.952	N/A
23	9/8/2018	75.52	7009	5293	3044	401380	8639.833	N/A
24	9/9/2018	76.61	7169	5416	3197	408430	8638.595	N/A
25	9/10/2018	70.09	6776	5303	3211	411600	8800.405	N/A
26	9/10/2018	72.17	6742	6149	3153	397440	8347.119	N/A
27	9/11/2018	77.48	7012	4599	3088	391310	8372.214	N/A
28	9/12/2018	75.53	7044	5974	3120	402740	8857.048	N/A
29	9/13/2018	73.7	6780	3997	3489	399640	8312.238	N/A
30	9/13/2018	72.11	6579	5726	3059	401440	8133.595	N/A
31	9/14/2018	74.9	6781	4501	3100	403200	8189.595	N/A
32	9/14/2018	72.97	7022	5774	2927	401560	8189.548	N/A
33	9/15/2018	71.2	6721	4158	2886	400640	8103.452	N/A
34	9/15/2018	74.1	6713	6029	3116	400900	8295.548	N/A
35	9/16/2018	78.1	6963	4935	3189	396640	8111.833	N/A
36	9/17/2018	78.2	6686	5670	3118	403300	8169.762	N/A
37	9/17/2018	73.51	6414	5530	3414	399620	8138.476	N/A
38	9/18/2018	78.1	6487	5754	3543	397220	8402.429	N/A
39	9/18/2018	72.75	6597	5593	3005	403100	8854.333	N/A
40	9/19/2018	79.52	6554	5675	3372	394320	8250.119	N/A
41	9/19/2018	75.37	6368	5751	3401	400980	8088.31	N/A
42	9/19/2018	78	6475	5936	3430	404580	8040.143	N/A
43	9/20/2018	67.09	6709	6077	3411	400580	8272.786	N/A
44	9/20/2018	77.29	6586	6031	3447	401480	8111.714	N/A
45	9/21/2018	77.11	6597	6399	3344	402020	8264.119	N/A
46	9/21/2018	75.26	6352	5620	3278	401360	8062.024	N/A
47	9/22/2018	80.68	6222	5692	3253	401080	8424.857	N/A
	AVG=	74	6,865	5,349	3,175	18,828,600	403,402	TOTAL

API 47-085-10368 Farm Name Dennis J Sellers Well Number Barr Unit 2H				
EXHIBIT 3				
LITHOLOGY/ FORMATION	TOP DEPTH (TVD) From Surface	BOTTOM DEPTH (TVD) From Surface	TOP DEPTH (MD) From Surface	BOTTOM DEPTH (MD) 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	1,963	est 1935	2,016
Big Lime	1,963	2,143	2,016	2,214
Big Injun	2,143	2,527	2,214	2,636
Gantz Sand	2,527	2,859	2,636	2,998
Fifty Foot Sandstone	2,859	2,978	2,998	3,131
Gordon	2,978	3,146	3,131	3,320
Fifth Sandstone	3,146	3,473	3,320	3,681
Bayard	3,473	3,545	3,681	4,050
Warren	3,545	3,882	4,050	4,133
Speechley	3,882	4,641	4,133	4,966
Balltown	4,141	5,030	4,418	5,396
Bradford	4,641	5,030	4,966	5,396
Benson	5,030	5,260	5,396	5,651
Alexander	5,260	5,858	5,651	6,307
Rhinestreet	5,833	6,181	6,282	6,666
Sycamore	6,181	6,287	6,666	6,812
Middlesex	6,287	6,396	6,812	7,015
Burkett	6,396	6,428	7,015	7,108
Tully	6,428	6,462	7,108	7,192
Marcellus	6,462	NA	7,192	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:	8/26/2018
Job End Date:	9/25/2018
State:	West Virginia
County:	Ritchie
API Number:	47-085-10316-00-00
Operator Name:	Antero Resources Corporation
Well Name and Number:	Barr Unit 2H
Latitude:	39.29802200
Longitude:	-80.91163100
Datum:	NAD83
Federal Well:	NO
Indian Well:	NO
True Vertical Depth:	6,520
Total Base Water Volume (gal):	16,942,865
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	87.97838	Density = 8.330
Ingredients	Listed Above	Listed Above					
			Water	7732-18-5	100.00000	0.22728	

WG-36 GELLING AGENT	Halliburton	Gelling Agent							
					Listed Below				
HAI-OS ACID INHIBITOR	Halliburton	Corrosion Inhibitor							
					Listed Below				
SP BREAKER	Halliburton	Breaker							
					Listed Below				
EXCELERATE PS-2	Halliburton	Friction Reducer							
					Listed Below				
MC B-8614	Halliburton	Biocide							
					Listed Below				
SCALECHEK LP-70	Halliburton	Scale Inhibitor							
					Listed Below				
SAND-PREMIUM WHITE-40/70, BULK	Halliburton	Proppant							
					Listed Below				
HYDROCHLORIC ACID	Halliburton	Solvent							
					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	11.73719						
			Hydrochloric acid		7647-01-0	15.00000	0.02479						
			Hydrotreated light petroleum distillate		64742-47-8	30.00000	0.02023						
			Acrylamide acrylate polymer		Proprietary	30.00000	0.02023						Denise Tuck, Halliburton, 3000 N. Sam Houston Pkwy E., Houston, TX 77032, 281-871-6226
			Inorganic salt		Proprietary	30.00000	0.02023						
			Guar gum		9000-30-0	100.00000	0.01999						
			Ethylene glycol		107-21-1	60.00000	0.01104						
			Glutaraldehyde		111-30-8	30.00000	0.00380						
			Telmer		Proprietary	10.00000	0.00184						
			Quaternary ammonium compounds, benzyl-C12-16-alkyldimethyl chlorides		68424-85-1	5.00000	0.00063						
			Sodium persulfate		7775-27-1	100.00000	0.00055						
			Sodium polyacrylate		9003-04-7	1.00000	0.00018						
			Ethanol		64-17-5	1.00000	0.00013						
			Methanol		67-56-1	60.00000	0.00009						
			Fatty acids, tall oil		Proprietary	30.00000	0.00004						
			Ethoxylated alcohols		Proprietary	30.00000	0.00004						

			Modified thiourea polymer	Proprietary	30.00000	0.00004	
			Olefins	Proprietary	5.00000	0.00001	
			Phosphoric acid	7664-38-2	0.10000	0.00001	
			Propargyl alcohol	107-19-7	10.00000	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"

10,367'

9,517' TO BOTTOM HOLE
LATITUDE 39°17'30"

AS DRILLED DATA:
 WELL 2H TOP HOLE INFORMATION:
 N: 293,794ft E: 1,600,517ft
 LAT: 39°17'52.88" LON: 80°54'41.88"
 BOTTOM HOLE INFORMATION:
 N: 284,927ft E: 1,601,231ft
 LAT: 39°16'25.35" LON: 80°54'31.02"
 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: 4,349,862m E: 607,635m
 BOTTOM HOLE INFORMATION:
 N: 4,347,164m E: 607,897m

02/15/2019

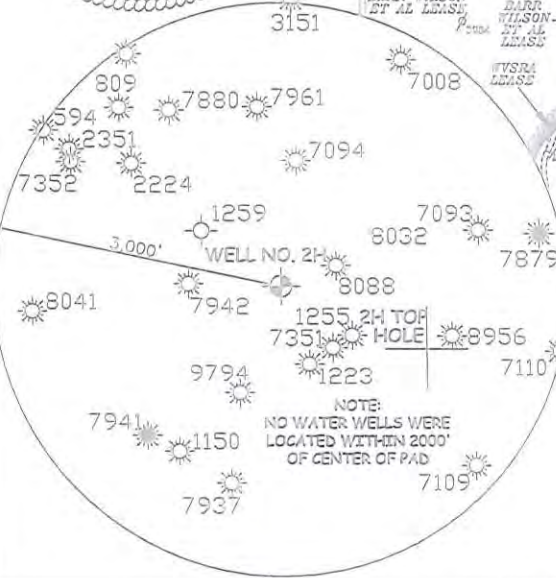
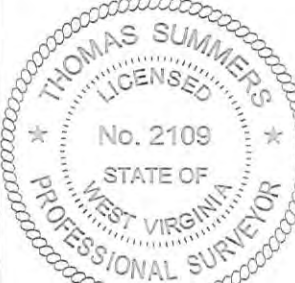
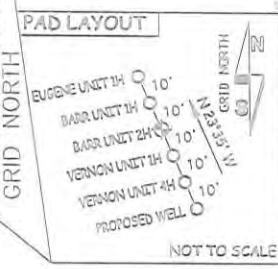
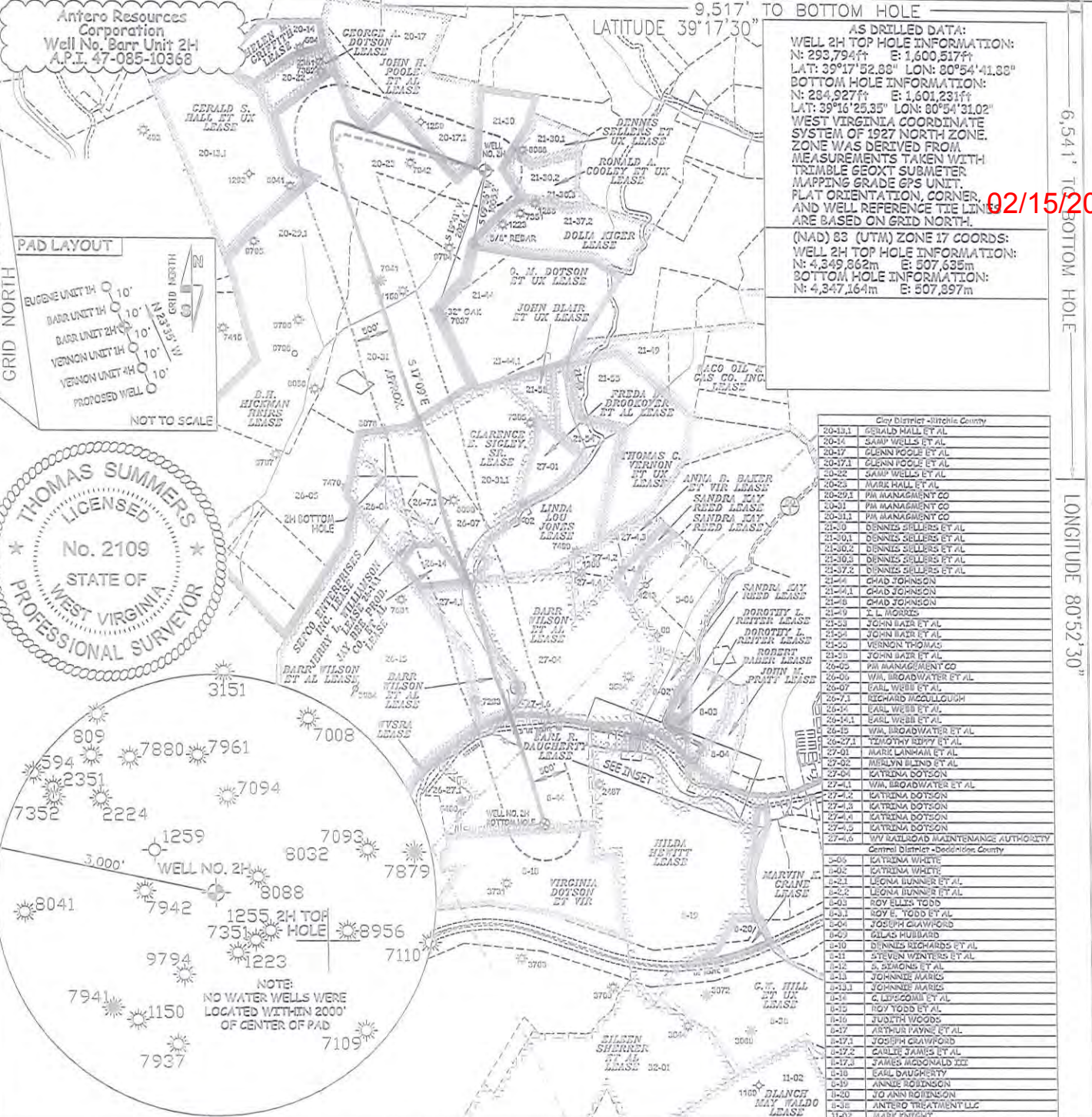
WV NORTH ZONE GRID NORTH

6,541' TO BOTTOM HOLE

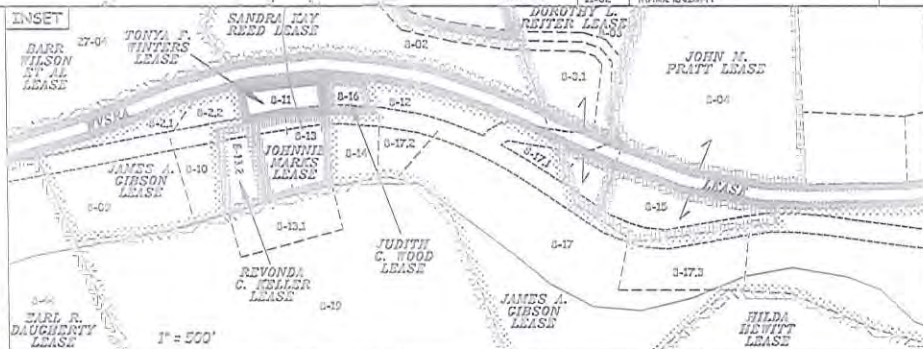
12,862'

LONGITUDE 80°52'30"

LONGITUDE 80°52'30"



Clay District - Ritchie County	
20-13-1	GERALD HALL ET AL
20-14	SAMP WELLS ET AL
20-17	GLENN POOLE ET AL
20-17A	GLENN POOLE ET AL
20-18	GLENN POOLE ET AL
20-28	MAIRE HALL ET AL
20-29-1	PA MANAGEMENT CO
20-31	PA MANAGEMENT CO
20-31-1	PA MANAGEMENT CO
21-0	DENNIS SELLERS ET AL
21-30-1	DENNIS SELLERS ET AL
21-30-2	DENNIS SELLERS ET AL
21-31	DENNIS SELLERS ET AL
21-32	DENNIS SELLERS ET AL
21-4	GHAD JOHNSON
21-4-1	GHAD JOHNSON
21-8	GHAD JOHNSON
21-9	T. L. MORRIS
21-53	JOHN BARR ET AL
21-58	JOHN BARR ET AL
21-59	VERNON THOMAS
21-13	JOHN BARR ET AL
26-45	PA MANAGEMENT CO
26-46	WAL BRADWATER ET AL
26-67	EARL WEBB ET AL
26-7-1	RICHARD MCCULLOUGH
26-25	EARL WEBB ET AL
26-31	EARL WEBB ET AL
26-32	WAL BRADWATER ET AL
26-37-1	TIMOTHY BERRY ET AL
27-01	MARILYN BLIND ET AL
27-02	MARILYN BLIND ET AL
27-04	KATRINA DOTSON
27-1-1	WAL BRADWATER ET AL
27-2	KATRINA DOTSON
27-3	KATRINA DOTSON
27-4-1	KATRINA DOTSON
27-4-5	KATRINA DOTSON
27-4-6	WV HIGHWAY MAINTENANCE AUTHORITY
Central District - Doddridge County	
0-06	KATRINA WHITE
0-02	KATRINA WHITE
0-21	LEONA HUNTER ET AL
0-22	LEONA HUNTER ET AL
0-03	ROY ELLIS TODD
0-31	ROY E. TODD ET AL
0-04	JOSEPH CLAWFORD
0-09	GLAS HUBBARD
0-10	DENNIS RICHARDS ET AL
0-11	STEVEN WENTERS ET AL
0-12	WAGGINS ET AL
0-13	JOHNNIE MARRIS
0-11-1	JOHNNIE MARRIS
0-14	C. LEFCOM ET AL
0-15	ROY TODD ET AL
0-16	JUDITH WOODS
0-17	ARTHUR PAYNE ET AL
0-17-1	JOSEPH CLAWFORD
0-17-2	CHARLETTA JAMES ET AL
0-17-3	JAMES McDONALD III
0-18	EARL DAUGHERTY
0-19	ANNIE ROBINSON
0-20	JO ANN ROBINSON
0-21	ANTERO TREATMENT LLC
11-02	MARK TIGHT



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.

JOB # 16-058WA
 DRAWING # BARR2HAD
 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

I THE UNDERSIGNED, HEREBY CERTIFY THAT THIS PLAT IS CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF AND SHOWS ALL THE INFORMATION REQUIRED BY LAW AND THE RULES ISSUED AND PERSCRIBED BY THE DEPARTMENT OF ENVIRONMENTAL PROTECTION.



STATE OF WEST VIRGINIA, DIVISION OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS
 WILLOW LAND SURVEYING PLLC
 220 MASONIC AVE. PENNSBORO WEST VIRGINIA 26415

LEGEND
 - - - - - Surface Owner Boundary Lines +/-
 - - - - - Interior Surface Tracts +/-
 O Proposed Well Path
 O As Drilled Well Path
 THOMAS SUMMERS P.S. 2109
 DATE 01/21/19
 OPERATOR'S WELL# BARR UNIT #2H

WELL TYPE: OIL GAS X LIQUID INJECTION WASTE DISPOSAL 47 - 085 - 10368
 (IF "GAS") PRODUCTION X STORAGE DEEP SHALLOW X STATE COUNTY PERMIT
 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; CLARENCE E. SIGLEY, SR.; LEASE ACREAGE 400 AC±; 75 AC±; 110 AC±;
 JAY BEE PROD. CO. ET AL; BARR WILSON ET AL; BARR WILSON ET AL; WVSRA; 9.41 AC±; 23.5 AC±; 80 AC±; 6.68 AC±;
 EARL R. DAUGHERTY 62.13 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 6,520' TVD 16,595' MD
 WELL OPERATOR ANTERO RESOURCES CORP. DESIGNATED AGENT DIANNA STAMPER - CT CORPORATION SYSTEM
 ADDRESS 1615 WYNNKOOP ST. ADDRESS 5400 D BIG TYLER ROAD
 FORM WW-6 DENVER, CO 80202 CHARLESTON, WV 25313

COUNTY NAME PERMIT