

WR-35  
Rev. 8/23/13

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

API 47 - 095 - 02396 County Tyler District Centerville  
Quad Middlebourne 7.5' Pad Name Vera Pad Field/Pool Name -----  
Farm name Vera O. Thomas Well Number Mysis Unit 3H  
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 4363998m Easting 508269m  
Landing Point of Curve Northing 4364082.58m Easting 508217.94m  
Bottom Hole Northing 4366379m Easting 507410m

Elevation (ft) 1148.1' 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

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Date permit issued 1/24/2017 Date drilling commenced 3/22/2017 Date drilling ceased 9/29/2017  
Date completion activities began 2/3/2018 Date completion activities ceased 6/22/2018  
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 65', 215', 261', 399' Open mine(s) (Y/N) depths No  
Salt water depth(s) ft 620', 1614', 1974' Void(s) encountered (Y/N) depths No  
Coal depth(s) ft 620', 879' Cavern(s) encountered (Y/N) depths No  
Is coal being mined in area (Y/N) No

Reviewed

Reviewed by:  
C/eb  
3/14/2019

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API 47-095 - 02396

Farm name Vera O. Thomas

Well number Mysis Unit 3H

CASING STRINGS	Hole Size	Casing Size	Depth	New or Used	Grade wt/ft	Basket Depth(s)	Did cement circulate (Y/ N) * Provide details below*
Conductor	24"	20"	95'	New	94#, H-40	N/A	Y
Surface	17-1/2"	13-3/8"	742'	New	48#, H-40	N/A	Y
Coal							
Intermediate 1	12-1/4"	9-5/8"	2572'	New	36#, J-55	N/A	Y
Intermediate 2							
Intermediate 3							
Production	8-3/4"/8-1/2"	5-1/2"	14935'	New	23#, P-110	N/A	Y
Tubing		2-3/8"	6713'		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	200 sx	15.6	1.18	120	0'	8 Hrs.
Surface	Class A	630 sx	15.6	1.18	826	0'	8 Hrs.
Coal							
Intermediate 1	Class A	946 sx	15.6	1.18	1181	0'	8 Hrs.
Intermediate 2							
Intermediate 3							
Production	Class H	771 sx (Lead) 1318 sx (Tail)	13.5 (Lead), 15.2 (Tail)	1.45 (Lead), 1.94 (Tail)		-500' into Intermediate Casing	8 Hrs.
Tubing							

Drillers TD (ft) 14935' MD, 6549' TVD (BHL), 6593' (Deepest Point Drilled)

Loggers TD (ft) 14935' MD

Deepest formation penetrated Marcellus

Plug back to (ft) N/A

Plug back procedure N/A

Kick off depth (ft) 5859'

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

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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

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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>								
								RECEIVED Office of Oil and Gas  FEB 20 2019

Please insert additional pages as applicable.

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<u>PRODUCING FORMATION(S)</u>	<u>DEPTHS</u>			
Marcellus	6560' (TOP)	TVD	6763' (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 7857 mcfpd Oil 178 bpd NGL --- bpd Water 2196 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 <sub>2</sub> S, ETC)
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**\*PLEASE SEE ATTACHED EXHIBIT 3**


Please insert additional pages as applicable.

Drilling Contractor Frontier Drilling LLC  
Address 562 Spring Run Road City Pennsboro State WV Zip 26415

Logging Company Schlumberger  
Address 5599 San Felipe Street City Houston State TX Zip 77056

Cementing Company C&J Energy Services  
Address 1650 Hackers Creek City Jane Lew State WV Zip 26378

Stimulating Company Baker Hughes  
Address 837 Philippi Pike City Clarksburg State WV Zip 26301

Please insert additional pages as applicable.

Completed by Megan Griffith Telephone 303-357-7223  
Signature  Title Permitting Agent Date 2/8/2019

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

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API 47-095-02396 Farm Name Vera O. Thomas Well Number Mysis Unit 3H					
EXHIBIT 1					
Stage No.	Perforation Date	Perforated from MD ft.	Perforated to MD ft.	Number of Perforations	Formations
1	2/3/2018	14666.26	14832.5	60	Marcellus
2	2/4/2018	14469.172	14635.412	60	Marcellus
3	2/4/2018	14272.084	14438.324	60	Marcellus
4	2/4/2018	14074.996	14241.236	60	Marcellus
5	2/5/2018	13877.908	14044.148	60	Marcellus
6	2/6/2018	13680.82	13847.06	60	Marcellus
7	2/6/2018	13483.732	13649.972	60	Marcellus
8	2/7/2018	13286.644	13452.884	60	Marcellus
9	2/8/2018	13089.556	13255.796	60	Marcellus
10	2/10/2018	12892.468	13058.708	60	Marcellus
11	2/10/2018	12695.38	12861.62	60	Marcellus
12	2/10/2018	12498.292	12664.532	60	Marcellus
13	2/12/2018	12301.204	12467.444	60	Marcellus
14	2/12/2018	12104.116	12270.356	60	Marcellus
15	2/12/2018	11907.028	12073.268	60	Marcellus
16	2/13/2018	11709.94	11876.18	60	Marcellus
17	2/13/2018	11512.852	11679.092	60	Marcellus
18	2/14/2018	11315.764	11482.004	60	Marcellus
19	2/14/2018	11118.676	11284.916	60	Marcellus
20	2/15/2018	10921.588	11087.828	60	Marcellus
21	2/16/2018	10724.5	10890.74	60	Marcellus
22	2/16/2018	10527.412	10693.652	60	Marcellus
23	2/18/2018	10330.324	10496.564	60	Marcellus
24	2/18/2018	10133.236	10299.476	60	Marcellus
25	2/20/2018	9936.148	10102.388	60	Marcellus
26	2/20/2018	9739.06	9905.3	60	Marcellus
27	2/21/2018	9541.972	9708.212	60	Marcellus
28	2/21/2018	9344.884	9511.124	60	Marcellus
29	2/22/2018	9147.796	9314.036	60	Marcellus
30	2/23/2018	8950.708	9116.948	60	Marcellus
31	2/23/2018	8753.62	8919.86	60	Marcellus
32	2/24/2018	8556.532	8722.772	60	Marcellus
33	2/24/2018	8359.444	8525.684	60	Marcellus
34	2/24/2018	8162.356	8328.596	60	Marcellus
35	2/25/2018	7965.268	8131.508	60	Marcellus
36	2/26/2018	7768.18	7934.42	60	Marcellus
37	2/26/2018	7571.092	7737.332	60	Marcellus
38	2/26/2018	7374.004	7540.244	60	Marcellus
39	2/26/2018	7176.916	7343.156	60	Marcellus
40	2/27/2018	6979.828	7146.068	60	Marcellus
41	2/27/2018	6782.74	6948.98	60	Marcellus

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## API 47-095-02396 Farm Name Vera O. Thomas Well Number Mysis Unit 3H

## EXHIBIT 2

Stage No.	Stimulations Date	Avg Pump Rate	Avg Treatment Pressure (PSI)	Max Breakdown Pressure (PSI)	ISIP (PSI)	Amount of Proppant (lbs)	Amount of Water (bbls)	Amount of Nitrogen/ other (units)
1	2/3/2018	75.81	7401	4733	2935	15069	9061.262	N/A
2	2/4/2018	73.71	7223	6054	3118	16395	8319.31	N/A
3	2/4/2018	69.16	6952	6449	3099	16500	8604.357	N/A
4	2/4/2018	72.1	7059	6094	3307	16460	8745.071	N/A
5	2/5/2018	73.12	7185	5478	3217	15880	8497.881	N/A
6	2/6/2018	74.71	7337	5201	3327	15865	8355.071	N/A
7	2/6/2018	72.85	7114	4483	3573	15170	9292.2	N/A
8	2/7/2018	75.39	7465	5478	4052	16995	9564.81	N/A
9	2/8/2018	73.84	7181	5464	3573	16218	8340.524	N/A
10	2/10/2018	73.98	7291	5568	3549	16408	8538.429	N/A
11	2/10/2018	69.08	6895	5881	3653	16429	8820.048	N/A
12	2/10/2018	70.2	7050	7151	3641	17842	8484.381	N/A
13	2/12/2018	67.47	7527	5887	4009	17423	12194.9	N/A
14	2/12/2018	66.25	7072	5583	3941	16596	10695.02	N/A
15	2/12/2018	74.56	7075	5477	3954	16506	8340	N/A
16	2/13/2018	74.97	6771	5302	3327	15400	8674	N/A
17	2/13/2018	74.27	6644	5835	2994	15473	8278.119	N/A
18	2/14/2018	74.96	6695	6266	3406	16367	8303.714	N/A
19	2/14/2018	61.03	7772	4939	5236	17947	10056.83	N/A
20	2/15/2018	69.67	7383	5828	4825	18036	12112.95	N/A
21	2/16/2018	66.73	7038	5399	4252	16689	10192.4	N/A
22	2/16/2018	70.79	7079	5778	3634	16491	9429.381	N/A
23	2/18/2018	70.72	6716	4887	4091	15694	8541.81	N/A
24	2/18/2018	67.3	6457	5603	3536	15596	8250.5	N/A
25	2/20/2018	65.73	6621	6056	5102	17779	9709.667	N/A
26	2/20/2018	69.33	6401	6058	3636	16095	8121.167	N/A
27	2/21/2018	68.9	6488	5813	3707	16008	8275.905	N/A
28	2/21/2018	70.8	6491	5775	3438	15704	7891.833	N/A
29	2/22/2018	69.09	6541	5477	3479	15497	9229.262	N/A
30	2/23/2018	65.99	6574	6075	4444	17093	10593.62	N/A
31	2/23/2018	75.3	6664	5610	4898	17172	8079.048	N/A
32	2/24/2018	77.33	6545	5776	3932	16253	8742.762	N/A
33	2/24/2018	75.9	6537	5904	4674	17115	8200.619	N/A
34	2/24/2018	75.2	6383	5911	4164	16458	7887.667	N/A
35	2/25/2018	74.9	6512	6210	3394	16116	7843.738	N/A
36	2/26/2018	72.91	6437	6016	3425	15878	7876.262	N/A
37	2/26/2018	77	6433	6100	3526	16059	7737.405	N/A
38	2/26/2018	78.3	6156	6042	3392	15590	7622.214	N/A
39	2/26/2018	79.82	6555	5931	4556	17042	7525.31	N/A
40	2/27/2018	73.51	6267	5912	3487	15666	8177.452	N/A
41	2/27/2018	76.56	6292	6419	3354	16065	7947	N/A
		<b>72.2</b>	<b>6,836</b>	<b>5,754</b>	<b>3,777</b>	<b>671,039</b>	<b>361,154</b>	<b>TOTAL</b>

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API 47-095-02396 Farm Name Vera O. Thomas Well Number Mysis Unit 3H				
EXHIBIT 3				
LITHOLOGY/ FORMATION	TOP DEPTH (TVD) From Surface	BOTTOM DEPTH (TVD) From Surface	TOP DEPTH (MD) From Surface	BOTTOM DEPTH (MD) From Surface
Fresh Water	227'	N/A	227'	N/A
Sandstone	100	N/A	100	N/A
Sandy Siltstone	120	N/A	120	N/A
Sandy Shale	740	N/A	740	N/A
Calcareous Shale	880	N/A	880	N/A
Shaly Sandstone	920	N/A	920	N/A
Shaly Siltstone	1,020	N/A	1,020	N/A
Silty Shale	1,180	N/A	1,180	N/A
Sandstone	1,360	N/A	1,360	N/A
Sandy Shale	1,400	N/A	1,400	N/A
Shaly Sandstone	1,640	N/A	1,640	N/A
Silty Shale	1,700	N/A	1,700	N/A
Sandy Shale	1,780	N/A	1,780	N/A
Sandy Shale/Coal	1,920	N/A	1,920	N/A
Big Lime	2,062	N/A	2,064	N/A
Big Injun	2,222	N/A	2,223	N/A
Gantz Sand	2,658	N/A	2,660	N/A
Fifty Foot Sandstone	2,798	N/A	2,800	N/A
Gordon	2,944	N/A	2,946	N/A
Fifth Sandstone	3,084	N/A	3,086	N/A
Bayard	3,366	N/A	3,368	N/A
Warren	3,661	N/A	3,663	N/A
Speechley	4,049	N/A	4,052	N/A
Balltown	4,530	N/A	4,538	N/A
Bradford	4,710	N/A	4,721	N/A
Benson	4,964	N/A	4,978	N/A
Alexander	5,346	N/A	5,363	N/A
Rhinstreet	5,946	N/A	5,969	N/A
Sycamore	6,248	N/A	6,284	N/A
Middlesex	6,410	N/A	6,479	N/A
Burkett	6,502	N/A	6,619	N/A
Tully	6,530	N/A	6,676	N/A
Marcellus	6,560	N/A	6,763	N/A

\*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:	2/3/2018
Job End Date:	2/27/2018
State:	West Virginia
County:	Tyler
API Number:	47-095-02396-00-00
Operator Name:	Antero Resources Corporation
Well Name and Number:	Mysis 3H
Latitude:	39.42539700
Longitude:	-80.90410000
Datum:	NAD83
Federal Well:	NO
Indian Well:	NO
True Vertical Depth:	6,598
Total Base Water Volume (gal):	15,478,694
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	88.38121	Density = 8.330
Ingredients	Listed Above	Listed Above					
			Water	7732-18-5	100.00000	0.35204	

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FR-76	Halliburton	Friction Reducer					
				Listed Below			
SCALECHEK LP-70	Halliburton	Scale Inhibitor					
				Listed Below			
HYDROCHLORIC ACID	Halliburton	Solvent					
				Listed Below			
SAND-COMMON WHITE-100 MESH, SSA-2, BULK (100003676)	Halliburton	Proppant					
				Listed Below			
SP BREAKER	Halliburton	Breaker					
				Listed Below			
SAND-PREMIUM WHITE-30/50	Halliburton	Proppant					
				Listed Below			
SAND-PREMIUM WHITE-40/70, BULK	Halliburton	Proppant					
				Listed Below			
WG-36 GELLING AGENT	Halliburton	Gelling Agent					

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				Listed Below			
MC B-8614	Halliburton	Biocide					
				Listed Below			
HAI-OS ACID INHIBITOR	Halliburton	Corrosion Inhibitor					
				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	11.21231	
			Hydrochloric acid	7647-01-0	60.00000	0.04493	
			Guar gum	9000-30-0	100.00000	0.02201	
			Hydrotreated light petroleum distillate	64742-47-8	30.00000	0.01860	
			Inorganic salt	Proprietary	30.00000	0.01860	
			Acrylamide acrylate copolymer	Proprietary	30.00000	0.01860	Denise Tuck, Halliburton, 3000 N. Sam Houston Pkwy E., Houston, TX 77032, 281-871-6226
			Ethylene glycol	107-21-1	60.00000	0.00812	
			Glutaraldehyde	111-30-8	30.00000	0.00259	
			Telmer	Proprietary	10.00000	0.00135	
			Sodium persulfate	7775-27-1	100.00000	0.00052	
			Quaternary ammonium compounds, benzyl-C12-16-alkyldimethyl chlorides	68424-85-1	5.00000	0.00043	
			Methanol	67-56-1	60.00000	0.00015	
			Sodium polyacrylate	9003-04-7	1.00000	0.00014	
			Ethanol	64-17-5	1.00000	0.00009	
			Fatty acids, tall oil	Proprietary	30.00000	0.00007	
			Modified thiourea polymer	Proprietary	30.00000	0.00007	

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			Ethoxylated alcohols	Proprietary	30.00000	0.00007	
			Olefins	Proprietary	5.00000	0.00003	
			Propargyl alcohol	107-19-7	10.00000	0.00002	
			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	

\* 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)

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LATITUDE 39°27'30"

8,220'

LATITUDE 39°27'30"

11,027' TO BOTTOM HOLE

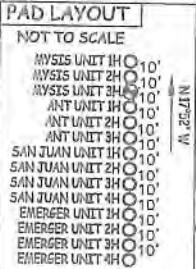
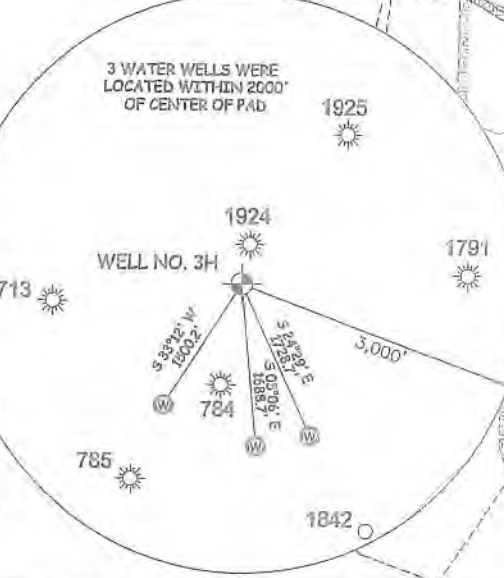
Antero Resources Corporation Well No. Mysis Unit 3H

AS DRILLED DATA: WELL 3H TOP HOLE INFORMATION: N: 340,148ft E: 1,603,373ft LAT: 39°25'31.43" LON: 80°54'14.76" BOTTOM HOLE INFORMATION: N: 348,007ft E: 1,600,686ft LAT: 39°26'48.68" LON: 80°54'50.57" WEST VIRGINIA COORDINATE SYSTEM OF 1927 NORTH ZONE WAS DERIVED FROM MEASUREMENTS TAKEN WITH TRIMBLE GEOXT SUBMETER MAPPING GRADE GPS UNIT. PLAT ORIENTATION, CORNER, AND WELL REFERENCE TIE LINES ARE BASED ON GRID NORTH.

(NAD) 83 (UTM) ZONE 17 COORDS: WELL 3H TOP HOLE INFORMATION: N: 4,363,998m E: 508,269m BOTTOM HOLE INFORMATION: N: 4,366,379m E: 507,410m

47 - 095 - 02396 STATE COUNTY PERMIT

- 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 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 # 16-046WA DRAWING # MYSIS3HAD 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

LEGEND: Surface Owner Boundary Lines +/- Interior Surface Tracts +/- Proposed Well Path As Drilled Well Path. THOMAS SUMMERS P.S. 2109 DATE 10/12/18 OPERATOR'S WELL# MYSIS UNIT #3H

WELL TYPE: OIL GAS X LIQUID INJECTION WASTE DISPOSAL (IF "GAS") PRODUCTION X STORAGE DEEP SHALLOW X LOCATION: ELEVATION 1,148.1' - AS BUILT WATERSHED OUTLET MIDDLE ISLAND CREEK QUADRANGLE MIDDLEBOURNE 7.5 DISTRICT CENTERVILLE COUNTY TYLER SURFACE OWNER VERA O. THOMAS ACREAGE 51.11 ACRES +/- OIL & GAS ROYALTY OWNER NORMAN H. THOMAS ET UX; CATHY JO ASH ET UX; KATHLEEN L. LOUGH; LEASE ACREAGE 125 AC.±; 137.36 AC.±; 25.68 AC.±; KATHLEEN L. LOUGH; LARRY D. MCMULLEN; CHARLES O. CONAWAY; GLENNA R. MCMULLEN; THOMAS ADKINS ET UX; RALPH HALL; PATSY J. FLETCHER 24.65 AC.±; 118.14 AC.±; 77.66 AC.±; 70 AC.±; 8.69 AC.±; 41 AC.±; 69 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 6,549' TVD 14,935' MD WELL OPERATOR ANTERO RESOURCES CORP. DESIGNATED AGENT DIANNA STAMPER - CT CORPORATION SYSTEM ADDRESS 1615 WYNKOOP ST. ADDRESS 5400 D BIG TYLER ROAD FORM WW-6 DENVER, CO 80202 CHARLESTON, WV 25313

04/05/2019

11,996'

LONGITUDE 80°52'30"

LONGITUDE 80°52'30"

COUNTY NAME PERMIT

LATITUDE 39°27'30"

8,220'

11,027' TO BOTTOM HOLE

LATITUDE 39°27'30"

LONGITUDE 80°52'30"

11,966'

LONGITUDE 80°52'30"

COUNTY NAME PERMIT

### Antero Resources Corporation Well No. Mysis Unit 3H

- NOTE**
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  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.

**AS DRILLED DATA:**  
**WELL 3H TOP HOLE INFORMATION:**  
 N: 340,148ft E: 1,603,373ft  
 LAT: 39°25'31.43" LON: 80°54'14.76"  
**BOTTOM HOLE INFORMATION:**  
 N: 348,007ft E: 1,600,686ft  
 LAT: 39°26'48.68" LON: 80°54'50.57"  
 WEST VIRGINIA COORDINATE SYSTEM OF 1927 NORTH ZONE WAS DERIVED FROM MEASUREMENTS TAKEN WITH TRIMBLE 660XT SUBMETER MAPPING GRADE GPS UNIT. PLAT ORIENTATION, CORNER, AND WELL REFERENCE TIE LINES ARE BASED ON GRID NORTH.

**(NAD) 83 (UTM) ZONE 17 COORDS:**  
**WELL 3H TOP HOLE INFORMATION:**  
 N: 4,363,998m E: 508,269m  
**BOTTOM HOLE INFORMATION:**  
 N: 4,366,379m E: 507,410m

47 - 095 - 02396  
 STATE COUNTY PERMIT

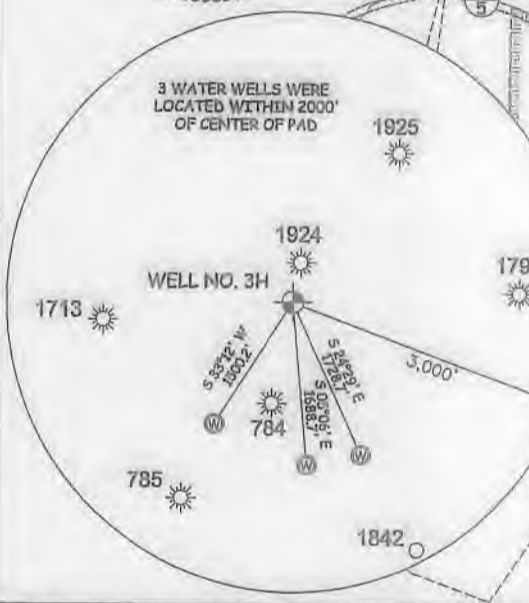


#### PAD LAYOUT

NOT TO SCALE

MYSIS UNIT 1H	10'
MYSIS UNIT 2H	10'
MYSIS UNIT 3H	10'
ANT UNIT 1H	10'
ANT UNIT 2H	10'
ANT UNIT 3H	10'
SAN JUAN UNIT 1H	10'
SAN JUAN UNIT 2H	10'
SAN JUAN UNIT 3H	10'
SAN JUAN UNIT 4H	10'
EMERGER UNIT 1H	10'
EMERGER UNIT 2H	10'
EMERGER UNIT 3H	10'
EMERGER UNIT 4H	10'

3 WATER WELLS WERE LOCATED WITHIN 2000' OF CENTER OF PAD



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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 # 16-046WA  
 DRAWING # MYSIS3HAD  
 SCALE 1" = 1000'  
 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  
 O - - - - - As Drilled Well Path

*Thomas Summers*  
 THOMAS SUMMERS P.S. 2109  
 DATE 10/12/18  
 OPERATOR'S WELL# MYSIS UNIT 3H

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 1,148.1' - AS BUILT WATERSHED OUTLET MIDDLE ISLAND CREEK  
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 SURFACE OWNER VERA O. THOMAS ACREAGE 51.11 ACRES +/-  
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