

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

API 47 - 095 - 02767 County Tyler District Ellsworth  
Quad Porter Falls 7.5' Pad Name Grand Pad Field/Pool Name ----  
Farm name Kenneth Tomblin Et Al. Well Number Toroweap Unit 3H  
Operator (as registered with the OOG) Antero Resources Corporation  
Address 1615 Wynkoop Street City Denver State CO Zip 80202

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As Drilled location NAD 83/UTM Attach an as-drilled plat, profile view, and deviation survey  
Top hole Northing 4373145m Easting 518272m  
Landing Point of Curve Northing 4373164.35m Easting 5188017.3m  
Bottom Hole Northing 4369757m Easting 517989m

Elevation (ft) 1243.5' 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 12/16/2021 Date drilling commenced 2/19/2022 Date drilling ceased 4/7/2022  
Date completion activities began 5/29/2022 Date completion activities ceased 7/8/2022  
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 25' Open mine(s) (Y/N) depths No  
Salt water depth(s) ft 2305' Void(s) encountered (Y/N) depths No  
Coal depth(s) ft 431' Cavern(s) encountered (Y/N) depths No  
Is coal being mined in area (Y/N) No

Reviewed by:

07/21/2023

API 47-095 - 02767 Farm name Kenneth Tomblin Et Al. Well number Toroweap 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	28"	20"	125.5'	New	78.67#, X-60	N/A	Y
Surface	17-1/2"	13-3/8"	346'	New	54.5#, J-55	N/A	Y
Coal							
Intermediate 1	12-1/4"	9-5/8"	2649'	New	36#, K-55	N/A	Y
Intermediate 2							
Intermediate 3							
Production	8-3/4"/8-1/2"	5-1/2"	19468'	New	20#, P-100	N/A	Y
Tubing		2-3/8"	7136'		4.7#, P-110		
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	201 sx	15.6	1.18	237	0'	8 Hrs.
Surface	Class A	385 sx	15.6	1.20	462	0'	8 Hrs.
Coal							
Intermediate 1	Class A	907 sx	15.6	1.19	1079	0'	8 Hrs.
Intermediate 2							
Intermediate 3							
Production	Class H	2972 sx (Tail)	13.5 (Lead), 15.2(Tail)	1.26 (Tail)	3745	-500' into Intermediate Casing	8 Hrs.
Tubing							

Drillers TD (ft) 19468' MD, 6936' TVD (BHL), 6936' (Deepest Point Drilled) Loggers TD (ft) 19468' MD  
 Deepest formation penetrated Marcellus Plug back to (ft) N/A  
 Plug back procedure N/A APR 07 2023

Kick off depth (ft) 6373'

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

07/21/2023

API 47- 095 - 02767 Farm name Kenneth Tomblin Et Al. Well number Toroweap Unit 3H

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 (gals)	Amount of Nitrogen/other (units)
<b>*PLEASE SEE ATTACHED EXHIBIT 2</b>								

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Please insert additional pages as applicable.

API 47- 095 - 02767 Farm name Kenneth Tomblin Et Al. Well number Toroweap Unit 3H

<u>PRODUCING FORMATION(S)</u>	<u>DEPTHS</u>			
<u>Marcellus</u>	<u>6820' (TOP)</u>	<u>TVD</u>	<u>7320' (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 2166 psi Bottom Hole --- psi DURATION OF TEST --- hrs

OPEN FLOW Gas 15380 mcfpd Oil 413 bpd NGL --- bpd Water 511 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, H<sub>2</sub>S, 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>	
<b>*PLEASE SEE ATTACHED EXHIBIT 3</b>					


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Please insert additional pages as applicable.

Drilling Contractor H & P Drilling  
Address 912 N Eagle Valley Rd City Howard State PA Zip 16841

Logging Company Nine Energy Services  
Address 6500 West Fwy City Fort Worth State TX Zip 76116

Cementing Company Schlumberger US Land  
Address 1080 US-33 City Weston State WV Zip 26452

Stimulating Company Halliburton  
Address 3000 W. Sam Houston Pkwy City Houston State TX Zip 76114

Please insert additional pages as applicable.

Completed by Carly Marvel Telephone 303-357-7373  
Signature Carly Marvel Title Permitting Agent Date 3/29/2023

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

07/21/2023

API 47-095-02767 Farm Name Kenneth Tomblin Et Al Well Number Toroweap Unit 3H

**Exhibit 1**

Stage No.	Perforation Date	Perforated from MD ft.	Perforated to MD ft.	Number of Perforations	Formations
1	05/29/2022	19347	19301.6	60	Marcellus
2	05/30/2022	19262.69831	19096.1898	60	Marcellus
3	05/30/2022	19060.48814	18893.9797	60	Marcellus
4	05/31/2022	18858.27797	18691.7695	60	Marcellus
5	05/31/2022	18656.0678	18489.5593	60	Marcellus
6	06/01/2022	18453.85763	18287.3492	60	Marcellus
7	06/01/2022	18251.64746	18085.139	60	Marcellus
8	06/02/2022	18049.43729	17882.9288	60	Marcellus
9	06/03/2022	17847.22712	17680.7186	60	Marcellus
10	06/04/2022	17645.01695	17478.5085	60	Marcellus
11	06/04/2022	17442.80678	17276.2983	60	Marcellus
12	06/05/2022	17240.59661	17074.0881	60	Marcellus
13	06/05/2022	17038.38644	16871.878	60	Marcellus
14	06/06/2022	16836.17627	16669.6678	60	Marcellus
15	06/06/2022	16633.9661	16467.4576	60	Marcellus
16	06/06/2022	16431.75593	16265.2475	60	Marcellus
17	06/07/2022	16229.54576	16063.0373	60	Marcellus
18	06/08/2022	16027.33559	15860.8271	60	Marcellus
19	06/08/2022	15825.12542	15658.6169	60	Marcellus
20	06/09/2022	15622.91525	15456.4068	60	Marcellus
21	06/09/2022	15420.70508	15254.1966	60	Marcellus
22	06/10/2022	15218.49492	15051.9864	60	Marcellus
23	06/10/2022	15016.28475	14849.7763	60	Marcellus
24	06/10/2022	14814.07458	14647.5661	60	Marcellus
25	06/11/2022	14611.86441	14445.3559	60	Marcellus
26	06/11/2022	14409.65424	14243.1458	60	Marcellus
27	06/11/2022	14207.44407	14040.9356	60	Marcellus
28	06/12/2022	14005.2339	13838.7254	60	Marcellus
29	06/12/2022	13803.02373	13636.5153	60	Marcellus
30	06/12/2022	13600.81356	13434.3051	60	Marcellus
31	06/12/2022	13398.60339	13232.0949	60	Marcellus
32	06/13/2022	13196.39322	13029.8847	60	Marcellus
33	06/13/2022	12994.18305	12827.6746	60	Marcellus
34	06/13/2022	12791.97288	12625.4644	60	Marcellus
35	06/13/2022	12589.76271	12423.2542	60	Marcellus
36	06/13/2022	12387.55254	12221.0441	60	Marcellus
37	06/14/2022	12185.34237	12018.8339	60	Marcellus
38	06/14/2022	11983.1322	11816.6237	60	Marcellus
39	06/14/2022	11780.92203	11614.4136	60	Marcellus
40	06/14/2022	11578.71186	11412.2034	60	Marcellus
41	06/15/2022	11376.50169	11209.9932	60	Marcellus
42	06/15/2022	11174.29153	11007.7831	60	Marcellus
43	06/15/2022	10972.08136	10805.5729	60	Marcellus
44	06/15/2022	10769.87119	10603.3627	60	Marcellus
45	06/15/2022	10567.66102	10401.1525	60	Marcellus
46	06/16/2022	10365.45085	10198.9424	60	Marcellus
47	06/16/2022	10163.24068	9996.7322	60	Marcellus
48	06/16/2022	9961.030508	9794.52203	60	Marcellus
49	06/16/2022	9758.820339	9592.31186	60	Marcellus
50	06/17/2022	9556.610169	9390.10169	60	Marcellus
51	06/17/2022	9354.4	9187.89153	60	Marcellus
52	06/17/2022	9152.189831	8985.68136	60	Marcellus
53	06/17/2022	8949.979661	8783.47119	60	Marcellus
54	06/17/2022	8747.769492	8581.26102	60	Marcellus
55	06/18/2022	8545.559322	8379.05085	60	Marcellus
56	06/18/2022	8343.349153	8176.84068	60	Marcellus
57	06/18/2022	8141.138983	7974.63051	60	Marcellus
58	06/18/2022	7938.928814	7772.42034	60	Marcellus
59	06/19/2022	7736.718644	7570.21017	60	Marcellus
60	06/19/2022	7534.508475	7368	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	05/29/2022	67.5	7897	7050	4214	174640	188305	N/A
2	05/30/2022	82.1	8348	5031	4418	374280	313071	N/A
3	05/30/2022	80.3	8076	5860	4093	413357	332339	N/A
4	05/31/2022	80.7	8369	6957	4763	412033	321045	N/A
5	05/31/2022	86.0	8388	6905	4154	413109	309824	N/A
6	06/01/2022	80.9	8378	6538	4422	418393	313394	N/A
7	06/01/2022	82.9	8454	6613	4266	412555	312871	N/A
8	06/02/2022	82.7	8479	6029	4735	413280	315895	N/A
9	06/03/2022	87.4	8549	6075	4404	404883	313290	N/A
10	06/04/2022	84.0	8190	6350	4263	401734	363476	N/A
11	06/04/2022	78.9	8099	6053	3664	413024	340863	N/A
12	06/05/2022	86.5	8426	8258	3911	409397	295552	N/A
13	06/05/2022	79.6	8434	6797	3661	400556	288518	N/A
14	06/06/2022	85.3	8490	6396	4040	422937	293029	N/A
15	06/06/2022	83.5	8375	6520	4306	410380	296298	N/A
16	06/06/2022	87.9	8534	6350	4255	427501	294754	N/A
17	06/07/2022	87.0	8278	8210	3925	403657	280674	N/A
18	06/08/2022	82.6	8054	4759	4240	401792	311214	N/A
19	06/08/2022	88.1	8369	6262	4695	411041	312098	N/A
20	06/09/2022	92.5	8447	4732	4395	413284	318931	N/A
21	06/09/2022	91.3	8360	5741	4683	399067	303914	N/A
22	06/10/2022	92.3	8403	5068	4824	393870	302299	N/A
23	06/10/2022	90.3	8237	5825	4258	407479	308674	N/A
24	06/10/2022	88.9	8487	6327	4285	404454	304223	N/A
25	06/11/2022	92.1	8355	5675	4788	407250	308877	N/A
26	06/11/2022	93.6	8247	5780	4236	414453	307395	N/A
27	06/11/2022	93.4	8405	4981	4420	405692	308082	N/A
28	06/12/2022	94.3	8194	5899	3874	398834	312569	N/A
29	06/12/2022	93.6	8066	6192	3956	397948	301476	N/A
30	06/12/2022	95.3	8064	6292	4535	397152	308526	N/A
31	06/12/2022	96.0	8223	6015	4114	409041	309984	N/A
32	06/13/2022	94.9	8211	5186	4553	403397	300724	N/A
33	06/13/2022	95.4	8244	6188	4052	408155	289794	N/A
34	06/13/2022	94.4	8101	6599	4104	408675	306203	N/A
35	06/13/2022	94.2	7917	8073	3591	395965	297629	N/A
36	06/13/2022	96.7	8068	5766	4101	402937	300841	N/A
37	06/14/2022	97.3	8119	6578	4044	396096	289716	N/A
38	06/14/2022	95.6	8136	8050	3590	419721	299106	N/A
39	06/14/2022	97.0	8036	7308	4205	399080	289802	N/A
40	06/14/2022	98.1	8019	6124	3802	410097	309353	N/A
41	06/15/2022	97.1	8001	6492	4558	411376	303006	N/A
42	06/15/2022	95.9	7936	6982	4401	414083	298726	N/A
43	06/15/2022	93.7	7858	8262	4048	405895	283019	N/A
44	06/15/2022	95.0	7910	8450	4314	412492	286898	N/A
45	06/15/2022	98.1	7798	5348	3726	404227	289325	N/A
46	06/16/2022	98.4	7749	5746	4079	405573	296587	N/A
47	06/16/2022	98.5	7632	4613	4264	415449	298316	N/A
48	06/16/2022	97.8	7567	4579	4457	408349	277333	N/A
49	06/16/2022	98.3	7580	5517	3879	414035	300895	N/A
50	06/17/2022	98.3	7480	5157	4080	410223	299894	N/A
51	06/17/2022	96.8	7449	5981	4014	409159	284361	N/A
52	06/17/2022	97.2	7500	4625	4244	412172	286871	N/A
53	06/17/2022	97.9	7399	6444	4079	403361	284966	N/A
54	06/17/2022	98.4	7257	4219	4078	402781	296146	N/A
55	06/18/2022	98.3	7350	4743	4032	404721	294776	N/A
56	06/18/2022	96.9	7306	7247	4308	405292	286107	N/A
57	06/18/2022	97.6	7202	6240	3819	410510	283914	N/A
58	06/18/2022	98.2	7131	6259	4053	405283	307813	N/A
59	06/19/2022	98.9	7290	4883	4502	414234	309917	N/A
60	06/19/2022	98.0	7163	5642	4194	425122	297037	N/A
	<b>AVERAGE</b>	<b>92</b>	<b>8,018</b>	<b>6,147</b>	<b>4,199</b>	<b>24,225,533</b>	<b>18,040,535</b>	<b>TOTAL</b>

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## EXHIBIT 3

LITHOLOGY/ FORMATION	TOP DEPTH (TVD)	BOTTOM DEPTH (TVD)	TOP DEPTH (MD)	BOTTOM DEPTH (MD)
	From Surface	From Surface	From Surface	From Surface
Silty Sandstone	74	164	74	164
Shaley Siltstone	164	194	164	194
Shaley Sandstone	194	314	194	314
Shaley Siltstone	314	734	314	734
Sandy Siltstone	734	674	734	674
Shaley Siltstone, Tr Limestone	674	1,314	674	1,314
Shaley Sandstone	1,314	1,554	1,314	1,554
Sandstone, Tr Shale	1,554	1,664	1,554	1,664
Silty Shale	1,664	1,734	1,664	1,734
Shaley Siltstone	1,734	1,784	1,734	1,784
Sandy Shale	1,784	1,974	1,784	1,974
Shale, Tr Limestone	1,974	2,084	1,974	2,084
Shaley Limestone	2,084	2,059	2,084	2,133
Big Lime	2,085	2,879	2,133	2,983
Fifty Foot Sandstone	2,879	2,988	2,957	3,095
Gordon	2,988	3,227	3,069	3,340
Fifth Sandstone	3,227	3,412	3,314	3,532
Bayard	3,412	4,149	3,506	4,297
Speechley	4,149	4,368	4,271	4,524
Balltown	4,368	4,723	4,498	4,895
Bradford	4,723	5,132	4,869	5,319
Benson	5,132	5,425	5,293	5,627
Alexander	5,425	6,662	5,601	6,979
Sycamore	6,525	6,636	6,808	6,953
Middlesex	6,636	6,733	6,953	7,110
Burkett	6,733	6,766	7,110	7,176
Tully	6,766	6,820	7,176	7,320
Marcellus	6,820	NA	7,320	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.

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LATITUDE 39°32'30"

5,427'

LATITUDE 39°30'00"

11,578' TO BOTTOM HOLE

### Antero Resources Corporation Well No. Toroweap 3H

**AS DRILLED DATA:**  
**WELL 3H TOP HOLE INFORMATION:**  
 N: 369,725ft E: 1,630,135ft  
 LAT: 39°30'27.73" LON: 80°48'39.24"  
**BOTTOM HOLE INFORMATION:**  
 N: 358,512ft E: 1,635,585ft  
 LAT: 39°28'37.69" LON: 80°47'27.66"  
**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 3H TOP HOLE INFORMATION:**  
 N: 4,373,145m E: 516,272m  
**BOTTOM HOLE INFORMATION:**  
 N: 4,369,757m E: 517,989m

WV NORTH ZONE  
GRID NORTH

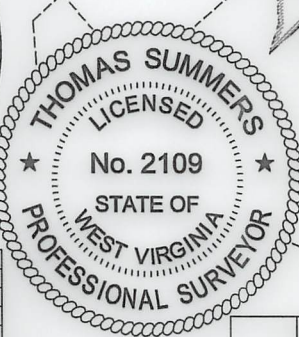
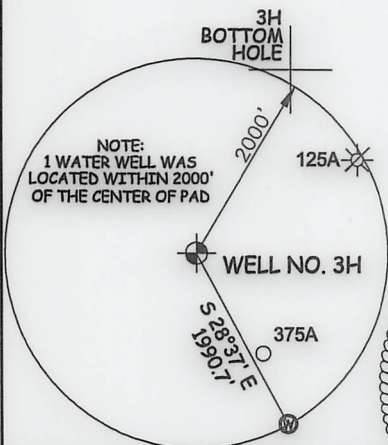
Ellsworth District - Tyler County	
16-14	James Barnhart
16-15	Harvey Miller Et Al
16-28	Kenneth Tomblin Et Al
16-29	Michael Tomblin
16-30	Christopher Investments Inc.
16-31	Christopher Investments Inc.
16-33	J. A. Weekley Hrs.
16-34	J. A. Weekley Hrs.
16-35	Jay Wright
17-56	J. A. Weekley Hrs.
22-9	Steven Wright
22-10	Leslie Henderson
22-11	Angela DeGuelle
22-13	Christopher Blake
22-14	Susan Delsordo
22-14.1	Sheryl Hayes
22-27	C. W. Weekley Hrs.
22-28	WSD Properties LLC
23-02	Dale Parr
23-03	Jack Hair
23-04	Jack Hair
McElroy District - Tyler County	
2-01	Jack Hair
2-02	Jack Hair
2-15	Leo Wiker
2-28	Jay Bee Oil & Gas Inc.
2-29	Cecil Nichols

8,327' TO BOTTOM HOLE

12,401'

LONGITUDE 80°45'00"

LONGITUDE 80°47'30"



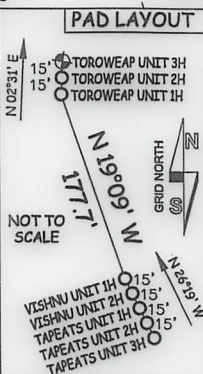
LINE	BEARING	DIST.	LINE	BEARING	DIST.
L1	N 79°23' W	1820.64'	L7	N 17°11' W	1289.39'
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I THE UNDERSIGNED, HEREBY CERTIFY THAT THIS PLAN IS CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF AND SHOWS ALL THE INFORMATION REQUIRED BY LAW AND THE RULES ISSUED 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



JOB # 21-011WA  
DRAWING # TOROWEAP3HAD  
SCALE 1" = 2000'  
MINIMUM DEGREE OF ACCURACY SUBMETER  
PROVEN SOURCE OF ELEV. SUBMETER MAPPING GRADE GPS

**LEGEND**  
 - - - - - Surface Owner Boundary Lines +/-  
 - - - - - Interior Surface Tracts +/-  
 ○ ⊗ Proposed Well Path  
 ○ ⊗ As Drilled Well Path

*Thomas Summers*  
THOMAS SUMMERS P.S. 2109

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

DATE 10/11/22  
OPERATOR'S WELL# TOROWEAP UNIT #3H

**(NAD) 27 (UTM) ZONE 17 COORDS:**  
**WELL 3H TOP HOLE INFORMATION:**  
 N: 14,346,846ft E: 1,693,754ft  
**POINT OF ENTRY INFORMATION:**  
 N: 14,347,196ft E: 1,695,484ft  
**BOTTOM HOLE INFORMATION:**  
 N: 14,335,729ft E: 1,699,388ft

- NOTES**
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.
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WELL TYPE: OIL \_\_\_ GAS  LIQUID INJECTION \_\_\_ WASTE DISPOSAL \_\_\_ API WELL # 47 - 095 - 02767  
 (IF "GAS") PRODUCTION  STORAGE \_\_\_ DEEP \_\_\_ SHALLOW  STATE COUNTY PERMIT  
 LOCATION: ELEVATION AS BUILT -1,243.5' WATERSHED OUTLET MIDDLE ISLAND CREEK  
 QUADRANGLE PORTER FALLS 7.5' DISTRICT ELLSWORTH COUNTY TYLER  
 SURFACE OWNER KENNETH TOMBLIN ET AL ACREAGE 290.32 ACRES +/-  
 OIL & GAS ROYALTY OWNER S. A. SMITH AND C. B. MORRIS HEIRS TRUST; MICHAEL LEE TOMBLIN; LEASE ACREAGE 290.32 AC.±; 55 AC.±;  
 GREENBRIER ROYALTY FUND II, LLC; BETTY MOREHEAD ET VIR; BETTY MOREHEAD; 40 AC.±; 58 AC.±; 16.5 AC.±; 07/21/2023  
 BETTY MOREHEAD ET VIR; JAY A. WRIGHT ET UX; MORRIS MOUNTAINEER OIL & GAS LLC; 15 AC.±; 40.81 AC.±; 45.98 AC.±;  
 BETTY MOREHEAD ET VIR; DALE H. PARR ET UX; JOSEPHINE CALVIN; BRC APPALACHIAN MINERALS 1 LLC; MICHAEL SHERWOOD 49.81.±; 70 AC.±; 21 AC.±; 107 AC.±; 156.25 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 6,936' TVD 19,468' 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

COUNTY NAME  
PERMIT



LATITUDE 39°32'30"

5,427'

LATITUDE 39°30'00"

11,578' TO BOTTOM HOLE

8,327' TO BOTTOM HOLE

12,401'

LONGITUDE 80°45'00"

LONGITUDE 80°47'30"

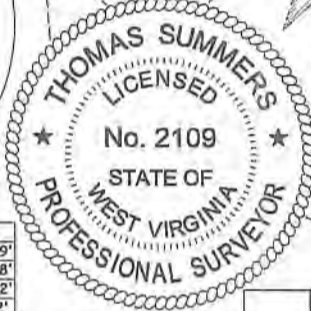
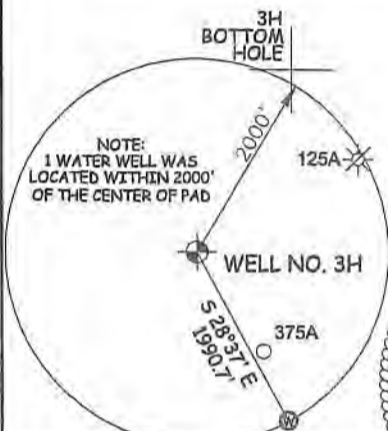
### Antero Resources Corporation Well No. Toroweap 3H

**AS DRILLED DATA:**  
**WELL 3H TOP HOLE INFORMATION:**  
 N: 369,725ft E: 1,630,135ft  
 LAT: 39°30'27.73" LON: 80°48'39.24"  
**BOTTOM HOLE INFORMATION:**  
 N: 358,512ft E: 1,635,585ft  
 LAT: 39°28'37.69" LON: 80°47'27.66"  
 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 3H TOP HOLE INFORMATION:**  
 N: 4,373,145m E: 516,272m  
**BOTTOM HOLE INFORMATION:**  
 N: 4,369,757m E: 517,989m

WV NORTH ZONE GRID NORTH

Ellsworth District - Tyler County	
16-14	James Barnhart
16-15	Harvey Miller Et Al
16-28	Kenneth Tomblin Et Al
16-29	Michael Tomblin
16-30	Christopher Investments Inc.
16-31	Christopher Investments Inc.
16-33	J. A. Weekley Hrs.
16-34	J. A. Weekley Hrs.
16-35	Jay Wright
17-56	J. A. Weekley Hrs.
22-9	Steven Wright
22-10	Leslie Henderson
22-11	Angela DeGuelle
22-13	Christopher Blake
22-14	Susan Delaorda
22-14.1	Sheryl Hayes
22-27	C. W. Weekley Hrs.
22-28	WSD Properties LLC
23-02	Dale Parr
23-03	Jack Hair
23-04	Jack Hair
McElroy District - Tyler County	
2-01	Jack Hair
2-02	Jack Hair
2-15	Lea Wilker
2-28	Jay Box Oil & Gas Inc.
2-29	Cecil Nichols



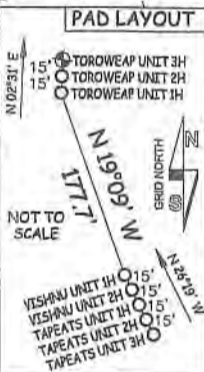
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STATE OF WEST VIRGINIA, DIVISION OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS

WILLOW LAND SURVEYING PLLC  
 220 MASONIC AVE. PENNSBORO  
 WEST VIRGINIA 26415



JOB # 21-011WA  
 DRAWING # TOROWEAP3HAD  
 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 +/-  
 --- Proposed Well Path  
 --- As Drilled Well Path

THOMAS SUMMERS P.S. 2109  
 DATE 10/11/22  
 OPERATOR'S WELL# TOROWEAP UNIT #3H

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WELL TYPE: OIL  GAS  LIQUID INJECTION  WASTE DISPOSAL  API WELL # 47 - 095 - 02767  
 (IF "GAS") PRODUCTION  STORAGE  DEEP  SHALLOW  STATE COUNTY PERMIT  
 LOCATION: ELEVATION AS BUILT - 1,243.5' WATERSHED OUTLET MIDDLE ISLAND CREEK  
 QUADRANGLE PORTER FALLS 7.5' DISTRICT ELLSWORTH COUNTY TYLER  
 SURFACE OWNER KENNETH TOMBLIN ET AL ACREAGE 290.32 ACRES +/-  
 OIL & GAS ROYALTY OWNERS S.A. SMITH AND C. B. MORRIS HEIRS TRUST; MICHAEL LEE TOMBLYN; LEASE ACREAGE 290.32 AC.±; 55 AC.±;  
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 PLUG OFF OLD FORMATION  PERFORATE NEW FORMATION  OTHER PHYSICAL CHANGE IN WELL (SPECIFY) AS DRILLED  
 TARGET FORMATION MARCELLUS ESTIMATED DEPTH 6,936' TVD 19,468' 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

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07/21/2023

## Hydraulic Fracturing Fluid Product Component Information Disclosure

Job Start Date:	5/29/2022
Job End Date:	6/19/2022
State:	West Virginia
County:	Tyler
API Number:	47-095-02767-00-00
Operator Name:	Antero Resources Corporation
Well Name and Number:	Toroweap 3H
Latitude:	39.50770000
Longitude:	-80.81090000
Datum:	WGS84
Federal Well:	NO
Indian Well:	NO
True Vertical Depth:	6,932
Total Base Water Volume (gal):	18,856,741
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
Produced Water	Halliburton	Base Fluid					
			Water	7732-18-5	100.00000	86.67436	Density = 8.50
Ingredients	Listed Above	Listed Above					
			Water	7732-18-5	100.00000	0.17460	

Sand-Common White-100 Mesh, SSA-2	Halliburton	Proppant					
				Listed Below			
Sand-Premium White-30/70	Halliburton	Proppant					
				Listed Below			
D-AIR 3000L	Halliburton	Defoamer					
				Listed Below			
FDP-S1443-21	Halliburton	Corrosion Inhibitor					
				Listed Below			
Sand-Premium White-30/50	Halliburton	Proppant					
				Listed Below			
Excelerate LX-15	Halliburton	Friction Reducer					
				Listed Below			
OPTIFLO-II DELAYED RELEASE BREAKER	Halliburton	Breaker					
				Listed Below			
MC B-8614A	MultiChem	Biocide					
				Listed Below			

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HYDROCHLORIC ACID, 22 BAUME	Halliburton	Solvent				
				Listed Below		
WG-36 GELLING AGENT	Halliburton	Gelling Agent				
				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	13.10028
			Hydrochloric acid	7647-01-0	30.00000	0.04066
			Complex Amine Compound	Proprietary	60.00000	0.03073
			Guar gum	9000-30-0	100.00000	0.02946
			Hydrotreated light petroleum distillate	64742-47-8	30.00000	0.01537
			Surfactant	Proprietary	5.00000	0.00256
			Sorbitan, mono-9-octadecenoate, (Z)	1338-43-8	5.00000	0.00256
			Glutaraldehyde	111-30-8	30.00000	0.00249
			Ammonium persulfate	7727-54-0	100.00000	0.00063
			Ethoxylated alcohols	Proprietary	30.00000	0.00058
			Alkoxylated polyhydric alcohol	Proprietary	1.00000	0.00051
			Organic chloride compound	Proprietary	1.00000	0.00051
			Alkyl (C12-16) dimethylbenzyl ammonium chloride	68424-85-1	5.00000	0.00042
			Methanol	67-56-1	100.00000	0.00024
			Oxylated phenolic resin	Proprietary	30.00000	0.00019
			Ethanol	64-17-5	1.00000	0.00008
			Modified thiourea polymer	Proprietary	10.00000	0.00002
			Aldehyde	Proprietary	5.00000	0.00001

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			Mixture of dimer and trimer fatty acids of indefinite composition derived from tall oil	61790-12-3	5.00000	0.00001	
			C.I. pigment Orange 5	3468-63-1	1.00000	0.00001	
			Organic salt #2	Proprietary	0.01000	0.00001	
			Acrylamide	79-06-1	0.01000	0.00001	
			Nitrated acetate salt	Proprietary	0.01000	0.00001	
			Sodium hydroxide	1310-73-2	0.01000	0.00001	
			Formaldehyde	50-00-0	0.01000	0.00001	
			Sodium glycolate	2836-32-0	0.01000	0.00001	
			Organic salt #1	Proprietary	0.01000	0.00001	
			1-Octadecene	112-88-9	1.00000	0.00000	
			1-Hexadecene	629-73-2	1.00000	0.00000	
			Alkenes	Proprietary	100.00000		
			Polypropylene glycol	25322-69-4	30.00000		
			Siloxanes and Silicones, di-Me, reaction products with silica	67762-90-7	30.00000		

\* 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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