

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

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Office of Oil and Gas

APR 07 2023

API 47 - 095 - 02766 County Tyler District ESB-WORTH
Quad Porter Falls 7.5' Pad Name Grand Pad Field/Pool Name -----
Farm name Kenneth Tomblin Et Al. Well Number Toroweap 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 4373141m Easting 516272m
Landing Point of Curve Northing 4372903.98m Easting 516650.65m
Bottom Hole Northing 4369788m Easting 517753m

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 4/28/2022
Date completion activities began 5/29/2022 Date completion activities ceased 7/11/2022
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 - 02766 Farm name Kenneth Tomblin Et Al. Well number Toroweap 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	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"	2580'	New	36#, K-55	N/A	Y
Intermediate 2							
Intermediate 3							
Production	8-3/4"/8-1/2"	5-1/2"	18829'	New	20#, P-100	N/A	Y
Tubing		2-3/8"	7035'		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 ³ /sks)	Volume (ft ³)	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	884 sx	15.6	1.19	1052	0'	8 Hrs.
Intermediate 2							
Intermediate 3							
Production	Class H	2890 sx (Tail)	13.5 (Lead), 15.2(Tail)	1.26 (Tail)	3641	-500' into Intermediate Casing	8 Hrs.
Tubing							

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Drillers TD (ft) 18829' MD, 6910' TVD (BHL), 6910' (Deepest Point Drilled) Loggers TD (ft) 18829' MD
 Deepest formation penetrated Marcellus Plug back to (ft) N/A
 Plug back procedure N/A

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WV Department of
Environmental Protection

Kick off depth (ft) 6156'

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 - 02766 Farm name Kenneth Tomblin Et Al. Well number Toroweap Unit 2H

<u>PRODUCING FORMATION(S)</u>	<u>DEPTHS</u>		
<u>Marcellus</u>	<u>6822' (TOP)</u>	<u>TVD</u>	<u>7205' (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 2174 psi Bottom Hole --- psi DURATION OF TEST --- hrs

OPEN FLOW Gas 16248 mcfpd Oil 436 bpd NGL --- bpd Water 538 bpd GAS MEASURED BY Estimated Orifice Pilot

LITHOLOGY/ FORMATION	TOP	BOTTOM	TOP	BOTTOM	DESCRIBE ROCK TYPE AND RECORD QUANTITY AND TYPE OF FLUID (FRESHWATER, BRINE, OIL, GAS, H ₂ 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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					APR 07 2023
					Wv Department of Environmental Protection

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 3/28/2023

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

07/21/2023

API 47-095-02766 Farm Name Kenneth Tomblin Et Al Well Number Toroweap Unit 2H					
Exhibit 1					
Stage No.	Perforation Date	Perforated from MD ft.	Perforated to MD ft.	Number of Perforations	Formations
1	05/29/2022	18708.8	18664.1	60	Marcellus
2	05/29/2022	18624.94532	18460.1719	60	Marcellus
3	05/30/2022	18424.81725	18260.0439	60	Marcellus
4	05/31/2022	18224.68918	18059.9158	60	Marcellus
5	05/31/2022	18024.56111	17859.7877	60	Marcellus
6	06/01/2022	17824.43304	17659.6596	60	Marcellus
7	06/01/2022	17624.30497	17459.5316	60	Marcellus
8	06/02/2022	17424.1769	17259.4035	60	Marcellus
9	06/02/2022	17224.04883	17059.2754	60	Marcellus
10	06/03/2022	17023.92076	16859.1474	60	Marcellus
11	06/04/2022	16823.79269	16659.0193	60	Marcellus
12	06/04/2022	16623.66462	16458.8912	60	Marcellus
13	06/05/2022	16423.53655	16258.7632	60	Marcellus
14	06/05/2022	16223.40848	16058.6351	60	Marcellus
15	06/06/2022	16023.28041	15858.507	60	Marcellus
16	06/06/2022	15823.15234	15658.3789	60	Marcellus
17	06/07/2022	15623.02427	15458.2509	60	Marcellus
18	06/07/2022	15422.8962	15258.1228	60	Marcellus
19	06/08/2022	15222.76813	15057.9947	60	Marcellus
20	06/08/2022	15022.64006	14857.8667	60	Marcellus
21	06/09/2022	14822.51199	14657.7386	60	Marcellus
22	06/09/2022	14622.38392	14457.6105	60	Marcellus
23	06/10/2022	14422.25585	14257.4825	60	Marcellus
24	06/10/2022	14222.12778	14057.3544	60	Marcellus
25	06/11/2022	14021.99971	13857.2263	60	Marcellus
26	06/11/2022	13821.87164	13657.0982	60	Marcellus
27	06/11/2022	13621.74357	13456.9702	60	Marcellus
28	06/12/2022	13421.6155	13256.8421	60	Marcellus
29	06/12/2022	13221.48743	13056.714	60	Marcellus
30	06/13/2022	13021.35936	12856.586	60	Marcellus
31	06/13/2022	12821.23129	12656.4579	60	Marcellus
32	06/13/2022	12621.10322	12456.3298	60	Marcellus
33	06/13/2022	12420.97515	12256.2018	60	Marcellus
34	06/13/2022	12220.84708	12056.0737	60	Marcellus
35	06/14/2022	12020.71901	11855.9456	60	Marcellus
36	06/14/2022	11820.59094	11655.8175	60	Marcellus
37	06/14/2022	11620.46287	11455.6895	60	Marcellus
38	06/14/2022	11420.3348	11255.5614	60	Marcellus
39	06/14/2022	11220.20673	11055.4333	60	Marcellus
40	06/15/2022	11020.07865	10855.3053	60	Marcellus
41	06/15/2022	10819.95058	10655.1772	60	Marcellus
42	06/15/2022	10619.82251	10455.0491	60	Marcellus
43	06/15/2022	10419.69444	10254.9211	60	Marcellus
44	06/15/2022	10219.56637	10054.793	60	Marcellus
45	06/16/2022	10019.4383	9854.66491	60	Marcellus
46	06/16/2022	9819.310234	9654.53684	60	Marcellus
47	06/16/2022	9619.182164	9454.40877	60	Marcellus
48	06/17/2022	9419.054094	9254.2807	60	Marcellus
49	06/17/2022	9218.926023	9054.15263	60	Marcellus
50	06/17/2022	9018.797953	8854.02456	60	Marcellus
51	06/17/2022	8818.669883	8653.89649	60	Marcellus
52	06/17/2022	8618.541813	8453.76842	60	Marcellus
53	06/18/2022	8418.413743	8253.64035	60	Marcellus
54	06/18/2022	8218.285673	8053.51228	60	Marcellus
55	06/18/2022	8018.157602	7853.38421	60	Marcellus
56	06/18/2022	7818.029532	7653.25614	60	Marcellus
57	06/19/2022	7617.901462	7453.12807	60	Marcellus
58	06/19/2022	7417.773392	7253	60	Marcellus

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API 47-095-02766 Farm Name Kenneth Tomblin Et Al Well Number Torowear 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	05/29/2022	69.4	7842	7423	3338	164400	206063	N/A
2	05/29/2022	81.9	8381	5590	4168.27	407790	317496	N/A
3	05/30/2022	81.6	8104	6173	4814	417941	430210	N/A
4	05/31/2022	86.4	8329	6187	4382	412294	333834	N/A
5	05/31/2022	83.3	8403	5935	4030	417976	324702	N/A
6	06/01/2022	90.0	8471	5897	4624	421886	312645	N/A
7	06/01/2022	87.1	8279	5728	4013	418849	321644	N/A
8	06/02/2022	86.7	8378	5738	3950.8	409901	317647	N/A
9	06/02/2022	83.6	8312	6025	5067	421499	485282	N/A
10	06/03/2022	92.4	8416	6019	4658	415676	308513	N/A
11	06/04/2022	88.0	8137	5532	4286	429675	310523	N/A
12	06/04/2022	92.7	8547	7670	4131	412887	284212	N/A
13	06/05/2022	90.6	8446	8253	4200	403884	293866	N/A
14	06/05/2022	89.9	8518	5337	4449	423033	290120	N/A
15	06/06/2022	89.1	8303	5462	4054	399250	288721	N/A
16	06/06/2022	90.9	8512	5611	3889	413191	299176	N/A
17	06/07/2022	92.8	8387	5394	4175	396240	306643	N/A
18	06/07/2022	66.2	7328	5486	4640	406614	360615	N/A
19	06/08/2022	90.5	8333	5669	4395	411810	303649	N/A
20	06/08/2022	63.3	7977	5823	3966	422491	423873	N/A
21	06/09/2022	89.9	8279	5740	4624.02	412497	320639	N/A
22	06/09/2022	94.4	8232	4633	4631	405217	316103	N/A
23	06/10/2022	95.6	8240	5479	4449	416207	312817	N/A
24	06/10/2022	93.3	8206	6899	3914	402167	286323	N/A
25	06/11/2022	92.0	8189	5758	4378	402582	297039	N/A
26	06/11/2022	93.5	8092	5352	4634	404116	265202	N/A
27	06/11/2022	95.3	8280	5601	4812	409177	314616	N/A
28	06/12/2022	96.4	8114	5687	4565	400890	294402	N/A
29	06/12/2022	96.5	8139	5533	4177	408350	308015	N/A
30	06/13/2022	96.8	8195	5481	4252	401325	300263	N/A
31	06/13/2022	96.5	8122	5737	4128	415110	308732	N/A
32	06/13/2022	96.0	8146	7162	4110	402400	290031	N/A
33	06/13/2022	95.9	8044	5566	4491	413818	302007	N/A
34	06/13/2022	97.2	8124	5612	4341	399357	298037	N/A
35	06/14/2022	97.1	8110	4463	4332	409373	320353	N/A
36	06/14/2022	97.2	7988	6555	4163	413055	296052	N/A
37	06/14/2022	93.8	8216	7537	4061	414499	351299	N/A
38	06/14/2022	97.5	8049	7333	4003	411107	299026	N/A
39	06/14/2022	97.9	7946	5724	4296	411227	307863	N/A
40	06/15/2022	97.7	7943	6280	4617	412403	295190	N/A
41	06/15/2022	95.4	7799	7569	4002	406445	284189	N/A
42	06/15/2022	94.0	7861	8237	4276.43	411434	283070	N/A
43	06/15/2022	92.6	7973	6392	3908	401291	282049	N/A
44	06/15/2022	97.7	7863	6770	4570	419699	292024	N/A
45	06/16/2022	98.4	7621	5711	3873	411704	286896	N/A
46	06/16/2022	90.5	7475	5683.76	4723.32	409707	346234	N/A
47	06/16/2022	97.9	7551	4602	4289	406455	276990	N/A
48	06/17/2022	98.2	7564	5434	4865	394351	309009	N/A
49	06/17/2022	98.4	7464	6179	4128	405259	288700	N/A
50	06/17/2022	97.4	7355	5292	3866	410648	270763	N/A
51	06/17/2022	97.4	7327	6088	3936	414155	283791	N/A
52	06/17/2022	97.8	7574	6565	4585	411253	296256	N/A
53	06/18/2022	98.4	7290	5834	4453	406426	293399	N/A
54	06/18/2022	98.3	7103	5756	4209	407437	303117	N/A
55	06/18/2022	98.4	7132	6472	4176	408557	280929	N/A
56	06/18/2022	92.2	7097	9786	4128	405830	344269	N/A
57	06/19/2022	98.7	7066	5489	4254	405274	296875	N/A
58	06/19/2022	97.9	6893	4909	3809	405247	283970	N/A
	AVERAGE	92	7,967	6,066	4,280	23,533,336	17,905,973	TOTAL

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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	2,142	2,084	2,157
Big Lime	2,168	2,954	2,157	2,977
Fifty Foot Sandstone	2,954	3,078	2,951	3,102
Gordon	3,078	3,320	3,076	3,351
Fifth Sandstone	3,320	3,506	3,325	3,546
Bayard	3,506	4,244	3,520	4,307
Speechley	4,244	4,475	4,281	4,545
Balltown	4,475	4,836	4,519	4,918
Bradford	4,836	5,236	4,892	5,327
Benson	5,236	5,516	5,301	5,616
Alexander	5,516	6,661	5,590	6,857
Sycamore	6,519	6,635	6,678	6,831
Middlesex	6,635	6,729	6,831	6,982
Burkett	6,729	6,763	6,982	7,049
Tully	6,763	6,822	7,049	7,205
Marcellus	6,822	NA	7,205	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"

5,428'

LATITUDE 39°30'00" 592' TO BOTTOM HOLE

Antero Resources Corporation Well No. Toroweap 2H

AS DRILLED DATA:
 WELL 2H TOP HOLE INFORMATION:
 N: 369,710ft E: 1,630,134ft
 LAT: 39°30'27.60" LON: 80°48'39.25"
 BOTTOM HOLE INFORMATION:
 N: 358,628ft E: 1,634,811ft
 LAT: 39°28'38.73" LON: 80°47'37.55"
 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: 4,373,141m E: 516,272m
 BOTTOM HOLE INFORMATION:
 N: 4,369,788m E: 517,753m

WV NORTH ZONE GRID NORTH

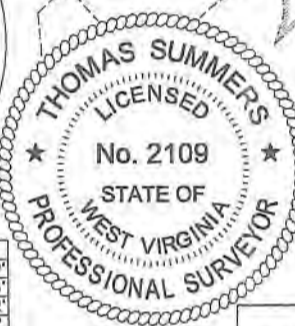
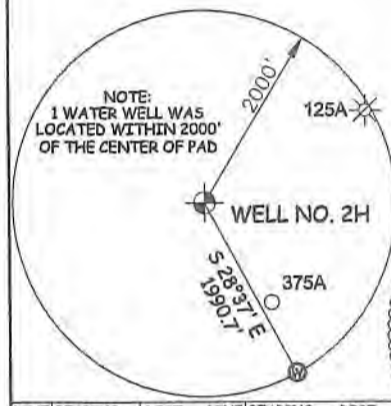
Ellsworth District - Tyler County	
16-14	James Barnhart
16-15	Harvey Miller Et Al
16-28	Kenneth Tomblin Et Al
16-29	Michael Tomblin
16-30	Christopher Investments Inc.
16-31	Christopher Investments Inc.
16-33	J. A. Weekley Hrs.
16-34	J. A. Weekley Hrs.
16-35	Jay Wright
17-56	J. A. Weekley Hrs.
22-9	Steven Wright
22-10	Leslie Henderson
22-11	Angela DeGuelle
22-13	Christopher Blake
22-14	Susan Delsorda
22-14.1	Siveryl 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

8,223' TO BOTTOM HOLE

12,386'

LONGITUDE 80°47'30"

LONGITUDE 80°47'30"



LINE	BEARING	DIST.	LINE	BEARING	DIST.
L1	N 79°23' W	1820.64'	L7	N 17°11' W	1289.39'
L2	N 72°38' W	1737.73'	L8	N 14°44' W	1409.38'
L3	N 69°39' W	1680.54'	L9	N 07°35' W	1774.02'
L4	N 45°05' W	1540.95'	L10	N 03°37' W	1761.12'
L5	N 36°53' W	1627.55'	L11	N 17°55' E	1113.36'
L6	N 30°40' W	1612.05'	L12	N 48°24' E	1322.09'

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 # 21-011WA
 DRAWING # TOROWEAP2HAD
 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 P.S. 2109
 DATE 10/11/22
 OPERATOR'S WELL# TOROWEAP UNIT #2H

(NAD) 27 (UTM) ZONE 17 COORDS:
 WELL 2H TOP HOLE INFORMATION:
 N: 14,346,831ft E: 1,693,753ft
 POINT OF ENTRY INFORMATION:
 N: 14,346,702ft E: 1,693,885ft
 BOTTOM HOLE INFORMATION:
 N: 14,335,832ft E: 1,698,612ft

- NOTES**
- 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.
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WELL TYPE: OIL GAS LIQUID INJECTION WASTE DISPOSAL 47 - 095 - 02766

(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 TOMBLYN; LEASE ACREAGE 290.32 AC.±; 55 AC.±;
 BETTY MOREHEAD ET VIR; JAY A. WRIGHT ET UX; MORRIS MOUNTAINEER OIL & GAS LLC; 58 AC.±; 40.81 AC.±; 45.98 AC.±;
 MARGARET LEMASTERS; CAROL J. KNAPP; BERNICE BAKER; BRC APPALACHIAN MINERALS 1 LLC; 18.93 AC.±; 77.5 AC.±; 75 AC.±; 107 AC.±;
 MICHAEL SHERWOOD 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 6,910' TVD 18,829' 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"

5,428'

LATITUDE 39°30'00" 592' TO BOTTOM HOLE

Antero Resources Corporation Well No. Toroweap 2H

AS DRILLED DATA:
 WELL 2H TOP HOLE INFORMATION:
 N: 369,710ft E: 1,630,134ft
 LAT: 39°30'27.60" LON: 80°48'39.25"
 BOTTOM HOLE INFORMATION:
 N: 358,628ft E: 1,634,811ft
 LAT: 39°28'38.73" LON: 80°47'37.55"
 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: 4,373,141m E: 516,272m
 BOTTOM HOLE INFORMATION:
 N: 4,369,788m E: 517,753m

WV NORTH ZONE
GRID NORTH

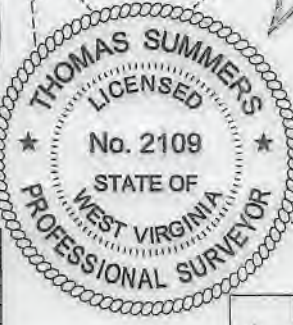
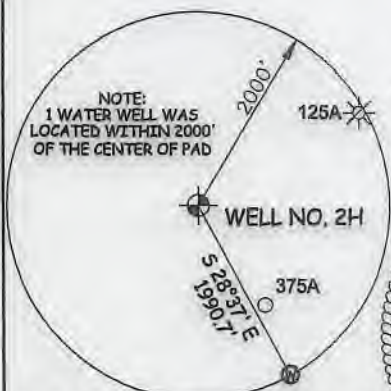
Ellsworth District - Tyler County	
16-14	James Barnhart
16-15	Harvey Miller Et Al
16-28	Kenneth Tomblin Et Al
16-29	Michael Tomblin
16-30	Christopher Investments Inc.
16-31	Christopher Investments Inc.
16-33	J. A. Weekley Hrs.
16-34	J. A. Weekley Hrs.
16-35	Jay Wright
17-56	J. A. Weekley Hrs.
22-9	Steven Wright
22-10	Leslie Henderson
22-11	Angela DeSuelle
22-13	Christopher Blake
22-14	Susan DeSardo
22-14.1	Sheryl Hayes
22-27	C. W. Weekley Hrs.
22-28	WSD Properties LLC
23-02	Daie Parr
23-03	Jack Hair
23-04	Jack Hair
McElroy District - Tyler County	
2-01	Jack Hair
2-02	Jack Hair
2-15	Leo Wilker
2-26	Jay Bee Oil & Gas Inc.
2-29	Cecil Nichols

8,223' TO BOTTOM HOLE

12,386'

LONGITUDE 80°47'30"

LONGITUDE 80°47'30"

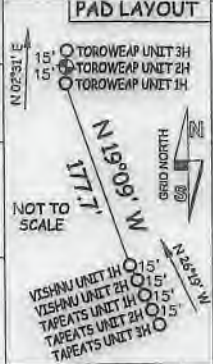


LINE	BEARING	DIST.	LINE	BEARING	DIST.
L1	N 79°23' W	1820.64'	L7	N 17°11' W	1289.39'
L2	N 72°38' W	1737.73'	L8	N 14°44' W	1409.38'
L3	N 69°39' W	1680.54'	L9	N 07°35' W	1774.82'
L4	N 45°05' W	1540.95'	L10	N 03°37' W	1761.12'
L5	N 36°53' W	1627.55'	L11	N 17°55' E	1113.36'
L6	N 30°40' W	1612.05'	L12	N 48°24' E	1322.09'

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 # 21-011WA
 DRAWING # TOROWEAP2HAD
 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 #2H

(NAD) 27 (UTM) ZONE 17 COORDS:
 WELL 2H TOP HOLE INFORMATION:
 N: 14,346,831ft E: 1,693,753ft
 POINT OF ENTRY INFORMATION:
 N: 14,346,702ft E: 1,693,885ft
 BOTTOM HOLE INFORMATION:
 N: 14,335,832ft E: 1,698,612ft

- NOTES
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WELL TYPE: OIL ___ GAS LIQUID INJECTION ___ WASTE DISPOSAL ___ API WELL # 47 - 095 - 02766
 (IF "GAS") PRODUCTION STORAGE ___ DEEP ___ SHALLOW STATE COUNTY PERMIT
 LOCATION: ELEVATION AS BUILT - 1,243.5' WATERSHED OUTLET MIDDLE ISLAND CREEK
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 MARGARET LEMASTERS; CAROL J. KNAPP; BERNICE BAKER; BRC APPALACHIAN MINERALS 1 LLC; 18.93 AC ±; 77.5 AC ±; 75 AC ±; 162 AC ±;
 MICHAEL SHERWOOD 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 6,910' TVD 18,829' MD
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 FORM WW-6 DENVER, CO 80202 CHARLESTON, WV 25313

COUNTY NAME PERMIT

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:	47-095-02766-00-00
Operator Name:	Antero Resources Corporation
Well Name and Number:	Toroweap 2H
Latitude:	39.50767000
Longitude:	-80.81090000
Datum:	WGS84
Federal Well:	NO
Indian Well:	NO
True Vertical Depth:	6,909
Total Base Water Volume (gal):	18,611,006
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	86.85422	Density = 8.50
Ingredients	Listed Above	Listed Above					
			Water	7732-18-5	100.00000	0.17634	

MC B-8614A	MultiChem	Biocide					
				Listed Below			
WG-36 GELLING AGENT	Halliburton	Gelling Agent					
				Listed Below			
Excelerate LX-15	Halliburton	Friction Reducer					
				Listed Below			
D-AIR 3000L	Halliburton	Defoamer					
				Listed Below			
Sand-Common White-100 Mesh, SSA-2	Halliburton	Proppant					
				Listed Below			
HYDROCHLORIC ACID, 22 BAUME	Halliburton	Solvent					
				Listed Below			
OPTIFLO-II DELAYED RELEASE BREAKER	Halliburton	Breaker					
				Listed Below			
Sand-Premium White-30/70	Halliburton	Proppant					
				Listed Below			

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Sand-Premium White-30/50	Halliburton	Proppant					
				Listed Below			
FDP-S1443-21	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	12.92075	
			Hydrochloric acid	7647-01-0	30.00000	0.04143	
			Complex Amine Compound	Proprietary	60.00000	0.02993	
			Guar gum	9000-30-0	100.00000	0.02793	
			Hydrotreated light petroleum distillate	64742-47-8	30.00000	0.01497	
			Sorbitan, mono-9-octadecenoate, (Z)	1338-43-8	5.00000	0.00249	
			Surfactant	Proprietary	5.00000	0.00249	
			Glutaraldehyde	111-30-8	30.00000	0.00249	
			Ammonium persulfate	7727-54-0	100.00000	0.00062	
			Ethoxylated alcohols	Proprietary	30.00000	0.00057	
			Organic chloride compound	Proprietary	1.00000	0.00050	
			Alkoxylated polyhydric alcohol	Proprietary	1.00000	0.00050	
			Alkyl (C12-16) dimethylbenzyl ammonium chloride	68424-85-1	5.00000	0.00042	
			Methanol	67-56-1	100.00000	0.00025	
			Oxylated phenolic resin	Proprietary	30.00000	0.00019	
			Ethanol	64-17-5	1.00000	0.00008	
			Modified thiourea polymer	Proprietary	10.00000	0.00002	

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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	
			Aldehyde	Proprietary	5.00000	0.00001	
			C.I. pigment Orange 5	3468-63-1	1.00000	0.00001	
			Sodium glycolate	2836-32-0	0.01000	0.00000	
			Sodium hydroxide	1310-73-2	0.01000	0.00000	
			Organic salt #2	Proprietary	0.01000	0.00000	
			Nitrated acetate salt	Proprietary	0.01000	0.00000	
			Acrylamide	79-06-1	0.01000	0.00000	
			Formaldehyde	50-00-0	0.01000	0.00000	
			Organic salt #1	Proprietary	0.01000	0.00000	
			1-Hexadecene	629-73-2	1.00000	0.00000	
			1-Octadecene	112-88-9	1.00000	0.00000	
			Polypropylene glycol	25322-69-4	30.00000		
			Alkenes	Proprietary	100.00000		
			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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