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

API <u>47</u> 103 _ 03458	County Wetzel	Dis	strict G	reen	
Quad Pine Grove	Pad Name Journe			Name	
Farm name Antero Resources	Corporation	W	ell Num	ber Ryland	Unit 3H
Operator (as registered with the O	OG) Antero Resources				
Address 1615 Wynkoop Stree	t City Den	ver	State	CO	Zip 80202
As Drilled location NAD 83/UT Top hole	Northing 4377639m	d plat, profile view, and de Easting	522030	im	
Landing Point of Curve	Northing 4378108.568m Northing 4375383m	Easting Easting	522729	.834m m	
Bottom Hole	Northing 407000011	Easting	- 020001		
Elevation (ft) 1154' G	L Type of Well	New   Existing	Туре	of Report	Interim Final
	Horizontal Horizont	al 6A 🛘 D Vertical	Dept	h Type 🗆	Deep • Shallow
Type of Operation   Convert	□ Deepen ■ Drill □	Plug Back   Redrillin	g 🗆	Rework	Stimulate
					0.1
Well Type □ Brine Disposal □ 0	CBM ■ Gas ■ Oil □ Sec	ondary Recovery   Solut	tion Mir	iing 🗆 Stora	ge 🗆 Other
Type of Completion ■ Single □	Multiple Fluids Produc	ced □ Brine ■Gas	□ NGL	■ Oil □	Other
Drilled with □ Cable ■ Rotar	y				
Drilling Media Surface hole	Air □ Mud □Fresh Wat	ter Intermediate hole	e ■ Ai	r 🗆 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 issued10/29/20	21 Date drilling comm	nenced_ 12/10/2021	Da	te drilling cea	ased 3/8/2022
Date completion activities began	7/9/2022	Date completion activit	ies ceas	ed 9	/1/2022
Verbal plugging (Y/N) N/A	Date permission granted	NI/A	Grante		N/A
verbai pragging (1/14)	Date permission grante		1000		
Please note: Operator is required	to submit a plugging applica	ation within 5 days of verb	oal perm	nission to plu	g
Freshwater depth(s) ft	1088'	Open mine(s) (Y/N) dep	ths		No
Salt water depth(s) ft	502'	Void(s) encountered (Y/	N) dep	ths	No
Coal depth(s) ft	960'	Cavern(s) encountered (			No
Is coal being mined in area (Y/N)	No	SECTION STREET		1000	*
15 cour boing nimed in area (1/14)					A .

WR-35 Rev. 8/23/13

CASING STRINGS	Hole	Casing	No. of	New				oid cement circulate (Y/N
Conductor	Size 28"	Size 20"	Depth 130'	Use	THE RESIDENCE		Depth(s) *	* Provide details below*  Y
Surface	17-1/2"	13-3/8"	364'	-		7#, X-60 5#, J-55	N/A	Y
Coal	17-1/2	13-3/6	304	140	ew 54.5	)#, J-55	N/A	1
ntermediate 1	12-1/4"	9-5/8"	2727'	N	ew 36#	1.55	N/A	Υ
Intermediate 2	12-1/4	9-5/6	2121	IN	ew 30#	#, J-55	N/A	
Intermediate 3				-			-	
Production	8-3/4"/8-1/2"	5-1/2"	17325'	N	ew 20#	, P-110	N/A	Υ
Tubing	0-3/4 /0-1/2	2-3/8"	7557'	140		, P-110	1975	
Packer type and	depth set	N/A	7557		4.7#	,110		
Comment Detail	s							
CEMENT DATA	Class/Typ of Cemen			Slurry t (ppg)	Yield (ft <sup>3</sup> /sks)	Volume (ft <sup>3</sup> )	Cement Top (MD)	WOC (hrs)
Conductor	Class A	319 s	x ·	15.6	1.18	376	0'	8 Hrs.
Surface	Class A	328 s	x	15.8	1.20	394	0'	8 Hrs.
Coal								
Intermediate 1	Class C	960 s	x	15.8	1.16	1114	0'	8 Hrs.
Intermediate 2							1 11	
Intermediate 3								
Production	Class H	2735 sx	(Tail) 8.33 (Le	ad), 15.2(Tail)	1.4 (Lead), 1.18 (Tail)	3227	~500' into intermediate	e Casing 8 Hrs.
Tubing								
	nation penetrate	3' TVD (BHL), 7035' (Dec	epest Point Drilled		gers TD (ft) 173 g back to (ft) N/			
Kick off dep	th (ft) 7093'							
Check all wi	reline logs run	□ caliper □ neutror			deviated/direct gamma ray		nduction temperature	□sonic
	□ Yes ■ No			idewall			s collected $\square$ Y	es ■ No
	THE CENTRA	LIZER PLACEM	IENT USED	FOR EA	CH CASING S	STRING _		
	milde abox 1 above les	sert float, 1 every 4th joint to	surface					
Conductor - 0	guide snoe, i above ins	first seller 1 erres 4th let	nt to surface					
Conductor - 0 Surface - 1 above Intermediate - 1 at	pove float joint, 1 above	pat collar, 1 every 3rd joint	to top of cement					
Conductor - 0 Surface - 1 above Intermediate - 1 at Production - 1 abo	oove float joint, 1 above we float joint, 1 below flo			■ No	DETAILS			

Farm name\_Antero Resources Corporation \_Well number\_Ryland Unit 3H 03458 API 47- 103 PERFORATION RECORD Stage Perforated from Perforated to Number of No. Perforation date MD ft. MD ft. 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. Amount of Amount of Ave Pump Ave Treatment Max Breakdown Amount of Stage Stimulations Nitrogen/other (units) Proppant (lbs) Pressure (PSI) Pressure (PSI) ISIP (PSI) Water (bbls) Rate (BPM) No. Date \*PLEASE SEE ATTACHED EXH

Please insert additional pages as applicable.



Completed by Carly Marvel

Signature

Carly Marvel

Telephone

303-357-7373

Telephone

Date 1/3/2023

Submittal of Hydraulic Fracturing Chemical Disclosure Information

Attach copy of FRACFOCUS Registry

	API <u>47-103-03458</u>		Exhibit 1		
tage No.	Perforation Date	Perforated from MD	Perforated to	Number of	Formations
1	07/09/2022	ft. 17201.0	MD ft. 17160.0	Perforations	Mayaallus
2	07/09/2022	17121.3	16954.9	60	Marcellus
3	07/10/2022	16919.2	16752.7	60	Marcellus
4	07/10/2022	16717.1	16550.6	60	Marcellus
5	07/11/2022	16514.9	16348.5	60	Marcellus Marcellus
6	07/12/2022	16312.8	16146.3	60	
7	07/12/2022	16110.7	15944.2	60	Marcellus
	07/13/2022	15908.5	15742.1	60	
8	07/13/2022	15706.4	15540.0	60	Marcellus Marcellus
9	07/14/2022	15504.3	15337.8	60	
10	CONTRACTOR OF THE PARTY OF THE	15302.1	15135.7	60	Marcellus
11	07/14/2022			60	Marcellus
12	07/14/2022	15100.0 14897.9	14933.6	60	Marcellus
13	07/15/2022	14897.9	14731.4 14529.3	60	Marcellus
14	07/16/2022	14695.7	14327.2	60	
15	07/16/2022			60	Marcellus
16	07/17/2022	14291.5	14125.0	60	Marcellus
17	07/17/2022	14089.4	13922.9	60	Marcellus
18	07/18/2022	13887.2	13720.8	60	Marcellus
19	07/18/2022	13685.1	13518.7	60	Marcellus
20	07/19/2022	13483.0	13316.5	60	Marcellus
21	07/19/2022	13280.8	13114.4	60	Marcellus
22	07/20/2022	13078.7	12912.3	60	Marcellus
23	07/20/2022	12876.6	12710.1	60	Marcellus
24	07/21/2022	12674.4	12508.0	60	Marcellus
25	07/21/2022	12472.3	12305.9	60	Marcellus
26	07/22/2022	12270.2	12103.7 11901.6	60	Marcellus Marcellus
27	07/22/2022	12068.1		60	The second secon
28	07/23/2022	11865.9	11699.5	60	Marcellus
29	07/24/2022	11663.8	11497.3	60	Marcellus
30	07/24/2022	11461.7	11295.2	60	Marcellus
31	07/25/2022	11259.5	11093.1	60	Marcellus
32	07/25/2022	11057.4	10891.0	60	Marcellus
33	07/26/2022	10855.3	10688.8	60	Marcellus
34	07/26/2022	10653.1	10486.7	60	Marcellus
35	07/26/2022	10451.0	10284.6	60	Marcellus
36	07/27/2022	10248.9	10082.4	60	Marcellus
37	07/27/2022	10046.7	9880.3	60	Marcellus
38	07/28/2022	9844.6	9678.2	60	Marcellus
39	07/29/2022	9642.5	9476.0	60	Marcellus
40	07/29/2022	9440.4	9273.9	60	Marcellus
41	07/30/2022	9238.2	9071.8	60	Marcellus
42	07/30/2022	9036.1	8869.7	60	Marcellus
43	07/30/2022	8834.0	8667.5	60	Marcellus
44	07/31/2022	8631.8	8465.4	60	Marcellus
45	07/31/2022	8429.7	8263.3	60	Marcellus
46	07/31/2022	8227.6	8061.1	60	Marcellus
47	08/01/2022	8025.4	7859.0	60	Marcellus

1	Stimulations Date 07/09/2022 07/09/2022 07/10/2022 07/10/2022 07/11/2022	Avg Pump Rate 32.8 74.0	Avg Treatment Pressure (PSI)	Max Breakdown Pressure	ISIP (PSI)	Amount of Proppant	Account of	Amount o
1	Date 07/09/2022 07/09/2022 07/10/2022 07/10/2022	Rate 32.8	Treatment Pressure (PSI)	Breakdown Pressure	ISID (DSI)	Amount of Proppant	Automora de	
2	07/09/2022 07/10/2022 07/10/2022		0.000	(PSI)	iair (rai)	(lbs)	Amount of Water (bbls)	Nitrogen, other (units)
3	07/10/2022 07/10/2022	74.0	8,933	8,729	4,504	4,000	101,116	N/A
4	07/10/2022		8,033	6,426	3,581	401,940	333,785	N/A
5	THE RESIDENCE OF THE PARTY OF T	76.4	8,299	7,095	4,019	408,582	308,225	N/A
6 (0) 7 (0) 8 (0) 9 (0) 10 (0) 11 (0) 12 (0) 13 (1) 14 (0) 15 (0) 16 (0) 17 (0) 18 (0) 20 (0) 21 (0) 22 (0) 23 (0)	07/11/2022	84.7	8,406	7,254	4,257	408,754	310,754	N/A
7		89.8	8,382	6,113	5,252	399,933	307,719	N/A
8 0 9 0 10 0 11 0 12 0 13 0 14 0 15 0 16 0 17 0 18 0 20 0 21 0 22 0 23 0	07/12/2022	80.8	8,188	5,943	4,340	413,049	308,919	N/A
9 (0 10 (0 11 (0 12 (0 13 (0 14 (0 15 (0 16 (0 17 (0 18 (0 19 (0 20 (0 21 (0 22 (0 23 (0)	07/12/2022	84.8	8,074	5,365	5,010	405,805	295,838	N/A
10 0 11 12 12 13 14 14 15 16 17 18 19 10 20 12 12 12 12 12 12 12 13 16 16 17 17 18 17 18 17 18 17 18 17 18 17 18 17 18 17 18 17 18 17 18 17 18 17 18 17 18 17 18 17 18 17 18 17 18 17 18 17 18 17 18 18 18 19 18 18 18 18 18 18 18 18 18 18 18 18 18	07/13/2022	90.6	8,284	5,576	4,717	409,138	313,978	N/A
11	07/13/2022	92.1	8,446	6,430	5,066	412,818	299,168	N/A
12	07/14/2022	90.2	8,193	5,958	4,877	401,538	380,913	N/A
13 (14 (15 (15 (15 (15 (15 (15 (15 (15 (15 (15	07/14/2022	93.0	8,474	5,336	5,030	402,031	293,313	N/A
13 (14 (15 (15 (15 (15 (15 (15 (15 (15 (15 (15	07/14/2022	88.5	8,363	5,834	5,044	401,376	326,476	N/A
14 (1) 15 (1) 16 (1) 17 (1) 18 (1) 19 (1) 19 (1) 19 (1) 19 (1) 19 (1) 19 (1) 19 (1) 19 (1) 19 (1) 19 (1) 19 (1) 19 (1) 19 (1) 19 (1) 19 (1) 19 (1) 19 (1) 19 (1) 19 (1) 19 (1) 19 (1) 19 (1) 19 (1) 19 (1) 19 (1) 19 (1) 19 (1) 19 (1) 19 (1) 19 (1) 19 (1) 19 (1) 19 (1) 19 (1) 19 (1) 19 (1) 19 (1) 19 (1) 19 (1) 19 (1) 19 (1) 19 (1) 19 (1) 19 (1) 19 (1) 19 (1) 19 (1) 19 (1) 19 (1) 19 (1) 19 (1) 19 (1) 19 (1) 19 (1) 19 (1) 19 (1) 19 (1) 19 (1) 19 (1) 19 (1) 19 (1) 19 (1) 19 (1) 19 (1) 19 (1) 19 (1) 19 (1) 19 (1) 19 (1) 19 (1) 19 (1) 19 (1) 19 (1) 19 (1) 19 (1) 19 (1) 19 (1) 19 (1) 19 (1) 19 (1) 19 (1) 19 (1) 19 (1) 19 (1) 19 (1) 19 (1) 19 (1) 19 (1) 19 (1) 19 (1) 19 (1) 19 (1) 19 (1) 19 (1) 19 (1) 19 (1) 19 (1) 19 (1) 19 (1) 19 (1) 19 (1) 19 (1) 19 (1) 19 (1) 19 (1) 19 (1) 19 (1) 19 (1) 19 (1) 19 (1) 19 (1) 19 (1) 19 (1) 19 (1) 19 (1) 19 (1) 19 (1) 19 (1) 19 (1) 19 (1) 19 (1) 19 (1) 19 (1) 19 (1) 19 (1) 19 (1) 19 (1) 19 (1) 19 (1) 19 (1) 19 (1) 19 (1) 19 (1) 19 (1) 19 (1) 19 (1) 19 (1) 19 (1) 19 (1) 19 (1) 19 (1) 19 (1) 19 (1) 19 (1) 19 (1) 19 (1) 19 (1) 19 (1) 19 (1) 19 (1) 19 (1) 19 (1) 19 (1) 19 (1) 19 (1) 19 (1) 19 (1) 19 (1) 19 (1) 19 (1) 19 (1) 19 (1) 19 (1) 19 (1) 19 (1) 19 (1) 19 (1) 19 (1) 19 (1) 19 (1) 19 (1) 19 (1) 19 (1) 19 (1) 19 (1) 19 (1) 19 (1) 19 (1) 19 (1) 19 (1) 19 (1) 19 (1) 19 (1) 19 (1) 19 (1) 19 (1) 19 (1) 19 (1) 19 (1) 19 (1) 19 (1) 19 (1) 19 (1) 19 (1) 19 (1) 19 (1) 19 (1) 19 (1) 19 (1) 19 (1) 19 (1) 19 (1) 19 (1) 19 (1) 19 (1) 19 (1) 19 (1) 19 (1) 19 (1) 19 (1) 19 (1) 19 (1) 19 (1) 19 (1) 19 (1) 19 (1) 19 (1) 19 (1) 19 (1) 19 (1) 19 (1) 19 (1) 19 (1) 19 (1) 19 (1) 19 (1) 19 (1) 19 (1) 19 (1) 19 (1) 19 (1) 19 (1) 19 (1) 19 (1) 19 (1) 19 (1) 19 (1) 19 (1) 19 (1) 19 (1) 19 (1) 19 (1) 19 (1) 19 (1) 19 (1) 19 (1) 19 (1) 19 (1) 19 (1) 19 (1) 19 (1) 19 (1) 19 (1) 19 (1) 19 (1) 19 (1) 19 (1) 19 (1) 19 (1) 19 (1) 19 (1) 19 (1) 19 (1) 19 (1) 19 (1) 19 (1) 19 (1) 19 (1) 19 (1) 19 (1) 19 (1) 19 (1) 19 (1) 19 (1) 19 (1) 19 (1) 19 (1) 19 (1) 19 (1) 19 (1) 19 (1) 19 (1) 19 (1) 19 (1) 19 (1) 19 (1) 19 (1) 19	07/15/2022	90.3	8,537	6,308	5,033	400,716	280,308	N/A
15 (0 16 (0 17 (0 18 (0 19 (0 20 (0 21 (0 22 (0 23 (0	07/16/2022	87.0	8,482	7,438	4,723	405,299	301,194	N/A
16 (0 17 (7 18 (1 19 (0 20 (0 21 (1 22 (1 23 (1)	07/16/2022	89.6	8,651	6,792	5,056	414,841	288,033	N/A
17 (18 (19 (19 (19 (19 (19 (19 (19 (19 (19 (19	07/17/2022	20.3	7,219	6,516	4,830	5,905	187,800	N/A
18 0 19 0 20 0 21 0 22 0 23 0	07/17/2022	90.0	8,182	6,066	4,331	410,894	319,827	N/A
19 0 20 0 21 0 22 0 23 0	07/18/2022	92.3	8,632	5,322	4,696	413,750	308,352	N/A
20 0 21 0 22 0 23 0	07/18/2022	75.9	7,988	6,871	4,979	411,101	366,104	N/A
21 ( 22 ( 23 (	07/19/2022	75.6	7,352	6,474	4,433	411,857	435,213	N/A
22 ( 23 (	07/19/2022	91.4	7,919	5,890	5,017	413,988	296,548	N/A
23 (	07/20/2022	90.9	7,918	6,256	5,055	399,871	295,877	N/A
	07/20/2022	78.6	8,105	7,963	4,464	408,483	375,565	N/A
24	07/20/2022	85.2	7,571	6,494	5,066	407,461	300,992	N/A
	07/21/2022	88.3	7,789	8,297	4,792	406,970	347,026	N/A
		85.4	8,127	6,946	4,661	411,471	325,672	N/A
	07/22/2022	79.5	8,074	6,417	5,035	410,163	387,334	N/A
			7,802	6,639	4,981	333,283	293,322	N/A
	07/23/2022	82.2	7,677	6,587	4,581	412,761	316,900	N/A
	07/24/2022	87.8	7,355	5,843	4,954	413,127	310,312	N/A
	the second secon	88.7				408,958	344,058	N/A
	07/25/2022	88.0	7,783	6,513	4,689	405,614	306,997	N/A
	07/25/2022	89.0	7,319	6,557	4,704	The second second second	346,893	N/A
	07/26/2022	86.6	7,219	7,227	5,286	392,120 410,220	315,527	N/A
	07/26/2022	91.5	8,325	6,019	3,956		291,426	N/A
	07/26/2022	88.2	7,664	6,635	4,646	389,861		N/A
	07/27/2022	93.3	7,262	5,976	4,428	397,086	293,953	N/A
	07/27/2022	93.5	7,373	7,530	4,466	412,722	302,913	N/A
	07/28/2022	96.2	7,457	6,405	4,662	405,108	315,968	N/A
	07/29/2022	95.4	7,341	7,042	5,010	402,097	302,219	N/A
	07/29/2022	93.8	7,305	7,260	4,682	400,876	511,348	_
	07/30/2022	94.4	7,180	7,140	4,343	410,879	285,525	N/A
	07/30/2022	97.2	7,166	7,587	5,042	398,618	286,578	N/A
	07/30/2022	96.1	7,013	6,135	4,735	405,963	284,073	N/A
	07/31/2022	96.8	7,087	7,455	4,564	400,988	282,224	N/A
	07/31/2022	97.0	7,025	7,032	5,041	412,160	294,759	N/A
	07/31/2022	97.4	7,166	6,930	4,827	402,971	288,876 281,292	N/A
47	08/01/2022	95.8	6,869	7,353	4,515	404,713	. /VI /U/	N/A

AFI <u>47-103-</u>		Resources Corporation Well N	umber Kyland Unit 3H							
EXHIBIT 3										
LITHOLOGY/ FORMATION	From Surface	BOTTOM DEPTH (TVD) From Surface	TOP DEPTH (MD) From Surface	From Surface						
Sandstone	75	210	75	210						
Silty Sandstone	210	240	210	240						
Shaly sandstone	240	270	240	270						
Silty Sandstone	270	420	270	420						
Shaly sandstone	420	490	420	490						
Silty Sandstone	490	600	490	600						
Shale	600	810	600	810						
Silty Sandstone	810	1,070	810	1,070						
Shale w/coal interbeds	1,070	1,230	1,070	1,230						
Sandy shale	1,230	1,320	1,230	1,320						
Shale	1,320	1,410	1,320	1,410						
Sandy shale	1,410	1,710	1,410	1,710						
Shaly sandstone	1,710	2,081	1,710	2,211						
Big Lime	2,111	2,588	2,211	2,774						
Fifty Foot Sandstone	2,588	2,733	2,744	2,938						
Gordon	2,733	2,969	2,908	3,207						
Fifth Sandstone	2,969	3,028	3,177	3,275						
Bayard	3,028	3,958	3,245	4,318						
Speechley	3,958	4,085	4,288	4,462						
Balltown	4,085	4,583	4,432	5,004						
Bradford	4,583	5,140	4,974	5,621						
Benson	5,140	5,578	5,591	6,105						
Alexander	5,578	6,721	6,075	7,381						
Sycamore	6,563	6,691	7,187	7,351						
Middlesex	6,691	6,790	7,351	7,506						
Burkett	6,790	6,820	7,506	7,561						
Tully	6,820	6,901	7,561	7,807						
Marcellus	6,901	NA	7,807	NA						

<sup>\*</sup>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**

7/8/2022	Job Start Date:
8/1/2022	Job End Date:
West Virginia	State:
Wetzel	County:
47-103-03458-00-00	API Number:
Antero Resources Corporation	Operator Name:
RYLAND UNIT 3H	Well Name and Number:
39.54806000	Latitude:
-80.74377000	Longitude:
WGS84	Datum:
NO	Federal Well:
NO	Indian Well:
7,035	True Vertical Depth:
15,752,413	Total Base Water Volume (gal):
0	Total Base Non Water Volume:







## **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	87.72480	Density = 8.50
ngredients	Listed Above	Listed Above					
			Water	7732-18-5	100.00000	0.26849	

MC B-8614A	MultiChem	Biocide		
			Listed Below	
WG-36 GELLING AGENT	Halliburton	Gelling Agent		
			Listed Below	
Sand-Common White-100 Mesh, SSA-2	Halliburton	Proppant		
			Listed Below	
EXCELERATE LX-16	Halliburton	Friction Reducer		
			Listed Below	
HYDROCHLORI C ACID, 22 BAUME	Halliburton	Solvent		
			Listed Below	
FDP-S1443-21	Halliburton	Corrosion Inhibitor		
			Listed Below	
OPTIFLO-II DELAYED RELEASE BREAKER	Halliburton	Breaker		
			Listed Below	
Sand-Premium White-30/70	Halliburton	Proppant		
			Listed Below	



	Crystalline silica, quartz	14808-60-7	100.00000	11.93861	
	Hydrochloric acid	7647-01-0	30.00000	0.06697	
	Guar gum	9000-30-0	100.00000	0.04175	
	Complex Amine Compound	Proprietary	60.00000	0.03722	
	Hydrotreated light petroleum distillate	64742-47-8	30.00000	0.01861	
	Sodium chloride	7647-14-5	10.00000	0.00620	
	Amine	Proprietary	5.00000	0.00310	
	Ethoxylated alcohol	Proprietary	5.00000	0.00310	
	Glutaraldehyde	111-30-8	30.00000	0.00241	
	Ammonium persulfate	7727-54-0	100.00000	0.00124	
	Methanol	67-56-1	100.00000	0.00048	
	Alkyl (C12-16) dimethylbenzyl ammonium chloride	68424-85-1	5.00000	0.00040	
	Oxylated phenolic resin	Proprietary	30.00000	0.00037	
	Ethoxylated alcohols	Proprietary	30.00000	0.00012	
	Ethanol	64-17-5	1.00000	0.00008	
	Diethanolamine	111-42-2	0.10000	0.00006	
	Potassium formate	590-29-4	0.10000	0.00006	
	Sodium bisulphite	7681-57-4	0.10000	0.00006	
	Modified thiourea polymer	Proprietary	10.00000	0.00004	
	Aldehyde	Proprietary	5.00000	0.00002	
	Mixture of dimer and trimer fatty acids of indefinite composition derived from tall oil	61790-12-3	5.00000	0.00002	
	C.I. pigment Orange 5	3468-63-1	1.00000	0.00001	
	Ethylene oxide	75-21-8	0.01000	0.00001	
	Sodium hydroxide	1310-73-2	0.01000	0.00001	
	Hydroquinone monomethyl ether	150-76-5	0.01000	0.00001	
	1,4-Dioxane	123-91-1	0.01000	0.00001	

	Nitrotriacetic acid, trisodium salt monohydrate	5064-31-3	0.01000	0.00001	
	Acetaldehyde	75-07-0	0.01000	0.00001	
	Ethylenediaminetetraacet ic acid, tetrasodium salt	64-02-8	0.01000	0.00001	
	1-Octadecene	112-88-9	1.00000	0.00000	
	1-Hexadecene	629-73-2	1.00000	0.00000	

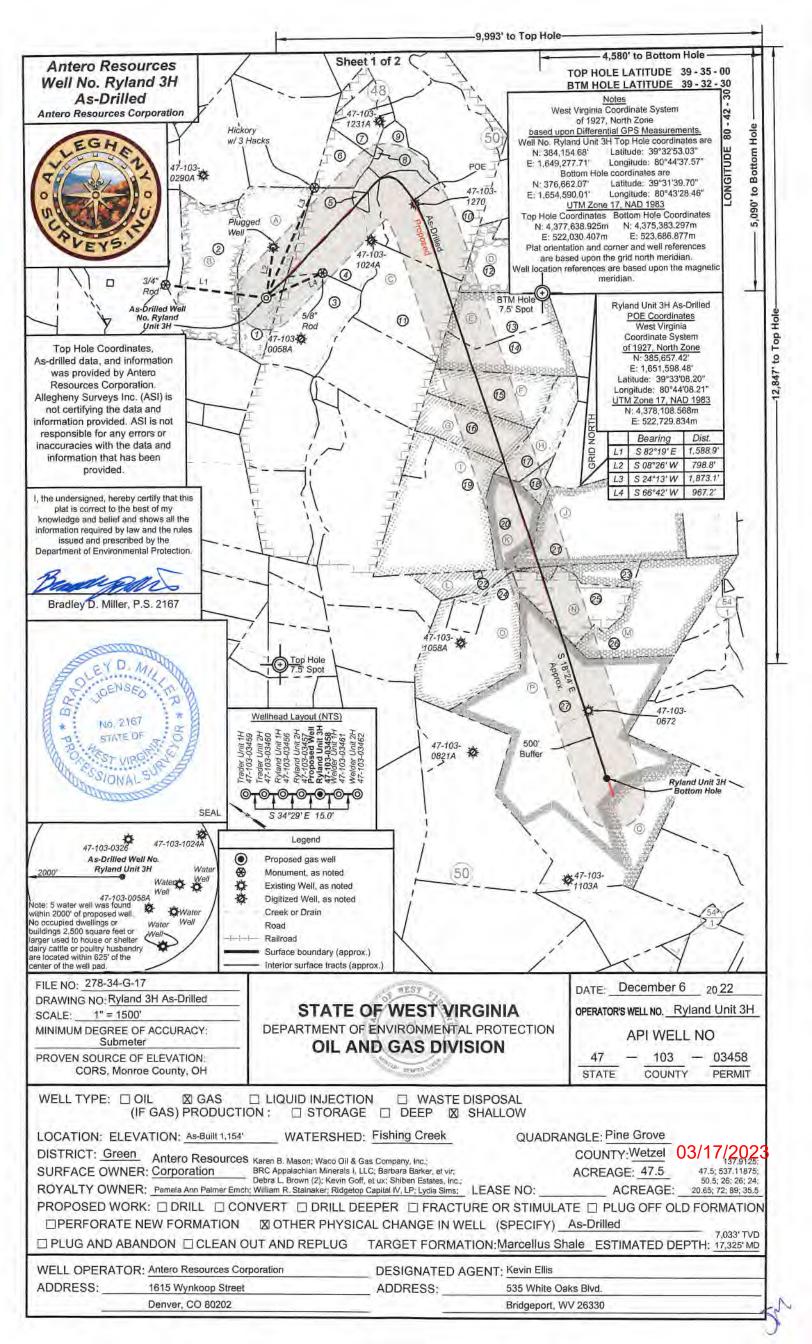
Note: For Field Development Products (products that begin with FDP), MSDS level only information has been provided.
Ingredient information for chemicals subject to 29 CFR 1910.1200(i) and Appendix D are obtained from suppliers Material Safety Data Sheets (MSDS)



<sup>\*</sup> Total Water Volume sources may include various types of water including fresh water, produced water, and recycled water

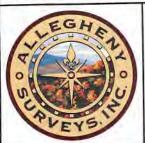
\*\* Information is based on the maximum potential for concentration and thus the total may be over 100%

\*\*\* 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



Antero Resources Well No. Ryland 3H As-Drilled

Antero Resources Corporation



	Leases
Α	Pamela Ann Palmer Emch
В	BRC Appalachian Minerals I, LLC
C	William R. Stalnaker
D	Stone Hill Holdings, LLC
E	Ridgetop Capital IV, LP
F	Debra L. Brown
G	Debra L. Brown
H	Lydia Sims
1	Karen B. Mason
J	Shiben Estates, Inc.
K	Kevin Goff, et ux
L	Barbara Barker, et vir
M	BRC Appalachian Minerals I, LLC
N	Barbara Barker, et vir
0	Carl F. Fellows
P	Waco Oil & Gas Company Inc.
Q	Joan B. Hoge Trust

ID	TM/Par	Owner	Bk/Pg	Acres
1	16-26	Antero Resources Corporation	474/713	47.50
2	16-25	Antero Resources Corporation	474/713	39.00
3	17-22	Perry D. Bucher	411/759	37.65
4	17-58	Pennie Baker	411/735	42.41
5	17-56	Pennie R, & Richard K, Baker	366/273	1.63
6	17-15.1	Douglas Alan & Shirley Joann Bucher	442/718	12.41
7	17-15.7	Jeremy & Terry Bucher	365/108	7.37
8	17-15.8	Ross William Bucher, Jr.	411/765	0.37
9	17-59	Pennie Baker	446/344	12.50
10	17-60	Ross Bucher	411/765	79.00
11	17-23	Michael Steven Blinkman	461/443	40.10
12	17-16	James & Andrea Sell	417/40	25,75
13	17-24	Nola Parks	417/35	26.50
14	17-25	Nola Parks & Jonathan Sivert	417/35	25.00
15	17-33	Debra Lynn Brown	332/480	26.00
16	17-44	Debra Lynn Brown	362/474	26.00
17	17-34	Debra Lynn Brown	332/480	20.00
18	17-46	George David Sell	351/473	4.00
19	17-43	George David Sell, et al	206/184	124.5
20	17-45	George D. Sell, et al	W53/228	20.20
21	17-35	Alfred Raymond Furbee, Sr. & Olive Gay Brown	333/638	60.00
22	20-2	George David Sell	351/473	10.00
23	17-30	Alfred Raymond Furbee, Sr. & Olive Gay Brown	333/638	11.70
24	20-9	George David Sell	351/473	48.00
25	20-4	Nola J. Parks & Gloria C. Higgins	A100/689	25.50
26	20-5	Debbie Brown, et al	A96/679	4.00
27	20-13	Dallison Lumber Inc.	440/243	208.0

FILE NO: 278-34-G-17
DRAWING NO: Ryland 3H As-Drilled
SCALE: 1" = 1500'
MINIMUM DEGREE OF ACCURACY:
Submeter
PROVEN SOURCE OF ELEVATION:
CORS. Monroe County, OH

## STATE OF WEST VIRGINIA DEPARTMENT OF ENVIRONMENTAL PROTECTION OIL AND GAS DIVISION

DATE: \_\_December 6 \_\_ 20 22

OPERATOR'S WELL NO. \_\_Ryland Unit 3H

API WELL NO

47 - 103 - 03458 STATE COUNTY PERMIT

COKS, Mollide County, Ori		STATE COUNTY PERMIT
WELL TYPE: □ OIL ☒ GAS (IF GAS) PRODUCTI	☐ LIQUID INJECTION ☐ WASTE DISP ON: ☐ STORAGE ☐ DEEP ☒ SHA	POSAL ALLOW
ROYALTY OWNER: Pamela Ann Palmer Emc PROPOSED WORK: DRILL CO DESCRIPTION	NVERT □ DRILL DEEPER □ FRACTURE  ☑ OTHER PHYSICAL CHANGE IN WELL	QUADRANGLE: Pine Grove  COUNTY: Wetzel 03/17/2023  ACREAGE: 47.5 47.5; 537.11875; 50.5; 26; 26; 24; 26.65; 72; 89; 35.5  OR STIMULATE PLUG OFF OLD FORMATION (SPECIFY) As-Drilled 7,033° TVD N: Marcellus Shale ESTIMATED DEPTH: 17,325° MD
WELL OPERATOR: Antero Resources Co	rporation DESIGNATED AGEN	NT; Kevin Ellis
ADDRESS: 1615 Wynkoop Street	ADDRESS:	535 White Oaks Blvd.
Denver, CO 80202		Bridgeport, WV 26330