

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

API 47-095-02558 County Tyler District Meade  
Quad Middlebourne 7.5' Pad Name Rush Fork Pad Field/Pool Name ----  
Farm name Joseph R. Rymer Jr. Well Number Robert Lee Unit 1H  
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 4363032m Easting 502625m  
Landing Point of Curve Northing 4363622.16m Easting 501798.53m  
Bottom Hole Northing 4367554m Easting 500379m

Elevation (ft) 986' 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

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Drilling Media Surface hole  Air  Mud  Fresh Water Intermediate hole  Air  Mud  Fresh Water  Brine  
Production hole  Air  Mud  Fresh Water  Brine

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Mud Type(s) and Additive(s)  
Air - Foam & 4% KCL

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Mud - Polymer

Date permit issued 11/9/2018 Date drilling commenced 2/1/2019 Date drilling ceased 6/17/2019  
Date completion activities began 9/29/2019 Date completion activities ceased 11/28/2019  
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 30, 81 Open mine(s) (Y/N) depths No  
Salt water depth(s) ft 1461, 1485, 1510 Void(s) encountered (Y/N) depths No  
Coal depth(s) ft None Identified Cavern(s) encountered (Y/N) depths No  
Is coal being mined in area (Y/N) No

Reviewed by:

05/11/2023

API 47- 095 - 02558 Farm name Joseph R. Rymer Jr. Well number Robert Lee Unit 1H

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"	106'	New	94#, H-40	N/A	Y
Surface	17-1/2"	13-3/8"	361'	New	54.5#, J-55	N/A	Y
Coal							
Intermediate 1	12-1/4"	9-5/8"	2646'	New	36#, J-55	N/A	Y
Intermediate 2							
Intermediate 3							
Production	8-3/4"/8-1/2"	5-1/2"	22916'	New	23#, HCP-110	N/A	Y
Tubing		2-3/8"	6687'		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	300 sx	15.6	1.18	241	0'	8 Hrs.
Surface	Class A	332 sx	15.6	1.20	635	0'	8 Hrs.
Coal							
Intermediate 1	Class A	905 sx	15.6	1.19	1082	0'	8 Hrs.
Intermediate 2							
Intermediate 3							
Production	Class H	792 sx (Lead) 4085 sx (Tail)	14.5 (Lead), 15.2(Tail)	1.4 (Lead), 1.6 (Tail)	3003	-500' into Intermediate Casing	8 Hrs.
Tubing							

Drillers TD (ft) 22910' MD, 6136' TVD (BHL), 6138' (Deepest Point Drilled) Loggers TD (ft) 22910' MD  
 Deepest formation penetrated Marcellus Plug back to (ft) N/A

Kick off depth (ft) 5600'

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

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<u>PRODUCING FORMATION(S)</u>	<u>DEPTHS</u>		
<u>Marcellus</u>	<u>6147' (TOP)</u>	<u>TVD</u>	<u>6732' (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 3000 psi Bottom Hole --- psi DURATION OF TEST --- hrs

OPEN FLOW Gas 10798 mcfpd Oil 279 bpd NGL --- bpd Water 165 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 Frontier Drilling LLC  
Address 562 Spring Run Road City Pennsboro State WV Zip 26415

Logging Company KLX Energy Services  
Address 6072 W Veterans Memorial Hwy City Bridgeport State WV Zip 26330

Cementing Company Schlumberger Oilfield Services  
Address 300 Schlumberger Dr City Sugarland State TX Zip 77478

Stimulating Company CalFrac Well Services  
Address 171 17th Street, Suite 1445 City Denver State CO Zip 80202

Please insert additional pages as applicable.

Completed by Carly Marvel Telephone 303-357-7373  
Signature Carly Marvel Title Permitting Agent Date 4/6/2023

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

05/11/2023

API 47-095-02558 Farm Name Joseph R. Rymer Jr., Well Number Robert Lee Unit 1H

**Exhibit 1**

Stage No.	Perforation Date	Perforated from MD ft.	Perforated to MD ft.	Number of Perforations	Formations
1	9/30/2019	22809	22765	60	Marcellus
2	10/1/2019	22727.7	22563.2	60	Marcellus
3	10/1/2019	22527.9	22363.4	60	Marcellus
4	10/2/2019	22328.1	22163.6	60	Marcellus
5	10/2/2019	22128.3	21963.8	60	Marcellus
6	10/3/2019	21928.5	21764	60	Marcellus
7	10/3/2019	21728.7	21564.2	60	Marcellus
8	10/4/2019	21528.9	21364.4	60	Marcellus
9	10/5/2019	21329.1	21164.6	60	Marcellus
10	10/5/2019	21129.3	20964.8	60	Marcellus
11	10/7/2019	20929.5	20765	60	Marcellus
12	10/7/2019	20729.7	20565.2	60	Marcellus
13	10/8/2019	20529.9	20365.4	60	Marcellus
14	10/9/2019	20330.1	20165.6	60	Marcellus
15	10/9/2019	20130.3	19965.8	60	Marcellus
16	10/9/2019	19930.5	19766	60	Marcellus
17	10/10/2019	19730.7	19566.2	60	Marcellus
18	10/10/2019	19530.9	19366.4	60	Marcellus
19	10/11/2019	19331.1	19166.6	60	Marcellus
20	10/12/2019	19131.3	18966.8	60	Marcellus
21	10/12/2019	18931.5	18767	60	Marcellus
22	10/13/2019	18731.7	18567.2	60	Marcellus
23	10/13/2019	18531.9	18367.4	60	Marcellus
24	10/13/2019	18332.1	18167.6	60	Marcellus
25	10/14/2019	18132.3	17967.8	60	Marcellus
26	10/15/2019	17932.5	17768	60	Marcellus
27	10/16/2019	17732.7	17568.2	60	Marcellus
28	10/16/2019	17532.9	17368.4	60	Marcellus
29	10/16/2019	17333.1	17168.6	60	Marcellus
30	10/17/2019	17133.3	16968.8	60	Marcellus
31	10/17/2019	16933.5	16769	60	Marcellus
32	10/18/2019	16733.7	16569.2	60	Marcellus
33	10/19/2019	16533.9	16369.4	60	Marcellus
34	10/19/2019	16334.1	16169.6	60	Marcellus
35	10/20/2019	16134.3	15969.8	60	Marcellus
36	10/20/2019	15934.5	15770	60	Marcellus
37	10/20/2019	15734.7	15570.2	60	Marcellus
38	10/21/2019	15534.9	15370.4	60	Marcellus
39	10/21/2019	15335.1	15170.6	60	Marcellus
40	10/22/2019	15135.3	14970.8	60	Marcellus
41	10/22/2019	14935.5	14771	60	Marcellus
42	10/23/2019	14735.7	14571.2	60	Marcellus
43	10/23/2019	14535.9	14371.4	60	Marcellus
44	10/24/2019	14336.1	14171.6	60	Marcellus
45	10/24/2019	14136.3	13971.8	60	Marcellus
46	10/25/2019	13936.5	13772	60	Marcellus
47	10/25/2019	13736.7	13572.2	60	Marcellus
48	10/26/2019	13536.9	13372.4	60	Marcellus
49	10/27/2019	13337.1	13172.6	60	Marcellus
50	10/27/2019	13137.3	12972.8	60	Marcellus
51	10/27/2019	12937.5	12773	60	Marcellus
52	10/28/2019	12737.7	12573.2	60	Marcellus
53	10/28/2019	12537.9	12373.4	60	Marcellus
54	10/29/2019	12338.1	12173.6	60	Marcellus
55	10/29/2019	12138.3	11973.8	60	Marcellus
56	10/30/2019	11938.5	11774	60	Marcellus
57	10/30/2019	11738.7	11574.2	60	Marcellus
58	10/31/2019	11538.9	11374.4	60	Marcellus
59	10/31/2019	11339.1	11174.6	60	Marcellus
60	11/1/2019	11139.3	10974.8	60	Marcellus
61	11/1/2019	10939.5	10775	60	Marcellus
62	11/2/2019	10739.7	10575.2	60	Marcellus
63	11/2/2019	10539.9	10375.4	60	Marcellus
64	11/2/2019	10340.1	10175.6	60	Marcellus
65	11/3/2019	10140.3	9975.8	60	Marcellus
66	11/3/2019	9940.5	9776	60	Marcellus
67	11/3/2019	9740.7	9576.2	60	Marcellus
68	11/4/2019	9540.9	9376.4	60	Marcellus
69	11/4/2019	9341.1	9176.6	60	Marcellus
70	11/5/2019	9141.3	8976.8	60	Marcellus
71	11/5/2019	8941.5	8777	60	Marcellus
72	11/5/2019	8741.7	8577.2	60	Marcellus
73	11/6/2019	8541.9	8377.4	60	Marcellus
74	11/6/2019	8342.1	8177.6	60	Marcellus
75	11/7/2019	8142.3	7977.8	60	Marcellus
76	11/7/2019	7942.5	7778	60	Marcellus
77	11/7/2019	7742.7	7578.2	60	Marcellus
78	11/8/2019	7542.9	7378.4	60	Marcellus
79	11/8/2019	7343.1	7178.6	60	Marcellus
80	11/8/2019	7143.3	6978.8	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	9/30/2019	83.94788	10050.09	6240	3516	80880	4706.806	N/A
2	10/1/2019	84.8188	10145.3	5169	4578	122480	8990.206	N/A
3	10/1/2019	82.2	9761	5227	3404	120860	8958.28	N/A
4	10/2/2019	80.62585	9814.187	5257	3350	120700	8975.4	N/A
5	10/2/2019	80.25453	9895.553	5183	3287	122240	9212.203	N/A
6	10/3/2019	78.21907	9569.366	5415	3818	123080	10750.74	N/A
7	10/3/2019	81.14333	10430.2	4985	3751	119140	8916.415	N/A
8	10/4/2019	80.81448	9834.41	5069	3818	120940	9068.785	N/A
9	10/5/2019	77.80004	10469.26	5115	3240	123120	9073.675	N/A
10	10/5/2019	74.35053	9726.787	5431	4921	122220	10623.07	N/A
11	10/7/2019	76.42464	9636.42	5428	4515	123360	10769.31	N/A
12	10/7/2019	71.36077	9574.227	5413	3092	119660	9253.965	N/A
13	10/8/2019	77.70695	10028.13	5281	3734	117560	8825.46	N/A
14	10/9/2019	81.16094	10245.98	5202	3674	120800	8841.82	N/A
15	10/9/2019	83.92572	10390.11	5062	3017	122540	8998.17	N/A
16	10/9/2019	82.07692	10207.54	5223	3305	122560	8963.19	N/A
17	10/10/2019	80.51875	9165.375	5174	4489	122980	11972.19	N/A
18	10/10/2019	87.37692	9780.692	5301	3228	123320	9042.19	N/A
19	10/11/2019	79.40689	10213.54	5416	3398	122200	8917.09	N/A
20	10/12/2019	79.73077	10120.77	5756	3376	122660	8821.19	N/A
21	10/12/2019	81.42395	9576.673	5662	4117	122140	10898.78	N/A
22	10/13/2019	85.68462	9141.846	5821	2785	121280	8869.19	N/A
23	10/13/2019	86.85803	9942.564	5657	3165	122260	8883.18	N/A
24	10/13/2019	85.48462	8866.769	5724	3644	123700	8844.19	N/A
25	10/14/2019	85.77801	9227.54	5654	3416	124020	8885.62	N/A
26	10/15/2019	82.66154	8731.462	5832	3295	119760	8880.19	N/A
27	10/16/2019	86.9	9672	5953	3495	122000	8903.5	N/A
28	10/16/2019	87.2	9085	5773	4178	121800	8729.21	N/A
29	10/16/2019	90.05593	9508.068	5305	3514	122000	8895.17	N/A
30	10/17/2019	88.3	9431	6095	3745	121400	8981.79	N/A
31	10/17/2019	60.4	9654	6000	4851	118740	10810.68	N/A
32	10/18/2019	85.4	9928	5941	3821	120580	8848.98	N/A
33	10/18/2019	86.72096	9798.398	5039	3454	118420	8893.74	N/A
34	10/19/2019	88.86647	9650.891	4923	3391	118280	8746.85	N/A
35	10/20/2019	86.95466	9369.981	5834	3570	121940	8634.75	N/A
36	10/20/2019	86.84571	9185.652	6004	3403	123860	8718	N/A
37	10/20/2019	74.45957	8671.988	5641	4601	124900	12551.78	N/A
38	10/21/2019	89.75314	8803.314	5428	4325	122180	8609.74	N/A
39	10/21/2019	86.36754	8358.224	5718	4493	122600	8517.14	N/A
40	10/22/2019	88.99574	8673.4	5842	3699	123560	8577.94	N/A
41	10/22/2019	86.01017	8518.96	5748	3923	121720	8581.41	N/A
42	10/23/2019	85.56508	8391.197	6090	3650	122120	8592.19	N/A
43	10/23/2019	79.65715	8173.843	6066	3638	123900	8399.98	N/A
44	10/24/2019	84.49883	8400.403	5983	5168	122240	8595.73	N/A
45	10/24/2019	86.69969	8683.22	5967	3815	123260	8661.59	N/A
46	10/25/2019	86.68324	8359.325	6019	3725	121240	8736.13	N/A
47	10/25/2019	77.38164	7728.215	6266	4833	122720	11538.12	N/A
48	10/26/2019	83.53351	7847.046	6069	3556	121880	8564.15	N/A
49	10/27/2019	84.59752	8487.775	5761	3521	119140	8684.31	N/A
50	10/27/2019	83.98115	8426.85	6088	3780	117600	8819.75	N/A
51	10/27/2019	84.20656	8771.846	5978	4024	122480	8612.02	N/A
52	10/28/2019	83.13922	7883.963	5567	3786	122400	8606.51	N/A
53	10/28/2019	84.6912	7926.332	5587	3919	121500	8548.43	N/A
54	10/29/2019	85.95054	8135.39	5941	3674	123800	8571.58	N/A
55	10/29/2019	85.66292	7685.322	5807	3729	119260	8416.65	N/A
56	10/30/2019	84.28222	7430.745	5742	3423	120180	8537.4	N/A
57	10/30/2019	82.90831	7556.019	5494	4916	120080	8129.53	N/A
58	10/31/2019	86.38256	7748.811	5541	3707	123740	8741.68	N/A
59	10/31/2019	84.72673	7618.559	5598	3669	117220	10159.46	N/A
60	11/1/2019	86.00749	7499.635	5832	4254	118180	7760.97	N/A
61	11/1/2019	86.03747	7397.24	5342	3722	118120	8436.87	N/A
62	11/2/2019	82.56528	7808.622	5830	5133	122360	10287.56	N/A
63	11/2/2019	86.36639	7306.812	5957	3795	119740	8522.9	N/A
64	11/2/2019	84.16089	7064.738	5920	3864	120200	8486.8	N/A
65	11/3/2019	82.52739	6866.488	5704	3896	117540	8431.59	N/A
66	11/3/2019	86.72735	7109.077	5489	3928	120420	8351.61	N/A
67	11/3/2019	85.19487	6820.888	5453	3643	121340	8446.71	N/A
68	11/4/2019	84.23659	7031.507	5376	3744	120920	8685.7	N/A
69	11/4/2019	85.85466	6831.313	4956	3872	120480	8498.48	N/A
70	11/5/2019	85.30285	6816.927	4997	4058	118740	8582.24	N/A
71	11/5/2019	87.57781	7034.781	5258	4438	117020	8386.13	N/A
72	11/5/2019	85.90881	6585.416	5016	3790	118400	8486.54	N/A
73	11/6/2019	88.00401	6631.154	5501	3904	118140	8466.15	N/A
74	11/6/2019	85.84563	6772.085	5244	3570	122240	8428.56	N/A
75	11/7/2019	86.30446	7187.675	5293	3950	121560	8429.32	N/A
76	11/7/2019	86.31701	6475.873	4555	3583	122480	8325.76	N/A
77	11/7/2019	85.59985	6579.921	4993	3629	117600	8847.1	N/A
78	11/8/2019	86.21248	6394.249	5271	3720	122080	8260.5	N/A
79	11/8/2019	86.85363	6365.452	5677	3798	123640	8384.06	N/A
80	11/8/2019	87.32641	6174.031	5192	3841	121240	8317.64	N/A
	AVG=	82	9,746	5,479	3,666	3,971,400	303,004	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
Sandstone	0	215	0	215
Sandy Siltstone	215	385	215	385
Shaly Siltstone	385	585	385	585
Silty sandstone	585	625	585	625
Shaly Siltstone	625	745	625	745
Silty sandstone	745	805	745	805
Sandy Siltstone	805	865	805	865
Shaly Siltstone	865	985	865	985
Silty Shale	985	1,185	985	1,185
Silty Sandstone	1,185	1,475	1,185	1,475
Sandstone	1,475	1,645	1,475	1,645
Sandy Siltstone	1,645	1,745	1,645	1,745
Silty sandstone	1,745	1,789	1,745	1,850
Big Lime	1,804	2,645	1,825	2,742
Fifty Foot Sandstone	2,645	2,729	2,717	2,830
Gordon	2,729	3,063	2,805	3,188
Fifth Sandstone	3,063	3,367	3,163	3,515
Bayard	3,367	3,967	3,490	4,160
Speechley	3,967	4,281	4,135	4,498
Balltown	4,281	4,428	4,473	4,655
Bradford	4,428	4,666	4,630	4,909
Benson	4,666	4,833	4,884	5,087
Alexander	4,833	6,053	5,062	6,480
Sycamore	5,929	6,028	6,299	6,455
Middlesex	6,028	6,122	6,455	6,658
Burkett	6,122	6,143	6,658	6,720
Tully	6,143	6,147	6,720	6,732
Marcellus	6,147	NA	6,732	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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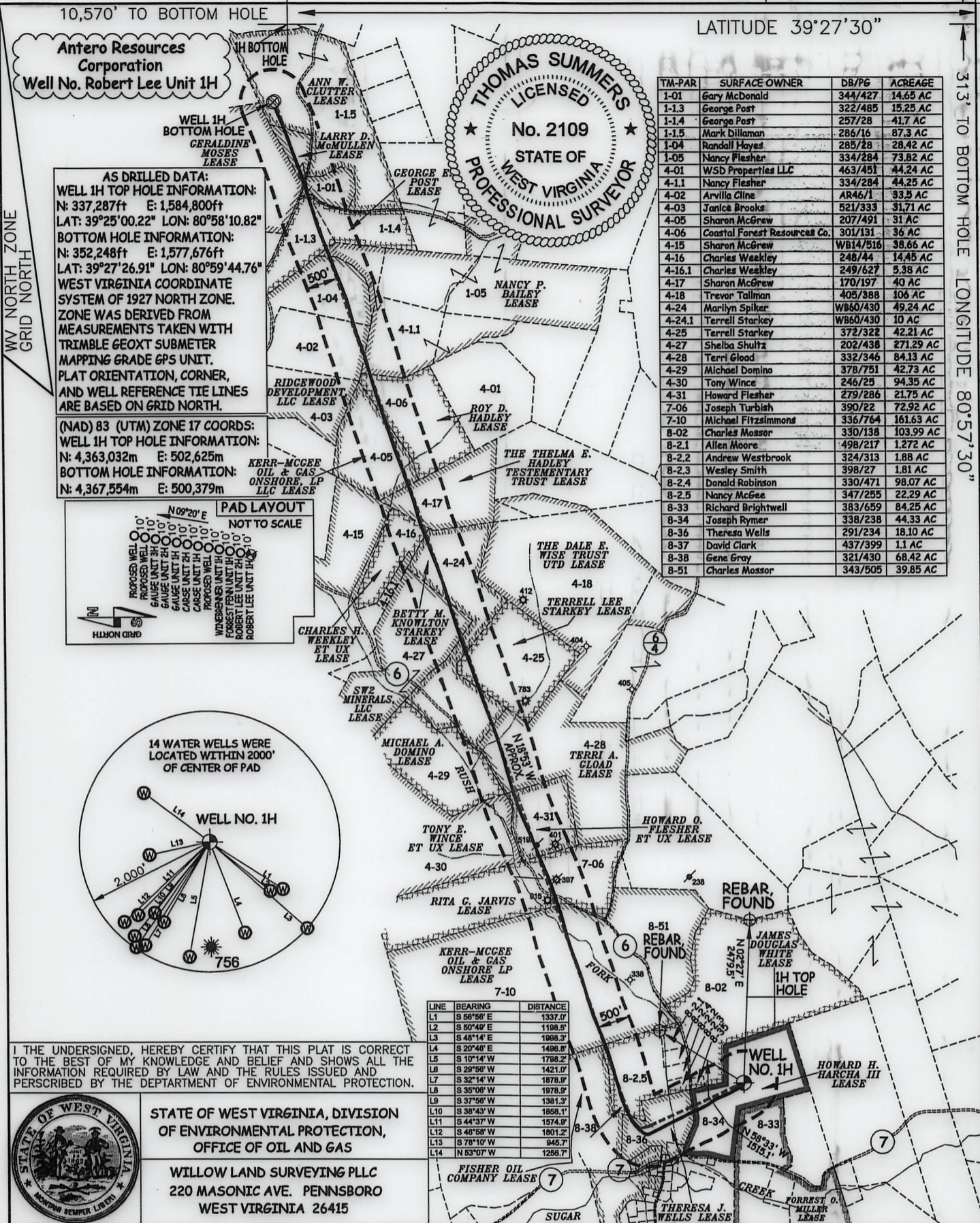
05/11/2023

LATITUDE 39°27'30" 3,204'

LATITUDE 39°27'30"

313' TO BOTTOM HOLE LONGITUDE 80°57'30"

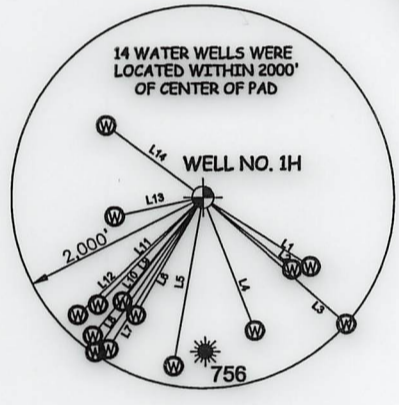
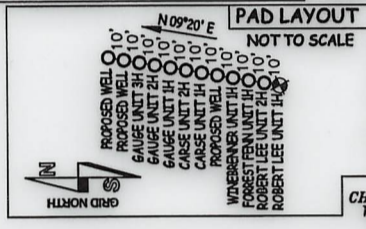
15,154' LONGITUDE 80°57'30"



TM-PAR	SURFACE OWNER	DB/P6	ACREAGE
1-01	Gary McDonald	344/427	14.65 AC
1-1.3	George Post	322/485	15.25 AC
1-1.4	George Post	257/28	41.7 AC
1-1.5	Mark Billaman	286/16	87.3 AC
1-04	Randall Hayes	285/28	28.42 AC
1-05	Nancy Flesher	334/284	73.82 AC
4-01	WSB Properties LLC	463/451	44.24 AC
4-1.1	Nancy Flesher	334/284	44.25 AC
4-02	Arvilla Cline	AR46/1	33.5 AC
4-03	Janice Brooks	521/333	31.71 AC
4-05	Sharon McGrew	207/491	31 AC
4-06	Coastal Forest Resources Co.	301/131	36 AC
4-15	Sharon McGrew	WB14/516	38.66 AC
4-16	Charles Weakley	248/44	14.85 AC
4-16.1	Charles Weakley	249/627	5.38 AC
4-17	Sharon McGrew	170/197	40 AC
4-18	Trevor Tallman	405/388	106 AC
4-24	Marilyn Spiker	WB60/430	49.24 AC
4-24.1	Terrell Starkey	WB60/430	10 AC
4-25	Terrell Starkey	372/322	42.21 AC
4-27	Shelba Shultz	202/438	271.29 AC
4-28	Terri Gload	332/346	84.13 AC
4-29	Michael Domino	378/751	42.73 AC
4-30	Tony Wince	246/25	94.35 AC
4-31	Howard Flesher	279/286	21.75 AC
7-06	Joseph Turbish	390/22	72.92 AC
7-10	Michael Fitzsimmons	336/764	161.63 AC
8-02	Charles Massor	330/138	103.99 AC
8-2.1	Allen Moore	498/217	1.272 AC
8-2.2	Andrew Westbrook	324/313	1.88 AC
8-2.3	Wesley Smith	398/27	1.81 AC
8-2.4	Donald Robinson	330/471	98.07 AC
8-2.5	Nancy McGee	347/255	22.29 AC
8-33	Richard Brightwell	383/659	84.25 AC
8-34	Joseph Rymer	338/238	44.33 AC
8-36	Theresa Wells	291/234	18.10 AC
8-37	David Clark	437/399	1.1 AC
8-38	Gene Grady	321/430	68.42 AC
8-51	Charles Massor	343/505	39.85 AC

AS DRILLED DATA:  
 WELL 1H TOP HOLE INFORMATION:  
 N: 337,287ft E: 1,584,800ft  
 LAT: 39°25'00.22" LON: 80°58'10.82"  
 BOTTOM HOLE INFORMATION:  
 N: 352,248ft E: 1,577,676ft  
 LAT: 39°27'26.91" LON: 80°59'44.76"  
 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 1H TOP HOLE INFORMATION:  
 N: 4,363,032m E: 502,625m  
 BOTTOM HOLE INFORMATION:  
 N: 4,367,554m E: 500,379m



LINE	BEARING	DISTANCE
L1	S 56°58' E	1337.0'
L2	S 50°49' E	1198.5'
L3	S 48°14' E	1998.3'
L4	S 20°46' E	1496.8'
L5	S 10°14' W	1798.2'
L6	S 28°56' W	1421.0'
L7	S 32°14' W	1878.9'
L8	S 35°06' W	1978.9'
L9	S 37°58' W	1381.3'
L10	S 38°43' W	1858.1'
L11	S 44°37' W	1574.9'
L12	S 48°58' W	1801.2'
L13	S 78°10' W	945.7'
L14	N 53°07' W	1256.7'

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 # 13-111WA  
 DRAWING # ROBERTLEE1HAD  
 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 03/09/20  
 OPERATOR'S WELL# ROBERT LEE UNIT #1H

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  
 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.

WELL TYPE: OIL \_\_\_ GAS X LIQUID INJECTION \_\_\_ WASTE DISPOSAL \_\_\_ 47 \_\_\_ 095 \_\_\_ 02558  
 (IF "GAS") PRODUCTION X STORAGE \_\_\_ DEEP \_\_\_ SHALLOW X STATE COUNTY PERMIT  
 LOCATION: ELEVATION 986' AS BUILT WATERSHED OUTLET MIDDLE ISLAND CREEK COUNTY TYLER  
 QUADRANGLE MIDDLEBOURNE 7.5' DISTRICT MEADE COUNTY TYLER DATE 05/11/2023  
 SURFACE OWNER JOSEPH R. RYMER JR. ACREAGE 44.33 ACRES +/-  
 OIL & GAS ROYALTY OWNER HOWARD H. HARCHA III; THERESA J. WELLS; JAMES DOUGLAS WHITE; KERR-MCGEE OIL & GAS ONSHORE LP; LEASE ACREAGE 44.33 AC +/-; 17.5 AC +/-; 134.53 AC +/-; 201.8 AC +/-; RITA G. JARVIS; HOWARD O. FLESHER ET UX; TERRI A. GLOAD; BETTY M. KNOWLTON STARKEY; TERRELL LEE STARKEY; SW2 MINERALS, LLC; CHARLES H. WEEKLEY ET UX; THE THELMA E. HADLEY TESTAMENTARY TRUST; 72.92 AC +/-; 21.75 AC +/-; 84.3 AC +/-; 49.24 AC +/-; 42.21 AC +/-; 166.56 AC +/-; 56.77 AC +/-; 84.04 AC +/-; KERR-MCGEE OIL & GAS ONSHORE LP; ROY D. HADLEY; NANCY P. BAILEY; RIDGEWOOD DEVELOPMENT, LLC; GEORGE E. POST; LARRY D. McMULLEN; GERALDINE MOSES; ANN W. CLITTER 31 AC +/-; 36 AC +/-; 127.67 AC +/-; 35.36 AC +/-; 216.7 AC +/-; 14.65 AC +/-; 62.5 AC +/-; 87.3 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 6,136' TVD 22,910' 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



LATITUDE 39°27'30" 3,204'

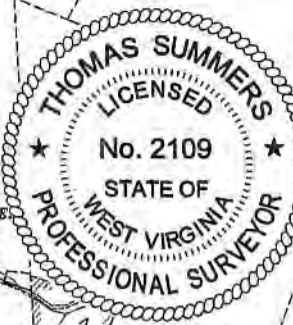
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15,154'

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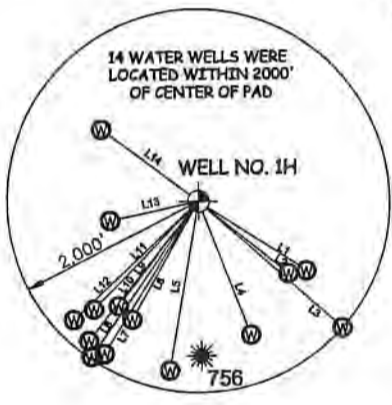
10,570' TO BOTTOM HOLE  
Antero Resources Corporation  
Well No. Robert Lee Unit 1H



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

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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 03/09/20  
OPERATOR'S WELL# ROBERT LEE UNIT #1H

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WELL TYPE: OIL \_\_\_ GAS X LIQUID INJECTION \_\_\_ WASTE DISPOSAL \_\_\_ 47 - 095 - 02558  
(IF "GAS") PRODUCTION X STORAGE \_\_\_ DEEP \_\_\_ SHALLOW X STATE COUNTY PERMIT  
LOCATION: ELEVATION 986' AS BUILT WATERSHED OUTLET MIDDLE ISLAND CREEK COUNTY MEADE COUNTY 05/11/2023  
QUADRANGLE MIDDLEBOURNE 7.5 DISTRICT MEADE COUNTY 05/11/2023  
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RITA G. JARVIS; HOWARD O. FLESHER ET UX; TERRI A. GLOAD; BETTY M. KNOWLTON STARKEY; TERRELL LEE STARKEY; SW2 MINERALS, LLC; CHARLES H. WEEKLEY ET UX; THE THELMA E. HADLEY TESTAMENTARY TRUST; 72.92 AC ±; 21.75 AC ±; 84.3 AC ±; 49.24 AC ±; 42.21 AC ±; 166.56 AC ±; 55.77 AC ±; 84.04 AC ±;  
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PROPOSED WORK: DRILL \_\_\_ CONVERT \_\_\_ DRILL DEEPER \_\_\_ OTHER \_\_\_ FRACTURE OR STIMULATE \_\_\_  
PLUG OFF OLD FORMATION \_\_\_ PERFORATE NEW FORMATION \_\_\_ OTHER PHYSICAL CHANGE IN WELL \_\_\_  
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TARGET FORMATION MARCELLUS ESTIMATED DEPTH 6,136' TVD 22,910' 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

# Hydraulic Fracturing Fluid Product Component Information Disclosure

Job Start Date:	9/30/2019
Job End Date:	11/8/2019
State:	West Virginia
County:	Tyler
API Number:	47-095-02558-00-00
Operator Name:	Antero Resources Corporation
Well Name and Number:	Robert Lee Unit 1H
Latitude:	39.41672780
Longitude:	-80.96967200
Datum:	NAD83
Federal Well:	NO
Indian Well:	NO
True Vertical Depth:	6,230
Total Base Water Volume (gal):	31,289,575
Total Base Non Water Volume:	0



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 WV Department of Environmental Protection

## 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
Water	Supplied by Operator	Base Fluid					
			Water	7732-18-5	100.00000	88.90410	
Calbreak 5501	CWS	Breaker					
				Listed Below			

CI-9100G	CWS	Corrosion Inhibitor					
				Listed Below			
CalGel 4000	CWS	Gel Slurry					
				Listed Below			
DAP-103	CWS	Iron Control					
				Listed Below			
DynaRate 6522	CWS	Friction Reducer					
				Listed Below			
Sand (Proppant)	CWS	Propping Agent					
				Listed Below			
SaniFrac 8844	CWS	Biocide					
				Listed Below			
Hydrochloric Acid	CWS	Clean Perforations					
				Listed Below			
Other Chemical (s)	Listed Above	See Trade Name (s) List					
				Listed Below			

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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	10.78254	
			Hydrochloric acid	7647-01-0	37.00000	0.09445	

			Calcite	471-34-1	1.00000	0.07493	
			Illite	12173-60-3	1.00000	0.03288	
			Distillates (petroleum), hydrotreated middle	64742-46-7	60.00000	0.01626	
			Guar gum	9000-30-0	60.00000	0.01626	
			Copolymer of 2-propenamamide	69418-26-4	30.00000	0.01552	
			Goethite	1310-14-1	0.10000	0.01078	
			Apatite	64476-38-6	0.10000	0.01078	
			Biotite	1302-27-8	0.10000	0.01078	
			Distillates (petroleum), hydrotreated light	64742-47-8	20.00000	0.01035	
			Polyethylene glycol mixture	25322-68-3	54.50000	0.00596	
			Ammonium chloride	12125-02-9	8.00000	0.00414	
			Ilmenite	98072-94-7	0.10000	0.00329	
			2,2-Dibromo-3-Nitrilopropionamide	10222-01-2	20.00000	0.00219	
			Quaternary ammonium compounds, bis (hydrogenated tallow alkyl)dimethyl, salts with bentonite	68953-58-2	5.00000	0.00135	
			Oleic Acid Diethanolamide	93-83-4	2.00000	0.00103	
			Ammonium Persulfate	7727-54-0	100.00000	0.00058	
			Sodium bromide	7647-15-6	4.00000	0.00044	
			Oxirane, 2-methyl-, polymer with oxirane, monodecyl ether	37251-67-5	1.50000	0.00041	
			Citric acid	77-92-9	60.00000	0.00040	
			Dibromoacetonitrile	3252-43-5	3.00000	0.00033	
			Vinylidene chloride-methyl acrylate copolymer	25038-72-6	20.00000	0.00012	
			Ethylene Glycol	107-21-1	40.00000	0.00005	
			Diethylene glycol, monomethyl ether	34590-94-8	20.00000	0.00003	

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			Tar bases, quinolone derivs, benzyl chloride- quatenized	72480-70-7	10.00000	0.00001	
			Cinnamaldehyde	104-55-2	10.00000	0.00001	
			Formic acid	64-18-6	10.00000	0.00001	
			Isopropyl alcohol	67-63-0	5.00000	0.00001	
			Ethoxylated Alcohols	68131-39-5	10.00000	0.00001	

\* 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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