

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

API 47-095-02704 County Tyler District Ellsworth RECEIVED Office of Oil and Gas
Quad Porter Falls 7.5' Pad Name Margery Pad Field/Pool Name ----- MAR 28 2023
Farm name Kayla Leek Well Number Lemon Unit 2H
Operator (as registered with the OOG) Antero Resources Corporation WV Department of Environmental Protection
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 4374203m Easting 514662m
Landing Point of Curve Northing 4374615.72m Easting 515526.89m
Bottom Hole Northing 4377883m Easting 514430m

Elevation (ft) 1042' 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 9/23/2020 Date drilling commenced 11/6/2020 Date drilling ceased 12/31/2020
Date completion activities began 2/3/2021 Date completion activities ceased 3/22/2021
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 102' Open mine(s) (Y/N) depths No
Salt water depth(s) ft 1998' 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:

API 47-095 - 02704 Farm name Kayla Leek Well number Lemon 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	24"	20"	106'	New	94#, H-40	N/A	Y
Surface	17-1/2"	13-3/8"	372'	New	54.5#, J-55	N/A	Y
Coal							
Intermediate 1	12-1/4"	9-5/8"	2869'	New	36#, J-55	N/A	Y
Intermediate 2							
Intermediate 3							
Production	8-3/4"/8-1/2"	5-1/2"	19445'	New	20#, P-110	N/A	Y
Tubing		2-3/8"	7744'		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	285 sx	15.6	1.18	60	0'	8 Hrs.
Surface	Class A	431 sx	15.6	1.20	92	0'	8 Hrs.
Coal							
Intermediate 1	Class A	994 sx	15.6	1.19	204	0'	8 Hrs.
Intermediate 2							
Intermediate 3							
Production	Class H	792 sx (Lead) 2928 sx (Tail)	13.5 (Lead), 15.2(Tail)	1.4 (Lead), 1.26 (Tail)	657	-500' into Intermediate Casing	8 Hrs.
Tubing							

Drillers TD (ft) 19464' MD, 6571' TVD (BHL), 6665' (Deepest Point Drilled) Loggers TD (ft) 19464' MD
 Deepest formation penetrated Marcellus Plug back to (ft) N/A
 Plug back procedure N/A

Kick off depth (ft) 6698'

Check all wireline logs run caliper density deviated/directional induction temperature sonic
 neutron resistivity gamma ray temperature sonic

Well cored Yes No Conventional Sidewall Were cuttings collected Yes No

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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

API 47- 095 - 02704 Farm name Kayla Leek Well number Lemon Unit 2H

<u>PRODUCING FORMATION(S)</u>	<u>DEPTHS</u>			
	<u>6612' (TOP)</u>	<u>TVD</u>	<u>7805' (TOP)</u>	<u>MD</u>
<u>Marcellus</u>				

Please insert additional pages as applicable.

GAS TEST Build up Drawdown Open Flow OIL TEST Flow Pump

SHUT-IN PRESSURE Surface 2800 psi Bottom Hole --- psi DURATION OF TEST --- hrs

OPEN FLOW Gas 1268 mcfpd Oil 50 bpd NGL -- bpd Water 36 bpd GAS MEASURED BY Estimated Orifice Pilot

LITHOLOGY/ FORMATION	TOP DEPTH IN FT	BOTTOM DEPTH IN FT	TOP DEPTH IN FT	BOTTOM DEPTH IN FT	DESCRIBE ROCK TYPE AND RECORD QUANTITY AND TYPE OF FLUID (FRESHWATER, BRINE, OIL, GAS, H ₂ S, ETC)
	NAME TVD	TVD	MD	MD	

***PLEASE SEE ATTACHED EXHIBIT 3**

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

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 3/27/2023

API 47-095-02704 Farm Name Kayla Leek Well Number Lemon Unit 2H

Exhibit 1

Stage No.	Perforation Date	Perforated from MD ft.	Perforated to MD ft.	Number of Perforations	Formations
1	2/3/2021	19340	19294	36	Marcellus
2	2/4/2021	19254.55848	19089.3509	36	Marcellus
3	2/4/2021	19053.90936	18888.7018	36	Marcellus
4	2/5/2021	18853.26023	18688.0526	36	Marcellus
5	2/6/2021	18652.61111	18487.4035	36	Marcellus
6	2/6/2021	18451.96199	18286.7544	36	Marcellus
7	2/7/2021	18251.31287	18086.1053	36	Marcellus
8	2/7/2021	18050.66374	17885.4561	36	Marcellus
9	2/7/2021	17850.01462	17684.807	36	Marcellus
10	2/8/2021	17649.3655	17484.1579	36	Marcellus
11	2/8/2021	17448.71637	17283.5088	36	Marcellus
12	2/9/2021	17248.06725	17082.8596	36	Marcellus
13	2/9/2021	17047.41813	16882.2105	36	Marcellus
14	2/10/2021	16846.76901	16681.5614	36	Marcellus
15	2/10/2021	16646.11988	16480.9123	36	Marcellus
16	2/11/2021	16445.47076	16280.2632	36	Marcellus
17	2/12/2021	16244.82164	16079.614	36	Marcellus
18	2/12/2021	16044.17251	15878.9649	36	Marcellus
19	2/12/2021	15843.52339	15678.3158	36	Marcellus
20	2/13/2021	15642.87427	15477.6667	36	Marcellus
21	2/14/2021	15442.22515	15277.0175	36	Marcellus
22	2/14/2021	15241.57602	15076.3684	36	Marcellus
23	2/15/2021	15040.9269	14875.7193	36	Marcellus
24	2/15/2021	14840.27778	14675.0702	36	Marcellus
25	2/17/2021	14639.62865	14474.4211	36	Marcellus
26	2/18/2021	14438.97953	14273.7719	36	Marcellus
27	2/19/2021	14238.33041	14073.1228	36	Marcellus
28	2/20/2021	14037.68129	13872.4737	36	Marcellus
29	2/20/2021	13837.03216	13671.8246	36	Marcellus
30	2/21/2021	13636.38304	13471.1754	36	Marcellus
31	2/21/2021	13435.73392	13270.5263	36	Marcellus
32	2/22/2021	13235.0848	13069.8772	36	Marcellus
33	2/22/2021	13034.43567	12869.2281	36	Marcellus
34	2/23/2021	12833.78655	12668.5789	36	Marcellus
35	2/23/2021	12633.13743	12467.9298	36	Marcellus
36	2/24/2021	12432.4883	12267.2807	36	Marcellus
37	2/24/2021	12231.83918	12066.6316	36	Marcellus
38	2/25/2021	12031.19006	11865.9825	36	Marcellus
39	2/25/2021	11830.54094	11665.3333	36	Marcellus
40	2/26/2021	11629.89181	11464.6842	36	Marcellus
41	2/26/2021	11429.24269	11264.0351	36	Marcellus
42	2/26/2021	11228.59357	11063.386	36	Marcellus
43	2/26/2021	11027.94444	10862.7368	36	Marcellus
44	2/27/2021	10827.29532	10662.0877	36	Marcellus
45	2/27/2021	10626.6462	10461.4386	36	Marcellus
46	2/27/2021	10425.99708	10260.7895	36	Marcellus
47	2/27/2021	10225.34795	10060.1404	36	Marcellus
48	2/28/2021	10024.69883	9859.49123	36	Marcellus
49	2/28/2021	9824.049708	9658.84211	36	Marcellus
50	2/28/2021	9623.400585	9458.19298	36	Marcellus
51	2/28/2021	9422.751462	9257.54386	36	Marcellus
52	3/1/2021	9222.102339	9056.89474	36	Marcellus
53	3/1/2021	9021.453216	8856.24561	36	Marcellus
54	3/1/2021	8820.804094	8655.59649	36	Marcellus
55	3/2/2021	8620.154971	8454.94737	36	Marcellus
56	3/2/2021	8419.505848	8254.29825	36	Marcellus
57	3/3/2021	8218.856725	8053.64912	36	Marcellus
58	3/3/2021	8018.207602	7853	36	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	2/3/2021	76.86	8121	8325	2846	179847	218310	N/A
2	2/4/2021	78.68	8338	6370	4223.07	409361	310342	N/A
3	2/4/2021	77.9	8428	6166	3971	406180	312715	N/A
4	2/5/2021	79.43	8298	5919	3977	405955	320284	N/A
5	2/6/2021	81.09	8363	6124	4251	408710	310215	N/A
6	2/6/2021	80.92	8362	6022	3957	405960	306056	N/A
7	2/7/2021	78.33	8102	6050	3821	414900	308540	N/A
8	2/7/2021	78.02	8137	5822	4088	412360	305220	N/A
9	2/7/2021	79.49	8173	6046	4111	406830	311254	N/A
10	2/8/2021	80.29	8238	5794	4092	413290	305678	N/A
11	2/8/2021	81.14	8328	5978	4478	405900	305095	N/A
12	2/9/2021	80.93	8339	5317	4189	413820	308115	N/A
13	2/9/2021	79.95	8225	5630	4230.1	408001	303038	N/A
14	2/10/2021	79.69	8232	5225	4375.44	405576	302005	N/A
15	2/10/2021	81.75	8408	5678	4438	404620	294734	N/A
16	2/11/2021	82.91	8221	6015	4507.13	407364	306192	N/A
17	2/12/2021	68.68	7338	5389	4217	408630	297183	N/A
18	2/12/2021	79.14	8021	3638	4073.99	405925	304173	N/A
19	2/12/2021	73.69	7402	5646	4246	409850	304469	N/A
20	2/13/2021	79.98	7926	3218	4183.32	404487	297114	N/A
21	2/14/2021	80.59	7910	5290	4392.68	391020	299056	N/A
22	2/14/2021	76.3	7639	5345	4279	410135	299481	N/A
23	2/15/2021	82	7962	3438	4640.06	406061	302663	N/A
24	2/15/2021	82.15	8010	5617	4384	410350	300324	N/A
25	2/17/2021	82.52	8038	8217	4098	405837	299877	N/A
26	2/18/2021	83.16	8075	8841	4270	717666	303759	N/A
27	2/19/2021	81.41	7736	3077	4386.91	406149	303784	N/A
28	2/20/2021	84.2	8099	7256	3771	406570	297294	N/A
29	2/20/2021	82.4	8073	5478	4361.63	406016	297834	N/A
30	2/21/2021	84.24	8045	8425	3579	419377	298454	N/A
31	2/21/2021	82.12	7630	5448	4371.2	405862	296982	N/A
32	2/22/2021	82.47	7580	7837	4374	406538	294399	N/A
33	2/22/2021	80.63	7565	5051	4189.46	406600	292638	N/A
34	2/23/2021	83.92	7835	5767	4226	405940	294289	N/A
35	2/23/2021	81.48	7752	5967	4057	402770	301021	N/A
36	2/24/2021	80.72	7668	5798	4151	412338	300574	N/A
37	2/24/2021	83.28	7694	6056	4053	411270	298750	N/A
38	2/25/2021	84.68	7646	4431	4027	409110	295057	N/A
39	2/25/2021	84.27	7446	6603	4182	585200	294530	N/A
40	2/26/2021	84.47	7500	6156	3841	408410	295928	N/A
41	2/26/2021	84.41	7485	6641	4085	411160	297101	N/A
42	2/26/2021	84.29	7383	6271	4114.95	412940	297976	N/A
43	2/26/2021	84.65	7292	5967	3754	408680	292877	N/A
44	2/27/2021	82.7	7159	6007	4122	407020	381970	N/A
45	2/27/2021	84.54	7360	6001	3967	406290	292457	N/A
46	2/27/2021	84.43	7215	5527	4114	406890	290532	N/A
47	2/27/2021	84.61	7282	5343	3776	406910	286527	N/A
48	2/28/2021	85.11	7056	5958	3834	407680	295674	N/A
49	2/28/2021	84.1	7153	5903	3989	406250	294057	N/A
50	2/28/2021	81.49	7065	5779	3896	399730	281246	N/A
51	2/28/2021	75.7	6868	5360	4595	405420	431766	N/A
52	3/1/2021	83.94	7113	5136	4197	407410	294603	N/A
53	3/1/2021	81	7350	5296	4141	407000	350940	N/A
54	3/1/2021	84.54	7125	5098	4402	404840	292149	N/A
55	3/2/2021	74.79	6759	5359	3897	414255	289034	N/A
56	3/2/2021	83.72	7092	5155	4007.19	408490	351454	N/A
57	3/3/2021	81.18	6895	5473	3976.98	406145	412748	N/A
58	3/3/2021	77.6	6413	6049	3693	448669	328924	N/A
	AVG=	81	7,706	5,807	4,112	23,946,564	17,759,461	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	134	74	134
Shaley Siltstone	134	194	134	194
Shaley Sandstone	194	344	194	344
Shaley Siltstone	344	734	344	734
Sandy Siltstone	734	854	734	854
Shaley Siltstone, Tr Limestone	854	1,334	854	1,334
Shaley Sandstone	1,334	1,454	1,334	1,454
Sandstone, Tr Shale	1,454	1,634	1,454	1,634
Silty Shale	1,634	1,784	1,634	1,784
Shaley Siltstone	1,784	1,844	1,784	1,844
Sandy Shale	1,844	1,874	1,844	1,874
Shale, Tr Limestone	1,874	1,904	1,874	1,904
Shaley Limestone	1,904	1,873	1,904	1,998
Big Lime	1,899	2,601	2,024	2,863
Fifty Foot Sandstone	2,601	2,751	2,863	3,039
Gordon	2,751	3,049	3,039	3,392
Fifth Sandstone	3,049	3,118	3,392	3,477
Bayard	3,118	3,858	3,477	4,388
Speechley	3,858	4,183	4,388	4,757
Balltown	4,183	4,559	4,757	5,179
Bradford	4,559	5,010	5,179	5,686
Benson	5,010	5,246	5,686	5,951
Alexander	5,246	6,457	5,951	7,392
Sycamore	6,323	6,431	7,199	7,366
Middlesex	6,431	6,530	7,366	7,569
Burkett	6,530	6,556	7,569	7,633
Tully	6,556	6,612	7,633	7,805
Marcellus	6,612	NA	7,805	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"

10,704'

LATITUDE 39°35'00"

11,437' TO BOTTOM HOLE

Antero Resources Corporation Well No. Lemon Unit 2H

LINE	BEARING	DISTANCE
L1	N 72°40' W	1638.0'
L2	N 64°54' W	1582.1'
L3	N 61°22' W	1537.8'
L4	N 34°54' W	1512.5'
L5	N 27°19' W	1636.7'
L6	N 21°11' W	1650.6'
L7	N 06°24' W	1392.9'
L8	N 05°00' W	1521.3'
L9	N 00°15' W	1911.8'
L10	N 03°26' E	1913.5'
L11	N 25°08' E	1338.5'
L12	N 49°41' E	1592.6'

NOTES:
 WELL 2H TOP HOLE INFORMATION:
 N: 373,284ft E: 1,624,909ft
 LAT: 39°31'02.15" LON: 80°49'46.58"
 BOTTOM HOLE INFORMATION:
 N: 385,374ft E: 1,624,349ft
 LAT: 39°33'01.54" LON: 80°49'56.01"
 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.

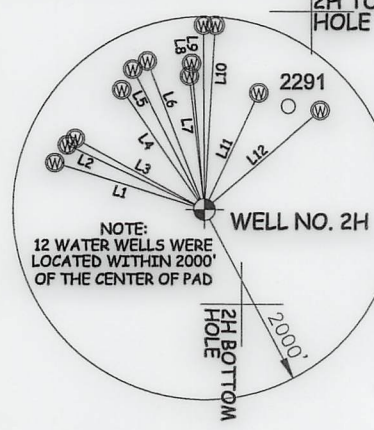
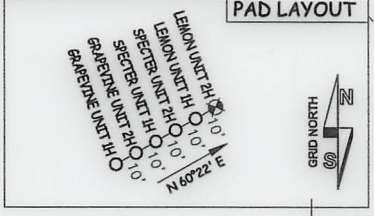
(NAD) 83 (UTM) ZONE 17 COORDS:
 WELL 2H TOP HOLE INFORMATION:
 N: 4,374,203m E: 514,662m
 BOTTOM HOLE INFORMATION:
 N: 4,377,883m E: 514,430m

WV NORTH ZONE GRID NORTH

1,985' TO BOTTOM HOLE

LONGITUDE 80°47'30"

LONGITUDE 80°47'30"



A	JERRY R. BROWN	14.5 ACRES±
C	STAR FURNITURE CO. OF WEST UNION INC.	80.5 ACRES±
D	LINDA K. LOEHR	82 ACRES±
E	BOUNTY MINERALS, LLC	38.5 ACRES±
G	RYAN GREENLEE ET UX	27.49 ACRES±
H	RICHARD MOORE	111.52 ACRES±
I	BOUNTY MINERALS, LLC	28.47 ACRES±
J	CLARENCE DUANE CLARK ET UX	25 ACRES±
K	BRC APPALACHIAN MINERALS I LLC	39.29 ACRES±
L	RALPH D. THACKER	35 ACRES±
M	JUDITH A. ASH	59.69 ACRES±
N	HERITAGE RESOURCES-MARCELLUS MINERALS, LLC	39.41 ACRES±
O	GARY A. SOLE	92.5 ACRES±
P	GARY A. SOLE	60 ACRES±
Q	GARY A. SOLE	45.34 ACRES±
R	RIDGETOP CAPITAL IV, LP	43.5 ACRES±
S	NILE DEAN HARRIS	53.75 ACRES±
T	RIDGETOP CAPITAL LP	69.06 ACRES±
U	BRC APPALACHIAN MINERALS I LLC	58.56 ACRES±
V	RIDGETOP CAPITAL IV, LP	16.5 ACRES±
W	ANTERO RESOURCES CORP.	40 ACRES±
X	DOUGLAS SCOTT FUNK SR.	11.5 ACRES±
Y	BRC APPALACHIAN MINERALS I LLC	61.73 ACRES±

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

NOTE
 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.

- A - LEE ROY HOWELL D.B. 170409 TM 11-41 1.87 AC
- B - ROBERT D. MILLER D.B. 300601 TM 11-42 2.707 AC
- C - LEE ROY HOWELL D.B. 294907 TM 11-42 0.518 AC
- D - ROBERT D. MILLER D.B. 670832 TM 11-40 3.244 AC
- E - JOHN E. GRUBBS D.B. 32842 TM 11-40 1.008 AC
- F - RONALD R. JONES D.B. 402204 TM 11-44 4.26 AC
- G - CHARLES R. FERRELL D.B. 210823 TM 11-44 1.9 AC
- H - RICHARD J. FERRELL D.B. 240826 TM 11-44 1.520 AC
- I - CHARLES R. FERRELL D.B. 341726 TM 11-44 1.998 AC
- J - RONALD R. JONES D.B. 422804 TM 11-46 0.6 AC
- K - SARAH E. PITTMAN D.B. 214909 TM 11-45 2.4 AC
- L - RICHARD J. FERRELL D.B. 421878 TM 11-40 1.115 AC

JOB # 20-008WA
 DRAWING # LEMON2HAD
 SCALE 1" = 2000'
 MINIMUM DEGREE OF ACCURACY SUBMETER
 PROVEN SOURCE OF ELEV. SUBMETER MAPPING GRADE GPS

LEGEND

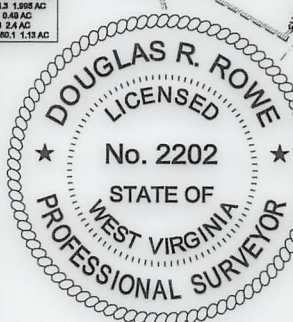
- Surface Owner Boundary Lines +/-
- Interior Surface Tracts +/-
- Proposed Well Path
- As Drilled Well Path

DOUGLAS R. ROWE P.S. 2202

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

DATE 06/09/21

OPERATOR'S WELL# LEMON UNIT #2H



- 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.
 - TOP HOLE DATA SHOWN HEREON WAS PROVIDED BY ANTERO RESOURCES CORPORATION.
 - AS DRILLED DATA WAS PROVIDED BY ANTERO RESOURCES CORPORATION.
 - 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.
 - 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 02704
 (IF "GAS") PRODUCTION X STORAGE DEEP SHALLOW X STATE COUNTY PERMIT
 LOCATION: ELEVATION 1,042' AS BUILT WATERSHED OUTLET MIDDLE ISLAND CREEK

QUADRANGLE PORTER FALLS 7.5' DISTRICT ELLSWORTH COUNTY TYLER

SURFACE OWNER KAYLA LEEK ACREAGE 69.06 ACRES +/-

OIL & GAS ROYALTY OWNER RIDGETOP CAPITAL LP; BRC APPALACHIAN MINERALS I LLC LEASE ACREAGE 69.06 AC.±; 58.56 AC.±;

RIDGETOP CAPITAL IV LP; RIDGETOP CAPITAL LP; DOUGLAS SCOTT FUNK SR.; ANTERO RESOURCES CORP.; NILE DEAN HARRIS; 43.5 AC.±; 16.5 AC.±; 11.5 AC.±; 40 AC.±; 53.75 AC.±;

GARY A. SOLE; GARY A. SOLE; JUDITH A. ASH; BRC APPALACHIAN MINERALS I LLC; RALPH D. THACKER; CLARENCE DUANE 45.34 AC.±; 60 AC.±; 59.69 AC.±; 39.29 AC.±; 35 AC.±;

CLARK ET UX; RICHARD MOORE; RYAN GREENLEE ET UX; LINDA K. LOEHR; STAR FURNITURE CO. OF WEST UNION INC.; JERRY R. BROWN 25 AC.±; 111.52 AC.±; 27.49 AC.±; 82 AC.±; 80.5 AC.±; 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 6,571' TVD 19,464' MD

WELL OPERATOR ANTERO RESOURCES CORP. DESIGNATED AGENT DIANNA STAMPER - CT CORPORATION SYSTEM

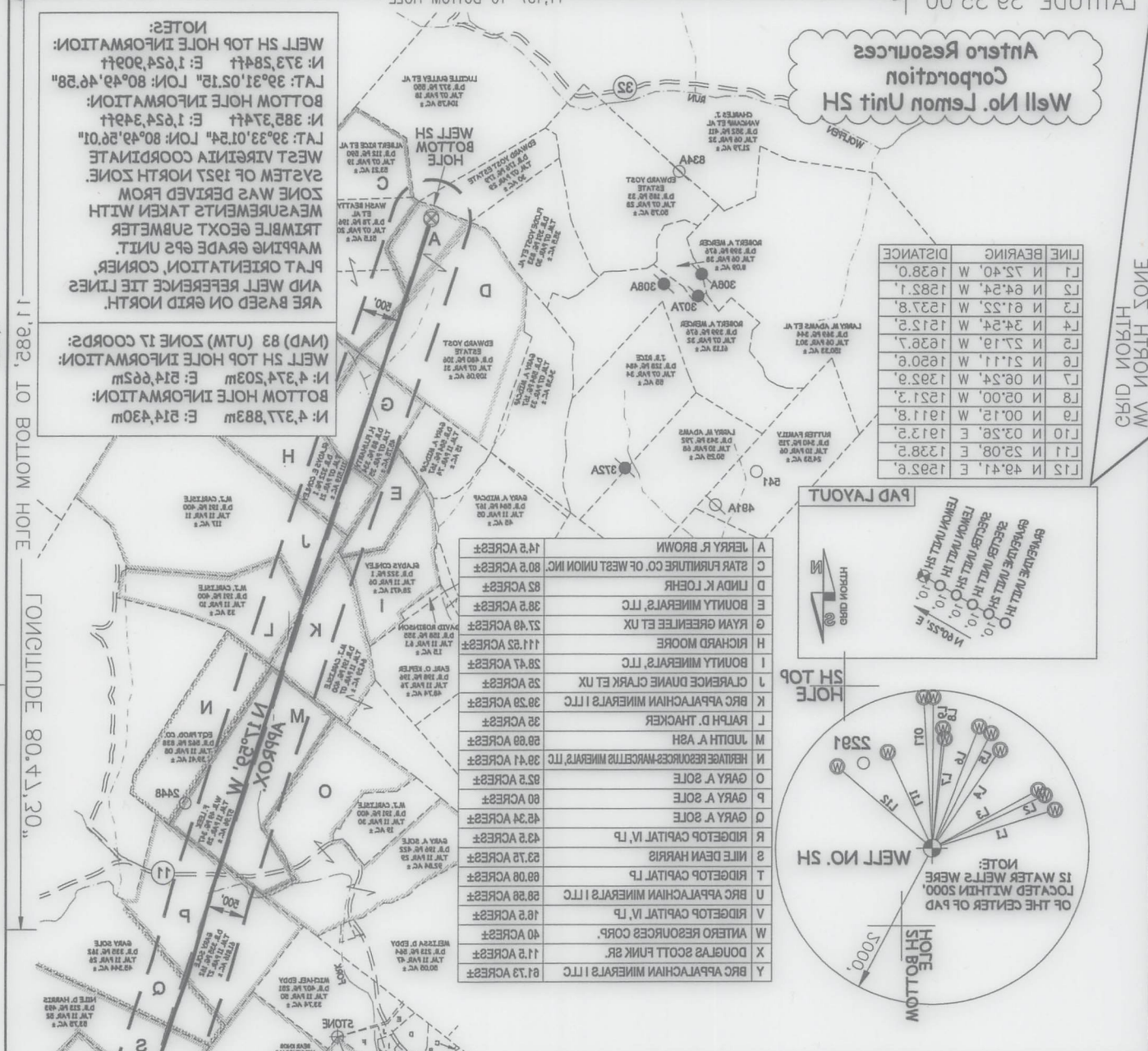
ADDRESS 1615 WYNKOOP ST. ADDRESS 5400 D BIG TYLER ROAD

FORM WW-6 DENVER, CO 80202 CHARLESTON, WV 25313

COUNTY NAME

PERMIT

LATITUDE 39.25'00" 11'43", TO BOTTOM HOLE
 LATITUDE 39.25'30" 10'704"



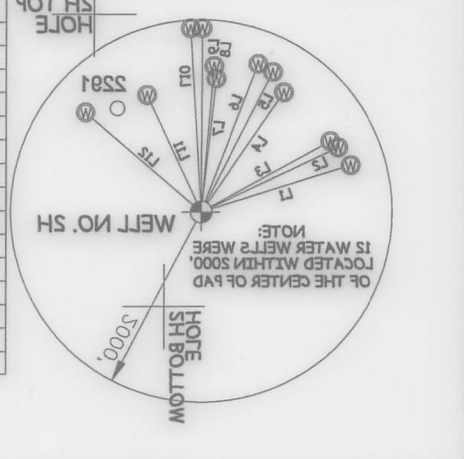
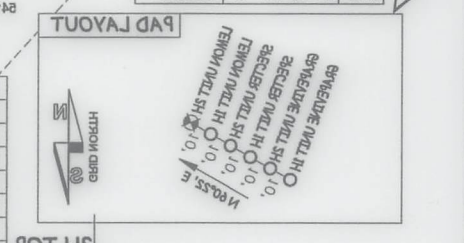
NOTES:
 WELL 2H TOP HOLE INFORMATION:
 N: 373.5844ft E: 1.624.3094ft
 LAT: 39°31'05.12" LON: 80°49'46.28"
 BOTTOM HOLE INFORMATION:
 N: 382.3747ft E: 1.624.3497ft
 LAT: 39°33'01.54" LON: 80°49'56.01"
 SYSTEM OF 1927 NORTH ZONE
 ZONE WAS DERIVED FROM
 MEASUREMENTS TAKEN WITH
 TRIMBLE GEOTECH SUBMETER
 MAPPING GRADE GPS UNIT.
 PLAT ORIENTATION, CORNER,
 AND WELL REFERENCE THE LINES
 ARE BASED ON GRID NORTH.

(NAD) 83 (UTM) ZONE 17 COORDS:
 WELL 2H TOP HOLE INFORMATION:
 N: 4.374.2030m E: 514.4452m
 BOTTOM HOLE INFORMATION:
 N: 4.377.8830m E: 514.4300m

1. NO OCCUPIED DWELLINGS OR BUILDINGS
 TWO THOUSAND FIVE HUNDRED (2500)
 SQUARE FEET OR LARGER OR HOUSE OR
 SHEDDING DAIRY CATTLE OR POULTRY.
 HUSBANDRY ARE LOCATED WITHIN SIX
 HUNDRED TWENTY-FIVE (625) FEET OF THE
 CENTER OF THE WELL.
 2. TOP HOLE DATA SHOWN HEREON WAS
 PROVIDED BY ANTERO RESOURCES
 CORPORATION.
 3. AS DRILLED DATA WAS PROVIDED BY
 ANTERO RESOURCES CORPORATION.
 4. WELL 2H NOT DESCRIBED IN NOTES 1
 INFORMATION PROVIDED LISTED IN NOTES 1
 AND 3 ONLY. THE RELATIONSHIP TO THE DATA
 AND INFORMATION PROVIDED TO THE LEASE
 BOUNDARIES.
 5. WELL 2H BY NO MEANS RESPONSIBLE FOR ANY
 ERRORS OR INACCURACIES WITH THE DATA
 AND INFORMATION THAT HAS BEEN PROVIDED.

A	JERRY R. BROWN	14.5 ACRES±
C	STAR FURNITURE CO. OF WEST UNION INC.	80.5 ACRES±
D	LINDA K. LOEHR	85 ACRES±
E	BOUNTY MINERALS, L.L.C.	38.5 ACRES±
G	RYAN GREENLEE ET UX	27.49 ACRES±
H	RICHARD MOORE	111.82 ACRES±
I	BOUNTY MINERALS, L.L.C.	28.47 ACRES±
J	CLARENCE DUANE CLARK ET UX	25 ACRES±
K	BRC APALACHIAN MINERALS I, L.L.C.	28.25 ACRES±
L	RALPH D. THACKER	32 ACRES±
M	JUDITH A. ASH	69.89 ACRES±
N	HERITAGE RESOURCES-MARCELLUS MINERALS, L.L.C.	38.41 ACRES±
O	GARY A. SOLE	82.5 ACRES±
P	GARY A. SOLE	80 ACRES±
Q	GARY A. SOLE	43.24 ACRES±
R	RIDGETOP CAPITAL IV, LP	43.5 ACRES±
S	NILE DEAN HARRIS	63.75 ACRES±
T	RIDGETOP CAPITAL LP	88.08 ACRES±
U	BRC APALACHIAN MINERALS I, L.L.C.	88.88 ACRES±
V	RIDGETOP CAPITAL IV, LP	16.5 ACRES±
W	ANTERO RESOURCES CORP.	40 ACRES±
X	DOUGLAS SCOTT FUNK SR.	11.5 ACRES±
Y	BRC APALACHIAN MINERALS I, L.L.C.	81.73 ACRES±

LINE	BEARING	DISTANCE
L1	N 72°40' W	1638.0'
L2	N 64°24' W	1882.1'
L3	N 61°22' W	1237.8'
L4	N 34°24' W	1212.5'
L5	N 27°19' W	1638.7'
L6	N 21°11' W	1620.6'
L7	N 08°24' E	1302.9'
L8	N 08°00' W	1231.3'
L9	N 00°12' W	1911.8'
L10	N 03°28' E	1123.2'
L11	N 25°08' E	1382.5'
L12	N 49°41' E	1292.6'



NOTES:
 THE CENTER OF THE WELL OR
 TWENTY-FIVE (25) FEET OR
 WITHIN SIX HUNDRED
 HUSBANDRY ARE LOCATED
 CATTLE OR POULTRY,
 HOUSE OR SHEDDING DAIRY
 FEET OR LARGER USED TO
 FIVE HUNDRED (500) SQUARE
 BUILDINGS TWO THOUSAND
 NO OCCUPIED DWELLINGS OR
 A. LEONARD HOWELL, D.B. 120000, MT 11-14-17, 17.00 AC.
 B. ROBERT D. LINDSEY, D.B. 300000, MT 11-14-17, 20.00 AC.
 C. LEO HAYWARD, D.B. 300000, MT 11-14-17, 20.00 AC.
 D. ROBERT D. LINDSEY, D.B. 300000, MT 11-14-17, 20.00 AC.
 E. CHARLES E. GIBBERD, D.B. 300000, MT 11-14-17, 20.00 AC.
 F. DONALD R. KOWEN, D.B. 300000, MT 11-14-17, 20.00 AC.
 G. CHARLES E. GIBBERD, D.B. 300000, MT 11-14-17, 20.00 AC.
 H. CHARLES E. GIBBERD, D.B. 300000, MT 11-14-17, 20.00 AC.
 I. CHARLES E. GIBBERD, D.B. 300000, MT 11-14-17, 20.00 AC.
 J. CHARLES E. GIBBERD, D.B. 300000, MT 11-14-17, 20.00 AC.
 K. CHARLES E. GIBBERD, D.B. 300000, MT 11-14-17, 20.00 AC.
 L. CHARLES E. GIBBERD, D.B. 300000, MT 11-14-17, 20.00 AC.
 M. CHARLES E. GIBBERD, D.B. 300000, MT 11-14-17, 20.00 AC.
 N. CHARLES E. GIBBERD, D.B. 300000, MT 11-14-17, 20.00 AC.
 O. CHARLES E. GIBBERD, D.B. 300000, MT 11-14-17, 20.00 AC.
 P. CHARLES E. GIBBERD, D.B. 300000, MT 11-14-17, 20.00 AC.
 Q. CHARLES E. GIBBERD, D.B. 300000, MT 11-14-17, 20.00 AC.
 R. CHARLES E. GIBBERD, D.B. 300000, MT 11-14-17, 20.00 AC.
 S. CHARLES E. GIBBERD, D.B. 300000, MT 11-14-17, 20.00 AC.
 T. CHARLES E. GIBBERD, D.B. 300000, MT 11-14-17, 20.00 AC.
 U. CHARLES E. GIBBERD, D.B. 300000, MT 11-14-17, 20.00 AC.
 V. CHARLES E. GIBBERD, D.B. 300000, MT 11-14-17, 20.00 AC.
 W. CHARLES E. GIBBERD, D.B. 300000, MT 11-14-17, 20.00 AC.
 X. CHARLES E. GIBBERD, D.B. 300000, MT 11-14-17, 20.00 AC.
 Y. CHARLES E. GIBBERD, D.B. 300000, MT 11-14-17, 20.00 AC.

LEGEND
 --- Surface Owner Boundary Lines +/-
 --- Interior Surface Tracts +/-
 ⊙ Proposed Well Path
 ⊙ As Drilled Well Path

WEST VIRGINIA 26412
 250 WASHINGTON AVE. PENNSBORO
 WILLOW LAND SURVEYING P.L.L.C.
 OFFICE OF OIL AND GAS
 STATE OF WEST VIRGINIA, DIVISION
 OF ENVIRONMENTAL PROTECTION,
 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 AND
 PRESCRIBED BY THE DEPARTMENT OF ENVIRONMENTAL PROTECTION.

PROFESSIONAL SURVEYOR
 STATE OF WEST VIRGINIA
 No. 2202
 DOUGLAS R. ROWE
 LICENSED

OPERATOR'S WELL # LEMON UNIT 2H
 DATE 08/08/21
 DOUGLAS R. ROWE P.S. 2202

DIVISION OF OIL AND GAS
 DEPARTMENT OF ENERGY
 STATE OF WEST VIRGINIA
 SUBMETER MAPPING GRADE GPS
 PROVEN SOURCE OF ELEV.
 ACCURACY
 MINIMUM DEGREE OF
 SCALE
 DRAWING # LEMONHAD
 JOB # 20-008WA

FORM WW-8
 DENVER, CO 80202
 1615 WYNYKOP ST.
 ANTERO RESOURCES CORP.
 TARGET FORMATION
 MARCELLUS
 ESTIMATED DEPTH
 6371.1VD 19.464 MD
 CLEAN OUT & REPLUG
 PLUG & ABANDON
 OTHER PHYSICAL CHANGE IN WELL
 PROPOSED WORK: DRILL CONVERT DRILL DEEPER REDRILL FRACTURE OR STIMULATE
 SURFACE OWNER
 KAYLA LEEK
 QUADRANGLE PORTER FALLS T.S.
 DISTRICT ELLSWORTH COUNTY TYLER
 LOCATION: ELEVATION 1,042. AS BUILT
 WATERSHED OUTLET MIDDLE ISLAND CREEK
 STATE COUNTY PERMIT
 WELL TYPE: OIL GAS X LIQUID INJECTION
 DEEP STORAGE X
 WASTE DISPOSAL 47
 API WELL # 05204

CHARLESTON, WV 25243
 2400 D BIG TYLER ROAD
 DIANNA STAMPER - CT CORPORATION SYSTEM
 DESIGNATED AGENT
 ADDRESS

LATITUDE 39°32'30"

10,704'

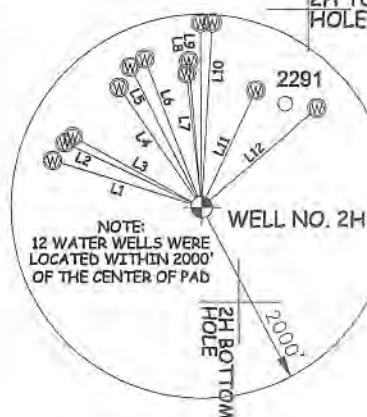
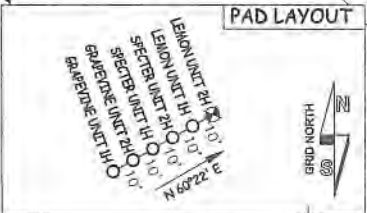
LATITUDE 39°35'00"

11,437' TO BOTTOM HOLE

Antero Resources Corporation Well No. Lemon Unit 2H

LINE	BEARING	DISTANCE
L1	N 72°40' W	1638.0'
L2	N 64°54' W	1582.1'
L3	N 61°22' W	1537.8'
L4	N 34°54' W	1512.5'
L5	N 27°19' W	1636.7'
L6	N 21°11' W	1650.6'
L7	N 06°24' W	1392.9'
L8	N 05°00' W	1521.3'
L9	N 00°15' W	1911.8'
L10	N 03°26' E	1913.5'
L11	N 25°08' E	1338.5'
L12	N 49°41' E	1592.6'

PAD LAYOUT



A	JERRY R. BROWN	14.5 ACRES±
C	STAR FURNITURE CO. OF WEST UNION INC.	80.5 ACRES±
D	LINDA K. LOEHR	82 ACRES±
E	BOUNTY MINERALS, LLC	38.5 ACRES±
G	RYAN GREENLEE ET UX	27.49 ACRES±
H	RICHARD MOORE	111.52 ACRES±
I	BOUNTY MINERALS, LLC	28.47 ACRES±
J	CLARENCE DUANE CLARK ET UX	25 ACRES±
K	BRC APPALACHIAN MINERALS I LLC	39.29 ACRES±
L	RALPH D. THACKER	35 ACRES±
M	JUDITH A. ASH	59.69 ACRES±
N	HERITAGE RESOURCES-MARCELLUS MINERALS, LLC	39.41 ACRES±
O	GARY A. SOLE	92.5 ACRES±
P	GARY A. SOLE	60 ACRES±
Q	GARY A. SOLE	45.34 ACRES±
R	RIDGETOP CAPITAL IV, LP	43.5 ACRES±
S	NILE DEAN HARRIS	53.75 ACRES±
T	RIDGETOP CAPITAL LP	69.06 ACRES±
U	BRC APPALACHIAN MINERALS I LLC	58.56 ACRES±
V	RIDGETOP CAPITAL IV, LP	16.5 ACRES±
W	ANTERO RESOURCES CORP.	40 ACRES±
X	DOUGLAS SCOTT FUNK SR.	11.5 ACRES±
Y	BRC APPALACHIAN MINERALS I LLC	61.73 ACRES±

NOTES:
 WELL 2H TOP HOLE INFORMATION:
 N: 373,284ft E: 1,624,909ft
 LAT: 39°31'02.15" LON: 80°49'46.58"
 BOTTOM HOLE INFORMATION:
 N: 385,374ft E: 1,624,349ft
 LAT: 39°33'01.54" LON: 80°49'56.01"
 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: 4,374,203m E: 514,662m
 BOTTOM HOLE INFORMATION:
 N: 4,377,883m E: 514,430m

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

NOTE
 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.

A-LEE ROY HOWELL D.B. 170488 TM 11-41 1.87 AC
 B-FREDDY D. MILLER D.B. 260801 TM 11-42 2.07 AC
 C-LEE ROY HOWELL D.B. 260801 TM 11-43 0.5 AC
 D-ROBERT D. MILLER D.B. 260801 TM 11-40 3.84 AC
 E-JOHN E. OSBORN D.B. 205482 TM 11-48 1.08 AC
 F-EDWARD H. JONES D.B. 420204 TM 11-44 4.26 AC
 G-CHARLES J. FERRELL D.B. 218028 TM 11-41 0.2 AC
 H-RICHARD J. FERRELL D.B. 246028 TM 11-42 1.59 AC
 I-CHARLES J. FERRELL D.B. 341028 TM 11-43 1.08 AC
 J-ROBERT E. JONES D.B. 405028 TM 11-45 0.3 AC
 K-SARAH E. PITTMAN D.B. 214028 TM 11-43 2.2 AC
 L-RICHARD J. FERRELL D.B. 421028 TM 11-40 1.15 AC



- 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.
 5. WLS IS BY NO MEANS RESPONSIBLE FOR ANY ERRORS OR INACCURACIES WITH THE DATA AND INFORMATION THAT HAS BEEN PROVIDED.

JOB # 20-008WA
 DRAWING # LEMON2HAD
 SCALE 1" = 2000'
 MINIMUM DEGREE OF ACCURACY SUBMETER
 PROVEN SOURCE OF ELEV. SUBMETER MAPPING GRADE GPS

LEGEND
 - - - Surface Owner Boundary Lines +/-
 - - - Interior Surface Tracts +/-
 O Proposed Well Path
 O As Drilled Well Path

DOUGLAS R. ROWE P.S. 2202

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

DATE 06/09/21
 OPERATOR'S WELL# LEMON UNIT #2H

WELL TYPE: OIL GAS X LIQUID INJECTION WASTE DISPOSAL 47 095 02704
 (IF "GAS") PRODUCTION X STORAGE DEEP SHALLOW X STATE COUNTY PERMIT
 LOCATION: ELEVATION 1,042' AS BUILT WATERSHED OUTLET MIDDLE ISLAND CREEK

QUADRANGLE PORTER FALLS 7.5' DISTRICT ELLSWORTH COUNTY TYLER
 SURFACE OWNER KAYLA LEEK ACREAGE 69.06 ACRES +/-

OIL & GAS ROYALTY OWNER RIDGETOP CAPITAL LP; BRC APPALACHIAN MINERALS I LLC LEASE ACREAGE 69.06 AC±; 58.56 AC±;
 RIDGETOP CAPITAL IV LP; RIDGETOP CAPITAL IV LP; DOUGLAS SCOTT FUNK SR.; ANTERO RESOURCES CORP.; NILE DEAN HARRIS; 43.5 AC±; 16.5 AC±; 11.5 AC±; 40 AC±; 53.75 AC±;
 GARY A. SOLE; GARY A. SOLE; JUDITH A. ASH; BRC APPALACHIAN MINERALS I LLC; RALPH D. THACKER; CLARENCE DUANE 45.34 AC±; 60 AC±; 59.69 AC±; 39.29 AC±; 35 AC±;
 CLARK ET UX; RICHARD MOORE; RYAN GREENLEE ET UX; LINDA K. LOEHR; STAR FURNITURE CO. OF WEST UNION INC.; JERRY R. BROWN 25 AC±; 111.52 AC±; 27.49 AC±; 82 AC±; 80.5 AC±; 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 6,571' TVD 19,464' 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

11,985' TO BOTTOM HOLE
 LONGITUDE 80°47'30"
 LONGITUDE 80°47'30"

COUNTY NAME PERMIT

Hydraulic Fracturing Fluid Product Component Information Disclosure

Job Start Date:	2/3/2021
Job End Date:	3/3/2021
State:	West Virginia
County:	Tyler
API Number:	47-095-02704-00-00
Operator Name:	Antero Resources Corporation
Well Name and Number:	Lemon 2H
Latitude:	39.51726000
Longitude:	-80.82961000
Datum:	NAD83
Federal Well:	NO
Indian Well:	NO
True Vertical Depth:	6,665
Total Base Water Volume (gal):	18,577,716
Total Base Non Water Volume:	0



MAR 28 2023



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 Mixture	Halliburton	Base Fluid					
			Water	7732-18-5	100.00000	86.89815	Density = 8.50
Ingredients	Listed Above	Listed Above					
			Water	7732-18-5	100.00000	0.16605	

Sand-Common White-100 Mesh, SSA-2	Halliburton	Proppant					
				Listed Below			
HAI-501	Halliburton	Acid Corrosion Inhibitor					
				Listed Below			
Exceletrate LX-15	Halliburton	Friction Reducer					
				Listed Below			
HYDROCHLORIC ACID, 22 BAUME	Halliburton	Solvent					
				Listed Below			
OPTIFLO-II DELAYED RELEASE BREAKER	Halliburton	Breaker					
				Listed Below			
MC B-8614	Halliburton	Biocide					
				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	12.90847	
			Hydrochloric acid	7647-01-0	30.00000	0.03728	
			Complex Amine Compound	Proprietary	60.00000	0.03337	

RECEIVED
 Office of Oil and Gas
 MAR 28 2023
 WV Department of Environmental Protection

			Hydrotreated light petroleum distillate	64742-47-8	30.00000	0.01668	
			Guar gum	9000-30-0	100.00000	0.00476	
			Surfactant	Proprietary	5.00000	0.00278	
			Sorbitan, mono-9-octadecenoate, (Z)	1338-43-8	5.00000	0.00278	
			Glutaraldehyde	111-30-8	30.00000	0.00252	
			Ethoxylated alcohols	Proprietary	5.00000	0.00057	
			Alkoxylated polyhydric alcohol	Proprietary	1.00000	0.00056	
			Organic chloride compound	Proprietary	1.00000	0.00056	
			Quaternary ammonium compounds, benzyl-C12-16-alkyldimethyl chlorides	68424-85-1	5.00000	0.00042	
			Methanol	67-56-1	100.00000	0.00032	
			Ammonium persulfate	7727-54-0	100.00000	0.00012	
			Ethanol	64-17-5	1.00000	0.00008	
			Modified thiourea polymer	Proprietary	30.00000	0.00007	
			Mixture of dimer and trimer fatty acids of indefinite composition derived from tall oil	61790-12-3	30.00000	0.00007	
			Oxylated phenolic resin	Proprietary	30.00000	0.00003	
			Propargyl alcohol	107-19-7	5.00000	0.00001	
			Hexadecene	629-73-2	5.00000	0.00001	
			Phosphoric acid	7664-38-2	0.10000	0.00001	
			Acrylamide	79-06-1	0.01000	0.00001	
			Sodium glycolate	2836-32-0	0.01000	0.00001	
			Organic salt #1	Proprietary	0.01000	0.00001	
			Formaldehyde	50-00-0	0.01000	0.00001	
			Organic salt #2	Proprietary	0.01000	0.00001	
			Nitrated acetate salt	Proprietary	0.01000	0.00001	
			Sodium hydroxide	1310-73-2	0.01000	0.00001	

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			C.I. pigment Orange 5	3468-63-1	1.00000	0.00000	
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* 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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