

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

API 47 - 095 - 02744 County Tyler District Ellsworth  
Quad Porter Falls 7.5' Pad Name Margery Field/Pool Name -----  
Farm name Kayla Leek Well Number National 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 4374242m Easting 514706m  
Landing Point of Curve Northing 4373873.17m Easting 514973.89m  
Bottom Hole Northing 4370133m Easting 516286m

Elevation (ft) 1040' 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

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Date permit issued 7/29/2021 Date drilling commenced 8/18/2021 Date drilling ceased 11/6/2021  
Date completion activities began 1/2/2022 Date completion activities ceased 2/14/2022  
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 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 N/A Cavern(s) encountered (Y/N) depths No  
Is coal being mined in area (Y/N) No

Reviewed by:  
06/02/2023

API 47-095 - 02744 Farm name Kayla Leek Well number National 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	28"	20"	125.5'	New	94#, H-40	N/A	Y
Surface	17-1/2"	13-3/8"	434'	New	54.5#, J-55	N/A	Y
Coal							
Intermediate 1	12-1/4"	9-5/8"	2653'	New	36#, J-55	N/A	Y
Intermediate 2							
Intermediate 3							
Production	8-3/4"/8-1/2"	5-1/2"	21279'	New	23#, P-110	N/A	Y
Tubing		2-3/8"	6715'		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	390 sx	15.6	1.18	460	0'	8 Hrs.
Surface	Class A	431 sx	15.6	1.20	517	0'	8 Hrs.
Coal							
Intermediate 1	Class A	889 sx	15.6	1.19	1058	0'	8 Hrs.
Intermediate 2							
Intermediate 3							
Production	Class G	584 sx (Lead) 3372 sx (Tail)	14.5 (Lead), 15.2(Tail)	1.41 (Lead) 1.26 (Tail)	5072	-500' Into Intermediate Casing	8 Hrs.
Tubing							

Drillers TD (ft) 21279' MD, 6655' TVD (BHL), 6679' (Deepest Point Drilled) Loggers TD (ft) 21279' MD  
 Deepest formation penetrated Marcellus Plug back to (ft) N/A  
 Plug back procedure N/A

Kick off depth (ft) 5840'

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  
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WAS WELL COMPLETED AS SHOT HOLE  Yes  No DETAILS \_\_\_\_\_  
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WAS WELL COMPLETED OPEN HOLE?  Yes  No DETAILS \_\_\_\_\_

WERE TRACERS USED  Yes  No TYPE OF TRACER(S) USED N/A

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API 47- 095 - 02744 Farm name Kayla Leek Well number National Unit 1H

PERFORATION RECORD

Stage No.	Perforation date	Perforated from MD ft.	Perforated to MD ft.	Number of Perforations	Formation(s)
<b>*PLEASE SEE ATTACHED EXHIBIT 1</b>					

Please insert additional pages as applicable.

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STIMULATION INFORMATION PER STAGE

Complete a separate record for each stimulation stage.

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Stage No.	Stimulations Date	Ave Pump Rate (BPM)	Ave Treatment Pressure (PSI)	Max Breakdown Pressure (PSI)	ISIP (PSI)	Amount of Proppant (lbs)	Amount of Water (bbls)	Amount of Nitrogen/other (units)
<b>*PLEASE SEE ATTACHED EXHIBIT 2</b>								

Please insert additional pages as applicable.

API 47- 095 - 02744 Farm name Kayla Leek Well number National Unit 1H

<u>PRODUCING FORMATION(S)</u>	<u>DEPTHS</u>			
<u>Marcellus</u>	<u>6589' (TOP)</u>	<u>TVD</u>	<u>6921' (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 965 psi   Bottom Hole --- psi   DURATION OF TEST --- hrs

OPEN FLOW    Gas                      Oil                      NGL                      Water                      GAS MEASURED BY  
15278 mcfpd   453 bpd   --- bpd   657 bpd    Estimated    Orifice    Pilot

LITHOLOGY/ FORMATION	TOP DEPTH IN FT NAME TVD	BOTTOM DEPTH IN FT TVD	TOP DEPTH IN FT MD	BOTTOM DEPTH IN FT MD	DESCRIBE ROCK TYPE AND RECORD QUANTITY AND TYPE OF FLUID (FRESHWATER, BRINE, OIL, GAS, H <sub>2</sub> S, ETC)
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**\*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 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 3/1/2023

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

06/02/2023

API 47-095-02744 Farm Name Kayla Leek Well Number National Unit 1H

**Exhibit 1**

Stage No.	Perforation Date	Perforated from MD ft.	Perforated to MD ft.	Number of Perforations	Formations
1	01/02/2022	21168.0	0	60	Marcellus
2	01/03/2022	21085.9	20907.3418	60	Marcellus
3	01/04/2022	20833.1	20654.574	60	Marcellus
4	01/04/2022	20580.4	20401.8061	60	Marcellus
5	01/05/2022	20327.6	20149.0383	60	Marcellus
6	01/05/2022	20074.8	19896.2704	60	Marcellus
7	01/06/2022	19822.1	19643.5026	60	Marcellus
8	01/07/2022	19569.3	19390.7347	60	Marcellus
9	01/08/2022	19316.5	19137.9668	60	Marcellus
10	01/09/2022	19063.7	18885.199	60	Marcellus
11	01/09/2022	18811.0	18632.4311	60	Marcellus
12	01/10/2022	18558.2	18379.6633	60	Marcellus
13	01/11/2022	18305.4	18126.8954	60	Marcellus
14	01/11/2022	18052.7	17874.1276	60	Marcellus
15	01/12/2022	17799.9	17621.3597	60	Marcellus
16	01/13/2022	17547.1	17368.5918	60	Marcellus
17	01/13/2022	17294.4	17115.824	60	Marcellus
18	01/14/2022	17041.6	16863.0561	60	Marcellus
19	01/15/2022	16788.8	16610.2883	60	Marcellus
20	01/15/2022	16536.1	16357.5204	60	Marcellus
21	01/16/2022	16283.3	16104.7526	60	Marcellus
22	01/18/2022	16030.5	15851.9847	60	Marcellus
23	01/19/2022	15777.8	15599.2168	60	Marcellus
24	01/21/2022	15525.0	15346.449	60	Marcellus
25	01/21/2022	15272.2	15093.6811	60	Marcellus
26	01/22/2022	15019.5	14840.9133	60	Marcellus
27	01/22/2022	14766.7	14588.1454	60	Marcellus
28	01/23/2022	14513.9	14335.3776	60	Marcellus
29	01/23/2022	14261.2	14082.6097	60	Marcellus
30	01/24/2022	14008.4	13829.8418	60	Marcellus
31	01/24/2022	13755.6	13577.074	60	Marcellus
32	01/24/2022	13502.9	13324.3061	60	Marcellus
33	01/25/2022	13250.1	13071.5383	60	Marcellus
34	01/25/2022	12997.3	12818.7704	60	Marcellus
35	01/25/2022	12744.6	12566.0026	60	Marcellus
36	01/25/2022	12491.8	12313.2347	60	Marcellus
37	01/26/2022	12239.0	12060.4668	60	Marcellus
38	01/26/2022	11986.2	11807.699	60	Marcellus
39	01/26/2022	11733.5	11554.9311	60	Marcellus
40	01/26/2022	11480.7	11302.1633	60	Marcellus
41	01/26/2022	11227.9	11049.3954	60	Marcellus
42	01/27/2022	10975.2	10796.6276	60	Marcellus
43	01/27/2022	10722.4	10543.8597	60	Marcellus
44	01/27/2022	10469.6	10291.0918	60	Marcellus
45	01/27/2022	10216.9	10038.324	60	Marcellus
46	01/28/2022	9964.1	9785.55612	60	Marcellus
47	01/28/2022	9711.3	9532.78827	60	Marcellus
48	01/28/2022	9458.6	9280.02041	60	Marcellus
49	01/28/2022	9205.8	9027.25255	60	Marcellus
50	01/29/2022	8953.0	8774.48469	60	Marcellus
51	01/29/2022	8700.3	8521.71684	60	Marcellus
52	01/29/2022	8447.5	8268.94898	60	Marcellus
53	01/29/2022	8194.7	8016.18112	60	Marcellus
54	01/30/2022	7942.0	7763.41327	60	Marcellus
55	01/30/2022	7689.2	7510.64541	60	Marcellus
56	01/30/2022	7436.4	7257.87755	60	Marcellus
57	01/30/2022	7183.7	7005.10969	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	01/02/2022	72.9	10191	10645	3544.77	168760	205181	N/A
2	01/03/2022	86.8	10310	7418	3855	510530	392275	N/A
3	01/04/2022	85.6	9912	6277	3766	504040	407396	N/A
4	01/04/2022	89.2	10177	5999	3841	507380	390848	N/A
5	01/05/2022	89.6	10274	6036	4252	503220	373117	N/A
6	01/05/2022	86.5	9866	6226	3885	502170	378839	N/A
7	01/06/2022	88.7	10080	9426	4076	509060	369010	N/A
8	01/07/2022	88.4	10057	7386	4070	503080	369170	N/A
9	01/08/2022	89.7	10067	9491	3919	510320	368526	N/A
10	01/09/2022	84.9	9994	9708	3250	520590	373878	N/A
11	01/09/2022	86.4	10045	8919	3583	515350	367309	N/A
12	01/10/2022	86.8	10077	9022	3741	500230	365183	N/A
13	01/11/2022	90.0	10082	6938	3948	500980	370601	N/A
14	01/11/2022	89.9	9876	8944	3640	510100	370549	N/A
15	01/12/2022	91.1	10008	7024	3611	508440	364457	N/A
16	01/13/2022	86.6	9718	7751	3455	516810	376763	N/A
17	01/13/2022	89.4	9838	7253	3714	503690	361787	N/A
18	01/14/2022	93.2	10068	6534	4023	511160	364046	N/A
19	01/15/2022	92.1	10033	7956	3792	509520	356824	N/A
20	01/15/2022	92.4	9928	5305	4040	502340	361532	N/A
21	01/16/2022	92.5	10061	8180	3759	519840	370652	N/A
22	01/18/2022	94.5	9971	5570	4091	521400	373397	N/A
23	01/19/2022	94.8	9977	9651	3765	501150	360834	N/A
24	01/21/2022	94.2	9798	6065	3833	510450	358896	N/A
25	01/21/2022	96.6	10056	9651	3563	512820	370356	N/A
26	01/22/2022	96.9	9973	9335	3908	500800	363380	N/A
27	01/22/2022	96.5	9806	6062	3584	521190	375602	N/A
28	01/23/2022	98.1	10007	8956	3964	502950	362895	N/A
29	01/23/2022	96.7	10028	7064	3629	515310	370464	N/A
30	01/24/2022	97.5	9980	9635	3842	501270	360859	N/A
31	01/24/2022	97.8	9649	5688	4063	502060	411357	N/A
32	01/24/2022	96.9	9712	6041	4294	518900	368506	N/A
33	01/25/2022	96.5	9860	9344	3823	501220	355454	N/A
34	01/25/2022	96.6	9736	7496	3737	519660	367734	N/A
35	01/25/2022	96.8	9067	8026	4020	518240	369187	N/A
36	01/25/2022	98.7	8994	8638	3976	511270	363081	N/A
37	01/26/2022	96.9	9051	8591	3851.74	500120	354673	N/A
38	01/26/2022	97.3	8933	7431	3752	514320	363582	N/A
39	01/26/2022	97.4	8739	7030	3800	514010	378924	N/A
40	01/26/2022	97.7	8906	7260	3667	500730	366111	N/A
41	01/26/2022	98.7	8927	8344	3706	511580	377716	N/A
42	01/27/2022	98.7	8815	8579	3980	505570	378372	N/A
43	01/27/2022	98.6	8741	6613	3643	498360	370672	N/A
44	01/27/2022	98.1	8604	7283	3738	514670	374508	N/A
45	01/27/2022	98.9	8528	7463	3721	511660	379189	N/A
46	01/28/2022	98.6	8411	7608	3861	517530	384147	N/A
47	01/28/2022	98.4	8537	7260	4013	508230	377383	N/A
48	01/28/2022	98.6	8597	6556	3780	504244	368736	N/A
49	01/28/2022	98.9	8341	7662	4060	503240	371761	N/A
50	01/29/2022	98.5	8235	7739	3692	503260	373084	N/A
51	01/29/2022	97.8	8204	7323	3993	499410	371660	N/A
52	01/29/2022	98.7	8135	5142	3997	502550	370224	N/A
53	01/29/2022	98.9	8009	6280	3561	519420	379396	N/A
54	01/30/2022	99.3	8031	6752	3944	500160	368898	N/A
55	01/30/2022	99.0	7933	6815	4066	507740	374165	N/A
56	01/30/2022	98.7	7744	5610	4230	499080	367685	N/A
57	01/30/2022	98.9	7671	6523	4061	499250	367400	N/A
	AVERAGE	94	9,405	7,554	3,838	28,132,184	20,640,831	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	1,920	1,904	1,920
Big Lime	1,946	2,729	1,920	2,729
Fifty Foot Sandstone	2,729	2,840	2,703	2,840
Gordon	2,840	3,095	2,814	3,096
Fifth Sandstone	3,095	3,221	3,070	3,222
Bayard	3,221	3,945	3,196	3,962
Speechley	3,945	4,188	3,936	4,211
Balltown	4,188	4,514	4,185	4,544
Bradford	4,514	4,946	4,518	4,988
Benson	4,946	5,263	4,962	5,314
Alexander	5,263	6,430	5,288	6,552
Sycamore	6,301	6,404	6,398	6,526
Middlesex	6,404	6,503	6,526	6,680
Burkett	6,503	6,529	6,680	6,730
Tully	6,529	6,589	6,730	6,921
Marcellus	6,589	NA	6,921	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.



LATITUDE 39°32'30"

10,558'

LATITUDE 39°32'30"

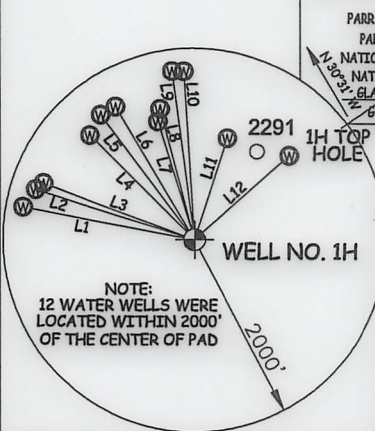
5,404' TO BOTTOM HOLE

### Antero Resources Corporation Well No. National Unit 1H

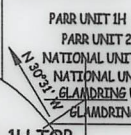
**AS DRILLED DATA:**  
**WELL 1H TOP HOLE INFORMATION:**  
 N: 373,411ft E: 1,625,056ft  
 LAT: 39°31'03.42" LON: 80°49'44.73"  
**BOTTOM HOLE INFORMATION:**  
 N: 359,840ft E: 1,630,016ft  
 LAT: 39°28'50.02" LON: 80°48'38.92"  
 WEST VIRGINIA COORDINATE SYSTEM OF 1927 NORTH ZONE. ZONE WAS DERIVED FROM 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: 4,374,242m E: 514,706m  
**BOTTOM HOLE INFORMATION:**  
 N: 4,370,133m E: 516,286m

#### PAD LAYOUT NOT TO SCALE



NOTE:  
12 WATER WELLS WERE LOCATED WITHIN 2000' OF THE CENTER OF PAD



GRID NORTH

PARR UNIT 1H  
PARR UNIT 2H  
NATIONAL UNIT 1H  
NATIONAL UNIT 2H  
GLANDRING UNIT 1H  
GLANDRING UNIT 2H

WELL NO. 1H

2000'

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 # 21-007WA  
 DRAWING # NATIONAL1HAD  
 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

*Thomas Summers*  
 THOMAS SUMMERS P.S. 2109

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

DATE 04/07/22  
 OPERATOR'S WELL# NATIONAL UNIT #1H

WELL TYPE: OIL \_\_\_ GAS X LIQUID INJECTION \_\_\_ WASTE DISPOSAL \_\_\_ API WELL # 47 - 095 - 02744  
 (IF "GAS") PRODUCTION X STORAGE \_\_\_ DEEP \_\_\_ SHALLOW X STATE COUNTY PERMIT  
 LOCATION: ELEVATION AS BUILT - 1,040' 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.±; 373.47 AC.±;  
 BOUNTY MINERALS LLC; ROSELLA MAY MURNER SHEPHERD; 92.25 AC.±; 30 AC.±;

BRC APPALACHIAN MINERALS I LLC; KAY F. HAIN REVOCABLE LIVING TRUST; DAVID E. BOWYER; DAVID E. BOWYER; 35 AC.±; 37 AC.±; 60 AC.±; 96 AC.±;  
 BRENDA CUIC; CLARA SUE BAKER; PAUL RICHARD BAKER 114 AC.±; 13.56 AC.±; 39.96 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 6,655' TVD 21,279' 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

Ellsworth District - Tyler County	
11-51	Bear Knob Holdings LLC
16-5	David Leek
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22-32	Richard Gradslly Et Al
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22-38	Bruce Parr
22-40	Ronald Webb

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STATE OF WEST VIRGINIA, DIVISION OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS  
 WILLOW LAND SURVEYING PLLC  
 220 MASONIC AVE. PENNSBORO WEST VIRGINIA 26415

JOB # 21-007WA  
 DRAWING # NATIONAL1HAD  
 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

*Thomas Summers*  
 THOMAS SUMMERS P.S. 2109

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

DATE 04/07/22  
 OPERATOR'S WELL# NATIONAL UNIT #1H

WELL TYPE: OIL \_\_\_ GAS X LIQUID INJECTION \_\_\_ WASTE DISPOSAL \_\_\_ API WELL # 47 - 095 - 02744  
 (IF "GAS") PRODUCTION X STORAGE \_\_\_ DEEP \_\_\_ SHALLOW X STATE COUNTY PERMIT  
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SURFACE OWNER KAYLA LEEK ACREAGE 69.06 ACRES +/-

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 BOUNTY MINERALS LLC; ROSELLA MAY MURNER SHEPHERD; 92.25 AC.±; 30 AC.±;

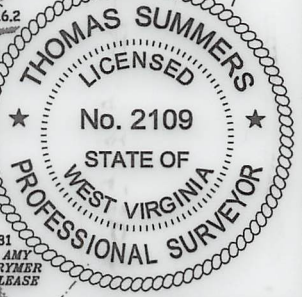
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 PLUG OFF OLD FORMATION \_\_\_ PERFORATE NEW FORMATION \_\_\_ OTHER PHYSICAL CHANGE IN WELL \_\_\_  
 (SPECIFY) AS DRILLED PLUG & ABANDON CLEAN OUT & REPLUG

TARGET FORMATION MARCELLUS ESTIMATED DEPTH 6,655' TVD 21,279' 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

**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.



7,081' TO BOTTOM HOLE  
 8,760' TO BOTTOM HOLE  
 LONGITUDE 80°47'30"  
 LONGITUDE 80°47'30"



LATITUDE 39°32'30"

10,558'

LATITUDE 39°32'30"

5,404' TO BOTTOM HOLE

### Antero Resources Corporation Well No. National Unit 1H

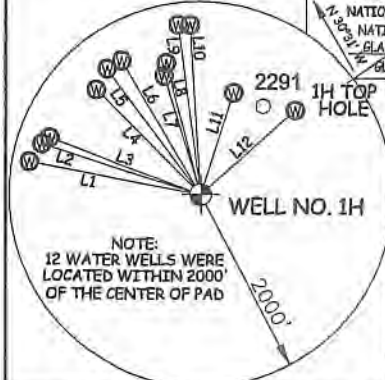
**AS DRILLED DATA:**  
**WELL 1H TOP HOLE INFORMATION:**  
 N: 373,411ft E: 1,625,056ft  
 LAT: 39°31'03.42" LON: 80°49'44.73"  
**BOTTOM HOLE INFORMATION:**  
 N: 359,840ft E: 1,630,016ft  
 LAT: 39°28'50.02" LON: 80°48'38.92"  
 WEST VIRGINIA COORDINATE SYSTEM OF 1927 NORTH ZONE. ZONE WAS DERIVED FROM 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: 4,374,242m E: 514,706m  
**BOTTOM HOLE INFORMATION:**  
 N: 4,370,133m E: 516,286m

#### PAD LAYOUT

NOT TO SCALE

PADR UNIT 1H  
 PADR UNIT 2H  
 NATIONAL UNIT 1H  
 NATIONAL UNIT 2H  
 BLANDRING UNIT 1H  
 BLANDRING UNIT 2H



NOTE:  
 12 WATER WELLS WERE LOCATED WITHIN 2000' OF THE CENTER OF PAD

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'

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

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

JOB # 21-007WA  
 DRAWING # NATIONAL1HAD  
 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

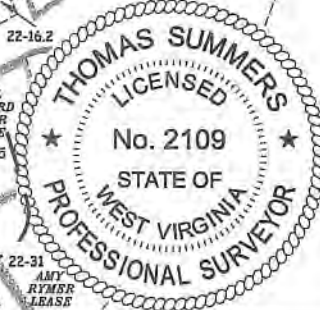
THOMAS SUMMERS P.S. 2109

DATE 04/07/22  
 OPERATOR'S WELL# NATIONAL UNIT #1H

WELL TYPE: OIL  GAS  LIQUID INJECTION  WASTE DISPOSAL  API WELL # 47 - 095 - 02744  
 (IF "GAS") PRODUCTION  STORAGE  DEEP  SHALLOW  STATE COUNTY PERMIT  
 LOCATION: ELEVATION AS BUILT - 1,040' WATERSHED OUTLET MIDDLE ISLAND CREEK  
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22-34	Raymond Parr Et Al
22-38	Bruce Parr
22-40	Ronald Webb



WELL 1H POINT OF ENTRY INFORMATION:  
 WV STATE PLANE NAD '27 (NORTH ZONE):  
 N: 373,450ft E: 1,625,537ft  
 GEOGRAPHIC (NAD) 27:  
 LAT: 39°31'03.88" LON: 80°49'38.60"  
 (NAD) 83 (UTM) ZONE 17 COORDS:  
 N: 4,374,257m E: 514,852m

NOTES  
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7,081' TO BOTTOM HOLE  
 LONGITUDE 80°47'30"

8,760'  
 LONGITUDE 80°47'30"



## Hydraulic Fracturing Fluid Product Component Information Disclosure

Job Start Date:	1/2/2022
Job End Date:	1/30/2022
State:	West Virginia
County:	Tyler
API Number:	47-095-02744-00-00
Operator Name:	Antero Resources Corporation
Well Name and Number:	NATIONAL UNIT 1H
Latitude:	39.51762000
Longitude:	-80.82909200
Datum:	WGS84
Federal Well:	NO
Indian Well:	NO
True Vertical Depth:	6,679
Total Base Water Volume (gal):	21,629,430
Total Base Non Water Volume:	0



### 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	86.40298	Density = 8.50
Ingredients	Listed Above	Listed Above					
			Water	7732-18-5	100.00000	0.05798	

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HYDROCHLORIC ACID, 22 BAUME	Halliburton	Solvent					
				Listed Below			
FLUID Enviro-Syn HCR-7000-WL	Fluid Energy Group	Acid Replacement					
				Listed Below			
MC B-8614A	MultiChem	Biocide					
				Listed Below			
WG-36 GELLING AGENT	Halliburton	Gelling Agent					
				Listed Below			
OPTIFLO-II DELAYED RELEASE BREAKER	Halliburton	Breaker					
				Listed Below			
HAI-501	Halliburton	Acid Corrosion Inhibitor					
				Listed Below			
Sand-Common White-100 Mesh, SSA-2	Halliburton	Proppant					
				Listed Below			
Excelerate LX-15	Halliburton	Friction Reducer					
				Listed Below			



Items above are Trade Names with the exception of Base Water , Items below are the individual ingredients.

			Crystalline silica, quartz	14808-60-7	100.00000	13.45576	
			Complex Amine Compound	Proprietary	60.00000	0.03420	
			Hydrotreated light petroleum distillate	64742-47-8	30.00000	0.01710	
			Proprietary	Proprietary	20.00000	0.01130	
			Proprietary	Proprietary	10.00000	0.00565	
			Hydrochloric acid	7647-01-0	30.00000	0.00459	
			Guar gum	9000-30-0	100.00000	0.00382	
			Sorbitan, mono-9-octadecenoate, (Z)	1338-43-8	5.00000	0.00285	
			Surfactant	Proprietary	5.00000	0.00285	
			Glutaraldehyde	111-30-8	30.00000	0.00255	
			Ethoxylated alcohols	Proprietary	5.00000	0.00057	
			Organic chloride compound	Proprietary	1.00000	0.00057	
			Alkoxyated polyhydric alcohol	Proprietary	1.00000	0.00057	
			Alkyl (C12-16) dimethylbenzyl ammonium chloride	68424-85-1	5.00000	0.00042	
			Ammonium persulfate	7727-54-0	100.00000	0.00013	
			Ethanol	64-17-5	1.00000	0.00008	
			Oxylated phenolic resin	Proprietary	30.00000	0.00004	
			Methanol	67-56-1	100.00000	0.00003	
			Modified thiourea polymer	Proprietary	30.00000	0.00001	
			Mixture of dimer and trimer fatty acids of indefinite composition derived from tall oil	61790-12-3	30.00000	0.00001	
			Sodium hydroxide	1310-73-2	0.01000	0.00001	
			Formaldehyde	50-00-0	0.01000	0.00001	
			Acrylamide	79-06-1	0.01000	0.00001	
			Organic salt #1	Proprietary	0.01000	0.00001	

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 Environmental Protection



			Nitrated acetate salt	Proprietary	0.01000	0.00001	
			Organic salt #2	Proprietary	0.01000	0.00001	
			Sodium glycolate	2836-32-0	0.01000	0.00001	
			Hexadecene	629-73-2	5.00000	0.00000	
			Propargyl alcohol	107-19-7	5.00000	0.00000	
			C.I. pigment Orange 5	3468-63-1	1.00000	0.00000	

\* 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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