

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

API 47 - 095 - 02811 County Tyler District Meade  
Quad TH: Bens Run BH: Middlebourne Pad Name Wrigley Field/Pool Name -----  
Farm name Shirley J. Wells & Suise Cunningham Well Number Little 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 4363521.354m Easting 499395.497m  
Landing Point of Curve Northing 4362777.68m Easting 499887.32m  
Bottom Hole Northing 4359860.108m Easting 500947.697m

Elevation (ft) 937' 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

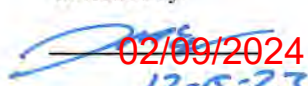
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Date permit issued 8/30/2022 Date drilling commenced 12/12/2022 Date drilling ceased 2/12/2023  
Date completion activities began 4/5/2022 Date completion activities ceased 5/28/2023  
Verbal plugging (Y/N) N/A Date permission granted N/A Granted by N/A

Please note: Operator is required to submit a plugging application within 5 days of verbal permission to plug

Freshwater depth(s) ft 397' Open mine(s) (Y/N) depths No  
Salt water depth(s) ft 1436, 1847' 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

**APPROVED**

Reviewed by:  
  
02/09/2024  
12-15-23

API 47-095 - 02811 Farm name Shirley J. Wells & Suise Cunningham Well number Little 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"	130'	New	91.59#, J-55	N/A	Y
Surface	17-1/2"	13-3/8"	614'	New	54.5#, J-55	N/A	Y
Coal							
Intermediate 1	12-1/4"	9-5/8"	3329'	New	36#, J-55	N/A	Y
Intermediate 2							
Intermediate 3							
Production	8-3/4"/8-1/2"	5-1/2"	17812'	New	23#, P-110-ICY	N/A	Y
Tubing		2-3/8"	6324'		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	202 sx	15.6	1.18	238	0'	8 Hrs.
Surface	Class A	555 sx	15.8	1.16	644	0'	8 Hrs.
Coal							
Intermediate 1	Class A	1146 sx	15.8	1.16	1329	0'	8 Hrs.
Intermediate 2							
Intermediate 3							
Production	Class H	2700 sx (Lead)	15.2	1.28 (Lead)	3456	-500' into Intermediate Casing	8 Hrs.
Tubing							

Drillers TD (ft) 17812' MD, 6202' TVD (BHL), 6202' (Deepest Point Drilled)      Loggers TD (ft) 17812' MD  
 Deepest formation penetrated Marcellus      Plug back to (ft) N/A  
 Plug back procedure N/A

Kick off depth (ft) 5849'

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Check all wireline logs run     caliper     density     deviated/directional     induction  
 neutron     resistivity     gamma ray     temperature    WV Department of Environmental Protection

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

02/09/2024

API 47-095 - 02811 Farm name Shirley J. Wells & Suise Cunningham Well number Little 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.

### STIMULATION INFORMATION PER STAGE

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Complete a separate record for each stimulation stage.

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)	WV Department of Environmental Protection Amount of Nitrogen/other (units)
<b>*PLEASE SEE ATTACHED EXHIBIT 2</b>								

Please insert additional pages as applicable.

02/09/2024

API 47- 095 - 02811 Farm name Shirley J. Wells & Suise Cunningham Well number Little Unit 1H

<u>PRODUCING FORMATION(S)</u>	<u>DEPTHS</u>	
Marcellus	6059' (TOP) TVD	6491' (TOP) MD

Please insert additional pages as applicable.

GAS TEST  Build up  Drawdown  Open Flow OIL TEST  Flow  Pump

SHUT-IN PRESSURE Surface 2033 psi Bottom Hole --- psi DURATION OF TEST --- hrs

OPEN FLOW Gas 14207 mcfpd Oil 230 bpd NGL --- bpd Water 1209 bpd GAS MEASURED BY  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)
<b>*PLEASE SEE ATTACHED EXHIBIT 3</b>					

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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 Halliburton Energy Services  
Address 3000 W. Sam Houston Pkwy City Houston State TX Zip 76114

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  Title Permitting Agent Date 8/1/2023

API 47-095-02811 Farm Name Shirley J. Wells & Suise Cunningham Well Number Little Unit 1H

Exhibit 1

Stage No.	Perforation Date	Perforated from MD ft.	Perforated to MD ft.	Number of Perforations	Formations
1	4/5/2023	17695.8	17651.9	60	Marcellus
2	4/6/2023	17614.24273	17447.9564	60	Marcellus
3	4/6/2023	17412.29909	17246.0127	60	Marcellus
4	4/7/2023	17210.35545	17044.0691	60	Marcellus
5	4/7/2023	17008.41182	16842.1255	60	Marcellus
6	4/7/2023	16806.46818	16640.1818	60	Marcellus
7	4/8/2023	16604.52455	16438.2382	60	Marcellus
8	4/8/2023	16402.58091	16236.2945	60	Marcellus
9	4/8/2023	16200.63727	16034.3509	60	Marcellus
10	4/9/2023	15998.69364	15832.4073	60	Marcellus
11	4/9/2023	15796.75	15630.4636	60	Marcellus
12	4/9/2023	15594.80636	15428.52	60	Marcellus
13	4/10/2023	15392.86273	15226.5764	60	Marcellus
14	4/10/2023	15190.91909	15024.6327	60	Marcellus
15	4/11/2023	14988.97545	14822.6891	60	Marcellus
16	4/11/2023	14787.03182	14620.7455	60	Marcellus
17	4/11/2023	14585.08818	14418.8018	60	Marcellus
18	4/12/2023	14383.14455	14216.8582	60	Marcellus
19	4/12/2023	14181.20091	14014.9145	60	Marcellus
20	4/12/2023	13979.25727	13812.9709	60	Marcellus
21	4/13/2023	13777.31364	13611.0273	60	Marcellus
22	4/13/2023	13575.37	13409.0836	60	Marcellus
23	4/13/2023	13373.42636	13207.14	60	Marcellus
24	4/14/2023	13171.48273	13005.1964	60	Marcellus
25	4/14/2023	12969.53909	12803.2527	60	Marcellus
26	4/14/2023	12767.59545	12601.3091	60	Marcellus
27	4/14/2023	12565.65182	12399.3655	60	Marcellus
28	4/14/2023	12363.70818	12197.4218	60	Marcellus
29	4/14/2023	12161.76455	11995.4782	60	Marcellus
30	4/15/2023	11959.82091	11793.5345	60	Marcellus
31	4/15/2023	11757.87727	11591.5909	60	Marcellus
32	4/15/2023	11555.93364	11389.6473	60	Marcellus
33	4/15/2023	11353.99	11187.7036	60	Marcellus
34	4/15/2023	11152.04636	10985.76	60	Marcellus
35	4/15/2023	10950.10273	10783.8164	60	Marcellus
36	4/16/2023	10748.15909	10581.8727	60	Marcellus
37	4/16/2023	10546.21545	10379.9291	60	Marcellus
38	4/16/2023	10344.27182	10177.9855	60	Marcellus
39	4/16/2023	10142.32818	9976.04182	60	Marcellus
40	4/16/2023	9940.384545	9774.09818	60	Marcellus
41	4/16/2023	9738.440909	9572.15455	60	Marcellus
42	4/17/2023	9536.497273	9370.21091	60	Marcellus
43	4/17/2023	9334.553636	9168.26727	60	Marcellus
44	4/17/2023	9132.61	8966.32364	60	Marcellus
45	4/17/2023	8930.666364	8764.38	60	Marcellus
46	4/17/2023	8728.722727	8562.43636	60	Marcellus
47	4/17/2023	8526.779091	8360.49273	60	Marcellus
48	4/17/2023	8324.835455	8158.54909	60	Marcellus
49	4/18/2023	8122.891818	7956.60545	60	Marcellus
50	4/18/2023	7920.948182	7754.66182	60	Marcellus
51	4/18/2023	7719.004545	7552.71818	60	Marcellus
52	4/18/2023	7517.060909	7350.77455	60	Marcellus
53	4/19/2023	7315.117273	7148.83091	60	Marcellus
54	4/19/2023	7113.173636	6946.88727	60	Marcellus
55	4/19/2023	6911.23	6744.94364	60	Marcellus
56	4/19/2023	6709.286364	6543	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	4/5/2023	87.5	10020	7582	4389	166520	4552.73286	N/A
2	4/6/2023	94.6	9860	5112	4226	410050	9197.29571	N/A
3	4/6/2023	93.1	9669	5352	3970	402310	9935.12476	N/A
4	4/7/2023	98.1	10067	5985	3878	411170	7215.56881	N/A
5	4/7/2023	94.8	10023	5104	3905	413780	7139.43	N/A
6	4/7/2023	95.7	10108	6528	4517	408780	7370.64762	N/A
7	4/8/2023	96.0	10085	4313	3966	410850	7292.95476	N/A
8	4/8/2023	97.2	10079	5531	3829	413680	7047.70452	N/A
9	4/8/2023	96.4	9929	5434	4005	400600	6886.34071	N/A
10	4/9/2023	92.4	10092	6798	3962	403960	6924.20952	N/A
11	4/9/2023	92.7	10037	4844	4375	419550	7055	N/A
12	4/9/2023	96.7	9874	5269	4383	399180	6967	N/A
13	4/10/2023	96.8	10083	5318	3709	397290	6781	N/A
14	4/10/2023	94.0	9854	5116	4269	398350	6850.68762	N/A
15	4/11/2023	74.7	8296	5086	4450	412080	10454	N/A
16	4/11/2023	93.4	9557	4880	3677	398250	7066.65619	N/A
17	4/11/2023	97.5	9885	5067	4151	406740	7047.01071	N/A
18	4/12/2023	93.6	9902	3531	4031	409630	6860.24762	N/A
19	4/12/2023	93.1	9440	4936	3756	410640	7234.7169	N/A
20	4/12/2023	96.0	9888	4942	3757	412130	7162.44	N/A
21	4/13/2023	94.2	9392	4600	4010	417330	7167.2769	N/A
22	4/13/2023	96.6	9579	4858	3850	401940	6964.91381	N/A
23	4/13/2023	96.4	9353	5072	3747	409430	6929.5481	N/A
24	4/14/2023	97.2	9074	3654	4004	410270	7031.52929	N/A
25	4/14/2023	98.1	9049	4249	4050	407910	6961.97762	N/A
26	4/14/2023	95.5	9038	5373	3941	407440	6921.69643	N/A
27	4/14/2023	94.4	9090	5316	4284	411740	6780.37048	N/A
28	4/14/2023	96.6	8993	5265	3951	399360	6989.92214	N/A
29	4/14/2023	96.5	8896	5061	3990	396570	6935.6281	N/A
30	4/15/2023	94.5	9012	5138	3527	419510	7112.75238	N/A
31	4/15/2023	96.8	8964	5313	3755	401130	6965.63333	N/A
32	4/15/2023	96.6	8833	5158	3807	415050	7038.23119	N/A
33	4/15/2023	96.8	8739	4399	3540	418000	7189.68476	N/A
34	4/15/2023	99.4	8886	3458	3619	420600	7098.82167	N/A
35	4/15/2023	98.6	8800	5391	3510	418890	7137.53738	N/A
36	4/16/2023	97.4	8838	5037	3326	421340	7042.76905	N/A
37	4/16/2023	96.4	8694	4900	3917	411400	6916.7731	N/A
38	4/16/2023	96.4	8766	5192	3638	401730	7061.81357	N/A
39	4/16/2023	97.4	8872	5383	3721	420200	6986.76619	N/A
40	4/16/2023	97.3	8708	5060	3536	411670	7040.71952	N/A
41	4/16/2023	98.4	8762	5378	3400	420900	6986.58238	N/A
42	4/17/2023	96.0	8599	5610	3547	420620	7129.95619	N/A
43	4/17/2023	98.0	8495	5296	3677	412530	7004.44905	N/A
44	4/17/2023	97.0	8593	5419	3578	419690	7060.71452	N/A
45	4/17/2023	96.8	7672	4967	3690	418278	7085.68524	N/A
46	4/17/2023	97.9	7678	5053	4312	419530	7155.62524	N/A
47	4/17/2023	97.7	7901	5690	3655	414930	6964.28476	N/A
48	4/17/2023	99.3	7625	5716	3835	420490	7038.08381	N/A
49	4/18/2023	91.6	7220	5096	4127	420050	7039.55286	N/A
50	4/18/2023	91.8	7113	5415	4259	412470	6878.0819	N/A
51	4/18/2023	91.5	7099	3177	3661	415590	7091.26667	N/A
52	4/18/2023	91.6	7074	5261	3977	415680	6982.91643	N/A
53	4/19/2023	91.9	7025	5396	3378	408840	6902.27905	N/A
54	4/19/2023	93.0	6949	5217	3791	416470	6854.72667	N/A
55	4/19/2023	92.5	6793	4575	3727	414430	6900.89071	N/A
56	4/19/2023	92.8	6701	5433	3541	418840	7016.74595	N/A
	AVERAGE	95	8,886	5,130	3,876	22,796,388	399,407	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	120	220	120	220
Sandy Siltstone	220	420	220	420
Sandstone, tr Siltstone	420	720	420	720
Sandy Siltstone	570	770	570	770
Sandstone	720	770	720	770
Sandstone, com LS	770	820	770	820
Silty Sandstone	820	870	820	870
Sandy Siltstone	870	1,070	870	1,070
Sandstone, rr Siltstone	1,070	1,370	1,070	1,370
Silty Sandstone, tr imb pyr	1,370	1,420	1,370	1,420
Silty Sandstone, com coal	1,420	1,570	1,420	1,570
Sandstone	1,570	1,620	1,570	1,620
Silty Sandstone	1,620	1,670	1,620	1,670
Sandstone, tr Coal	1,670	1,720	1,670	1,720
Silty Sandstone	1,720	1,751	1,720	1,774
Big Lime	1,781	2,515	1,774	2,577
Fifty Foot Sandstone	2,515	2,606	2,547	2,673
Gordon	2,606	2,802	2,643	2,881
Fifth Sandstone	2,802	3,186	2,851	3,282
Bayard	3,186	3,770	3,252	3,892
Speechley	3,770	4,062	3,862	4,201
Balltown	4,062	4,383	4,171	4,537
Bradford	4,383	4,683	4,507	4,851
Benson	4,683	4,992	4,821	5,176
Alexander	4,992	5,984	5,146	6,280
Sycamore	5,858	5,954	6,111	6,250
Middlesex	5,954	6,037	6,250	6,432
Burkett	6,037	6,057	6,432	6,484
Tully	6,057	6,059	6,484	6,491
Marcellus	6,059	N/A	6,491	N/A

\*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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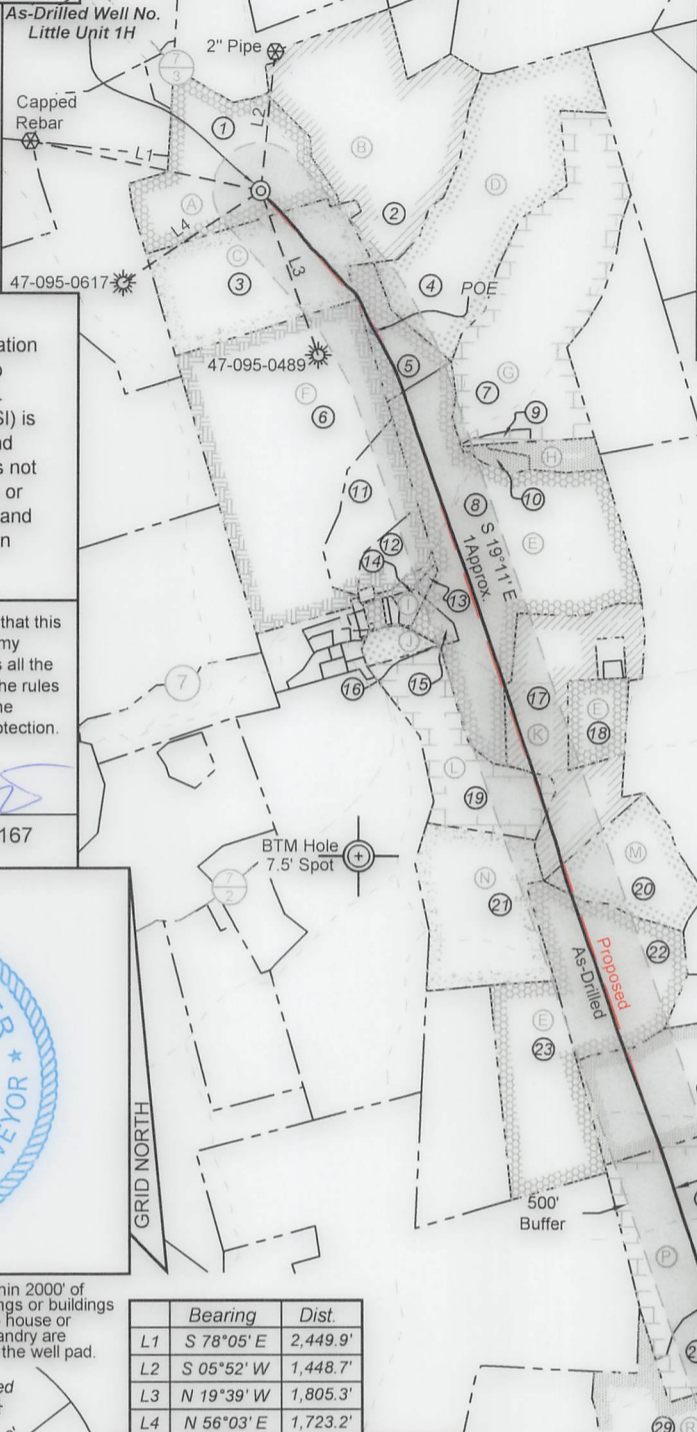
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02/09/2024

**Antero Resources**  
**Well No. Little 1H**  
**As-Drilled**  
 Antero Resources Corporation

2,032' to Top Hole  
 TOP HOLE LATITUDE 39 - 27 - 30  
 BTM HOLE LATITUDE 39 - 25 - 00



**Notes**  
 West Virginia Coordinate System of 1927, North Zone based upon Differential GPS Measurements. Well No. Little Unit 1H Top Hole coordinates are N: 339,070.05' Latitude: 39°25'16.11" E: 1,574,228.41' Longitude: 81°00'25.89" Bottom Hole coordinates are N: 326,970.47' Latitude: 39°23'17.34" E: 1,579,121.38' Longitude: 80°59'20.99" UTM Zone 17, NAD 1983  
 Top Hole Coordinates Bottom Hole Coordinates  
 N: 4,363,521.354m N: 4,359,860.108m  
 E: 499,395.497m E: 500,947.697m  
 Plat orientation and corner and well references are based upon the grid north meridian. Well location references are based upon the magnetic meridian.

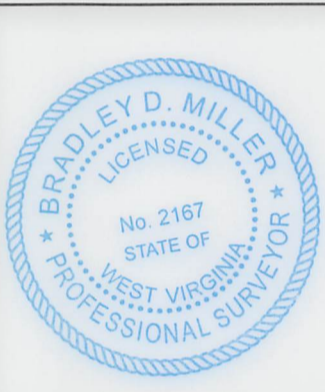
TOP HOLE LONGITUDE 81 - 00 - 00  
 BTM HOLE LONGITUDE 80 - 57 - 30

10,387' to Bottom Hole  
 13,547' to Top Hole

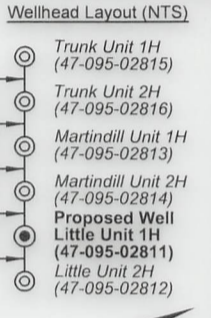
Top Hole Coordinates, As-drilled data, and information was provided by Antero Resources Corporation. Allegheny Surveys Inc. (ASI) is not certifying the data and information provided. ASI is not responsible for any errors or inaccuracies with the data and information that has been provided.

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 prescribed by the Department of Environmental Protection.

*Bradley D. Miller*  
 Bradley D. Miller, P.S. 2167



**Little Unit 1H As-Drilled POE Coordinates**  
 West Virginia Coordinate System of 1927, North Zone  
 N: 337,619.89' E: 1,575,417.64'  
 Latitude: 39°25'01.97" Longitude: 81°00'10.43" UTM Zone 17, NAD 1983  
 N: 4,363,085.613m E: 499,765.174m



Note: 8 water wells were found within 2000' of proposed well. No occupied dwellings or buildings 2,500 square feet or larger used to house or shelter dairy cattle or poultry husbandry are located within 625' of the center of the well pad.

	Bearing	Dist.
L1	S 78°05' E	2,449.9'
L2	S 05°52' W	1,448.7'
L3	N 19°39' W	1,805.3'
L4	N 56°03' E	1,723.2'



- Legend**
- As-Drilled gas well
  - ⊗ Monument, as noted
  - ⊙ Existing Well, as noted
  - ⊙ Digitized Well, as noted
  - Creek or Drain
  - Road
  - Surface boundary (approx.)
  - Interior surface tracts (approx.)
  - County Line

FILE NO: 125-54-M-22  
 DRAWING NO: Little Unit 1H As-Drilled  
 SCALE: 1" = 2000'  
 MINIMUM DEGREE OF ACCURACY: Submeter  
 PROVEN SOURCE OF ELEVATION: WVDOT, Harrisville, WV

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

DATE: August 17 2023  
 OPERATOR'S WELL NO. Little Unit 1H  
**API WELL NO**  
 47 - 095 - 02811  
 STATE COUNTY PERMIT

WELL TYPE:  OIL  GAS  LIQUID INJECTION  WASTE DISPOSAL  
 (IF GAS) PRODUCTION:  STORAGE  DEEP  SHALLOW  
 LOCATION: ELEVATION: As-Built: 937' WATERSHED: Outlet Middle Island Creek QUADRANGLE: TH:Bens Run BH:Middlebourne  
 DISTRICT: Meade COUNTY: Tyler **02/09/2024**  
 SURFACE OWNER: Shirley J. Wells & Arnold L. Schulberg Oil & Gas Trust; Steven L. & Jeral A. McGowan; 63,959.37;  
 Suise Cunningham; Ronald Grimes, et ux; William C. & Rebecca Doty; 228,798; 50; 31  
 ROYALTY OWNER: Greenbrier Royalty Fund II, LLC; Mary C. Robinson Living Trust; LEASE NO: ACREAGE: 26.38; 100; 61.3875  
 PROPOSED WORK:  DRILL  CONVERT  DRILL DEEPER  FRACTURE OR STIMULATE  PLUG OFF OLD FORMATION  
 PERFORATE NEW FORMATION  OTHER PHYSICAL CHANGE IN WELL (SPECIFY) As-Drilled 6,202' TVD  
 PLUG AND ABANDON  CLEAN OUT AND REPLUG TARGET FORMATION: Marcellus Shale ESTIMATED DEPTH: 17,812' MD

WELL OPERATOR: Antero Resources Corporation DESIGNATED AGENT: Kevin Ellis  
 ADDRESS: 1615 Wynkoop Street ADDRESS: 535 White Oaks Blvd.  
 Denver, CO 80202 Bridgeport, WV 26330






ID	TM/Par	Owner	Bk/Pg	Acres
1	7-2	Shirley J. Wells & Susie Cunningham	W41/317	53.85
2	7-3	Harry E., Jr. & Noreen M. West	328/530	88.00
3	7-8	John Wells	428/412	52.39
4	7-4	Marcia A. Hill	506/479	74.50
5	7-23	David Henderson & Sharley Shortridge	W47/263	16.07
6	7-12	Wilma Jane (Benefiel) Wagner	W35/225	110.30
7	7-9	Russell G. & Ruth M. Smith Family Trust	541/608	66.85
8	7-19	Darlene Henderson	W47/263	122.83
9	7-9.1	Russell E. & Janice Smith	332/234	1.65
10	7-13.1	Russell E. & Janice Smith	328/867	2.60
11	7-12.2	Gary W. Freeland	336/530	19.97
12	7-12.1	Gary W. Freeland	251/546	8.73
13	7-19.1/2	Kenneth G. Hall	555/34	0.45
14	7A-9	Jerry Irvin, Jr. & Linda Sue Lowther	568/361	2.00
15	7A-1	Trevor L. & Marinia M. Tallman	547/710	2.97
16	7A-1.1	Thaddeus R. & Deborah A. Biedrzycki	504/359	4.44
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23	10-7	David Henderson & Sharley Shortridge	W47/263	41.00
24	10-9	Charles L. & Laura McGowan, et al	348/320	61.51
25	10-23	BB Farm Investments LLC	594/417	66.69
26	10-18	Lyle A. Jackson, et al	348/697	18.31
27	10-22	Clayton Hill	321/409	15.00
28	10-20	Lyle A. Jackson, et al	348/697	56.88
29	10-34	Dale A. & Melanie L. Proctor	642/567	43.55

Leases	
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F	Wilma Jane Benefiel
G	Thereasa L. Wilson
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 Submeter  
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 WVDOT, Harrisville, WV

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

DATE: August 17 2023  
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 DISTRICT: Meade COUNTY: Tyler 02/09/2024

SURFACE OWNER: Shirley J. Wells & Arnold L. Schulberg Oil & Gas Trust; Steven L. & Jeral A. McGowan; 57.375  
 Suise Cunningham Ronald Grimes, et ux; William C. & Rebecca Doty; 63.95937;  
 ROYALTY OWNER: Greenbrier Royalty Fund II, LLC; Mary C. Robinson Living Trust; David C. Henderson; John E. Grimes, Jr., et ux 228.798; 50; 31  
 LEASE NO: ACREAGE: 26.38; 100; 61.3875

PROPOSED WORK:  DRILL  CONVERT  DRILL DEEPER  FRACTURE OR STIMULATE  PLUG OFF OLD FORMATION  
 PERFORATE NEW FORMATION  OTHER PHYSICAL CHANGE IN WELL (SPECIFY) As-Drilled 6.202' TVD

PLUG AND ABANDON  CLEAN OUT AND REPLUG TARGET FORMATION: Marcellus Shale ESTIMATED DEPTH: 17,812' MD

WELL OPERATOR: Antero Resources Corporation DESIGNATED AGENT: Kevin Ellis  
 ADDRESS: 1615 Wynkoop Street ADDRESS: 535 White Oaks Blvd.  
 Denver, CO 80202 Bridgeport, WV 26330

**Antero Resources  
Well No. Little 1H  
As-Drilled**  
Antero Resources Corporation

8,714' to Bottom Hole  
2,032' to Top Hole  
TOP HOLE LATITUDE 39 - 27 - 30  
BTM HOLE LATITUDE 39 - 25 - 00



As-Drilled Well No.  
Little Unit 1H

Capped Rebar

47-095-0617

47-095-0489

POE

1.6' Approx.

BTM Hole  
7.5' Spot

500' Buffer

Top Hole  
7.5' Spot

GRID NORTH

Little Unit 1H  
Bottom Hole

5' to 11' E

As-Drilled

Proposed

As-Drilled

Proposed

As-Drilled

Proposed

As-Drilled

Proposed

As-Drilled

Proposed

As-Drilled

Proposed

As-Drilled

Proposed

As-Drilled

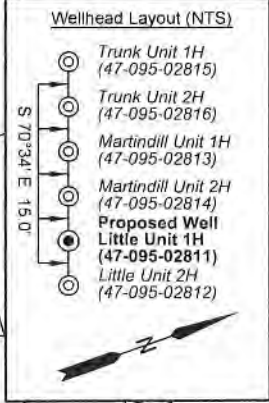
Proposed

As-Drilled

Proposed

**Notes**  
West Virginia Coordinate System of 1927, North Zone based upon Differential GPS Measurements.  
Well No. Little Unit 1H Top Hole coordinates are  
N: 339,070.05' Longitude: 81°00'25.89"  
E: 1,574,228.41' Longitude: 81°00'25.89"  
Bottom Hole coordinates are  
N: 326,970.47' Longitude: 81°00'17.34"  
E: 1,579,121.38' Longitude: 80°59'20.99"  
UTM Zone 17, NAD 1983  
Top Hole Coordinates Bottom Hole Coordinates  
N: 4,363,521.354m N: 4,359,860.108m  
E: 499,395.497m E: 500,947.697m  
Plat orientation and corner and well references are based upon the grid north meridian.  
Well location references are based upon the magnetic meridian.

**Little Unit 1H As-Drilled POE Coordinates**  
West Virginia Coordinate System of 1927, North Zone  
N: 337,619.89'  
E: 1,575,417.64'  
Latitude: 39°25'01.97"  
Longitude: 81°00'10.43"  
UTM Zone 17, NAD 1983  
N: 4,363,085.613m  
E: 499,765.174m



Top Hole Coordinates, As-drilled data, and information was provided by Antero Resources Corporation. Allegheny Surveys Inc. (ASI) is not certifying the data and information provided. ASI is not responsible for any errors or inaccuracies with the data and information that has been provided.

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 prescribed by the Department of Environmental Protection.

Bradley D. Miller, P.S. 2167



Note: 8 water wells were found within 2000' of proposed well. No occupied dwellings or buildings 2,500 square feet or larger used to house or shelter dairy cattle or poultry husbandry are located within 625' of the center of the well pad.



	Bearing	Dist.
L1	S 78°05' E	2,449.9'
L2	S 05°52' W	1,448.7'
L3	N 19°39' W	1,805.3'
L4	N 56°03' E	1,723.2'

- Legend**
- As-Drilled gas well
  - ⊕ Monument, as noted
  - ⊙ Existing Well, as noted
  - ⊙ Digitized Well, as noted
  - - - Creek or Drain
  - Road
  - Surface boundary (approx.)
  - - - Interior surface tracts (approx.)
  - - - County Line

FILE NO: 125-54-M-22  
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47 - 095 - 02811  
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TOP HOLE LONGITUDE 81 - 00 - 00  
BTM HOLE LONGITUDE 80 - 57 - 30

13,547' to Top Hole

10,387' to Bottom Hole

**Antero Resources**  
**Well No. Little 1H**  
**As-Drilled**  
 Antero Resources Corporation



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# Hydraulic Fracturing Fluid Product Component Information Disclosure

Job Start Date:	4/5/2023
Job End Date:	4/19/2023
State:	West Virginia
County:	Tyler
API Number:	47-095-02811-00-00
Operator Name:	Antero Resources Corporation
Well Name and Number:	Wrigley Little 1H
Latitude:	39.42113900
Longitude:	-80.00718900
Datum:	NAD27
Federal Well:	NO
Indian Well:	NO
True Vertical Depth:	6,200
Total Base Water Volume (gal):	17,390,200
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	86.86181	Density = 8.80
Ingredients	Listed Above	Listed Above					
			Water	7732-18-5	100.00000	0.17088	

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*SW*

HYDROCHLORIC ACID, 22 BAUME	Halliburton	Solvent					
				Listed Below			
Sand-Common White-100 Mesh, SSA-2	Halliburton	Proppant					
				Listed Below			
HAI-501	Halliburton	Acid Corrosion Inhibitor					
				Listed Below			
OPTIFLO-II DELAYED RELEASE BREAKER	Halliburton	Breaker					
				Listed Below			
WG-36 GELLING AGENT	Halliburton	Gelling Agent					
				Listed Below			
Chemstream StimSTREAM FR 2800	Chemstream, Inc.	Friction Reducer					
				Listed Below			
MC B-8614A	MultiChem	Biocide					
				Listed Below			
Excelerate LX-15	Halliburton	Friction Reducer					
				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	12.93922	
			Hydrochloric acid	7647-01-0	30.00000	0.04070	
			Complex Amine Compound	Proprietary	60.00000	0.02713	
			Hydrotreated light petroleum distillate	64742-47-8	30.00000	0.01356	
			Guar gum	9000-30-0	100.00000	0.00542	
			Glutaraldehyde	111-30-8	30.00000	0.00243	
			Sobitan, mono-9-octadecenoate, (Z)	1338-43-8	5.00000	0.00226	
			Surfactant	Proprietary	5.00000	0.00226	
			Distillates, (petroleum), hydrotreated light	64742-47-8	25.00000	0.00105	
			Ethoxylated alcohols	Proprietary	5.00000	0.00046	
			Alkoxyated polyhydric alcohol	Proprietary	1.00000	0.00045	
			Organic chloride compound	Proprietary	1.00000	0.00045	
			Alkyl (C12-16) dimethylbenzyl ammonium chloride	68424-85-1	5.00000	0.00040	
			Methanol	67-56-1	100.00000	0.00025	
			Alcohols, C11-14-iso, C-13-rich, ethoxylated	78330-21-9	5.00000	0.00021	
			Ammonium persulfate	7727-54-0	100.00000	0.00016	
			Ethanol	64-17-5	1.00000	0.00008	
			Modified thiourea polymer	Proprietary	30.00000	0.00008	
			Mixture of dimer and trimer fatty acids of indefinite composition derived from tall oil	61790-12-3	30.00000	0.00008	
			Oxylated phenolic resin	Proprietary	30.00000	0.00005	
			Propargyl alcohol	107-19-7	5.00000	0.00001	
			Hexadecene	629-73-2	5.00000	0.00001	
			Acrylamide	79-06-1	0.01000	0.00000	

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			Organic salt #1	Proprietary	0.01000	0.00000	
			Nitrated acetate salt	Proprietary	0.01000	0.00000	
			Organic salt #2	Proprietary	0.01000	0.00000	
			Sodium glycolate	2836-32-0	0.01000	0.00000	
			Formaldehyde	50-00-0	0.01000	0.00000	
			Sodium hydroxide	1310-73-2	0.01000	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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