

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

API 47-095-02778 County Tyler District Lincoln  
Quad Paden City Pad Name Nalley Pad Field/Pool Name -----  
Farm name Robert D. & Virginia A. Nalley Well Number Jed 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 4377205m Easting 503892m  
Landing Point of Curve Northing 4377095.203m Easting 502085.01m  
Bottom Hole Northing 4372802m Easting 503547m

Elevation (ft) 972' 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 1/21/2022 Date drilling commenced 3/11/2022 Date drilling ceased 5/24/2022  
Date completion activities began 6/24/2022 Date completion activities ceased 8/30/2022  
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

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Freshwater depth(s) ft 264' Open mine(s) (Y/N) depths No WV Department of Environmental Protection  
Salt water depth(s) ft 1376' Void(s) encountered (Y/N) depths No  
Coal depth(s) ft No Cavern(s) encountered (Y/N) depths No  
Is coal being mined in area (Y/N) No

Reviewed by: JMey  
2/14/23

API 47-095 - 02778 Farm name Robert D. & Virginia A. Nalley Well number Jed 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	78.67#, X-60	N/A	Y
Surface	17-1/2"	13-3/8"	388'	New	54.5#, J-55	N/A	Y
Coal							
Intermediate 1	12-1/4"	9-5/8"	2608'	New	36#, J-55	N/A	Y
Intermediate 2							
Intermediate 3							
Production	8-1/2"/8-3/4"	5-1/2"	21383'	New	20#, P-110cy	N/A	Y
Tubing		2-3/8"	6328'		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	190 sx	15.6	1.18	224	0'	8 Hrs.
Surface	Class A	330 sx	15.8	1.20	396	0'	8 Hrs.
Coal							
Intermediate 1	Class C	922 sx	15.8	1.16	1070	0'	8 Hrs.
Intermediate 2							
Intermediate 3							
Production	Class H	3643 sx (Tail)	8.33 (Lead), 15.2(Tail)	1.18 (Tail)	4299	~500' into Intermediate Casing	8 Hrs.
Tubing							

Drillers TD (ft) 21383' MD, 6255' TVD (BHL), 6255' (Deepest Point Drilled) Loggers TD (ft) 21383' MD

Deepest formation penetrated Marcellus Plug back to (ft) N/A

Plug back procedure N/A

Kick off depth (ft) 5476'

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

Well cored  Yes  No Conventional Sidewall Were cuttings collected  Yes  No

DESCRIBE THE CENTRALIZER PLACEMENT USED FOR EACH CASING STRING \_\_\_\_\_

Conductor - 0  
Surface - 1 above guide shoe, 1 above insert float, 1 every 4th joint to surface  
Intermediate - 1 above float joint, 1 above float collar, 1 every 4th joint to surface  
Production - 1 above float joint, 1 below float collar, 1 every 3rd joint to top of cement

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

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

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

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*SMG*  
*2/19/23*

API 47- 095 - 02778 Farm name Robert D. & Virginia A. Nalley Well number Jed 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

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

Please insert additional pages as applicable.

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*Smiley  
2/19/23*

API 47- 095 - 02778 Farm name Robert D. & Virginia A. Nalley Well number Jed Unit 1H

<u>PRODUCING FORMATION(S)</u>	<u>DEPTHS</u>	
<u>Marcellus</u>	<u>6066' (TOP)</u> TVD	<u>6464' (TOP)</u> MD
_____	_____	_____
_____	_____	_____
_____	_____	_____

Please insert additional pages as applicable.

GAS TEST  Build up  Drawdown  Open Flow OIL TEST  Flow  Pump  
 SHUT-IN PRESSURE Surface 1343 psi Bottom Hole --- psi DURATION OF TEST --- hrs  
 OPEN FLOW Gas 17,439 mcfpd Oil 501 bpd NGL --- bpd Water 2,058 bpd GAS MEASURED BY  Estimated  Orifice  Pilot

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

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

*Smey*  
*2/9/23*

API 47-095-02778 Farm Name Robert D. & Virginia A. Nalley Well Number Jed Unit 1H

Exhibit 1

Stage No.	Perforation Date	Perforated from MD ft.	Perforated to MD ft.	Number of Perforations	Formations
1	06/24/2022	21250.7	21205	60	Marcellus
2	06/25/2022	21166.3	21000.6	60	Marcellus
3	06/25/2022	20965.1	20799.4	60	Marcellus
4	06/25/2022	20763.9	20598.3	60	Marcellus
5	06/26/2022	20562.7	20397.1	60	Marcellus
6	06/26/2022	20361.6	20195.9	60	Marcellus
7	06/26/2022	20160.4	19994.7	60	Marcellus
8	06/27/2022	19959.2	19793.6	60	Marcellus
9	06/27/2022	19758.0	19592.4	60	Marcellus
10	06/27/2022	19556.9	19391.2	60	Marcellus
11	06/27/2022	19355.7	19190.0	60	Marcellus
12	06/28/2022	19154.5	18988.9	60	Marcellus
13	06/28/2022	18953.3	18787.7	60	Marcellus
14	06/28/2022	18752.2	18586.5	60	Marcellus
15	06/28/2022	18551.0	18385.3	60	Marcellus
16	06/29/2022	18349.8	18184.2	60	Marcellus
17	06/29/2022	18148.6	17983.0	60	Marcellus
18	06/29/2022	17947.5	17781.8	60	Marcellus
19	06/29/2022	17746.3	17580.6	60	Marcellus
20	06/29/2022	17545.1	17379.5	60	Marcellus
21	06/30/2022	17343.9	17178.3	60	Marcellus
22	06/30/2022	17142.8	16977.1	60	Marcellus
23	06/30/2022	16941.6	16775.9	60	Marcellus
24	06/30/2022	16740.4	16574.8	60	Marcellus
25	06/30/2022	16539.2	16373.6	60	Marcellus
26	07/01/2022	16338.1	16172.4	60	Marcellus
27	07/01/2022	16136.9	15971.2	60	Marcellus
28	07/01/2022	15935.7	15770.1	60	Marcellus
29	07/01/2022	15734.5	15568.9	60	Marcellus
30	07/02/2022	15533.4	15367.7	60	Marcellus
31	07/02/2022	15332.2	15166.5	60	Marcellus
32	07/02/2022	15131.0	14965.4	60	Marcellus
33	07/02/2022	14929.8	14764.2	60	Marcellus
34	07/02/2022	14728.7	14563.0	60	Marcellus
35	07/03/2022	14527.5	14361.8	60	Marcellus
36	07/03/2022	14326.3	14160.7	60	Marcellus
37	07/03/2022	14125.1	13959.5	60	Marcellus
38	07/03/2022	13924.0	13758.3	60	Marcellus
39	07/04/2022	13722.8	13557.1	60	Marcellus
40	07/04/2022	13521.6	13356.0	60	Marcellus
41	07/04/2022	13320.4	13154.8	60	Marcellus
42	07/04/2022	13119.3	12953.6	60	Marcellus
43	07/04/2022	12918.1	12752.4	60	Marcellus
44	07/04/2022	12716.9	12551.3	60	Marcellus
45	07/05/2022	12515.7	12350.1	60	Marcellus
46	07/05/2022	12314.6	12148.9	60	Marcellus
47	07/05/2022	12113.4	11947.7	60	Marcellus
48	07/05/2022	11912.2	11746.6	60	Marcellus
49	07/05/2022	11711.0	11545.4	60	Marcellus
50	07/05/2022	11509.9	11344.2	60	Marcellus
51	07/06/2022	11308.7	11143.0	60	Marcellus
52	07/06/2022	11107.5	10941.9	60	Marcellus
53	07/06/2022	10906.3	10740.7	60	Marcellus
54	07/06/2022	10705.2	10539.5	60	Marcellus
55	07/07/2022	10504.0	10338.3	60	Marcellus
56	07/07/2022	10302.8	10137.2	60	Marcellus
57	07/07/2022	10101.6	9936.0	60	Marcellus
58	07/08/2022	9900.5	9734.8	60	Marcellus
59	07/09/2022	9699.3	9533.6	60	Marcellus
60	07/09/2022	9498.1	9332.5	60	Marcellus
61	07/09/2022	9296.9	9131.3	60	Marcellus
62	07/09/2022	9095.8	8930.1	60	Marcellus
63	07/09/2022	8894.6	8728.9	60	Marcellus
64	07/10/2022	8693.4	8527.8	60	Marcellus
65	07/10/2022	8492.2	8326.6	60	Marcellus
66	07/10/2022	8291.0	8125.4	60	Marcellus
67	07/10/2022	8089.9	7924.2	60	Marcellus
68	07/10/2022	7888.7	7723.1	60	Marcellus
69	07/10/2022	7687.5	7521.9	60	Marcellus
70	07/11/2022	7486.3	7320.7	60	Marcellus
71	07/11/2022	7285.2	7119.5	60	Marcellus
72	07/11/2022	7084.0	6918.4	60	Marcellus
73	07/11/2022	6882.8	6717.2	60	Marcellus
74	07/11/2022	6681.6	6516	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 Propan (lbs)	Amount of Water (bbls)	Amount of Nitrogen/ other (units)
1	06/24/2022	81.6	9,701	5,480	4,141	179,420	219,667	N/A
2	06/25/2022	92.3	9,839	4,763	4,073	408,100	325,760	N/A
3	06/25/2022	94.7	10,153	4,895	4,339	401,030	308,434	N/A
4	06/25/2022	93.6	10,063	8,453	4,071	416,180	319,349	N/A
5	06/26/2022	90.9	9,651	8,249	3,945	398,700	311,869	N/A
6	06/26/2022	93.7	10,012	4,969	3,826	408,800	307,580	N/A
7	06/26/2022	90.4	9,784	4,911	3,733	402,910	307,990	N/A
8	06/27/2022	93.1	9,710	8,391	3,793	411,890	316,832	N/A
9	06/27/2022	94.7	9,945	4,875	4,054	411,270	311,601	N/A
10	06/27/2022	95.9	9,811	4,989	3,460	404,720	306,642	N/A
11	06/27/2022	93.1	9,570	8,489	3,579	413,640	314,186	N/A
12	06/28/2022	94.3	9,804	8,392	3,791	411,760	307,888	N/A
13	06/28/2022	96.2	9,983	5,373	3,430	399,680	294,160	N/A
14	06/28/2022	94.9	9,799	4,088	3,692	400,900	292,456	N/A
15	06/28/2022	96.6	9,885	3,869	3,586	399,980	293,108	N/A
16	06/29/2022	93.5	9,665	5,502	3,993	397,880	295,141	N/A
17	06/29/2022	96.6	9,887	5,444	4,022	396,890	289,947	N/A
18	06/29/2022	96.2	9,809	5,375	3,736	414,100	327,659	N/A
19	06/29/2022	94.9	9,595	8,456	3,968	410,170	357,021	N/A
20	06/29/2022	95.0	9,502	5,587	3,825	402,000	291,180	N/A
21	06/30/2022	95.7	9,739	8,259	3,625	396,580	292,898	N/A
22	06/30/2022	97.6	9,798	4,205	3,689	400,070	290,806	N/A
23	06/30/2022	97.1	9,838	4,288	3,660	416,950	295,142	N/A
24	06/30/2022	96.4	10,007	3,909	3,761	397,480	287,179	N/A
25	06/30/2022	97.3	9,807	5,676	3,604	402,290	290,317	N/A
26	07/01/2022	96.8	9,841	5,602	3,592	401,050	293,471	N/A
27	07/01/2022	97.6	9,827	5,489	3,808	413,850	296,235	N/A
28	07/01/2022	97.3	9,653	5,217	3,411	398,340	288,456	N/A
29	07/01/2022	96.8	9,587	5,752	3,458	419,910	301,166	N/A
30	07/02/2022	97.4	9,501	5,358	3,699	407,220	293,873	N/A
31	07/02/2022	98.0	9,561	5,695	3,718	405,860	291,169	N/A
32	07/02/2022	98.1	9,568	5,692	3,748	416,960	293,682	N/A
33	07/02/2022	97.7	9,318	4,370	3,706	418,200	296,198	N/A
34	07/02/2022	97.5	9,264	5,785	3,724	399,520	288,677	N/A
35	07/03/2022	97.5	9,257	5,082	3,721	399,760	291,086	N/A
36	07/03/2022	97.7	8,908	5,622	4,089	404,260	290,920	N/A
37	07/03/2022	98.1	8,916	5,762	3,785	401,060	293,722	N/A
38	07/03/2022	92.3	8,661	4,801	3,626	410,630	290,422	N/A
39	07/04/2022	96.6	8,815	3,960	3,815	400,440	292,204	N/A
40	07/04/2022	96.1	8,736	4,006	3,677	404,380	289,963	N/A
41	07/04/2022	98.4	8,946	6,090	3,845	403,380	289,292	N/A
42	07/04/2022	98.5	8,995	5,880	3,880	398,520	330,046	N/A
43	07/04/2022	98.3	8,946	5,410	3,618	397,490	287,861	N/A
44	07/04/2022	96.4	8,702	5,162	3,776	401,420	287,276	N/A
45	07/05/2022	97.7	8,655	5,289	3,678	404,240	294,592	N/A
46	07/05/2022	97.9	8,642	5,486	3,513	397,540	288,378	N/A
47	07/05/2022	98.3	8,533	5,328	3,850	396,610	287,473	N/A
48	07/05/2022	98.4	8,508	5,552	3,661	412,330	291,875	N/A
49	07/05/2022	97.8	8,484	5,129	3,667	399,640	286,198	N/A
50	07/05/2022	96.1	8,372	5,953	3,956	400,820	284,990	N/A
51	07/06/2022	94.4	8,208	7,505	4,448	400,000	328,356	N/A
52	07/06/2022	98.2	8,402	6,068	3,704	402,470	288,978	N/A
53	07/06/2022	98.2	8,205	5,594	3,707	415,490	291,871	N/A
54	07/06/2022	96.5	8,180	6,085	3,528	398,090	286,222	N/A
55	07/07/2022	97.2	7,950	5,655	3,603	399,900	279,119	N/A
56	07/07/2022	96.9	8,053	5,622	3,359	401,410	285,804	N/A
57	07/07/2022	98.2	8,084	5,249	3,631	398,230	287,990	N/A
58	07/08/2022	98.2	8,123	5,917	3,564	398,560	281,704	N/A
59	07/09/2022	98.0	7,903	7,820	3,766	501,030	280,291	N/A
60	07/09/2022	98.5	7,840	5,334	3,464	416,680	291,446	N/A
61	07/09/2022	98.2	7,898	5,594	3,476	407,400	288,742	N/A
62	07/09/2022	98.1	7,823	5,843	3,492	416,130	291,882	N/A
63	07/09/2022	98.0	7,848	5,355	3,455	415,550	286,556	N/A
64	07/10/2022	98.9	7,739	6,067	3,390	397,020	279,043	N/A
65	07/10/2022	99.1	7,792	6,040	3,438	417,170	287,821	N/A
66	07/10/2022	97.9	7,566	5,525	3,602	416,100	293,093	N/A
67	07/10/2022	98.8	7,449	5,323	3,629	416,340	290,637	N/A
68	07/10/2022	98.7	8,289	5,693	3,339	412,040	289,534	N/A
69	07/10/2022	98.5	8,292	6,142	3,756	403,300	285,792	N/A
70	07/11/2022	99.3	7,807	6,055	3,498	404,170	281,402	N/A
71	07/11/2022	97.9	7,725	6,240	3,378	414,420	288,744	N/A
72	07/11/2022	98.4	7,543	5,533	3,372	417,320	290,821	N/A
73	07/11/2022	98.6	7,593	5,517	3,422	401,530	284,765	N/A
74	07/11/2022	98.0	7,306	5,103	3,343	397,490	288,592	N/A
AVG=		97	8,935	5,692	3,700	29,884,660	21,803,312	TOTAL

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## EXHIBIT 3

LITHOLOGY/ FORMATION	TOP DEPTH (TVD)	BOTTOM DEPTH (TVD)	TOP DEPTH (MD)	BOTTOM DEPTH (MD)
	From Surface	From Surface	From Surface	From Surface
Sandstone	370	420	370	420
Silty Sandstone, Tr Shale	420	470	420	470
Sandy Siltstone, occ Shale	470	670	470	670
Silty Sandstone, tr Shale	670	820	670	820
Sandstone, Tr coal	820	1,020	820	1,020
Sandstone, occ Shale, Tr siltstone	1,020	1,170	1,020	1,170
Shaley Sandstone	1,170	1,270	1,170	1,270
Sandstone, Tr coal	1,270	1,420	1,270	1,420
Silty Sandstone, occ Shale	1,420	1,470	1,420	1,470
Silty Sandstone, tr Shale	1,470	1,520	1,470	1,520
Sandy Siltstone	1,520	1,620	1,520	1,620
Sandstone, occ Siltstone	1,620	1,720	1,620	1,720
Sandy Siltstone; tr drsy pyr	1,720	1,740	1,720	1,722
Big Lime	1,740	2,193	1,722	2,198
Fifty Foot Sandstone	2,193	2,603	2,198	2,628
Gordon	2,603	2,771	2,628	2,802
Fifth Sandstone	2,771	3,064	2,802	3,108
Bayard	3,064	3,736	3,108	3,807
Speechley	3,736	4,026	3,807	4,111
Balltown	4,026	4,461	4,111	4,561
Bradford	4,461	4,762	4,561	4,873
Benson	4,762	4,979	4,873	5,097
Alexander	4,979	5,863	5,097	6,076
Sycamore	5,863	5,959	6,076	6,217
Middlesex	5,959	6,037	6,217	6,376
Burkett	6,037	6,066	6,376	6,464
Marcellus	6,066	NA	6,464	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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WV Department of  
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# Hydraulic Fracturing Fluid Product Component Information Disclosure

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JAN 23 2023  
WV Department of  
Environmental Protection

Job Start Date:	6/24/2022
Job End Date:	7/11/2022
State:	West Virginia
County:	Tyler
API Number:	47-095-02778-00-00
Operator Name:	Antero Resources Corporation
Well Name and Number:	Jed 1H
Latitude:	39.54443000
Longitude:	-80.95488000
Datum:	WGS84
Federal Well:	NO
Indian Well:	NO
True Vertical Depth:	6,253
Total Base Water Volume (gal):	22,809,596
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	86.47938	Density = 8.50
Ingredients	Listed Above	Listed Above					
			Water	7732-18-5	100.00000	0.16887	



FDP-S1443-21	Halliburton	Corrosion Inhibitor					
				Listed Below			
MC B-8614A	MultiChem	Biocide					
				Listed Below			
Sand-Premium White-30/70	Halliburton	Proppant					
				Listed Below			
WG-36 GELLING AGENT	Halliburton	Gelling Agent					
				Listed Below			
OPTIFLO-II DELAYED RELEASE BREAKER	Halliburton	Breaker					
				Listed Below			
Excelerate LX-15	Halliburton	Friction Reducer					
				Listed Below			
HYDROCHLORIC ACID, 22 BAUME	Halliburton	Solvent					
				Listed Below			
Sand-Common White-100 Mesh, SSA-2	Halliburton	Proppant					
				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	13.32984	
			Hydrochloric acid	7647-01-0	30.00000	0.04039	
			Complex Amine Compound	Proprietary	60.00000	0.02611	
			Hydrotreated light petroleum distillate	64742-47-8	30.00000	0.01305	
			Guar gum	9000-30-0	100.00000	0.00415	
			Glutaraldehyde	111-30-8	30.00000	0.00244	
			Sorbitan, mono-9-octadecenoate, (Z)	1338-43-8	5.00000	0.00218	
			Surfactant	Proprietary	5.00000	0.00218	
			Ethoxylated alcohols	Proprietary	30.00000	0.00051	
			Alkoxyated polyhydric alcohol	Proprietary	1.00000	0.00044	
			Organic chloride compound	Proprietary	1.00000	0.00044	
			Alkyl (C12-16) dimethylbenzyl ammonium chloride	68424-85-1	5.00000	0.00041	
			Methanol	67-56-1	100.00000	0.00024	
			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	
			Modified thiourea polymer	Proprietary	10.00000	0.00002	
			Aldehyde	Proprietary	5.00000	0.00001	
			Mixture of dimer and trimer fatty acids of indefinite composition derived from tall oil	61790-12-3	5.00000	0.00001	
			Formaldehyde	50-00-0	0.01000	0.00000	
			Organic salt #2	Proprietary	0.01000	0.00000	
			Organic salt #1	Proprietary	0.01000	0.00000	
			Sodium hydroxide	1310-73-2	0.01000	0.00000	
			Acrylamide	79-06-1	0.01000	0.00000	
			Sodium glycolate	2836-32-0	0.01000	0.00000	

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			Nitrated acetate salt	Proprietary	0.01000	0.00000	
			1-Hexadecene	629-73-2	1.00000	0.00000	
			1-Octadecene	112-88-9	1.00000	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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**Antero Resources**  
**Well No. Jed 1H**  
**As-Drilled**  
 Antero Resources Corporation



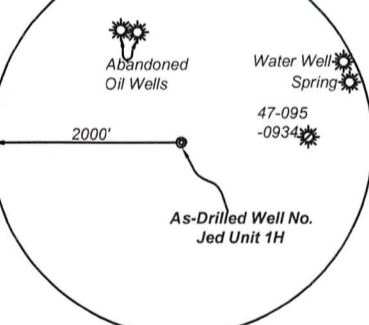
Top Hole Coordinates, As-drilled data, and information was provided by Antero Resources Corporation. Allegheny Surveys Inc. (ASI) is not certifying the data and information provided. ASI is not responsible for any errors or inaccuracies with the data and information that has been provided.

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



Note: 1 water well and 1 spring 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	N 68°16' E	810.9'
L2	N 81°50' E	1,865.1'
L3	S 73°16' W	1,340.5'
L4	N 25°18' W	1,603.0'

- Legend
- Proposed gas well
  - Monument, as noted
  - Existing Well, as noted
  - Digitized Well, as noted
  - Creek or Drain
  - Road
  - Surface boundary (approx.)
  - Interior surface tracts (approx.)

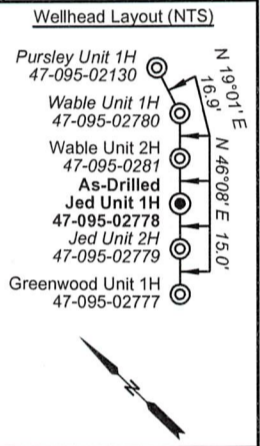
See Detail (Page 2)

Top Hole 7.5' Spot

BTM Hole 7.5' Spot

**Notes**  
 West Virginia Coordinate System of 1927, North Zone based upon Differential GPS Measurements.  
 Well No. Jed Unit 1H Top Hole coordinates are  
 N: 383,726.78' Latitude: 39°32'39.96"  
 E: 1,589,732.35' Longitude: 80°57'17.56"  
 Bottom Hole coordinates are  
 N: 369,216.66' Latitude: 39°30'17.11"  
 E: 1,593,144.86' Longitude: 80°56'31.03"  
 UTM Zone 17, NAD 1983  
 Top Hole Coordinates Bottom Hole Coordinates  
 N: 4,377,205.222m N: 4,372,802.003m  
 E: 503,891.760m E: 505,005.085m  
 Plat orientation and corner and well references are based upon the grid north meridian.  
 Well location references are based upon the magnetic meridian.

Jed Unit 1H As-Drilled POE Coordinates  
 West Virginia Coordinate System of 1927, North Zone  
 N: 383,384.69'  
 E: 1,588,594.12'  
 Latitude: 39°32'36.40"  
 Longitude: 80°57'32.02"  
 UTM Zone 17, NAD 1983  
 N: 4,377,095.203m  
 E: 503,546.731m



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

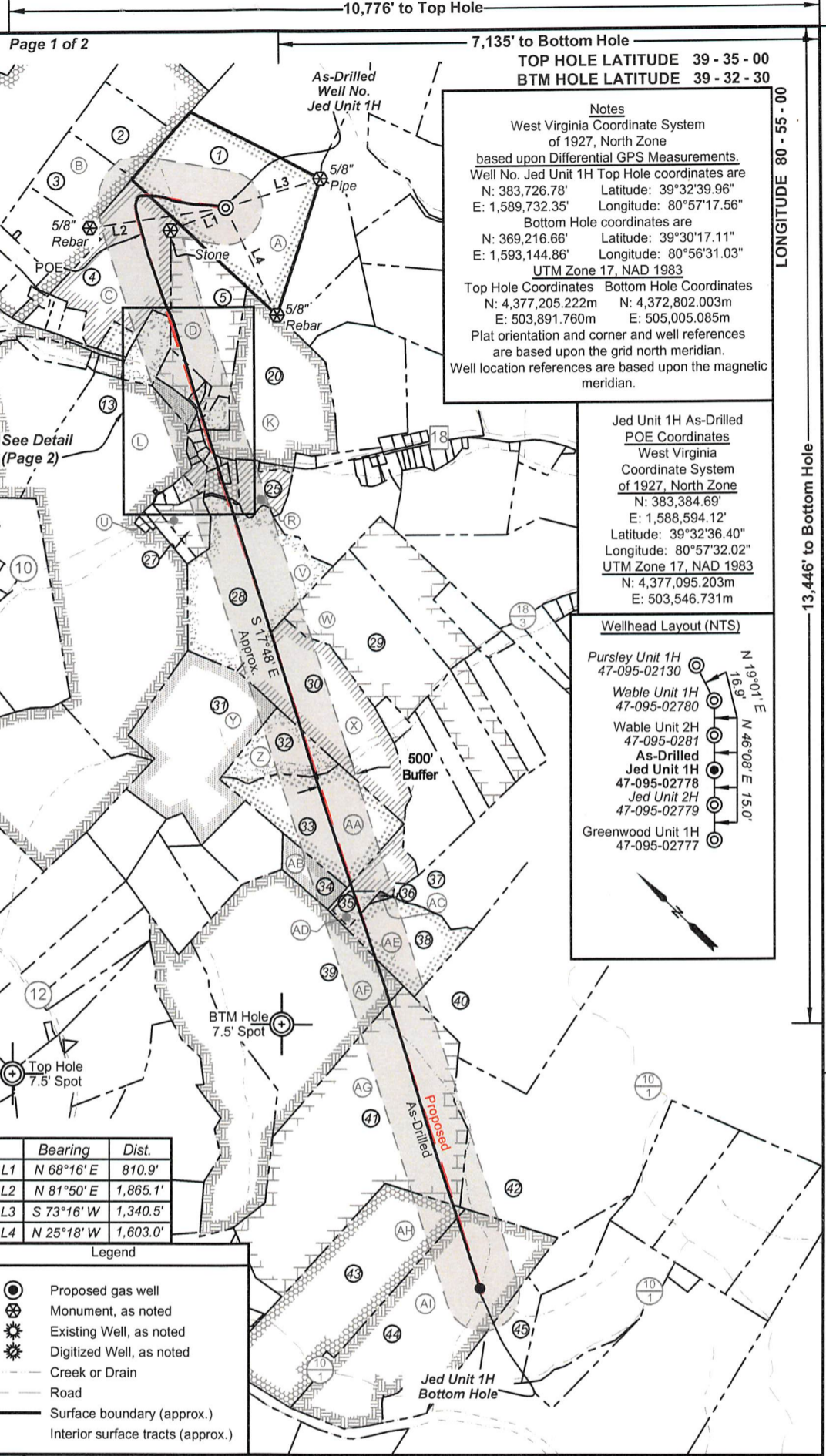
FILE NO: 34-54-L-17  
 DRAWING NO: Jed Unit 1H As-Drilled  
 SCALE: 1" = 2000'  
 MINIMUM DEGREE OF ACCURACY: Submeter  
 PROVEN SOURCE OF ELEVATION: WVDOT, Harrisville, WV

DATE: December 6 2022  
 OPERATOR'S WELL NO. Jed Unit 1H  
 API WELL NO  
 47 - 095 - 02778  
 STATE COUNTY PERMIT

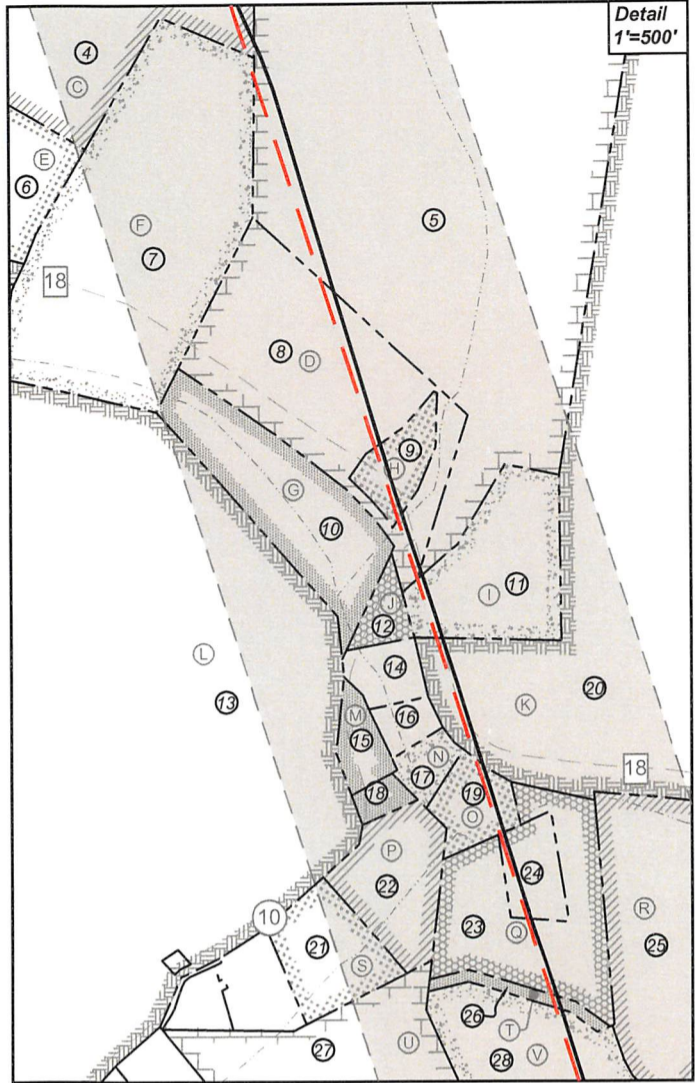
WELL TYPE:  OIL  GAS  LIQUID INJECTION  WASTE DISPOSAL  
 (IF GAS) PRODUCTION:  STORAGE  DEEP  SHALLOW

LOCATION: ELEVATION: As-Built 971.8' WATERSHED: Middle Island Creek QUADRANGLE: Paden City 48.1; 80; 53.7; 0.922;  
 DISTRICT: Lincoln Robert D. & Ridgetop Capital, LP (2); Central Trinity Methodist Church; COUNTY: Tyler 0.85; 140.0; 49.146;  
 SURFACE OWNER: Virginia A. Nalley Leslie R. Tennant; Debra Lynn Warner; BRC Appalachian Minerals I, LLC (2); 3.16563; 6.444; 2.44;  
 ROYALTY OWNER: Robert D. Nalley, et ux (3); Thomas D. Butterfield, et ux; Michael A. Mars, et ux; Donald L. George, et ux; Stacey Lynn Carney, et vir; Matthew Goodfellow; ACREAGE: 80.00 71.99; 69.15; 50.0;  
 PROPOSED WORK:  DRILL  CONVERT  DRILL DEEPER  FRACTURE OR STIMULATE  PLUG OFF OLD FORMATION  
 PERFORATE NEW FORMATION  OTHER PHYSICAL CHANGE IN WELL (SPECIFY) As-Drilled 17.0; 3.33; 205.862;  
 PLUG AND ABANDON  CLEAN OUT AND REPLUG TARGET FORMATION: Marcellus Shale ESTIMATED DEPTH: 21,383' MD 6,255' TVD

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. Jed 1H**  
**As-Drilled**  
 Antero Resources Corporation



ID	TM/Par	Owner	Bk/Pg	Acres
1	8-54	Robert D. & Virginia A. Nalley	198/41	80.00
2	8-38.3	Joann & Howard L. Schubach Jr.	467/383	21.17
3	8-38.5	Donald D. & Alice J. Haught	300/583	21.17
4	8-53	Robert D. & Virginia A. Nalley	200/53	48.10
5	12-13	Robert D. & Virginia A. Nalley	183/452	38.75
6	12-11	Kenneth R. & Mary Joanne Hunt	231/387	3.00
7	12-12	George & Mary Jo Miller	195/44	9.33
8	12-14	Robert D. Nalley	393/662	7.35
9	12-14.1	Robert D. & Virginia Nalley	424/382	0.85
10	12-28	Warren C. & Erica N. Conklin	400/261	3.75
11	12-15	Pursley Cemetery	97/2	3.16
12	12A-1	Donald B. & Barbara S. Stokes	270/372	0.43
13	12-27	William P. & Jo Anne Ingram	156/175	183.16
14	12A-2	Church of Christ	85/552	0.66
15	12A-4	Eric J. Fletcher	666/526	0.44
16	12A-3	Pursley Church of Christ	358/83	0.42
17	12A-5	Stephen M. Johnson	AR51/1229	0.68
18	12A-6	Eric J. Fletcher	666/526	0.29
19	12A-7	Michael A. & Cheryl A. Mars	619/130	0.83
20	12-16	Harry Huff	230/546	45.11
21	12-32.1	Kay K. & Donald L. Steward	311/676	1.66
22	12-32	David R. & Nancy J. Goodfellow	311/618	1.94
23	12-34	Ronald L. & Donna L. George	372/167	5.13
24	12-33	Ronald L. & Donna L. George	372/167	0.85
25	12-35	Dale E. Berisford	307/443	9.21
26	12-34.1	Stacey Lynn Carney, et al	W53/701	0.90
27	12-38	Dena Grimes	W35/150	9.64
28	12-39	Stacey Carney, et al	W53/701	71.99
29	12-53.4	Walter J. West	359/817	52.95
30	12-52	Leslie Ray Tennant	382/603	69.15
31	12-51	Rickie Lee Littleton	281/193	61.23
32	12-61	Melinda A. King	568/757	17.00
33	12-62	Leslie Ray Tennant, et al	282/305	50.00
34	12-63	Melinda A. King	568/757	8.66
35	12-64	Ridgetop Capital, LP	375/206	3.33
36	12-65	GR Meckley Family Trust	OR50/28	0.50
37	12-67	Leslie R. Tennant, et al	283/574	54.07
38	12-66	Eugene W. & Leah M. Gilmore	286/7	25.00
39	15-9	Ridgetop Capital, LP	375/206	120.00
40	15-20	James L. & Martha Jo Stewart	330/936	76.10
41	15-13	B. F., Ben H. & Ida M. Kile	174/412	140.00
42	13-1	James L. & Martha Jo Stewart	330/931	194.04
43	15-16	Mary Ann Devine, et al	W36/282	81.67
44	15-17	Earl & Donna Smith	191/12	127.39
45	13-3.5	Lisa M. Beane	406/668	17.64

Leases			
A	Robert D. Nalley, et ux	S	Donald L. Steward, et ux
B	Robert L. Keller	T	Stacey Lynn Carney, et vir
C	Robert D. Nalley, et ux	U	Dena Raye Grimes
D	Robert D. Nalley, et ux	V	Matthew Goodfellow
E	Kenneth R. Hunt	W	Walter J. West
F	George E. Miller, et ux	X	Leslie R. Tennant
G	Warren C. Conklin, et ux	Y	Larry Folger, et ux
H	Thomas D. Butterfield, et ux	Z	BRC Appalachian Minerals I, LLC
I	Pursley Cemetery	AA	BRC Appalachian Minerals I, LLC
J	Donald B. & Barbara S. Stokes	AB	BRC Appalachian Minerals I, LLC
K	Harry H. Huff, et ux	AC	Gerald Meckley
L	William P. Ingram	AD	Ridgetop Capital, LP
M	Kimberly Wilcox	AE	Central Trinity Methodist Church
N	Stephen M. Johnson	AF	Ridgetop Capital, LP
O	Michael A. Mars, et ux	AG	Donald H. Lancaster, Jr.
P	Lisa J. York	AH	Debra Lynn Warner
Q	Ronald L. George et ux	AI	Donna Smith
R	Dale E. Berisford		

FILE NO: 34-54-L-17  
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 WVDOT, Harrisville, WV

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



DATE: December 6 20 22  
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 47 - 095 - 02778  
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