

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

API 47 - 095 - 02847 County Tyler District Union/Lincoln
Quad TH: Middlebourne BH: Paden City Pad Name Roma Lou Field/Pool Name -----
Farm name Antero Resources Corporation Well Number Calvin 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 4370608.488m Easting 502231.317m
Landing Point of Curve Northing 4349757.05m Easting 535888.35m
Bottom Hole Northing 4375170.164m Easting 500398.106m

Elevation (ft) 883' 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 3/13/2023 Date drilling commenced 4/18/2023 Date drilling ceased 6/13/2023
Date completion activities began 9/8/2023 Date completion activities ceased 10/18/2023
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 168' Open mine(s) (Y/N) depths No
Salt water depth(s) ft 1678' Void(s) encountered (Y/N) depths No
Coal depth(s) ft 622' Cavern(s) encountered (Y/N) depths No
Is coal being mined in area (Y/N) No

APPROVED

Reviewed by: [Signature]
06/21/2024

API 47-095 - 02847 Farm name Antero Resources Corporation Well number Calvin 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"	380'	New	54.5#, J-55	N/A	Y
Coal							
Intermediate 1	12-1/4"	9-5/8"	3085'	New	36#, J-55	N/A	Y
Intermediate 2							
Intermediate 3							
Production	8-3/4"/8-1/2"	5-1/2"	22447'	New	23#, P-110	N/A	Y
Tubing		2-3/8"	6090'		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	225 sx	15.6	1.18	266	0'	8 Hrs.
Surface	Class C	325 sx	15.8	1.17	380	0'	8 Hrs.
Coal							
Intermediate 1	Class C	1080 sx	15.8	1.16	1253	0'	8 Hrs.
Intermediate 2							
Intermediate 3							
Production	Class H	3750 sx (Tail)	13.5 (Lead), 15.2 (Tail)	1.34 (Tail)	5025	-500' into Intermediate Casing	8 Hrs.
Tubing							

Drillers TD (ft) 22447' MD, 5955' TVD (BHL), 6081' (Deepest Point Drilled) Loggers TD (ft) 22447' MD RECEIVED
 Deepest formation penetrated Marcellus Plug back to (ft) N/A Office of Oil and Gas
 Plug back procedure N/A FEB 02 2024

Kick off depth (ft) 5369' Wv Department of Environmental Protection

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

06/21/2024

API 47- 095 - 02847 Farm name Antero Resources Corporation Well number Calvin Unit 1H

<u>PRODUCING FORMATION(S)</u>	<u>DEPTHS</u>	
<u>Marcellus</u>	<u>6005' (TOP)</u> TVD	<u>6296' (TOP)</u> MD
_____	_____	_____
_____	_____	_____

Please insert additional pages as applicable.

GAS TEST Build up Drawdown Open Flow OIL TEST Flow Pump

SHUT-IN PRESSURE Surface 1061 psi Bottom Hole --- psi DURATION OF TEST --- hrs

OPEN FLOW Gas 377 mcfpd Oil 2099 bpd NGL --- bpd Water 1145 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 ₂ S, ETC)
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***PLEASE SEE ATTACHED EXHIBIT 3**

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FEB 02 2024
WV Department of
Environmental Protection

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 1/22/2024

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

06/21/2024 

Exhibit 1

Stage No.	Perforation Date	Perforated from MD ft.	Perforated to MD ft.	Number of Perforations	Formations
1	9/8/2023	22323	22278	36	Marcellus
2	9/8/2023	22239.39873	22073.3924	36	Marcellus
3	9/8/2023	22037.79114	21871.7848	36	Marcellus
4	9/8/2023	21836.18354	21670.1772	36	Marcellus
5	9/9/2023	21634.57595	21468.5696	36	Marcellus
6	9/10/2023	21432.96835	21266.962	36	Marcellus
7	9/10/2023	21231.36076	21065.3544	36	Marcellus
8	9/10/2023	21029.75316	20863.7468	36	Marcellus
9	9/11/2023	20828.14557	20662.1392	36	Marcellus
10	9/11/2023	20626.53797	20460.5316	36	Marcellus
11	9/11/2023	20424.93038	20258.9241	36	Marcellus
12	9/12/2023	20223.32278	20057.3165	36	Marcellus
13	9/12/2023	20021.71519	19855.7089	36	Marcellus
14	9/12/2023	19820.10759	19654.1013	36	Marcellus
15	9/13/2023	19618.5	19452.4937	36	Marcellus
16	9/14/2023	19416.89241	19250.8861	36	Marcellus
17	9/15/2023	19215.28481	19049.2785	36	Marcellus
18	9/15/2023	19013.67722	18847.6709	36	Marcellus
19	9/15/2023	18812.06962	18646.0633	36	Marcellus
20	9/16/2023	18610.46203	18444.4557	36	Marcellus
21	9/16/2023	18408.85443	18242.8481	36	Marcellus
22	9/16/2023	18207.24684	18041.2405	36	Marcellus
23	9/17/2023	18005.63924	17839.6329	36	Marcellus
24	9/17/2023	17804.03165	17638.0253	36	Marcellus
25	9/18/2023	17602.42405	17436.4177	36	Marcellus
26	9/18/2023	17400.81646	17234.8101	36	Marcellus
27	9/19/2023	17199.20886	17033.2025	36	Marcellus
28	9/20/2023	16997.60127	16831.5949	36	Marcellus
29	9/20/2023	16795.99367	16629.9873	36	Marcellus
30	9/21/2023	16594.38608	16428.3797	36	Marcellus
31	9/22/2023	16392.77848	16226.7722	36	Marcellus
32	9/22/2023	16191.17089	16025.1646	36	Marcellus
33	9/23/2023	15989.56329	15823.557	36	Marcellus
34	9/23/2023	15787.9557	15621.9494	36	Marcellus
35	9/23/2023	15586.3481	15420.3418	36	Marcellus
36	9/24/2023	15384.74051	15218.7342	36	Marcellus
37	9/25/2023	15183.13291	15017.1266	36	Marcellus
38	9/25/2023	14981.52532	14815.519	36	Marcellus
39	9/25/2023	14779.91772	14613.9114	36	Marcellus
40	9/25/2023	14578.31013	14412.3038	36	Marcellus
41	9/26/2023	14376.70253	14210.6962	36	Marcellus
42	9/26/2023	14175.09494	14009.0886	36	Marcellus
43	9/27/2023	13973.48734	13807.481	36	Marcellus
44	9/27/2023	13771.87975	13605.8734	36	Marcellus
45	9/27/2023	13570.27215	13404.2658	36	Marcellus
46	9/27/2023	13368.66456	13202.6582	36	Marcellus
47	9/28/2023	13167.05696	13001.0506	36	Marcellus
48	9/28/2023	12965.44937	12799.443	36	Marcellus
49	9/28/2023	12763.84177	12597.8354	36	Marcellus
50	9/28/2023	12562.23418	12396.2278	36	Marcellus
51	9/29/2023	12360.62658	12194.6203	36	Marcellus
52	9/29/2023	12159.01899	11993.0127	36	Marcellus
53	9/29/2023	11957.41139	11791.4051	36	Marcellus
54	9/29/2023	11755.8038	11589.7975	36	Marcellus
55	9/30/2023	11554.1962	11388.1899	36	Marcellus
56	9/30/2023	11352.58861	11186.5823	36	Marcellus
57	9/30/2023	11150.98101	10984.9747	36	Marcellus
58	9/30/2023	10949.37342	10783.3671	36	Marcellus
59	10/1/2023	10747.76582	10581.7595	36	Marcellus
60	10/1/2023	10546.15823	10380.1519	36	Marcellus
61	10/1/2023	10344.55063	10178.5443	36	Marcellus
62	10/1/2023	10142.94304	9976.93671	36	Marcellus
63	10/1/2023	9941.335443	9775.32911	36	Marcellus
64	10/2/2023	9739.727848	9573.72152	36	Marcellus
65	10/2/2023	9538.120253	9372.11392	36	Marcellus
66	10/2/2023	9336.512658	9170.50633	36	Marcellus
67	10/2/2023	9134.905063	8968.89873	36	Marcellus
68	10/3/2023	8933.297468	8767.29114	36	Marcellus
69	10/3/2023	8731.689873	8565.68354	36	Marcellus
70	10/3/2023	8530.082278	8364.07595	36	Marcellus
71	10/3/2023	8328.474684	8162.46835	36	Marcellus
72	10/4/2023	8126.867089	7960.86076	36	Marcellus
73	10/4/2023	7925.259494	7759.25316	36	Marcellus
74	10/4/2023	7723.651899	7557.64557	36	Marcellus
75	10/4/2023	7522.044304	7356.03797	36	Marcellus
76	10/4/2023	7320.436709	7154.43038	36	Marcellus
77	10/5/2023	7118.829114	6952.82278	36	Marcellus
78	10/5/2023	6917.221519	6751.21519	36	Marcellus
79	10/5/2023	6715.613924	6549.60759	36	Marcellus
80	10/5/2023	6514.006329	6348	36	Marcellus

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EXHIBIT Z

Stage No.	Stimulations Date	Avg Pump Rate	Avg Treatment Pressure (psi)	Max Breakdown Pressure (psi)	ISIP (psi)	Amount of Proppant (lbs)	Amount of Water (bbls)	Amount of Nitrogen/ other (units)
1	9/8/2023	76.7	9804.3	8787.88	3954.1	171020	4974.6	N/A
2	9/8/2023	89.7	10049.0	5390.95	3860.8	425060	7607.0	N/A
3	9/8/2023	86.3	10015.4	5065.02	3175.0	422400	8125.7	N/A
4	9/8/2023	84.9	10331.2	4779.88	3129.9	424040	7732.1	N/A
5	9/9/2023	88.3	9912.5	4920.59	3694.6	408700	7244.0	N/A
6	9/10/2023	91.9	10038.7	4981.71	4000.1	419580	7415.9	N/A
7	9/10/2023	90.4	10018.2	4930.21	3611.0	421580	7395.0	N/A
8	9/10/2023	92.6	9948.9	5007.83	3196.9	400250	7154.4	N/A
9	9/11/2023	93.3	10180.8	5018.43	3337.2	423980	7366.2	N/A
10	9/11/2023	95.1	10172.9	4964.59	3405.9	418740	7400.4	N/A
11	9/11/2023	94.1	10217.5	4895.59	3210.7	396960	7139.9	N/A
12	9/12/2023	93.5	10065.0	4466.13	3641.0	415700	7215.7	N/A
13	9/12/2023	96.4	10166.7	3883.68	3340.6	418740	7357.4	N/A
14	9/12/2023	97.2	10124.3	4415.42	3146.0	421040	7209.2	N/A
15	9/13/2023	88.4	9720.7	4840.33	3088.0	423960	7479.7	N/A
16	9/14/2023	68.8	8689.1	4774.93	3692.0	397272	9440.7	N/A
17	9/15/2023	78.1	8908.2	4561.4	4035.0	394810	7418.9	N/A
18	9/15/2023	78.1	8463.6	4195.51	3457.8	417360	7700.1	N/A
19	9/15/2023	80.4	8503.4	5140.75	3511.8	424780	7705.0	N/A
20	9/16/2023	80.2	8648.9	4501.73	3632.0	417740	7791.8	N/A
21	9/16/2023	78.6	8750.1	4996.97	3570.1	418000	7687.6	N/A
22	9/16/2023	87.5	9097.2	4716.39	3398.0	416340	7565.7	N/A
23	9/17/2023	90.6	9055.3	5331.73	3417.0	418120	7726.0	N/A
24	9/17/2023	92.1	9322.2	4153.92	3806.0	414140	7485.2	N/A
25	9/18/2023	90.1	9520.5	4865.31	3578.1	417680	7674.1	N/A
26	9/18/2023	92.4	9149.0	5151.9	3431.2	419620	7838.5	N/A
27	9/19/2023	84.7	8811.6	4202.63	3398.4	419800	7580.6	N/A
28	9/20/2023	92.8	8924.0	3910.61	3226.0	420140	7649.5	N/A
29	9/20/2023	85.5	9556.2	4990.17	3192.0	420740	7705.0	N/A
30	9/21/2023	87.7	9743.7	4796.57	3181.9	414860	7608.6	N/A
31	9/22/2023	92.5	9255.1	5037.94	3379.0	421020	7521.4	N/A
32	9/22/2023	90.4	9071.7	4656	3611.1	416760	7620.8	N/A
33	9/23/2023	92.5	8958.1	4728.65	3979.6	424100	7563.0	N/A
34	9/23/2023	92.7	8882.7	4790.37	3428.8	414780	7592.7	N/A
35	9/23/2023	89.3	9238.7	4701.98	3250.0	418260	7327.8	N/A
36	9/24/2023	90.9	8804.0	4980.86	3259.8	415600	7615.8	N/A
37	9/25/2023	93.2	8915.1	4855.77	3457.0	412880	7285.3	N/A
38	9/25/2023	93.3	9393.5	4796.52	3345.0	399790	7598.4	N/A
39	9/25/2023	76.9	9475.1	5135.64	3145.1	416280	9741.4	N/A
40	9/25/2023	92.1	8559.7	4873.14	3847.0	415500	7299.6	N/A
41	9/26/2023	25.8	3665.9	4800.33	4284.5	413040	11081.9	N/A
42	9/26/2023	89.1	8933.7	5247.58	3271.1	413440	7459.6	N/A
43	9/27/2023	90.0	9051.0	4746.65	3922.0	415360	7533.7	N/A
44	9/27/2023	80.8	9364.6	4837.78	3617.8	410980	10977.5	N/A
45	9/27/2023	89.5	8753.9	4693.35	3940.6	419680	7474.8	N/A
46	9/27/2023	89.2	8047.3	4743.38	3681.0	416320	7295.6	N/A
47	9/28/2023	89.1	8186.5	5289.23	3249.5	422840	7493.8	N/A
48	9/28/2023	87.9	8767.7	5041.9	3357.2	416140	7314.9	N/A
49	9/28/2023	88.7	8627.3	5022	3339.4	419480	7395.9	N/A
50	9/28/2023	90.6	8084.4	4499.65	3457.9	419040	7332.5	N/A
51	9/29/2023	90.9	8058.4	4651.28	3528.0	421600	7373.0	N/A
52	9/29/2023	89.6	8090.5	4754.4	3692.9	412820	7361.5	N/A
53	9/29/2023	90.2	8312.9	5292.88	3163.6	420460	7346.4	N/A
54	9/29/2023	91.7	7896.9	5115.14	3305.4	423800	7443.8	N/A
55	9/30/2023	92.1	7916.6	5281.13	3445.1	415180	7190.2	N/A
56	9/30/2023	91.6	8198.2	5418.09	3315.2	419320	7386.9	N/A
57	9/30/2023	92.2	8121.9	5136.68	3447.0	420680	7283.9	N/A
58	9/30/2023	92.5	8047.3	5145.0	3643.3	419840.0	7282.1	N/A
59	10/1/2023	93.6	7797.7	4946.5	3479.2	418980.0	7299.5	N/A
60	10/1/2023	93.0	7829.4	4802.9	3500.5	387310.0	6708.5	N/A
61	10/1/2023	91.7	7837.4	5254.0	3426.6	397720.0	6904.4	N/A
62	10/1/2023	93.3	7476.6	4677.9	3220.5	422080.0	7117.2	N/A
63	10/1/2023	93.6	7872.0	5590.9	3115.0	424720.0	7133.4	N/A
64	10/2/2023	93.9	7648.4	5946.6	3316.9	416680.0	6971.8	N/A
65	10/2/2023	92.9	7594.3	5233.1	3133.2	415240.0	7024.8	N/A
66	10/2/2023	93.3	7440.9	5068.4	3184.5	422700.0	7104.6	N/A
67	10/2/2023	93.6	7369.6	4912.0	3412.0	422700.0	7118.8	N/A
68	10/3/2023	93.9	7270.0	4483.0	3076.3	418000.0	7029.4	N/A
69	10/3/2023	93.3	7296.8	5594.9	3490.0	396970.0	6694.2	N/A
70	10/3/2023	93.2	7182.4	4771.6	3457.0	400690.0	6876.2	N/A
71	10/3/2023	89.1	8293.5	4875.0	3122.0	421580.0	7025.2	N/A
72	10/4/2023	92.6	6962.4	4831.5	3306.9	415060.0	6932.0	N/A
73	10/4/2023	91.1	6777.3	5286.6	3293.4	422180.0	7009.6	N/A
74	10/4/2023	93.4	6852.7	5568.0	3622.0	413040.0	6869.7	N/A
75	10/4/2023	94.0	7169.7	5221.6	3455.0	416960.0	6874.6	N/A
76	10/4/2023	93.1	6898.1	4806.2	3562.9	421640.0	7008.7	N/A
77	10/5/2023	93.6	6752.7	4816.0	3542.3	416680.0	6953.5	N/A
78	10/5/2023	94.2	6795.6	4762.1	3734.0	418880.0	6893.0	N/A
79	10/5/2023	94.1	6862.8	5234.9	3617.7	417660.0	7030.0	N/A
80	10/5/2023	93.7	6409.7	5491.9	3117.3	418820.0	6994.3	N/A
	AVERAGE	89	8,537	4,963	3,461	33,044,432	596,163	TOTAL

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06/21/2024

EXHIBIT 3

LITHOLOGY/ FORMATION	TOP DEPTH (TVD)	BOTTOM DEPTH (TVD)	TOP DEPTH (MD)	BOTTOM DEPTH (MD)
	From Surface	From Surface	From Surface	From Surface
Siltstone, Tr Shale	100	220	100	220
Shale	220	370	220	370
Shaley Siltstone	370	430	370	430
Limestone, Tr Shale	430	490	430	490
Siltstone, Tr Shale	490	640	490	640
Silty Sandstone	640	850	640	850
Shaley Siltstone	850	1,030	850	1,030
Shale, Tr Sandstone	1,030	1,090	1,030	1,090
Silty Shale, Tr Limestone	1,090	1,150	1,090	1,150
Sandy Shale	1,150	1,270	1,150	1,270
Sandstone, Tr Shale	1,270	1,450	1,270	1,450
Sandy Shale	1,450	1,630	1,450	1,630
Shaley Limestone	1,630	1,645	1,630	1,656
Big Lime	1,675	2,201	1,656	2,222
Fifty Foot Sandstone	2,201	2,433	2,192	2,459
Gordon	2,433	2,734	2,429	2,765
Fifth Sandstone	2,734	2,830	2,735	2,862
Bayard	2,830	3,717	2,832	3,764
Speechley	3,717	3,869	3,734	3,918
Balltown	3,869	4,354	3,888	4,409
Bradford	4,354	4,704	4,379	4,764
Benson	4,704	4,931	4,734	4,993
Alexander	4,931	5,934	4,963	6,091
Sycamore	5,813	6,011	5,924	6,061
Middlesex	5,904	6,035	6,061	6,226
Burkett	5,981	0	6,226	6,296
Marcellus	6,005	0	6,296	0

*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
Environmental Protection

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Hydraulic Fracturing Fluid Product Component Information Disclosure

Job Start Date:	09/08/2023
Job End Date:	10/05/2023
State:	West Virginia
County:	Tyler
API Number:	47-095-02847-00-00
Operator Name:	Antero Resources Corporation
Well Name and Number:	CALVIN UNIT 1H
Latitude:	39.48507
Longitude:	-80.97405
Datum:	WGS84
Federal Well:	NO
Indian Well:	NO
True Vertical Depth:	6081
Total Base Water Volume (gal)*:	26310646.5
Total Base Non Water Volume:	0



Water Source	Percent
--------------	---------

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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
FDP-S1464-22	Halliburton	Friction Reducer					
HAI-501	Halliburton	Acid Corrosion Inhibitor					
HYDROCHLORIC ACID, 22 BAUME	Halliburton	Solvent					
Ingredients	Listed Above	Listed Above					
MC B-8614A	MultiChem	Biocide					
OPTIFLO-II DELAYED RELEASE BREAKER	Halliburton	Breaker					
Produced Water	Halliburton	Base Fluid					
Sand-Common White-100 Mesh, SSA-2	Halliburton	Proppant					
WG-36 GELLING AGENT	Halliburton	Gelling Agent					

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Items above are Trade Names. Items below are the individual ingredients.

			Water	7732-18-5	100.00000	86.66861	Density = 8.34
			Crystalline silica, quartz	14808-60-7	100.00000	13.05159	None
			Water	7732-18-5	100.00000	0.24463	None
			Hydrochloric acid	7647-01-0	30.00000	0.06185	None
			Complex amine compound	Proprietary	60.00000	0.03011	None
			Hydrotreated distillate	Proprietary	30.00000	0.01506	None
			Guar gum	9000-30-0	100.00000	0.01450	None
			Ammonium chloride	12125-02-9	5.00000	0.00251	None
			Ethoxylated alcohol	Proprietary	5.00000	0.00251	None
			Fatty nitrogen derived amides	Proprietary	5.00000	0.00251	None
			Glutaraldehyde	111-30-8	30.00000	0.00251	None
			Sorbitan, mono-9-octadecenoate, (Z)	1338-43-8	1.00000	0.00050	None
			Sorbitan monooleate polyoxyethylene derivative	9005-65-6	1.00000	0.00050	None
			Alkyl (C12-16) dimethylbenzyl ammonium chloride	68424-85-1	5.00000	0.00042	None
			Methanol	67-56-1	100.00000	0.00039	None
			Ammonium persulfate	7727-54-0	100.00000	0.00022	None
			Mixture of dimer and trimer fatty acids of indefinite composition derived from tall oil	61790-12-3	30.00000	0.00012	None
			Modified thiourea polymer	Proprietary	30.00000	0.00012	None
			Ethanol	64-17-5	1.00000	0.00008	None
			Oxylated phenolic resin	Proprietary	30.00000	0.00007	None
			Propargyl alcohol	107-19-7	5.00000	0.00002	None
			Hexadecene	629-73-2	5.00000	0.00002	None
			Ethoxylated alcohols	Proprietary	5.00000	0.00002	None
			C.I. pigment Orange 5	3468-63-1	1.00000	0.00000	None

* 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%

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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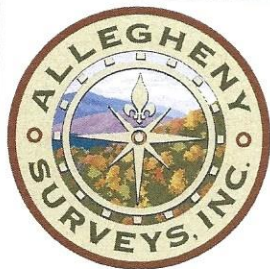
10,495' to Bottom Hole

4,485' to Top Hole
TOP HOLE LATITUDE 39 - 30 - 00
BTM HOLE LATITUDE 39 - 32 - 30

5,668' to Bottom Hole
5,464' to Top Hole
03 - 47 - 08 EDUIGNON1

Antero Resources
Well No. Calvin 1H
As-Drilled
Antero Resources Corporation

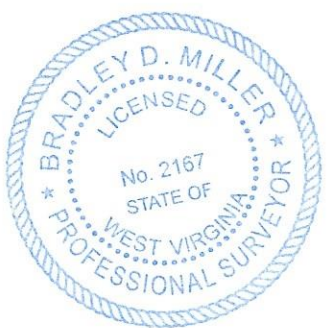
PAGE 1 of 2



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.

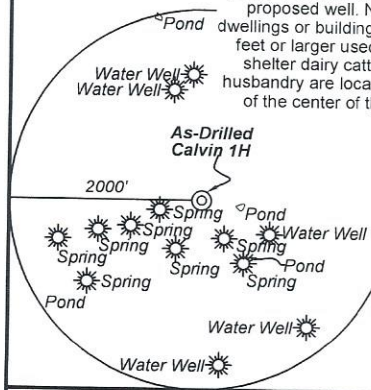
I, the undersigned, hereby certify that this plat is correct to the best of my knowledge and belief and shows all the information required by law and the rules issued and prescribed by the Department of Environmental Protection.

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



SEAL

Note: 5 water wells 8 springs and 4 ponds 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.

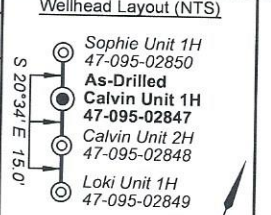


Legend

- 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.)
- District Line

Notes
West Virginia Coordinate System of 1927, North Zone based upon Differential GPS Measurements.
Well No. Calvin Unit 1H Top Hole coordinates are
N: 362,170.88" Latitude: 39°29'06.00"
E: 1,583,922.57" Longitude: 80°58'27.20"
Bottom Hole coordinates are
N: 377,240.53" Latitude: 39°31'33.98"
E: 1,578,156.60" Longitude: 80°59'43.93"
UTM Zone 17, NAD 1983
Top Hole Coordinates Bottom Hole Coordinates
N: 4,370,608.488m N: 4,375,170.164m
E: 502,231.317m E: 500,398.106m
Plat orientation and corner and well references are based upon the grid north meridian.
Well location references are based upon the magnetic meridian.

Calvin 1H As-Drilled POE Coordinates
West Virginia Coordinate System of 1927, North Zone
N: 361,958.93"
E: 1,583,230.56"
Latitude: 39°29'03.79"
Longitude: 80°58'35.98"
UTM Zone 17, NAD 1983
N: 4,370,540.390m
E: 502,021.573m



	Bearing	Dist.
L1	S 75°18' W	1,732.5'
L2	N 80°43' W	1,412.1'
L3	N 09°07' W	1,587.8'
L4	N 71°55' E	2,150.5'

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

FILE NO: 258-54-U-22
DRAWING NO: Calvin Unit 1H As-Drilled
SCALE: 1" = 2000'
MINIMUM DEGREE OF ACCURACY: Submeter
PROVEN SOURCE OF ELEVATION: WVDOT, Harrisville, WV

DATE: January 17 20 24
OPERATOR'S WELL NO. Calvin 1H
API WELL NO
47 - 095 - 02847
STATE COUNTY PERMIT

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

LOCATION: ELEVATION: As-Built 883' WATERSHED: Outlet Middle Island Creek QUADRANGLE: BH: Paden City 41.95;
DISTRICT: Union/Lincoln COUNTY: Tyler 60.38; 57.23; 250.5; 339.71; 82.23; 68.82

SURFACE OWNER: Antero Resources Corp. SHANNON H. McCULLOUGH; DONALD A. QUINIF, ET UX; DONALD H. BINEGAR, JR., ET UX; DAVID L. STEWART; WARREN T. STEWART; RIDGETOP APPALACHIA, LLC; RUSSELL L. BELL; WVDNR; STEVEN D. ZECHMAN & LINDA M. JENSEN; HAUGHT FAMILY TRUST; ACREAGE: 60.38 57.23; 250.5; 339.71; 38; 65; 151.50; 26;
ROYALTY OWNER: Berna J. Hammel; J&N Management Enterprises, LLC; Sally & Mitchell Dunn; Mary Faye Grove; LEASE NO: ACREAGE: 59.9375; 64.85

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

PLUG AND ABANDON CLEAN OUT AND REPLUG TARGET FORMATION: Marcellus Shale ESTIMATED DEPTH: 22,447' MD 5,955' 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



ID	TM-Par	Owner	Bk/Pg	Acres
1	10-4.1	Antero Resources Corporation	OR12/739	60.38
2	9-9.1	Jennifer K. & Diane M. Thomas	AR46/754	40.00
3	10-4	Kevin L. & Tammy J. Thomas	OR7/290	32.22
4	9-16	Billy D. & Roma L. Hart	154/569	20.00
5	10-5.3	Richard Daniel Bowen	344/814	25.92
6	9-4	Steven D. Zechman & Linda M. Jensen	348/422	250.00
7	6-3	Eldon J. & Ruth A. Helman	383/761	72.80
8	5-16	Charity Gas Inc.	358/516	393.00
9	5-15.3	David L. Stewart	WB39/431	38.00
10	5-15	Warren T. Stewart	WB39/431	25.00
11	5-15.2	Warren T. Stewart	501/702	40.00
12	5-5	Antero Resources Corp.	598/600	173.00
13	5-25	Clyde C. & Helen S. Dowler	168/90	27.00
14	5-6	Russell L. Bell	335/942	8.00
15	5-6.1	Russell L. Bell	335/940	18.00
16	11-12	Patrick & Kevin Hill, et al	584/619	59.95
17	11-13	Donald & Arieille Beaumier	OR166/365	25.50
18	11-47	John M. & Kara L. Garrett	656/399	82.39
19	11-21.3	Bryan Steven & Vanessa Nicole Owens	OR97/316	9.93
20	11-19.2	Jereld A. & Holly J. Cunningham	294/161	6.08
21	11-21.1	Bryan Steven & Vanessa Nicole Owens	OR97/316	23.47
22	11-21	Carol Kucharski	OR61/423	23.47
23	11-46.1	Arthur W. & Tonya S. Peck	342/94	10.30
24	11-21.2	The John Porfeli Living Trust	513/812	13.54

Leases	
A	Berna J. Hammel
B	Mary Faye Grove
C	Sally & Mitchell Dunn
D	Roma Hart
E	J&N Management Enterprises, LLC
F	WVDNR
G	Steven D. Zechman & Linda M. Jensen
H	Jay Edward Smith
I	Haught Family Trust
J	David L. Stewart
K	Warren T. Stewart
L	Norma L. Smith
M	Ridgetop Appalachia, LLC
N	Donald H. Binegar, Jr., et ux
O	Ridgetop Royalties, LLC
P	Russell L. Bell
Q	Shannon H. McCullough
R	Colleen Marie Anderson
S	Donald A. Quinif, et ux

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