

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

API 47-095-02600 County Tyler District Meade
Quad Middlebourne 7.5' Pad Name Sine Field/Pool Name -----
Farm name James Sine ET AL Well Number Alpine West 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 4362847m Easting 503678m
Landing Point of Curve Northing 4362876m Easting 503505m
Bottom Hole Northing 4367331m Easting 501876m

Elevation (ft) 799' 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

Office of Oil and Gas
FEB 17 2023
WV Department of
Environmental Protection

Date permit issued 3/27/2019 Date drilling commenced 1/22/2020 Date drilling ceased 6/26/2020
Date completion activities began 8/18/2020 Date completion activities ceased 10/25/2020
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 42' Open mine(s) (Y/N) depths No
Salt water depth(s) ft 1269, 1274' Void(s) encountered (Y/N) depths No
Coal depth(s) ft 154, 278' Cavern(s) encountered (Y/N) depths No
Is coal being mined in area (Y/N) No

APPROVED Reviewed by: Steve McCoy
06/02/2023
3/2/23

API 47-095 - 02600 Farm name James Sine ET AL Well number Alpine West 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	26"	20"	110'	New	94#, H-40	N/A	Y
Surface	17-1/2"	13-3/8"	455'	New	54.5#, J-55	N/A	Y
Coal							
Intermediate 1	12-1/4"	9-5/8"	2617'	New	36#, J-55	N/A	Y
Intermediate 2							
Intermediate 3							
Production	8-3/4"/8-1/2"	5-1/2"	22112'	New	23#, P-110	N/A	Y
Tubing		2-3/8"	6045'		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	204 sx	15.6	1.20	245	0'	8 Hrs.
Surface	Class A	450 sx	15.8	1.17	527	0'	8 Hrs.
Coal							
Intermediate 1	Class A	1010 sx	15.8	1.17	1182	0'	8 Hrs.
Intermediate 2							
Intermediate 3							
Production	Class H	3945 sx (Tail)	13.5 (Lead), 15.2(Tail)	1.16 (Tail)	4576	-500' into Intermediate Casing	8 Hrs.
Tubing							

Drillers TD (ft) 22112' MD, 6011' TVD (BHL), 6060' (Deepest Point Drilled) Loggers TD (ft) 22112' MD
 Deepest formation penetrated Marcellus Plug back to (ft) N/A
 Plug back procedure N/A

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Kick off depth (ft) ^{5296'} _____

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

06/02/2023
3127123

API 47- 095 - 02600 Farm name James Sine ET AL Well number Alpine West Unit 1H

PRODUCING FORMATION(S)	DEPTHS		
Marcellus	5994' (TOP)	TVD	6284' (TOP) MD

Please insert additional pages as applicable.

GAS TEST Build up Drawdown Open Flow OIL TEST Flow Pump

SHUT-IN PRESSURE Surface 1050 psi Bottom Hole --- psi DURATION OF TEST --- hrs

OPEN FLOW Gas 2354 mcfpd Oil 233 bpd NGL --- bpd Water 194 bpd GAS MEASURED BY Estimated Orifice Pilot

LITHOLOGY/ FORMATION	TOP		BOTTOM		DESCRIBE ROCK TYPE AND RECORD QUANTITY AND TYPE OF FLUID (FRESHWATER, BRINE, OIL, GAS, H ₂ 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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					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 KLX Energy Services
Address 1415 Louisiana Street City Houston State TX Zip 77002

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 2/3/2023

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

06/02/2023
SM
3/27/23

LATITUDE 39°25'00"

11,519'

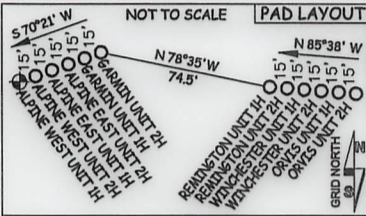
5,657' TO BOTTOM HOLE
LATITUDE 39°27'30"

LONGITUDE 80°57'30"
1,046' TO BOTTOM HOLE
585' LONGITUDE 80°55'00"

NOTE
NO OCCUPIED DWELLINGS OR BUILDINGS TWO THOUSAND FIVE HUNDRED (2,500) SQUARE FEET OR LARGER USED TO HOUSE OR SHELTER DAIRY CATTLE OR POULTRY HUSBANDRY ARE LOCATED WITHIN SIX HUNDRED TWENTY-FIVE (625) FEET OF THE CENTER OF THE WELL PAD.

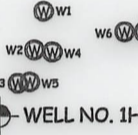
AS DRILLED DATA:
WELL 1H TOP HOLE INFORMATION:
N: 336,624ft E: 1,588,246ft
LAT: 39°24'54.22" LON: 80°57'26.78"
BOTTOM HOLE INFORMATION:
N: 351,434ft E: 1,582,576ft
LAT: 39°27'19.67" LON: 80°58'42.13"
WEST VIRGINIA COORDINATE SYSTEM OF 1927 NORTH ZONE. ZONE WAS DERIVED FROM MEASUREMENTS TAKEN WITH TRIMBLE 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: 4,362,847m E: 503,678m
BOTTOM HOLE INFORMATION:
N: 4,367,331m E: 501,876m



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

W1-N 23°07'E 1183.9'
W2-N 28°08'E 780.2'
W3-N 29°42'E 390.9'
W4-N 37°40'E 867.9'
W5-N 47°54'E 472.3'
W6-N 56°21'E 1577.6'
W7-N 60°04'E 1750.4'

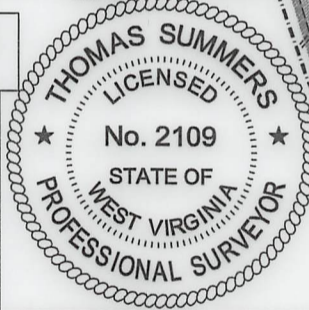


I THE UNDERSIGNED, HEREBY CERTIFY THAT THIS PLAT IS CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF AND SHOWS ALL THE INFORMATION REQUIRED BY LAW AND THE RULES ISSUED AND PERSCRIBED BY THE DEPARTMENT OF ENVIRONMENTAL PROTECTION.



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

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



LEGEND

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

THOMAS SUMMERS P.S. 2109

DATE 01/19/21

OPERATOR'S WELL# ALPINE WEST UNIT #1H

WELL 1H POINT OF ENTRY INFORMATION:
N: 336,727ft E: 1,587,680ft
LAT: 39°24'55.15" LON: 80°57'34.01"
(NAD) 83 (UTM) ZONE 17 COORDS:
N: 4,362,876m E: 503,505m

WELL TYPE: OIL GAS X LIQUID INJECTION WASTE DISPOSAL 47 095 02600
(IF "GAS") PRODUCTION X STORAGE DEEP SHALLOW X STATE COUNTY PERMIT
LOCATION: ELEVATION 799' - AS BUILT WATERSHED OUTLET MIDDLE ISLAND CREEK COUNTY NAME
QUADRANGLE MIDDLEBOURNE 7.5' DISTRICT MEADE COUNTY TILER
SURFACE OWNER JAMES SINE ET AL ACREAGE 32.395 ACRES +/-
OIL & GAS ROYALTY OWNER JAMES SINE ET UX; MARK A. KARL; DONALD E. ROBINSON ET UX; LEASE ACREAGE 54.74 ACRES +/-; 73 ACRES +/-; 98.06 ACRES +/-;
JAMES M. UTT; DONALD L. BAKER ET UX; CHESTER L. BAKER ET UX; NANCY LEE BRADFORD; DENNIS SOLE TRUST; 204.88 ACRES +/-; 173.65 ACRES +/-; 33.23 ACRES +/-; 59.05 ACRES +/-; 80.24 ACRES +/-;
STAR FURNITURE CO.; STEVEN C. ANDERSON; GEORGE E. POST ET UX; GEORGE E. POST ET UX; EARL E. BLAIR ET UX 73.23 ACRES +/-; 175.66 ACRES +/-; 49.75 ACRES +/-; 43.25 ACRES +/-; 110 ACRES +/-
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 6,011' TVD 22,112' MD
WELL OPERATOR ANTERO RESOURCES CORP. DESIGNATED AGENT DIANNA STAMPER - CT CORPORATION SYSTEM
ADDRESS 1615 WYNKOOP STREET ADDRESS 5400 D BIG TYLER ROAD
FORM WW-6 DENVER, CO 80202 CHARLESTON, WV 25313

LATITUDE 39°25'00"

11,519'

5,657' TO BOTTOM HOLE

LATITUDE 39°27'30"

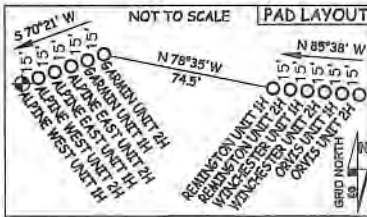
Antero Resources Corporation
Well No. Alpine West Unit 1H

LONGITUDE 80°57'30"
585' LONGITUDE 80°55'00"
1,046' TO BOTTOM HOLE

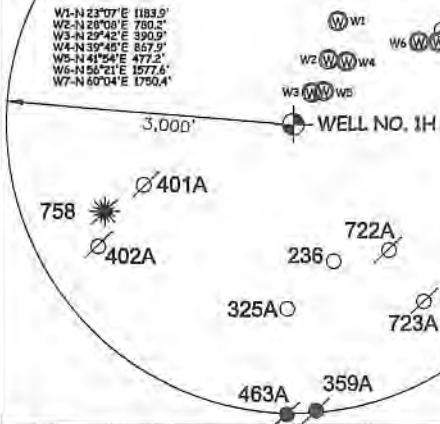
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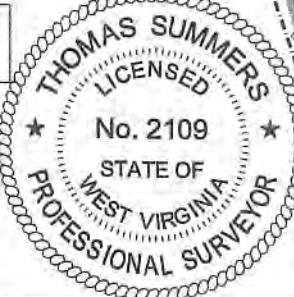
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WILLOW LAND SURVEYING PLLC
220 MASONIC AVE. PENNSBORO WEST VIRGINIA 26415



JOB # 17-005WA
DRAWING # ALPINWEST1H830AD
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
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SM 3/17/23

API 47-095-02600 Farm Name James Sine ET AL Well Number Alpine West Unit 1H

Exhibit 1

Stage No.	Perforation Date	Perforated from MD ft.	Perforated to MD ft.	Number of Perforations	Formations
1	8/18/2020	21994	21950	60	Marcellus
2	8/18/2020	21912.64103	21747.8462	60	Marcellus
3	8/19/2020	21712.48718	21547.6923	60	Marcellus
4	8/19/2020	21512.33333	21347.5385	60	Marcellus
5	8/19/2020	21312.17949	21147.3846	60	Marcellus
6	8/19/2020	21112.02564	20947.2308	60	Marcellus
7	8/20/2020	20911.87179	20747.0769	60	Marcellus
8	8/20/2020	20711.71795	20546.9231	60	Marcellus
9	8/20/2020	20511.5641	20346.7692	60	Marcellus
10	8/21/2020	20311.41026	20146.6154	60	Marcellus
11	8/21/2020	20111.25641	19946.4615	60	Marcellus
12	8/21/2020	19911.10256	19746.3077	60	Marcellus
13	8/22/2020	19710.94872	19546.1538	60	Marcellus
14	8/22/2020	19510.79487	19346	60	Marcellus
15	8/22/2020	19310.64103	19145.8462	60	Marcellus
16	8/22/2020	19110.48718	18945.6923	60	Marcellus
17	8/22/2020	18910.33333	18745.5385	60	Marcellus
18	8/23/2020	18710.17949	18545.3846	60	Marcellus
19	8/23/2020	18510.02564	18345.2308	60	Marcellus
20	8/23/2020	18309.87179	18145.0769	60	Marcellus
21	8/23/2020	18109.71795	17944.9231	60	Marcellus
22	8/23/2020	17909.5641	17744.7692	60	Marcellus
23	8/24/2020	17709.41026	17544.6154	60	Marcellus
24	8/24/2020	17509.25641	17344.4615	60	Marcellus
25	8/24/2020	17309.10256	17144.3077	60	Marcellus
26	8/24/2020	17108.94872	16944.1538	60	Marcellus
27	8/25/2020	16908.79487	16744	60	Marcellus
28	8/25/2020	16708.64103	16543.8462	60	Marcellus
29	8/25/2020	16508.48718	16343.6923	60	Marcellus
30	8/26/2020	16308.33333	16143.5385	60	Marcellus
31	8/26/2020	16108.17949	15943.3846	60	Marcellus
32	8/26/2020	15908.02564	15743.2308	60	Marcellus
33	8/26/2020	15707.87179	15543.0769	60	Marcellus
34	8/27/2020	15507.71795	15342.9231	60	Marcellus
35	8/27/2020	15307.5641	15142.7692	60	Marcellus
36	8/27/2020	15107.41026	14942.6154	60	Marcellus
37	8/27/2020	14907.25641	14742.4615	60	Marcellus
38	8/28/2020	14707.10256	14542.3077	60	Marcellus
39	8/28/2020	14506.94872	14342.1538	60	Marcellus
40	8/28/2020	14306.79487	14142	60	Marcellus
41	8/28/2020	14106.64103	13941.8462	60	Marcellus
42	8/28/2020	13906.48718	13741.6923	60	Marcellus
43	8/29/2020	13706.33333	13541.5385	60	Marcellus
44	8/29/2020	13506.17949	13341.3846	60	Marcellus
45	8/29/2020	13306.02564	13141.2308	60	Marcellus
46	8/29/2020	13105.87179	12941.0769	60	Marcellus
47	8/30/2020	12905.71795	12740.9231	60	Marcellus
48	8/30/2020	12705.5641	12540.7692	60	Marcellus
49	8/30/2020	12505.41026	12340.6154	60	Marcellus
50	8/30/2020	12305.25641	12140.4615	60	Marcellus
51	8/31/2020	12105.10256	11940.3077	60	Marcellus
52	8/31/2020	11904.94872	11740.1538	60	Marcellus
53	8/31/2020	11704.79487	11540	60	Marcellus
54	8/31/2020	11504.64103	11339.8462	60	Marcellus
55	9/1/2020	11304.48718	11139.6923	60	Marcellus
56	9/1/2020	11104.33333	10939.5385	60	Marcellus
57	9/1/2020	10904.17949	10739.3846	60	Marcellus
58	9/1/2020	10704.02564	10539.2308	60	Marcellus
59	9/2/2020	10503.87179	10339.0769	60	Marcellus
60	9/2/2020	10303.71795	10138.9231	60	Marcellus
61	9/2/2020	10103.5641	9938.76923	60	Marcellus
62	9/2/2020	9903.410256	9738.61538	60	Marcellus
63	9/3/2020	9703.25641	9538.46154	60	Marcellus
64	9/3/2020	9503.102564	9338.30769	60	Marcellus
65	9/3/2020	9302.948718	9138.15385	60	Marcellus
66	9/3/2020	9102.794872	8938	60	Marcellus
67	9/4/2020	8902.641026	8737.84615	60	Marcellus
68	9/4/2020	8702.487179	8537.69231	60	Marcellus
69	9/4/2020	8502.333333	8337.53846	60	Marcellus
70	9/4/2020	8302.179487	8137.38462	60	Marcellus
71	9/4/2020	8102.025641	7937.23077	60	Marcellus
72	9/4/2020	7901.871795	7737.07692	60	Marcellus
73	9/5/2020	7701.717949	7536.92308	60	Marcellus
74	9/5/2020	7501.564103	7336.76923	60	Marcellus
75	9/5/2020	7301.410256	7136.61538	60	Marcellus
76	9/5/2020	7101.25641	6936.46154	60	Marcellus
77	9/5/2020	6901.102564	6736.30769	60	Marcellus
78	9/5/2020	6700.948718	6536.15385	60	Marcellus
79	9/5/2020	6500.794872	6336	60	Marcellus

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Sm

API 47-095-02600 Farm Name James Sine ET AL Well Number Alpine West Unit 1H

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 (bbbls)	Amount of Nitrogen/ other (units)
1	8/18/2020	78.86	8938	6851	4069	168160	5928.643	N/A
2	8/18/2020	86.6	9678	5076	3611.28	417370	7670.476	N/A
3	8/19/2020	85.44	9685	5145	3467	417340	7502.19	N/A
4	8/19/2020	83.2	9454.3	5459	3811.49	419340	7430.714	N/A
5	8/19/2020	81.69	9080	5095	3821	420550	7300.524	N/A
6	8/19/2020	81.39	9232	5393	3652	418820	7477.381	N/A
7	8/20/2020	89.44	9778	5425	3784	419040	7624.071	N/A
8	8/20/2020	90.61	10071	5116	3944	416790	7439.857	N/A
9	8/20/2020	89.3	9912	5356	3857	420520	7444.262	N/A
10	8/21/2020	89.94	9865	5348	4433	417980	8472.667	N/A
11	8/21/2020	83.75	9410	5193	4335.74	419880	8942.857	N/A
12	8/21/2020	87.49	9789	5300	3719	415920	7172.071	N/A
13	8/22/2020	89.58	9982	5472	3755.09	417400	7209.905	N/A
14	8/22/2020	86.16	9585	4947	3919.99	418620	7351.048	N/A
15	8/22/2020	92.05	9368	5229	4171.75	420620	7313.952	N/A
16	8/22/2020	88.47	9423	5651	3872.96	419450	7215.667	N/A
17	8/22/2020	95.09	10043	0	3808.74	418680	7386.143	N/A
18	8/23/2020	94.38	9955	5463	4092.21	420238	7474.095	N/A
19	8/23/2020	93.84	9707	5530	3607.73	420940	7214.905	N/A
20	8/23/2020	92.9	9668	5623	3592.76	420070	7110.643	N/A
21	8/23/2020	92.28	9717	5736	3695.47	421880	7160.429	N/A
22	8/23/2020	93.76	9697	5712	3452.98	417334	7213.952	N/A
23	8/24/2020	94.15	9468	4173	3327.37	419668	7204.738	N/A
24	8/24/2020	87.62	8881	4714	4061.68	417610	8664.19	N/A
25	8/24/2020	95.41	9429	6334	3456.47	420060	7208.31	N/A
26	8/24/2020	98.43	9772	5811	3444.92	420680	7322.833	N/A
27	8/25/2020	92.68	8863	5384	3569.89	418760	7326.643	N/A
28	8/25/2020	95.8	9291	5858	3653.88	419750	7037.905	N/A
29	8/25/2020	95.25	8992	5434	3610.25	420810	7203.143	N/A
30	8/26/2020	95.63	9076	5969	3465.56	421830	7070.095	N/A
31	8/26/2020	96.66	8906	4422	3785.22	421860	7152.595	N/A
32	8/26/2020	90.9	8676	6651	3557.32	421490	6909.667	N/A
33	8/26/2020	86.49	8773.11	5917.12	3493.34	421160	6939.286	N/A
34	8/27/2020	90.13	9059	5787	3795.45	421230	7001.738	N/A
35	8/27/2020	95.37	9067	5444	3990	421000	6912.024	N/A
36	8/27/2020	97.06	9016	5752	4017.58	421530	6899.548	N/A
37	8/27/2020	96.69	8904	5083	3701.43	421960	7091.286	N/A
38	8/28/2020	94.59	9089	5431	3857.81	422580	7104.833	N/A
39	8/28/2020	92.83	9116	6151	3552.95	421010	6846.214	N/A
40	8/28/2020	96.24	8844	5205	3510.47	421300	7001.81	N/A
41	8/28/2020	90.13	8768	5264	3541.6	421240	7423.786	N/A
42	8/28/2020	98.2	9073	5160	3596.73	421460	7037.952	N/A
43	8/29/2020	96.83	9022	6151	3591.25	421520	6969.024	N/A
44	8/29/2020	90.25	8422	6586	3542.37	400380	6900.762	N/A
45	8/29/2020	91.93	8451	6281	3682	400350	6777.762	N/A
46	8/29/2020	97.33	9016	5721	3592.22	402060	7430.143	N/A
47	8/30/2020	96.41	8823	5605	3611.36	400580	6855.786	N/A
48	8/30/2020	96.42	8837	5663	3795	399690	6671.81	N/A
49	8/30/2020	94.5	8702.15	5177	3806	462890	6719.214	N/A
50	8/30/2020	96.77	8945	5805	3917.36	400520	6765.548	N/A
51	8/31/2020	95.57	9010	3219	4377	399920	6663.429	N/A
52	8/31/2020	95.71	9032	5080	4070	400490	6740.19	N/A
53	8/31/2020	96.69	8995	5443	4139	400300	6641.571	N/A
54	8/31/2020	95.76	8549	5457	4222.45	400040	6588.048	N/A
55	9/1/2020	96.52	8515	5620	3805.05	399560	6621.31	N/A
56	9/1/2020	98.7	8754	5886	4176.12	400740	6616.571	N/A
57	9/1/2020	95.96	8254.67	5423	3800.7	9/30/2994	6730.048	N/A
58	9/1/2020	98.17	8212	5037	4224	5/18/2995	6768.619	N/A
59	9/2/2020	94.81	8302	5524	3655.34	7/16/2997	6564.762	N/A
60	9/2/2020	93.61	8361	5012	3875	4/23/2994	6679.143	N/A
61	9/2/2020	97.7	8295	5696	3864	7/28/2989	6722.69	N/A
62	9/2/2020	93.27	8346	5430	4055	1/3/2996	6595.738	N/A
63	9/3/2020	99.02	8786	4342	3577.01	4/13/2994	6485.071	N/A
64	9/3/2020	98.58	8730	5659	4269	9/29/2996	6582.214	N/A
65	9/3/2020	98.18	8420	5108	3932.98	10/25/2993	6604.095	N/A
66	9/3/2020	97.5	8006	5928	4080.48	6/2/2994	6707.5	N/A
67	9/4/2020	98.33	8355	4986	3832.51	2/22/2996	6496.452	N/A
68	9/4/2020	99.02	8224	4485	3913.54	8/21/2994	6502.595	N/A
69	9/4/2020	97.63	7842	6103	3778	1/23/2996	6775.381	N/A
70	9/4/2020	98.36	7993	5402	4034	6/16/2997	6484.548	N/A
71	9/4/2020	97.86	7915	4913	4314	10/30/2994	6540.238	N/A
72	9/4/2020	98.41	7702	5054	3975.43	1/13/2994	6442.381	N/A
73	9/5/2020	99.77	7731	5084	3773.18	5/8/2995	6490.167	N/A
74	9/5/2020	98.84	7602	5319	3938.79	5/29/2989	6596.524	N/A
75	9/5/2020	100.3	7711	4683	4016.83	3/25/2990	6603.571	N/A
76	9/5/2020	99.71	7601	5226	4097.1	4/28/2995	6536.619	N/A
77	9/5/2020	99.55	7490	5514	3987.18	10/5/2993	6538.19	N/A
78	9/5/2020	100.5	7411	5030	3810.17	1/13/2994	6683.714	N/A
79	9/5/2020	100.4	7340	5454	3882.96	7/7/2995	6568.262	N/A
	AVG=	94	8,871	5,344	3,829	32,267,480	553,075	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	70	190	70	190
Silty Shale	190	240	190	240
shaly sand	240	410	240	410
Shale	410	470	410	470
Dolomitic Shale	470	750	470	750
Shaly Siltstone	750	870	750	870
Silty Sandstone	870	910	870	910
Shaly Sand	910	980	910	980
Sandstone	980	1,120	980	1,120
Silty, Shaly, Sandstone	1,120	1,180	1,120	1,180
Sandstone, Tr Shale, Tr Coal	1,180	1,230	1,180	1,230
Silty Sandstone	1,230	1,510	1,230	1,510
Shaly Siltstone	1,510	1,613	1,510	1,613
Big Lime	1,643	2,468	1,613	2,469
Fifty Foot Sandstone	2,468	2,552	2,439	2,553
Gordon	2,552	2,907	2,523	2,910
Fifth Sandstone	2,907	3,210	2,880	3,216
Bayard	3,210	3,774	3,186	3,793
Speechley	3,774	4,101	3,763	4,125
Balltown	4,101	4,280	4,095	4,308
Bradford	4,280	4,552	4,278	4,585
Benson	4,552	4,714	4,555	4,750
Alexander	4,714	5,909	4,720	6,048
Sycamore	5,784	5,879	5,880	6,018
Middlesex	5,879	5,967	6,018	6,202
Burkett	5,967	5,989	6,202	6,266
Tully	5,989	5,994	6,266	6,284
Marcellus	5,994	NA	6,284	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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Hydraulic Fracturing Fluid Product Component Information Disclosure

Job Start Date:	8/18/2020
Job End Date:	9/5/2020
State:	West Virginia
County:	Tyler
API Number:	47-095-02600-00-00
Operator Name:	Antero Resources Corporation
Well Name and Number:	Alpine West 1H
Latitude:	39.41506000
Longitude:	-80.95744000
Datum:	NAD83
Federal Well:	NO
Indian Well:	NO
True Vertical Depth:	6,051
Total Base Water Volume (gal):	24,225,327
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 Blend	Halliburton	Base Fluid	Water WV Department of Environmental Protection Office of Oil and Gas	7732-18-5	100.00000	86.29135	Density = 8.50
Ingredients	Listed Above	Listed Above		7732-18-5	100.00000	0.16361	

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Excelerate LX-15	Halliburton	Friction Reducer					
				Listed Below			
WG-36 GELLING AGENT	Halliburton	Gelling Agent					
				Listed Below			
HAI-501	Halliburton	Acid Corrosion Inhibitor					
				Listed Below			
MC B-8614	Halliburton	Biocide					
				Listed Below			
HYDROCHLORIC ACID, 22 BAUME	Halliburton	Solvent					
				Listed Below			
Sand-Premium White-40/70	Halliburton	Proppant					
				Listed Below			
OPTIFLO-II DELAYED RELEASE BREAKER	Halliburton	Breaker					
				Listed Below			
Sand-Common White-100 Mesh, SSA-2	Halliburton	Proppant					
				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	13.52210	
			Hydrochloric acid	7647-01-0	30.00000	0.03849	
			Complex Amine Compound	Proprietary	60.00000	0.02699	
			Hydrotreated light petroleum distillate	64742-47-8	30.00000	0.01350	
			Guar gum	9000-30-0	100.00000	0.00457	
			Glutaraldehyde	111-30-8	30.00000	0.00250	
			Sobitan, mono-9-octadecenoate, (Z)	1338-43-8	5.00000	0.00225	
			Surfactant	Proprietary	5.00000	0.00225	
			Ethoxylated alcohols	Proprietary	5.00000	0.00046	
			Alkoxylated polyhydric alcohol	Proprietary	1.00000	0.00045	
			Organic chloride compound	Proprietary	1.00000	0.00045	
			Quaternary ammonium compounds, benzyl-C12-16-alkyldimethyl chlorides	68424-85-1	5.00000	0.00042	
			Methanol	67-56-1	100.00000	0.00032	
			Ammonium persulfate	7727-54-0	100.00000	0.00014	
			Ethanol	64-17-5	1.00000	0.00008	
			Mixture of dimer and trimer fatty acids of indefinite composition derived from tall oil	61790-12-3	30.00000	0.00007	
			Modified thiourea polymer	Proprietary	30.00000	0.00007	
			Oxylated phenolic resin	Proprietary	30.00000	0.00004	
			Hexadecene	629-73-2	5.00000	0.00001	
			Propargyl alcohol	107-19-7	5.00000	0.00001	
			Phosphoric acid	7664-38-2	0.10000	0.00001	
			Sodium glycolate	2836-32-0	0.01000	0.00000	
			Acrylamide	79-06-1	0.01000	0.00000	
			Sodium hydroxide	1310-73-2	0.01000	0.00000	

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			Formaldehyde	50-00-0	0.01000	0.00000	
			Organic salt #2	Proprietary	0.01000	0.00000	
			Organic salt #1	Proprietary	0.01000	0.00000	
			Nitrated acetate salt	Proprietary	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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