

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

API 47 - 085 - 10417 County Ritchie District Union
Quad TH: Pullman BH: Oxford Pad Name Weekly West Field/Pool Name -----
Farm name David W & David Martin Weekley Well Number Sandy 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 4335639m Easting 510779m
Landing Point of Curve Northing 4335683.62m Easting 511511.49m
Bottom Hole Northing 4331790m Easting 512864m

Elevation (ft) 1125' 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 11/10/2021 Date drilling commenced 1/1/2022 Date drilling ceased 3/18/2022
Date completion activities began 4/29/2022 Date completion activities ceased 6/13/2022
Verbal plugging (Y/N) N/A Date permission granted N/A Granted by N/A

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

Freshwater depth(s) ft 401', 478' Open mine(s) (Y/N) depths No
Salt water depth(s) ft 1511', 1926' Void(s) encountered (Y/N) depths No
Coal depth(s) ft 1495', 742' Cavern(s) encountered (Y/N) depths No
Is coal being mined in area (Y/N) No

APPROVED

Reviewed by:
IMR
09/15/2023

API 47- 085 - 10417 Farm name David W & David Martin Weekley Well number Sandy 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	24"	20"	80'	New	78#, X60	N/A	Y
Surface	17-1/2"	13-3/8"	547'	New	54.5#, J-55	N/A	Y
Coal							
Intermediate 1	12-1/4"	9-5/8"	2704'	New	36#, J-55	N/A	Y
Intermediate 2							
Intermediate 3							
Production	8-3/4"/8-1/2"	5-1/2"	20991'	New	20#, P-100	N/A	Y
Tubing		2-3/8"	7155'		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	209 sx	15.6	1.18	44	0'	8 Hrs.
Surface	Class A	690 sx	15.8	1.16	143	0'	8 Hrs.
Coal							
Intermediate 1	Class A	947 sx	15.8	1.16	208	0'	8 Hrs.
Intermediate 2							
Intermediate 3							
Production	Class H	869 sx (Lead) 2800 sx (Tail)	15.2 (Lead), 15.2(Tail)	1.19 (Lead), 1.18 (Tail)	772	-500' Into Intermediate Casing	8 Hrs.
Tubing							

Drillers TD (ft) 21033' MD, 6554' TVD (BHL), 6559' (Deepest Point Drilled) Loggers TD (ft) 20636' MD
 Deepest formation penetrated Marcellus Plug back to (ft) N/A
 Plug back procedure N/A

Kick off depth (ft) 6235'

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

Well cored Yes No Conventional Sidewall Were cuttings collected Yes No

DESCRIBE THE CENTRALIZER PLACEMENT USED FOR EACH CASING STRING _____

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

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WAS WELL COMPLETED AS SHOT HOLE Yes No DETAILS _____

WV Department of
Environmental Protection

WAS WELL COMPLETED OPEN HOLE? Yes No DETAILS _____

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

09/15/2023

API 47- 085 - 10417 Farm name David W & David Martin Weekley Well number Sandy Unit 1H

PERFORATION RECORD

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

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)
*PLEASE SEE ATTACHED EXHIBIT 2								

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Please insert additional pages as applicable.

API 47- 085 - 10417 Farm name David W & David Martin Weekley Well number Sandy Unit 1H

<u>PRODUCING FORMATION(S)</u>	<u>DEPTHS</u>	
<u>Marcellus</u>	<u>6495' (TOP)</u> TVD	<u>7227' (TOP)</u> MD
_____	_____	_____
_____	_____	_____
_____	_____	_____

Please insert additional pages as applicable.

GAS TEST Build up Drawdown Open Flow OIL TEST Flow Pump

SHUT-IN PRESSURE Surface 2800 psi Bottom Hole --- psi DURATION OF TEST --- hrs

OPEN FLOW Gas 11155 mcfpd Oil 150 bpd NGL --- bpd Water 167 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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					MAR 31 2023
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					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 3/30/2023

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

09/15/2023

Antero Resources Corporation
Well No. Sandy Unit 1H

AS DRILLED DATA:
WELL 1H TOP HOLE INFORMATION:
N: 246,947ft E: 1,610,058ft
LAT: 39°10'11.35" LON: 80°52'31.39"
BOTTOM HOLE INFORMATION:
N: 234,204ft E: 1,616,688ft
LAT: 39°08'06.40" LON: 80°51'04.78"
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: 4,335,639m E: 510,779m
BOTTOM HOLE INFORMATION:
N: 4,331,790m E: 512,864m

WELL 1H POINT OF ENTRY INFORMATION:
WV STATE PLANE NAD '27 (NORTH ZONE):
N: 247,299ft E: 1,612,426ft
GEOGRAPHIC (NAD) 27:
LAT: 39°10'15.19" LON: 80°52'01.39"
(NAD) 83 (UTM) ZONE 17 COORDS:
N: 4,335,758m E: 511,499m

WV NORTH ZONE
GRID NORTH

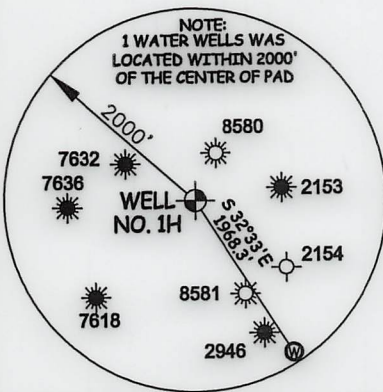
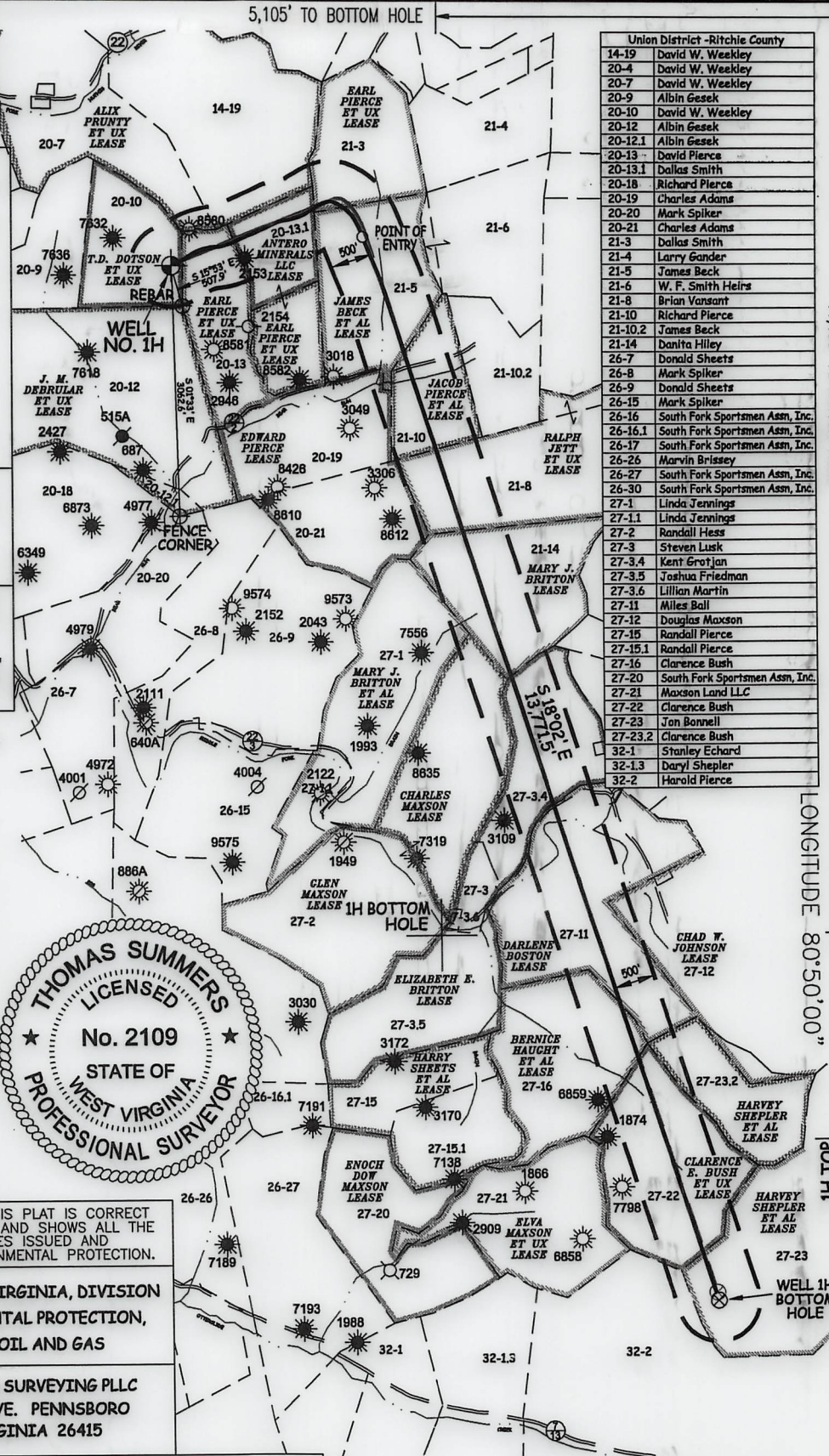
11,493' TO BOTTOM HOLE

14,028'

LONGITUDE 80°50'00"

170H
DPT HHT

LONGITUDE 80°52'30"



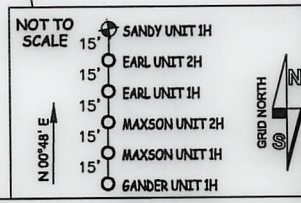
I THE UNDERSIGNED, HEREBY CERTIFY THAT THIS PLAT IS CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF AND SHOWS ALL THE INFORMATION REQUIRED BY LAW AND THE RULES ISSUED AND PERSCRIBED BY THE DEPARTMENT OF ENVIRONMENTAL PROTECTION.



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

JOB # 21-015WA
DRAWING # SANDY1HAD
SCALE 1" = 2000'
MINIMUM DEGREE OF ACCURACY SUBMETER
PROVEN SOURCE OF ELEV. SUBMETER MAPPING GRADE GPS
STATE OF WEST VIRGINIA DEPARTMENT OF ENERGY DIVISION OF OIL AND GAS

LEGEND
- - - Surface Owner Boundary Lines +/-
- - - Interior Surface Tracts +/-
○ Proposed Well Path
⊗ As Drilled Well Path
THOMAS SUMMERS P.S. 2109
DATE 8/19/22
OPERATOR'S WELL# SANDY UNIT #1H



- NOTES
1. NO OCCUPIED DWELLINGS OR BUILDINGS TWO THOUSAND FIVE HUNDRED (2,500) SQUARE FEET OR LARGER USED TO HOUSE OR SHELTER DAIRY CATTLE OR POLICRY HUSBANDRY ARE LOCATED WITHIN SIX HUNDRED TWENTY-FIVE (625) FEET OF THE CENTER OF THE WELL PAD.
2. TOP HOLE DATA SHOWN HEREON WAS PROVIDED BY ANTERO RESOURCES CORPORATION.
3. AS DRILLED DATA WAS PROVIDED BY ANTERO RESOURCES CORPORATION.
4. WLS IS NOT CERTIFYING THE DATA AND INFORMATION PROVIDED LISTED IN NOTES 2 AND 3, ONLY THE RELATIONSHIP TO THE DATA AND INFORMATION PROVIDED TO THE LEASE BOUNDARIES.
5. WLS IS BY NO MEANS RESPONSIBLE FOR ANY ERRORS OR INACCURACIES WITH THE DATA AND INFORMATION THAT HAS BEEN PROVIDED.

WELL TYPE: OIL ___ GAS LIQUID INJECTION ___ WASTE DISPOSAL ___ 47 - 085 - 10417
(IF "GAS") PRODUCTION STORAGE ___ DEEP ___ SHALLOW STATE COUNTY PERMIT
LOCATION: ELEVATION 1,125' -AS BUILT WATERSHED SOUTH FORK HUGHES RIVER
QUADRANGLE TH - PULLMAN 7.5' BH - OXFORD 7.5' DISTRICT UNION COUNTY RITCHIE
SURFACE OWNER DAVID W. & DAVID MARTIN WEEKLEY ACREAGE 39.87 ACRES +/- 09/15/2023
OIL & GAS ROYALTY OWNER T. D. DOTSON ET UX; EARL PIERCE ET UX; ANTERO MINERALS LLC LEASE ACREAGE 39.87 AC.±; 51 AC.±; 25 AC.±;
EARL PIERCE ET UX; JAMES BECK ET AL; JACOB PIERCE ET AL; RALPH JETT ET UX; MARY J. BRITTON; 47 AC.±; 65 AC.±; 34 AC.±; 148 AC.±; 69 AC.±;
ELIZABETH E. BRITTON; DARLENE BOSTON; BERNICE HAUGHT ET AL; CLARENCE BUSH ET UX; HARVEY SHEPLER ET AL 115.5 AC.±; 100 AC.±; 66.75 AC.±; 75 AC.±; 188 AC.±
PROPOSED WORK: DRILL ___ CONVERT ___ DRILL DEEPER ___ REDRILL ___ FRACTURE OR STIMULATE ___
PLUG OFF OLD FORMATION ___ PERFORATE NEW FORMATION ___ OTHER PHYSICAL CHANGE IN WELL
(SPECIFY) AS DRILLED PLUG & ABANDON CLEAN OUT & REPLUG
TARGET FORMATION MARCELLUS ESTIMATED DEPTH 6,554' TVD 21,033' MD
WELL OPERATOR ANTERO RESOURCES CORP. DESIGNATED AGENT DIANNA STAMPER - CT CORPORATION SYSTEM
ADDRESS 1615 WYNKOOP ST. ADDRESS 5400 D BIG TYLER ROAD
FORM WW-6 DENVER, CO 80202 CHARLESTON, WV 25313

COUNTY NAME PERMIT

Antero Resources Corporation Well No. Sandy Unit 1H

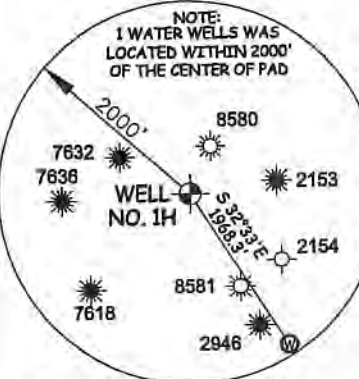
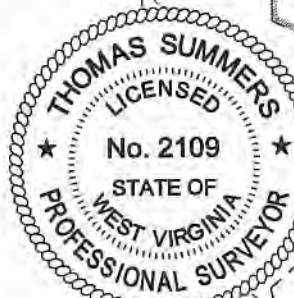
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WELL 1H POINT OF ENTRY INFORMATION: WV STATE PLANE NAD '27 (NORTH ZONE): N: 247,299ft E: 1,612,426ft...

Table listing landowners and lease details for various tracts, including names like David W. Weekley, Albin Gesek, and various sportsmen associations.



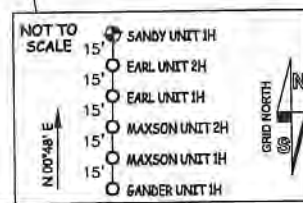
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STATE OF WEST VIRGINIA, DIVISION OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS. WILLOW LAND SURVEYING PLLC 220 MASONIC AVE. PENNSBORO WEST VIRGINIA 26415

JOB # 21-015WA DRAWING # SANDY1HAD 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. Signature of Thomas Summers, P.S. 2109. DATE 8/19/22 OPERATOR'S WELL# SANDY UNIT #1H



NOTES: 1. NO OCCUPIED DWELLINGS OR BUILDINGS TWO THOUSAND FIVE HUNDRED (2,500) SQUARE FEET OR LARGER USED TO HOUSE OR SHELTER DAIRY CATTLE OR POULTRY HUSBANDRY ARE LOCATED WITHIN SIX HUNDRED TWENTY-FIVE (625) FEET OF THE CENTER OF THE WELL PAD.

WELL TYPE: OIL GAS X LIQUID INJECTION WASTE DISPOSAL 47 - 085 - 10417 (IF "GAS") PRODUCTION X STORAGE DEEP SHALLOW X LOCATION: ELEVATION 1,125' - AS BUILT WATERSHED SOUTH FORK HUGHES RIVER QUADRANGLE TH - PULLMAN 7.5' BH - OXFORD 7.5' DISTRICT UNION COUNTY RITCHIE SURFACE OWNER DAVID W. & DAVID MARTIN WEEKLEY ACREAGE 39.87 ACRES +/- 09/15/2023 OIL & GAS ROYALTY OWNER T. D. DOTSON ET UX; EARL PIERCE ET UX; ANTERO MINERALS LLC LEASE ACREAGE 39.87 AC +/-; 51 AC +/-; 25 AC +/-; EARL PIERCE ET UX; JAMES BECK ET AL; JACOB PIERCE ET AL; RALPH JETT ET UX; MARY J. BRITTON; 47 AC +/-; 65 AC +/-; 34 AC +/-; 148 AC +/-; 69 AC +/-; ELIZABETH E. BRITTON; DARLENE BOSTON; BERNICE HAUGHT ET AL; CLARENCE BUSH ET UX; HARVEY SHEPLER ET AL 115.5 AC +/-; 100 AC +/-; 66.75 AC +/-; 75 AC +/-; 188 AC +/- PROPOSED WORK: DRILL CONVERT DRILL DEEPER REDRILL FRACTURE OR STIMULATE PLUG OFF OLD FORMATION PERFORATE NEW FORMATION OTHER PHYSICAL CHANGE IN WELL (SPECIFY) AS DRILLED PLUG & ABANDON CLEAN OUT & REPLUG TARGET FORMATION MARCELLUS ESTIMATED DEPTH 6,554' TVD 21,033' MD WELL OPERATOR ANTERO RESOURCES CORP. DESIGNATED AGENT DIANNA STAMPER - CT CORPORATION SYSTEM ADDRESS 1615 WYNKOOP ST. ADDRESS 5400 D BIG TYLER ROAD DENVER, CO 80202 CHARLESTON, WV 25313

API 47-085-10417 Farm Name David W & David Martin Weekley Well Number Sandy Unit 1H

Exhibit 1

Stage No.	Perforation Date	Perforated from MD ft.	Perforated to MD ft.	Number of Perforations	Formations
1	04/28/2022	20913	20868	36	Marcellus
2	04/28/2022	20830.69853	20666.1912	36	Marcellus
3	04/29/2022	20630.88971	20466.3824	36	Marcellus
4	04/29/2022	20431.08088	20266.5735	36	Marcellus
5	04/30/2022	20231.27206	20066.7647	36	Marcellus
6	04/30/2022	20031.46324	19866.9559	36	Marcellus
7	04/30/2022	19831.65441	19667.1471	36	Marcellus
8	05/01/2022	19631.84559	19467.3382	36	Marcellus
9	05/01/2022	19432.03676	19267.5294	36	Marcellus
10	05/01/2022	19232.22794	19067.7206	36	Marcellus
11	05/02/2022	19032.41912	18867.9118	36	Marcellus
12	05/02/2022	18832.61029	18668.1029	36	Marcellus
13	05/02/2022	18632.80147	18468.2941	36	Marcellus
14	05/02/2022	18432.99265	18268.4853	36	Marcellus
15	05/03/2022	18233.18382	18068.6765	36	Marcellus
16	05/03/2022	18033.375	17868.8676	36	Marcellus
17	05/03/2022	17833.56618	17669.0588	36	Marcellus
18	05/04/2022	17633.75735	17469.25	36	Marcellus
19	05/04/2022	17433.94853	17269.4412	36	Marcellus
20	05/04/2022	17234.13971	17069.6324	36	Marcellus
21	05/05/2022	17034.33088	16869.8235	36	Marcellus
22	05/05/2022	16834.52206	16670.0147	36	Marcellus
23	05/06/2022	16634.71324	16470.2059	36	Marcellus
24	05/06/2022	16434.90441	16270.3971	36	Marcellus
25	05/06/2022	16235.09559	16070.5882	36	Marcellus
26	05/06/2022	16035.28676	15870.7794	36	Marcellus
27	05/07/2022	15835.47794	15670.9706	36	Marcellus
28	05/07/2022	15635.66912	15471.1618	36	Marcellus
29	05/07/2022	15435.86029	15271.3529	36	Marcellus
30	05/08/2022	15236.05147	15071.5441	36	Marcellus
31	05/08/2022	15036.24265	14871.7353	36	Marcellus
32	05/08/2022	14836.43382	14671.9265	36	Marcellus
33	05/09/2022	14636.625	14472.1176	36	Marcellus
34	05/09/2022	14436.81618	14272.3088	36	Marcellus
35	05/09/2022	14237.00735	14072.5	36	Marcellus
36	05/09/2022	14037.19853	13872.6912	36	Marcellus
37	05/10/2022	13837.38971	13672.8824	36	Marcellus
38	05/10/2022	13637.58088	13473.0735	36	Marcellus
39	05/10/2022	13437.77206	13273.2647	36	Marcellus
40	05/10/2022	13237.96324	13073.4559	36	Marcellus
41	05/11/2022	13038.15441	12873.6471	36	Marcellus
42	05/11/2022	12838.34559	12673.8382	36	Marcellus
43	05/11/2022	12638.53676	12474.0294	36	Marcellus
44	05/12/2022	12438.72794	12274.2206	36	Marcellus
45	05/12/2022	12238.91912	12074.4118	36	Marcellus
46	05/12/2022	12039.11029	11874.6029	36	Marcellus
47	05/12/2022	11839.30147	11674.7941	36	Marcellus
48	05/13/2022	11639.49265	11474.9853	36	Marcellus
49	05/13/2022	11439.68382	11275.1765	36	Marcellus
50	05/13/2022	11239.875	11075.3676	36	Marcellus
51	05/14/2022	11040.06618	10875.5588	36	Marcellus
52	05/14/2022	10840.25735	10675.75	36	Marcellus
53	05/14/2022	10640.44853	10475.9412	36	Marcellus
54	05/14/2022	10440.63971	10276.1324	36	Marcellus
55	05/15/2022	10240.83088	10076.3235	36	Marcellus
56	05/15/2022	10041.02206	9876.51471	36	Marcellus
57	05/15/2022	9841.213235	9676.70588	36	Marcellus
58	05/15/2022	9641.404412	9476.89706	36	Marcellus
59	05/16/2022	9441.595588	9277.08824	36	Marcellus
60	05/16/2022	9241.786765	9077.27941	36	Marcellus
61	05/16/2022	9041.977941	8877.47059	36	Marcellus
62	05/17/2022	8842.169118	8677.66176	36	Marcellus
63	05/18/2022	8642.360294	8477.85294	36	Marcellus
64	05/18/2022	8442.551471	8278.04412	36	Marcellus
65	05/18/2022	8242.742647	8078.23529	36	Marcellus
66	05/18/2022	8042.933824	7878.42647	36	Marcellus
67	05/19/2022	7843.125	7678.61765	36	Marcellus
68	05/19/2022	7643.316176	7478.80882	36	Marcellus
69	05/19/2022	7443.507353	7279	36	Marcellus

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Environmental Protection

09/15/2023

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	04/28/2022	62.3	7506	6763	3307	169024	225250	N/A
2	04/28/2022	81.94	8242	5808	3336	411820	325691	N/A
3	04/29/2022	83.16	8068	4074	3017	408100	315517	N/A
4	04/29/2022	83.71	8151	7139	3075	412580	326979	N/A
5	04/30/2022	85.28	8214	5596	3265	408180	330171	N/A
6	04/30/2022	85.39	8189	6777	2947	406300	335726	N/A
7	04/30/2022	84.94	8294	8164	2942	404960	313963	N/A
8	05/01/2022	86.41	8454	6053	3819.46	403620	300356	N/A
9	05/01/2022	86.8	8387	6475	2869	401300	322843	N/A
10	05/01/2022	85.59	8511	6715	3276	409180	305398	N/A
11	05/02/2022	87.33	8543	6661	3130.92	404260	306854	N/A
12	05/02/2022	88.31	8346	6440	3031	405840	339593	N/A
13	05/02/2022	87.98	8479	6769	2998	409180	315728	N/A
14	05/02/2022	88.98	8494	5324	3082	405860	311849	N/A
15	05/03/2022	90.4	8472	5780	2900	404900	295578	N/A
16	05/03/2022	84.85	8255	7992	3534	400860	285483	N/A
17	05/03/2022	83.74	8350	6602	3397.11	401980	305017	N/A
18	05/04/2022	84.4	8485	6590	3278.77	405420	295465	N/A
19	05/04/2022	88.45	8535	7895	2819	412220	294369	N/A
20	05/04/2022	83.35	8473	8625	3319.68	409960	299619	N/A
21	05/05/2022	82.51	8449	6161	3215.8	412780	298851	N/A
22	05/05/2022	86.52	8456	8487	2873	417980	300129	N/A
23	05/06/2022	84.28	8432	6718	3378.19	411720	291926	N/A
24	05/06/2022	88.89	8588	6715	3141	408460	298156	N/A
25	05/06/2022	89.32	8542	8151	2874	414780	301047	N/A
26	05/06/2022	89.72	8547	6626	3050.72	402520	293132	N/A
27	05/07/2022	89.36	8325	3409	3230.02	400920	295062	N/A
28	05/07/2022	91.71	8577	7931	3062	401340	296869	N/A
29	05/07/2022	89.76	8436	6692	3241.44	411660	292984	N/A
30	05/08/2022	93.18	8556	7997	2929	402860	298244	N/A
31	05/08/2022	95.45	8396	8010	2750	408300	296600	N/A
32	05/08/2022	92.91	8349	6770	3293.42	409980	299482	N/A
33	05/09/2022	91.56	8301.82	6569.3	2640.32	404240	290004	N/A
34	05/09/2022	95.71	8417	6813	2772	407695	292319	N/A
35	05/09/2022	96.12	8176	8059	2996	411480	291619	N/A
36	05/09/2022	90.18	8426	8434	2791.92	408440	292124	N/A
37	05/10/2022	93.01	8322	7128	3015.67	415400	294977	N/A
38	05/10/2022	97.66	8155	8060	2935	405480	280037	N/A
39	05/10/2022	98.36	8196	8013	2680	407900	291906	N/A
40	05/10/2022	98.64	8258	7179	2615	401520	302921	N/A
41	05/11/2022	99.17	8247	7176	2941	410460	295217	N/A
42	05/11/2022	97.91	8184	7914	2851	404720	294008	N/A
43	05/11/2022	97.73	8212	7114	2407	410880	282574	N/A
44	05/12/2022	99.52	8093	6566	2804	404580	287292	N/A
45	05/12/2022	97.2	8040	8204	3209	409420	289960	N/A
46	05/12/2022	98.08	7994	8005	3237	407660	293973	N/A
47	05/12/2022	97.73	8013	8063	3068	405700	292905	N/A
48	05/13/2022	98.9	7931	6872	3206	406300	300266	N/A
49	05/13/2022	97.58	8099	7970	3010	408660	301473	N/A
50	05/13/2022	98.71	7674	7868	2926	405160	291238	N/A
51	05/14/2022	98.02	7751	6941	2520	403800	277509	N/A
52	05/14/2022	98.74	7822	6471	2733	412620	286096	N/A
53	05/14/2022	98.04	7747	8008	3191	406800	286780	N/A
54	05/14/2022	99.26	7752	7960	2643	403860	298010	N/A
55	05/15/2022	99.49	7730	6537	3069	410540	296735	N/A
56	05/15/2022	97.85	7586	7820	3050	412700	291934	N/A
57	05/15/2022	97.56	7568	7987	3193	406400	284128	N/A
58	05/15/2022	96.91	7824	6353	3067	408500	291128	N/A
59	05/16/2022	97.61	7403	6618	3108	408740	293202	N/A
60	05/16/2022	96.23	7525	7773	2941	402240	317589	N/A
61	05/16/2022	95.96	7535	6574	2759	402600	270238	N/A
62	05/17/2022	95.52	7612	6747	3105.15	411560	279211	N/A
63	05/18/2022	97.03	7362	6833	3151	408140	266059	N/A
64	05/18/2022	96.94	6994	6464	3209.82	410920	281595	N/A
65	05/18/2022	96.44	7397	7176	2935.21	405940	281838	N/A
66	05/18/2022	98.3	7025	6254	3047	407000	275879	N/A
67	05/19/2022	98.16	7084	7305	3005	413000	267580	N/A
68	05/19/2022	93.75	7085	7337	3110.65	407720	272151	N/A
69	05/19/2022	98.25	6701	7909	2989	402880	275116	N/A
	AVG=	92	8,063	7,058	3,034	27,880,499	20,371,522	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
Sandy Siltstone, tr LS	100	280	100	280
Sandy Siltstone, occ LS	280	430	280	430
Shaly Siltstone, tr SS	430	490	430	490
Shaly Siltstone, Coal	490	520	490	520
Shaly Siltstone, occ SS, tr Coal	520	610	520	610
Shaly Siltstone	610	730	610	730
Silty Shale, tr ls, coal	730	820	730	820
Sandy Shale, tr coal	820	970	820	970
Shaly Sandstone, tr coal	970	1,300	970	1,300
Sandy Shale, occ Siltstone	1,300	1,540	1,300	1,540
Silty Shale, occ sandstone	1,540	1,930	1,540	1,930
Shale, occ sandstone	1,930	2,050	1,930	2,050
Sandy Siltstone, occ shale	2,050	2,073	2,050	2,178
Big Lime	2,103	2,632	2,178	2,778
Fifty Foot Sandstone	2,632	2,825	2,748	2,985
Gordon	2,825	3,098	2,955	3,287
Fifth Sandstone	3,098	3,190	3,257	3,389
Bayard	3,190	3,929	3,359	4,192
Speechley	3,929	4,110	4,162	4,387
Balltown	4,110	4,627	4,357	4,947
Bradford	4,627	5,021	4,917	5,381
Benson	5,021	5,264	5,351	5,646
Alexander	5,264	6,360	5,616	6,905
Sycamore	6,157	6,330	6,633	6,875
Middlesex	6,330	6,441	6,875	7,075
Burkett	6,441	6,474	7,075	7,158
Tully	6,474	6,495	7,158	7,227
Marcellus	6,495	NA	7,227	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:	4/28/2022
Job End Date:	5/19/2022
State:	West Virginia
County:	Ritchie
API Number:	47-085-10417-00-00
Operator Name:	Antero Resources Corporation
Well Name and Number:	SANDY UNIT 1H
Latitude:	39.16982000
Longitude:	-80.87539000
Datum:	WGS84
Federal Well:	NO
Indian Well:	NO
True Vertical Depth:	6,560
Total Base Water Volume (gal):	21,884,566
Total Base Non Water Volume:	0

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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
Produced Water	Halliburton	Base Fluid					
			Water	7732-18-5	100.00000	86.79359	Density = 8.50
Ingredients	Listed Above	Listed Above					
			Water	7732-18-5	100.00000	0.17300	

FDP-S1443-21	Halliburton	Corrosion Inhibitor					
				Listed Below			
Sand-Premium White-30/50	Halliburton	Proppant					
				Listed Below			
LEGEND(TM) LD-7750W	MultiChem	Scale Control					
				Listed Below			
Sand-Premium White-30/70	Halliburton	Proppant					
				Listed Below			
WG-36 GELLING AGENT	Halliburton	Gelling Agent					
				Listed Below			
EXCELERATE LX-16	Halliburton	Friction Reducer					
				Listed Below			
MC B-8614A	MultiChem	Biocide					
				Listed Below			
Excelerate LX-15	Halliburton	Friction Reducer					
				Listed Below			
OPTIFLO-II DELAYED RELEASE BREAKER	Halliburton	Breaker					

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				Listed Below			
HYDROCHLORIC ACID, 22 BAUME	Halliburton	Solvent					
				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	13.00864	
			Hydrochloric acid	7647-01-0	30.00000	0.03781	
			Complex Amine Compound	Proprietary	60.00000	0.02953	
			Hydrotreated light petroleum distillate	64742-47-8	30.00000	0.01477	
			Methanol	67-56-1	100.00000	0.00705	
			Guar gum	9000-30-0	100.00000	0.00466	
			Sodium chloride	7647-14-5	10.00000	0.00425	
			Glutaraldehyde	111-30-8	30.00000	0.00241	
			Ethoxylated alcohol	Proprietary	5.00000	0.00184	
			Amine	Proprietary	5.00000	0.00184	
			Surfactant	Proprietary	5.00000	0.00062	
			Sobitan, mono-9-octadecenoate, (Z)	1338-43-8	5.00000	0.00062	
			Phosphoric Acid Salt	Proprietary	5.00000	0.00057	
			Alkyl (C12-16) dimethylbenzyl ammonium chloride	68424-85-1	5.00000	0.00040	
			Ammonium persulfate	7727-54-0	100.00000	0.00020	
			Ethoxylated alcohols	Proprietary	30.00000	0.00019	
			Alkoxyated polyhydric alcohol	Proprietary	1.00000	0.00012	

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			Organic chloride compound	Proprietary	1.00000	0.00012	
			Ethanol	64-17-5	1.00000	0.00008	
			Oxylated phenolic resin	Proprietary	30.00000	0.00006	
			Potassium formate	590-29-4	0.10000	0.00004	
			Diethanolamine	111-42-2	0.10000	0.00004	
			Sodium bisulphite	7681-57-4	0.10000	0.00004	
			Modified thiourea polymer	Proprietary	10.00000	0.00002	
			Formaldehyde	50-00-0	0.10000	0.00001	
			Mixture of dimer and trimer fatty acids of indefinite composition derived from tall oil	61790-12-3	5.00000	0.00001	
			Aldehyde	Proprietary	5.00000	0.00001	
			Sodium hydroxide	1310-73-2	0.01000	0.00000	
			Acetaldehyde	75-07-0	0.01000	0.00000	
			Hydroquinone monomethyl ether	150-76-5	0.01000	0.00000	
			1,4-Dioxane	123-91-1	0.01000	0.00000	
			Ethylene oxide	75-21-8	0.01000	0.00000	
			Nitrotriacetic acid, trisodium salt monohydrate	5064-31-3	0.01000	0.00000	
			Ethylenediaminetetraacetic acid, tetrasodium salt	64-02-8	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	
			Sodium glycolate	2836-32-0	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	
			Acrylamide	79-06-1	0.01000	0.00000	

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* 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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