

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

API 47 - 095 - 02661 County Tyler District McElroy
Quad Shirley 7.5' Pad Name Colorado West Field/Pool Name ---
Farm name Antero Resources Corporation Well Number Bronco 2H
Operator (as registered with the OOG) Antero Resources Corporation
Address 1615 Wynkoop St 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 4361446m Easting 518136m
Landing Point of Curve Northing 518679.96m Easting 4361775.88m
Bottom Hole Northing 4364615m Easting 518030m

Elevation (ft) 749' 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 11/7/2019 Date drilling commenced 1/26/2020 Date drilling ceased 3/13/2020
Date completion activities began 3/10/2021 Date completion activities ceased 4/10/21
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 298 Open mine(s) (Y/N) depths N
Salt water depth(s) ft 916 Void(s) encountered (Y/N) depths N
Coal depth(s) ft None Identified Cavern(s) encountered (Y/N) depths N
Is coal being mined in area (Y/N) N

APPROVED

Reviewed by:
Steve May
06/09/2023
4/10/23

API 47-095 - 02661 Farm name Antero Resources Corporation Well number Bronco 2H

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"	105'	New	94#, H-40	N/A	Y
Surface	17-1/2"	13-3/8"	446'	New	54.5#, J-55	N/A	Y
Coal							
Intermediate 1	12-1/4"	9-5/8"	3190'	New	36#, J-55	N/A	Y
Intermediate 2							
Intermediate 3							
Production	8-3/4"	5-1/2"	17174'	New	20#, P-110	N/A	Y
Tubing		2-3/8"	7380'		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	284 sx	15.6	1.20	60	0	8 Hrs
Surface	Class A	353 sx	15.6	1.20	76	0	8 Hrs
Coal							
Intermediate 1	Class A	1048 sx	15.6	1.20	222	0	8 Hrs
Intermediate 2							
Intermediate 3							
Production	Class H	792 sx (Lead) 2531 sx (Tail)	13.5 (Lead), 15.2(Tail)	1.4 (Lead), 1.26 (Tail)	599	-500' into Intermediate Casing	8 Hrs
Tubing							

Drillers TD (ft) 17194' MD, 6460' TVD (BHL), 6461' (Deepest Point Drilled) Loggers TD (ft) 17194' MD
 Deepest formation penetrated Marcellus Plug back to (ft) N/A
 Plug back procedure N/A

Kick off depth (ft) 6400'

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 ever 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 on 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 _____

06/09/2023

4/10/23

LATITUDE 39°25'00"

11,170'

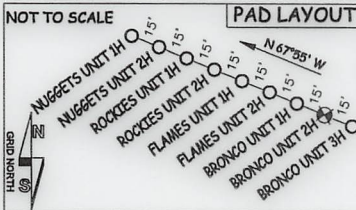
11,490' TO BOTTOM HOLE

LATITUDE 39°27'30"

Antero Resources Corporation
Well No. Bronco Unit 2H

AS DRILLED DATA:
WELL 2H TOP HOLE INFORMATION:
N: 331,232ft E: 1,635,613ft
LAT: 39°24'08.09" LON: 80°47'22.30"
BOTTOM HOLE INFORMATION:
N: 341,637ft E: 1,634,438ft
LAT: 39°25'50.90" LON: 80°47'26.44"
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 2H TOP HOLE INFORMATION:
N: 4,361,446m E: 518,136m
BOTTOM HOLE INFORMATION:
N: 4,364,615m E: 518,030m



TM-Par	Surface Owner	15-29	Mitchell Herrick	16-08	Jane Griffin	16-20.5	Susan Spencer
10-14	Charlene Garrison	15-31	Roger Weese	16-8.1	Roger Griffin	16-20.6	Timothy Spencer
10-20	Kenneth Mason	15-43	Robert Kocher	16-8.2	Roger Griffin	16-20.7	Timothy Spencer
10-21	Kenneth Mason	16-01	Donald Vandine Jr.	16-8.3	Brian Eddy	19-01	Susan Spencer
11-24	Bobby Thomas	16-07	Robert Kocher	16-09	Jamie Straight	19-02	Antero Resources Corp.
11-46	Alva Spencer Est.	16-7.1	Donald Moore	16-17	Charles Straight	19-03	Larry Stevens
11-47	Jay Bee Oil & Gas Inc.	16-7.2	Donna Brumbaugh	16-17.1	Charles Straight	19-04	John Owens
11-47.1	James Cantor Sr.	16-7.3	Mary Blattner	16-17.2	Rodney Tippins	19-05	Paul Weekley
11-47.2	Everett Stanley	16-7.4	Donald Moore	16-17.3	Charles Kimball	19-06	Paul Weekley
15-21	Robert Jennings	16-7.5	Robert Kocher	16-20	Susan Spencer	19-07	Patricia Montgomery
15-22	Joe Kimball	16-7.6	Robert Kocher	16-20.1	Susan Spencer	19-08	John Lewis Jr.
15-23	Kenneth Kline	16-7.7	Robert Kocher	16-20.2	Gary Nichols	19-09	Robert Walsh
15-25	William Roberts	16-7.8	Blattner & Howard LLC	16-20.3	Gary Nichols	19-48	Lloyd Talkington
15-28.4	George Hamilton	16-7.9	Mary Blattner				

WV NORTH ZONE
GRID NORTH

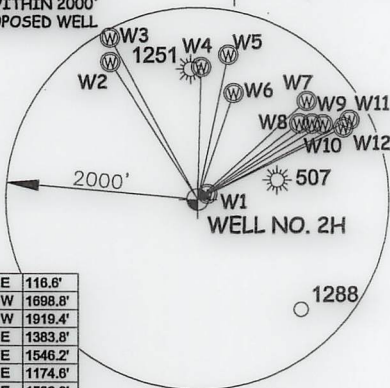
10,027' TO BOTTOM HOLE

5,252'

LONGITUDE 80°45'00"

LONGITUDE 80°45'00"

NOTE:
12 WATER WELLS WERE LOCATED WITHIN 2000' OF THE PROPOSED WELL



Well	N	E	Dist
W1	N 58°50'E	116.6'	
W2	N 32°31'W	1698.8'	
W3	N 28°31'W	1919.4'	
W4	N 01°31'E	1383.8'	
W5	N 11°55'E	1546.2'	
W6	N 18°37'E	1174.6'	
W7	N 47°54'E	1539.8'	
W8	N 63°04'E	1332.1'	
W9	N 66°18'E	1437.9'	
W10	N 58°55'E	1531.8'	
W11	N 62°11'E	1796.0'	
W12	N 63°28'E	1703.7'	

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 # 19-006WA

DRAWING # BRONCO2HAD

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

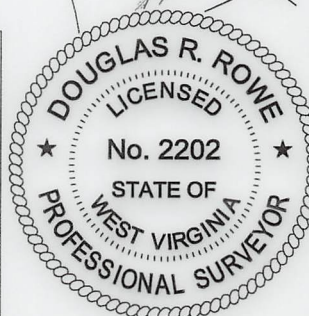
LEGEND

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

DOUGLAS R. ROWE P.S. 2202

DATE 06/09/21 OPERATOR'S WELL# BRONCO UNIT #2H

- 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.
- 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 X LIQUID INJECTION WASTE DISPOSAL 47 095 02661

(IF "GAS") PRODUCTION X STORAGE DEEP SHALLOW X STATE COUNTY PERMIT

LOCATION: ELEVATION 749' - AS BUILT WATERSHED McELROY CREEK QUADRANGLE SHIRLEY 7.5' DISTRICT McELROY COUNTY TYLER

SURFACE OWNER ANTERO RESOURCES CORPORATION ACREAGE 127.86 ACRES +/-

OIL & GAS ROYALTY OWNER B.F. REED ET UX; MARK A. BURNETT; K & D HOLDINGS, LLC; LEASE ACREAGE 130 AC.±; 256 AC.±; 219.39 AC.±;

JIMMY J. GRIFFIN ET UX; LOREN E. BAGLEY ET AL; BRC APPALACHIAN I, LLC; TROY SPENCER UNDERWOOD 236 AC.±; 502.8 AC.±; 70 AC.±; 257 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 6,460' TVD 17,194' 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

LATITUDE 39°25'00"

11,170'

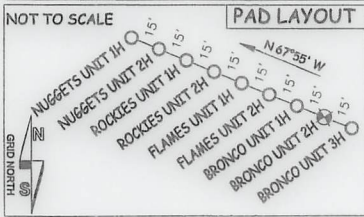
11,490' TO BOTTOM HOLE

LATITUDE 39°27'30"

Antero Resources Corporation Well No. Bronco Unit 2H

AS DRILLED DATA: WELL 2H TOP HOLE INFORMATION: N: 331,232ft E: 1,635,613ft ... BOTTOM HOLE INFORMATION: N: 341,637ft E: 1,634,438ft ... WEST VIRGINIA COORDINATE SYSTEM OF 1927 NORTH ZONE.

(NAD) 83 (UTM) ZONE 17 COORDS: WELL 2H TOP HOLE INFORMATION: N: 4,361,446m E: 518,136m ... BOTTOM HOLE INFORMATION: N: 4,364,615m E: 518,030m



NOTE: 12 WATER WELLS WERE LOCATED WITHIN 2000' OF THE PROPOSED WELL

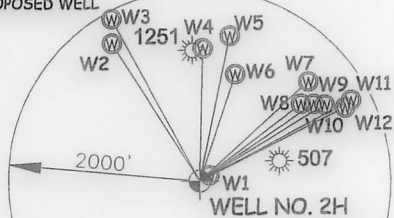


Table with 4 columns: Well ID, Northing, Easting, and Elevation. Lists wells W1 through W12 with their respective coordinates and elevations.

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

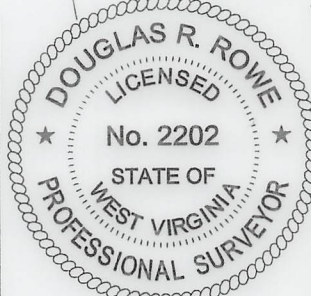
JOB # 19-006WA DRAWING # BRONCO2HAD SCALE 1" = 2000' MINIMUM DEGREE OF ACCURACY SUBMETER

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

DOUGLAS R. ROWE P.S. 2202

DATE 09/14/20 OPERATOR'S WELL# BRONCO UNIT #2H

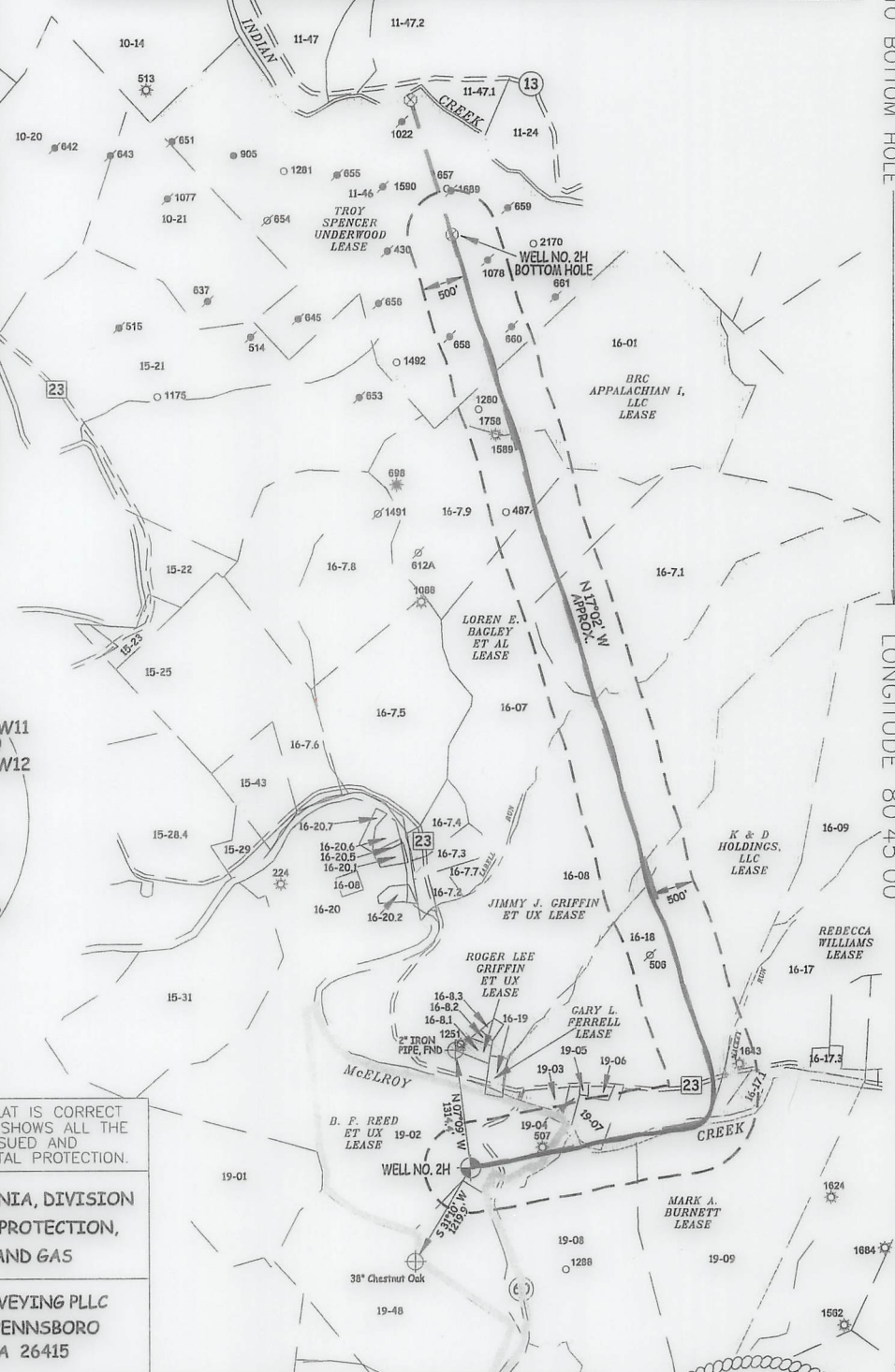
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WELL TYPE: OIL GAS X LIQUID INJECTION WASTE DISPOSAL 47 - 095 - 02661 (IF "GAS") PRODUCTION X STORAGE DEEP SHALLOW X STATE COUNTY PERMIT LOCATION: ELEVATION 749' - AS BUILT WATERSHED McELROY CREEK QUADRANGLE SHIRLEY 7.5' DISTRICT McELROY COUNTY TYLER SURFACE OWNER ANTERO RESOURCES CORPORATION ACREAGE 127.86 ACRES +/- OIL & GAS ROYALTY OWNER B.F. REED ET UX; MARK A. BURNETT; K & D HOLDINGS, LLC; JIMMY J. GRIFFIN ET UX; LOREN E. BAGLEY ET AL; BRC APPALACHIAN I, LLC; TROY SPENCER UNDERWOOD LEASE ACREAGE 130 AC.±; 256 AC.±; 219.39 AC.±; 236 AC.±; 502.8 AC.±; 70 AC.±; 257 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 6,460' TVD 17,194' 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

Table with 7 columns: TM-Par, Surface Owner, and well numbers. Lists various landowners and their associated well identifiers.



WV NORTH ZONE GRID NORTH

10,027' TO BOTTOM HOLE

LONGITUDE 80°45'00"

COUNTY NAME

PERMIT

06/09/2023

LATITUDE 39°25'00"

11,170'

11,490' TO BOTTOM HOLE

LATITUDE 39°27'30"

Antero Resources Corporation
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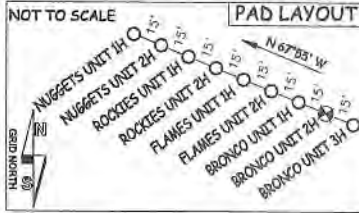
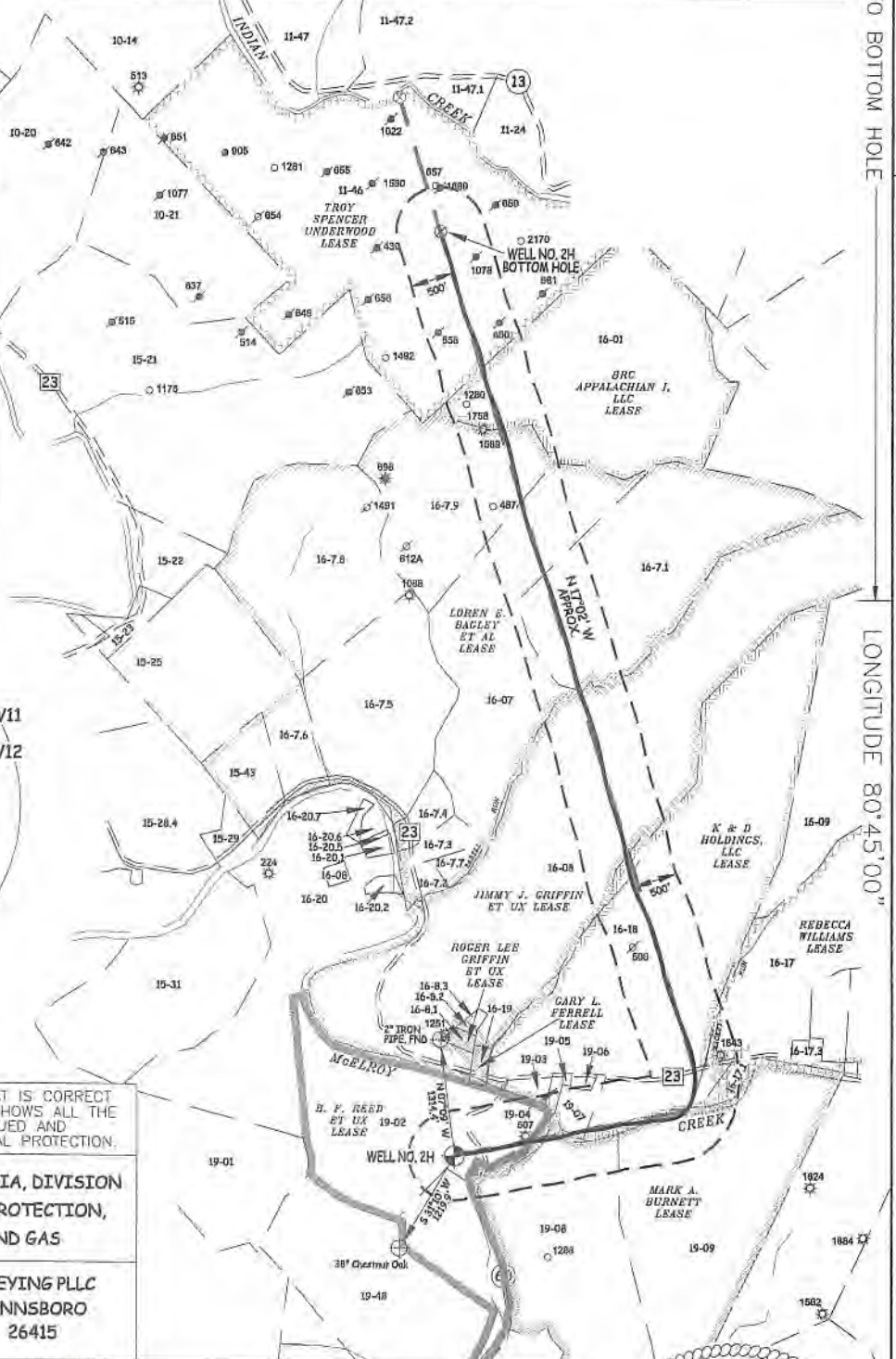


Table with 6 columns: TM-Par, Surface Owner, and well numbers (15-29, 16-08, 16-20.5). Lists various surface owners and their associated well identifiers.



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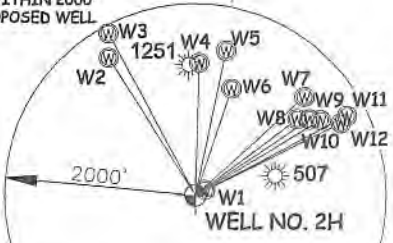


Table listing well identifiers (W1-W12) and their coordinates in N, E, and distance (e.g., W1 N 58°50' E 116.8').

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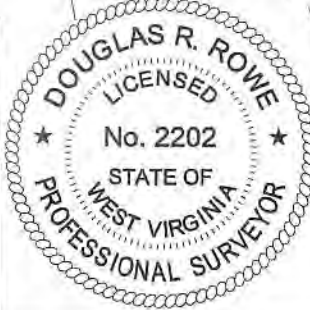
STATE OF WEST VIRGINIA, DIVISION OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS

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

JOB # 19-006WA
DRAWING # BRONCO2HAD
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 +/-
o Proposed Well Path
o As Drilled Well Path
DOUGLAS R. ROWE P.S. 2202
DATE 06/09/21
OPERATOR'S WELL# BRONCO UNIT #2H

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(IF "GAS") PRODUCTION X STORAGE ___ DEEP ___ SHALLOW X
LOCATION: ELEVATION 749' - AS BUILT WATERSHED McELROY CREEK
QUADRANGLE SHIRLEY 7.5' DISTRICT McELROY COUNTY TYLER
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PROPOSED WORK: DRILL ___ CONVERT ___ DRILL DEEPER ___ REDRILL ___ FRACTURE OR STIMULATE ___
(SPECIFY) AS DRILLED PLUG OFF OLD FORMATION ___ PERFORATE NEW FORMATION ___ OTHER PHYSICAL CHANGE IN WELL ___
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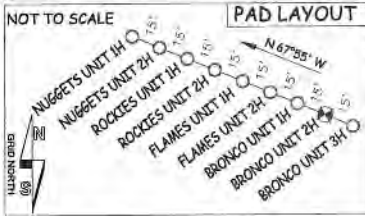
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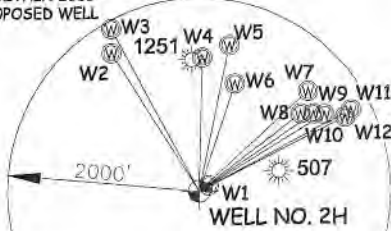
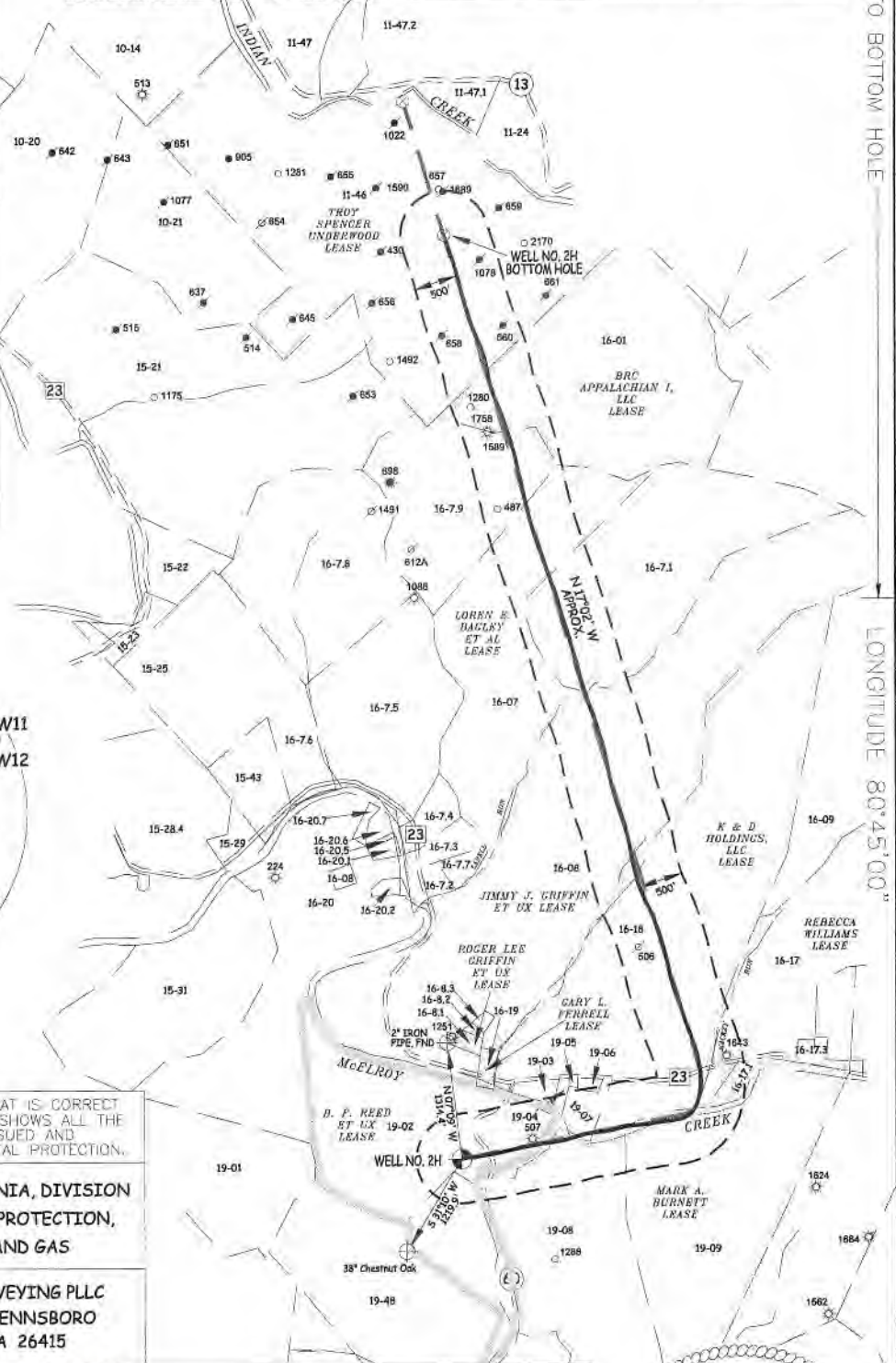


Table with 2 columns: Well ID (W1-W12) and coordinates (N/E and N/W).

Table listing Surface Owner, Well ID, and Name for various wells (e.g., 10-14 Charlene Garrison, 15-29 Mitchell Herrick, 16-08 June Griffin).



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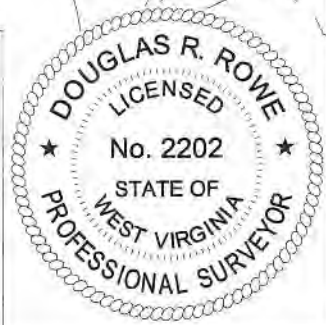


STATE OF WEST VIRGINIA, DIVISION OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS. WILLOW LAND SURVEYING PLLC 220 MASONIC AVE. PENNSBORO WEST VIRGINIA 26415

JOB # 19-006WA DRAWING # BRONCO2HAD 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. DOUGLAS R. ROWE P.S. 2202 DATE 09/14/20 OPERATOR'S WELL# BRONCO UNIT #2H

NOTE: 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 47 095 02661 (IF "GAS") PRODUCTION X STORAGE DEEP SHALLOW X STATE COUNTY PERMIT LOCATION: ELEVATION 749' - AS BUILT WATERSHED McELROY CREEK QUADRANGLE SHIRLEY 7.5' DISTRICT McELROY COUNTY TYLER SURFACE OWNER ANTERO RESOURCES CORPORATION ACREAGE 127.86 ACRES +/- OIL & GAS ROYALTY OWNER B.F. REED ET UX; MARK A. BURNETT; K & D HOLDINGS, LLC; LEASE ACREAGE 130 AC +/-; 256 AC +/-; 219.39 AC +/-; JIMMY J. GRIFFIN ET UX; LOREN E. BAGLEY ET AL; BRC APPALACHIAN I, LLC; TROY SPENCER UNDERWOOD 236 AC +/-; 502.8 AC +/-; 70 AC +/-; 257 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 6,460' TVD 17,194' 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

10,027' TO BOTTOM HOLE

5,252'

LONGITUDE 80°45'00"

LONGITUDE 80°45'00"

COUNTY NAME

PERMIT

06/09/2023

API 47-095-02661 Farm Name Antero Resources Corporation Well Number Bronco Unit 2H

Exhibit 1

Stage No.	Perforation Date	Perforated from MD ft.	Perforated to MD ft.	Number of Perforations	Formations
1	3/10/2021	17076.8	17032.9	36	Marcellus
2	3/10/2021	16994.93936	16827.1362	36	Marcellus
3	3/11/2021	16791.17553	16623.3723	36	Marcellus
4	3/11/2021	16587.4117	16419.6085	36	Marcellus
5	3/11/2021	16383.64787	16215.8447	36	Marcellus
6	3/12/2021	16179.88404	16012.0809	36	Marcellus
7	3/12/2021	15976.12021	15808.317	36	Marcellus
8	3/12/2021	15772.35638	15604.5532	36	Marcellus
9	3/13/2021	15568.59255	15400.7894	36	Marcellus
10	3/13/2021	15364.82872	15197.0255	36	Marcellus
11	3/13/2021	15161.06489	14993.2617	36	Marcellus
12	3/14/2021	14957.30106	14789.4979	36	Marcellus
13	3/14/2021	14753.53723	14585.734	36	Marcellus
14	3/14/2021	14549.7734	14381.9702	36	Marcellus
15	3/15/2021	14346.00957	14178.2064	36	Marcellus
16	3/15/2021	14142.24574	13974.4426	36	Marcellus
17	3/15/2021	13938.48191	13770.6787	36	Marcellus
18	3/16/2021	13734.71809	13566.9149	36	Marcellus
19	3/16/2021	13530.95426	13363.1511	36	Marcellus
20	3/16/2021	13327.19043	13159.3872	36	Marcellus
21	3/16/2021	13123.4266	12955.6234	36	Marcellus
22	3/17/2021	12919.66277	12751.8596	36	Marcellus
23	3/17/2021	12715.89894	12548.0957	36	Marcellus
24	3/17/2021	12512.13511	12344.3319	36	Marcellus
25	3/18/2021	12308.37128	12140.5681	36	Marcellus
26	3/18/2021	12104.60745	11936.8043	36	Marcellus
27	3/18/2021	11900.84362	11733.0404	36	Marcellus
28	3/19/2021	11697.07979	11529.2766	36	Marcellus
29	3/19/2021	11493.31596	11325.5128	36	Marcellus
30	3/19/2021	11289.55213	11121.7489	36	Marcellus
31	3/21/2021	11085.7883	10917.9851	36	Marcellus
32	3/21/2021	10882.02447	10714.2213	36	Marcellus
33	3/21/2021	10678.26064	10510.4574	36	Marcellus
34	3/22/2021	10474.49681	10306.6936	36	Marcellus
35	3/22/2021	10270.73298	10102.9298	36	Marcellus
36	3/22/2021	10066.96915	9899.16596	36	Marcellus
37	3/23/2021	9863.205319	9695.40213	36	Marcellus
38	3/23/2021	9659.441489	9491.6383	36	Marcellus
39	3/24/2021	9455.67766	9287.87447	36	Marcellus
40	3/24/2021	9251.91383	9084.11064	36	Marcellus
41	3/24/2021	9048.15	8880.34681	36	Marcellus
42	3/25/2021	8844.38617	8676.58298	36	Marcellus
43	3/25/2021	8640.62234	8472.81915	36	Marcellus
44	3/25/2021	8436.858511	8269.05532	36	Marcellus
45	3/26/2021	8233.094681	8065.29149	36	Marcellus
46	3/26/2021	8029.330851	7861.52766	36	Marcellus
47	3/26/2021	7825.567021	7657.76383	36	Marcellus
48	3/26/2021	7621.803191	7454	36	Marcellus

06/09/2023

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	3/10/2021	73.62	8132.85	7576.68	4503.15	182910	209050	N/A
2	3/10/2021	78.91	7874	6413	4325.37	410740	314359	N/A
3	3/11/2021	87.73	8062	6164	4325.97	413580	309223	N/A
4	3/11/2021	89.54	8268	6201	4370.55	404600	305410	N/A
5	3/11/2021	84.96	7908.29	6267.29	4184.2	419700	315689	N/A
6	3/12/2021	85.01	8199	6039	3997.11	421980	308077	N/A
7	3/12/2021	83.59	8317	7278	4115.96	402700	291859	N/A
8	3/12/2021	71.61	8015.79	3233.97	4203.4	410460	347824	N/A
9	3/13/2021	88.89	8253	6128	4613.54	408060	297211	N/A
10	3/13/2021	86.44	8264	5539	4133.83	403720	294858	N/A
11	3/13/2021	84.3	8011.01	3184.56	4090.23	403140	293704	N/A
12	3/14/2021	84.81	8141	3170	4006.94	407360	292683	N/A
13	3/14/2021	88.13	8320	7163	4270.47	407820	291624	N/A
14	3/14/2021	67.08	7661	2544	4535.74	406520	398358	N/A
15	3/15/2021	92.91	8367	2690	4019.02	407280	291037	N/A
16	3/15/2021	92.23	8538	0	4196.79	407180	291182	N/A
17	3/15/2021	93.28	8060	2832	4187.93	409480	295672	N/A
18	3/16/2021	76.89	8082.61	2817.05	3878.1	412020	299554	N/A
19	3/16/2021	92.49	8502	7577	3857.81	403660	290732	N/A
20	3/16/2021	93.69	8567.5	7502.49	4125.02	405860	290284	N/A
21	3/16/2021	92.69	8186	0	4094	412080	291158	N/A
22	3/17/2021	94.37	8500	7308	4272.71	410060	288994	N/A
23	3/17/2021	90.15	8503	6880	3849.86	398300	291356	N/A
24	3/17/2021	87.47	8172	8361	3620	413380	292105	N/A
25	3/18/2021	94.16	8341	7997	3652.81	410500	289869	N/A
26	3/18/2021	96	8349	6518	4030.43	409100	290111	N/A
27	3/18/2021	93.81	8163.51	7986.09	4409.83	404060	346181	N/A
28	3/19/2021	93.18	8280	8464	4287.71	404580	290876	N/A
29	3/19/2021	94.64	8289	8251	4388.55	408240	287426	N/A
30	3/19/2021	93.87	8210	6374	4572.89	121440	295084	N/A
31	3/21/2021	93.55	8028.35	7029.72	4097.46	403040	292660	N/A
32	3/21/2021	94.39	8379	7653	3856.09	411700	287980	N/A
33	3/21/2021	95.26	7662	6971	4322	414840	289505	N/A
34	3/22/2021	95.33	7962.58	7772.66	4025.48	409860	287847	N/A
35	3/22/2021	94.97	8347	7098	3884.27	398900	288241	N/A
36	3/22/2021	94.55	8432	6003	4171.29	407100	290090	N/A
37	3/23/2021	94.16	8215.49	6142.87	3758.32	412280	293614	N/A
38	3/23/2021	93.81	7976.93	5689.84	4144.3	403540	296127	N/A
39	3/24/2021	79.2	6996	5943	5056.14	407460	409559	N/A
40	3/24/2021	94.66	7977.12	6017.37	4273.29	404240	292864	N/A
41	3/24/2021	94.09	8122	6295	4004	407380	285039	N/A
42	3/25/2021	95.55	7862	5743	4405	401360	288545	N/A
43	3/25/2021	92.97	7694.03	5900.33	4149.02	410320	293897	N/A
44	3/25/2021	95.44	8066.2	6281.45	4037.39	406900	289201	N/A
45	3/26/2021	95.76	8071	5909	4042	405760	286466	N/A
46	3/26/2021	94.65	7873.87	6345.46	4028.88	409020	291004	N/A
47	3/26/2021	95.79	7978	6943	3961.48	415460	296694	N/A
48	3/26/2021	95.22	8170.12	6942.44	5193.42	403500	284474	N/A
AVG=		90	8,132	5,940	4,178	19,073,170	14,335,357	TOTAL

EXHIBIT 3

LITHOLOGY/ FORMATION	TOP DEPTH (TVD)	BOTTOM DEPTH (TVD)	TOP DEPTH (MD)	BOTTOM DEPTH (MD)
	From Surface	From Surface	From Surface	From Surface
Shale	0	310	0	310
Silty sandstone	310	460	310	460
Shale	460	700	460	700
Silty Shale	700	820	700	820
Shale with interbedded limestone	820	850	820	850
Shale	850	880	850	880
Shale w/ trace coal	880	910	880	910
Shaley Sandstone	910	1,180	910	1,180
Shale	1,180	1,240	1,180	1,240
Sandstone w/ interbedded coals	1,240	1,330	1,240	1,330
Sandstone w/ trace coal	1,330	1,480	1,330	1,480
Sandstone	1,480	1,510	1,480	1,510
Shale	1,510	1,655	1,510	N/A
Big Lime	1,655	2,356	1,685	2,453
Fifty Foot Sandstone	2,356	2,464	2,453	2,571
Gordon	2,464	2,774	2,571	2,911
Fifth Sandstone	2,774	2,802	2,911	2,941
Bayard	2,802	3,580	2,941	3,817
Speechley	3,580	3,823	3,817	4,105
Balltown	3,823	4,331	4,105	4,723
Bradford	4,331	4,787	4,723	5,268
Benson	4,787	5,037	5,268	5,569
Alexander	5,037	6,222	5,569	6,991
Sycamore	6,033	6,197	6,779	6,966
Middlesex	6,197	6,333	6,991	7,194
Burkett	6,333	6,362	7,219	7,258
Tully	6,362	6,411	7,283	7,407
Marcellus	6,411	NA	7,407	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.

06/09/2023

Hydraulic Fracturing Fluid Product Component Information Disclosure

Job Start Date:	3/10/2021
Job End Date:	3/26/2021
State:	West Virginia
County:	Tyler
API Number:	47-095-02661-00-00
Operator Name:	Antero Resources Corporation
Well Name and Number:	BRONCO UNIT 2H
Latitude:	39.40225000
Longitude:	-80.78953000
Datum:	NAD83
Federal Well:	NO
Indian Well:	NO
True Vertical Depth:	6,461
Total Base Water Volume (gal):	14,911,092
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	86.60852	Density = 8.50
Ingredients	Listed Above	Listed Above					
			Water	7732-18-5	100.00000	0.10539	

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OPTIFLO-II DELAYED RELEASE BREAKER	Halliburton	Breaker					
				Listed Below			
HYDROCHLORI C ACID, 22 BAUME	Halliburton	Solvent					
				Listed Below			
Sand-Common White-100 Mesh, SSA-2	Halliburton	Proppant					
				Listed Below			
MC B-8614	Halliburton	Biocide					
				Listed Below			
FLUID Enviro- Syn HCR-7000- WL	Fluid Energy Group	Acid Replacement					
				Listed Below			
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			

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	13.22133	
			Complex Amine Compound	Proprietary	60.00000	0.02653	
			Hydrochloric acid	7647-01-0	30.00000	0.02119	
			Hydrotreated light petroleum distillate	64742-47-8	30.00000	0.01327	
			Proprietary	Proprietary	20.00000	0.00783	
			Guar gum	9000-30-0	100.00000	0.00766	
			Proprietary	Proprietary	10.00000	0.00392	
			Glutaraldehyde	111-30-8	30.00000	0.00247	
			Surfactant	Proprietary	5.00000	0.00221	
			Sorbitan, mono-9-octadecenoate, (Z)	1338-43-8	5.00000	0.00221	
			Ethoxylated alcohols	Proprietary	5.00000	0.00045	
			Organic chloride compound	Proprietary	1.00000	0.00044	
			Alkoxyated polyhydric alcohol	Proprietary	1.00000	0.00044	
			Quaternary ammonium compounds, benzyl-C12-16-alkyldimethyl chlorides	68424-85-1	5.00000	0.00041	
			Methanol	67-56-1	100.00000	0.00021	
			Ammonium persulfate	7727-54-0	100.00000	0.00012	
			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	0.00004	
			Modified thiourea polymer	Proprietary	30.00000	0.00004	
			Oxylated phenolic resin	Proprietary	30.00000	0.00004	
			Phosphoric acid	7664-38-2	0.10000	0.00001	
			Propargyl alcohol	107-19-7	5.00000	0.00001	
			Hexadecene	629-73-2	5.00000	0.00001	
			Organic salt #2	Proprietary	0.01000	0.00000	

			Sodium glycolate	2836-32-0	0.01000	0.00000	
			Formaldehyde	50-00-0	0.01000	0.00000	
			Acrylamide	79-06-1	0.01000	0.00000	
			Organic salt #1	Proprietary	0.01000	0.00000	
			Sodium hydroxide	1310-73-2	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)