

Reviewed

Julian 5/9/18

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

RECEIVED
Office of Oil and Gas

APR 30 2018

WV Department of
Environmental Protection

API 47 - 017 - 06781 County Doddridge District Central
Quad West Union 7.5' Pad Name Long Run Pad Field/Pool Name -----
Farm name Richard F. McCullough, et al Well Number Janice Unit 2H
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 4350130m Easting 511738m
Landing Point of Curve Northing 4350306.14m Easting 511692.49m
Bottom Hole Northing 4352347m Easting 511037m

Elevation (ft) 1021' 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 10/25/2016 Date drilling commenced 12/16/2016 Date drilling ceased 5/19/2017
Date completion activities began 6/18/2017 Date completion activities ceased 11/1/2017
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 53' Open mine(s) (Y/N) depths No
Salt water depth(s) ft 884' Void(s) encountered (Y/N) depths No
Coal depth(s) ft N/A Cavern(s) encountered (Y/N) depths No
Is coal being mined in area (Y/N) No

Reviewed by:

06/01/2018

API 47-017 - 06781 Farm name Richard F. McCullough, et al Well number Janice Unit 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"	40'	New	94#, H-40	N/A	Y
Surface	17-1/2"	13-3/8"	498'	New	48#, H-40	N/A	Y
Coal							
Intermediate 1	12-1/4"	9-5/8"	2522'	New	36#, J-55	N/A	Y
Intermediate 2							
Intermediate 3							
Production	8-3/4"/8-1/2"	5-1/2"	13850'	New	23#, P-110	N/A	Y
Tubing		2-3/8"	6271'		4.7#, N-80		
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	102 sx	15.6	1.18	120	0'	8 Hrs.
Surface	Class A	470 sx	15.6	1.19	559	0'	8 Hrs.
Coal							
Intermediate 1	Class A	871 sx	15.6	1.18	1028	0'	8 Hrs.
Intermediate 2							
Intermediate 3							
Production	Class H	738 sx (Lead) 1108 sx (Tail)	13.50 (Lead), 15.20 (Tail)	1.56 (Lead), 1.83 (Tail)	3179	-500' into Intermediate Casing	8 Hrs.
Tubing							

Drillers TD (ft) 13850' MD, 6457' TVD (BHL), 6469' (Deepest Point Drilled) Loggers TD (ft) 13850' MD
 Deepest formation penetrated Marcellus Plug back to (ft) N/A
 Plug back procedure N/A

Kick off depth (ft) 5818'

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 _____

WAS WELL COMPLETED OPEN HOLE? Yes No DETAILS _____

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

API 47- 017 - 06781 Farm name Richard F. McCullough, et al Well number Janice Unit 2H

<u>PRODUCING FORMATION(S)</u>	<u>DEPTHS</u>	
<u>Marcellus</u>	<u>6418' (TOP)</u> TVD	<u>6611' (TOP)</u> MD
_____	_____	_____
_____	_____	_____
_____	_____	_____

Please insert additional pages as applicable.

GAS TEST Build up Drawdown Open Flow OIL TEST Flow Pump

SHUT-IN PRESSURE Surface 3100 psi Bottom Hole --- psi DURATION OF TEST --- hrs

OPEN FLOW Gas 10069 mcfpd Oil 50 bpd NGL --- bpd Water 2 bpd GAS MEASURED BY Estimated Orifice Pilot

LITHOLOGY/ FORMATION	TOP DEPTH IN FT	BOTTOM DEPTH IN FT	TOP DEPTH IN FT	BOTTOM DEPTH IN FT	DESCRIBE ROCK TYPE AND RECORD QUANTITY AND TYPE OF FLUID (FRESHWATER, BRINE, OIL, GAS, H ₂ S, ETC)
NAME	TVD	TVD	MD	MD	

***PLEASE SEE ATTACHED EXHIBIT 3**

Please insert additional pages as applicable.

Drilling Contractor Frontier Drilling LLC
Address 562 Spring Run Road City Pennsboro State WV Zip 26415

Logging Company Pro Oil & Gas Services LLC
Address 3035 Lynnwood Drive City Hermitage State PA Zip 16148

Cementing Company C&J Energy Services
Address 1650 Hackers Creek City Jane Lew State WV Zip 26378

Stimulating Company Baker Hughes
Address 837 Phillippi Pike City Clarksburg State WV Zip 26301

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Please insert additional pages as applicable.

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Completed by Mallory Stanton Telephone 303-357-7182
Signature _____ Title Permitting Supervisor Date 4/27/2018 WV Department of
Environmental Protection

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

06/01/2018

API 47-017-06781 Farm Name Richard F. McCullough et al Well Number Janice Unit 2H

EXHIBIT 1

Stage No.	Perforation Date	Perforated from MD ft.	Perforated to MD ft.	Number of Perforations	Formations
1	8/19/2017	13581	13748	60	Marcellus
2	8/20/2017	13383	13550	60	Marcellus
3	8/20/2017	13185	13352	60	Marcellus
4	8/21/2017	12987	13154	60	Marcellus
5	8/22/2017	12790	12956	60	Marcellus
6	8/22/2017	12592	12759	60	Marcellus
7	8/23/2017	12394	12561	60	Marcellus
8	8/23/2017	12196	12363	60	Marcellus
9	8/24/2017	11998	12165	60	Marcellus
10	8/25/2017	11800	11967	60	Marcellus
11	8/26/2017	11602	11769	60	Marcellus
12	8/26/2017	11404	11571	60	Marcellus
13	8/27/2017	11207	11373	60	Marcellus
14	8/27/2017	11009	11176	60	Marcellus
15	8/28/2017	10811	10978	60	Marcellus
16	8/28/2017	10613	10780	60	Marcellus
17	8/29/2017	10415	10582	60	Marcellus
18	8/29/2017	10217	10384	60	Marcellus
19	8/30/2017	10019	10186	60	Marcellus
20	8/31/2017	9821	9988	60	Marcellus
21	8/31/2017	9624	9790	60	Marcellus
22	9/1/2017	9426	9593	60	Marcellus
23	9/1/2017	9228	9395	60	Marcellus
24	9/2/2017	9030	9197	60	Marcellus
25	9/2/2017	8832	8999	60	Marcellus
26	9/3/2017	8634	8801	60	Marcellus
27	9/3/2017	8436	8603	60	Marcellus
28	9/4/2017	8238	8405	60	Marcellus
29	9/4/2017	8040	8207	60	Marcellus
30	9/5/2017	7843	8009	60	Marcellus
31	9/5/2017	7645	7812	60	Marcellus
32	9/6/2017	7447	7614	60	Marcellus
33	9/7/2017	7249	7416	60	Marcellus
34	9/7/2017	7051	7218	60	Marcellus
35	9/8/2017	6853	7020	60	Marcellus
36	9/8/2017	6655	6822	60	Marcellus

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EXHIBIT 2

Stage No.	Stimulations Date	Avg Pump Rate	Avg Treatment Pressure (PSI)	Max Breakdown Pressure (PSI)	ISIP (PSI)	Amount of Proppant (lbs)	Amount of Water (bbls)	Amount of Nitrogen/ other (units)
1	8/19/2017	66.7	6343	6065	3409	296600	9884	N/A
2	8/20/2017	74.3	7843	5644	3287	297050	10639	N/A
3	8/20/2017	75	7430	7012	3465	196400	8786	N/A
4	8/21/2017	75.6	7301	5908	4035	197200	9130	N/A
5	8/22/2017	76.6	7585	6486	3502	196450	8910	N/A
6	8/22/2017	79.2	7579	6495	3550	197050	8761	N/A
7	8/23/2017	50.9	8378	6420	3924	195600	14652	N/A
8	8/23/2017	78.7	7246	6238	3288	296750	8721	N/A
9	8/24/2017	80.1	7115	6097	3167	297150	8876	N/A
10	8/25/2017	80.1	7116	6669	3478	296800	8765	N/A
11	8/26/2017	72.7	7667	7281	3582	296050	10828	N/A
12	8/26/2017	51.6	7788	6789	7695	175000	9414	N/A
13	8/27/2017	80.3	7192	6655	3476	296700	8817	N/A
14	8/27/2017	79.9	7345	7274	3162	296600	8958	N/A
15	8/28/2017	75.8	6696	8339	3491	295800	8600	N/A
16	8/28/2017	78.3	7212	7065	3516	296900	8499	N/A
17	8/29/2017	76.3	6875	7932	3116	297300	9218	N/A
18	8/29/2017	79.4	7255	6999	3629	297850	8679	N/A
19	8/30/2017	80.3	7031	7004	3290	297050	8871	N/A
20	8/31/2017	79.4	6705	6247	3232	297250	8940	N/A
21	8/31/2017	78.7	6663	6115	3351	297200	8254	N/A
22	9/1/2017	80.1	6815	6207	3215	297050	8285	N/A
23	9/1/2017	79.8	6768	6317	3408	297050	8345	N/A
24	9/2/2017	76.6	6514	6300	3132	297050	8333	N/A
25	9/2/2017	72.2	6657	6247	3419	299950	8625	N/A
26	9/3/2017	77.2	7182	5929	3149	296400	9423	N/A
27	9/3/2017	75.5	7443	6399	3579	296950	8577	N/A
28	9/4/2017	75.2	6679	6384	3447	297100	8426	N/A
29	9/4/2017	76.5	7233	6069	4788	296500	11604	N/A
30	9/5/2017	78.1	6827	6068	4885	298400	8295	N/A
31	9/5/2017	78.7	6507	6032	5339	297000	8369	N/A
32	9/6/2017	77.9	6377	5478	5066	296950	8285	N/A
33	9/7/2017	72.6	6071	5805	5425	297200	9894	N/A
34	9/7/2017	75.6	6357	6184	3856	297200	8223	N/A
35	9/8/2017	75.8	6597	5746	4120	296650	8226	N/A
36	9/8/2017	79	6347	6174	3977	297700	8145	N/A
	AVG=	75.6	7,105	6,505	3,752	8,881,150	292,769	TOTAL

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EXHIBIT 3

LITHOLOGY/ FORMATION	TOP DEPTH (TVD) From Surface	BOTTOM DEPTH (TVD) From Surface	TOP DEPTH (MD) From Surface	BOTTOM DEPTH (MD) From Surface
Fresh Water	53'	N/A	N/A	N/A
Sandy siltstone	0	100	0	100
Silty sandstone	100	300	100	300
Sandy siltstone	300	420	300	420
Silty sandstone (tr coal)	420	600	420	600
Sandy shale	600	780	600	780
Silty limestone	780	800	780	800
Silty shale	800	880	800	880
Siltstone	880	980	880	980
Sandstone	980	1,300	980	1,300
Shaly sandstone	1,300	1,420	1,300	1,420
Silty sandstone (tr coal)	1,420	1,580	1,420	1,580
Silty shale	1,580	1,780	1,580	1,780
Sandy shale (tr coal)	1,780	1,840	1,780	1,840
Shaly sandstone	1,840	2,020	1,840	2,020
Silty shale	2,020	2,080	2,020	2,083
Big Lime	2,080	2,628	2,083	2,632
Fifty Foot Sandstone	2,628	2,749	2,632	2,753
Gordon	2,749	2,838	2,753	2,842
Fifth Sandstone	2,838	3,133	2,842	3,140
Bayard	3,133	3,151	3,140	3,159
Speechley	3,151	3,957	3,159	3,989
Baltown	3,957	4,187	3,989	4,225
Bradford	4,187	4,692	4,225	4,747
Benson	4,692	5,155	4,747	5,225
Alexander	5,155	5,426	5,225	5,504
Rhinestreet	5,426	5,583	5,504	5,666
Sycamore	5,583	6,100	5,666	6,199
Middlesex	6,100	6,457	6,199	6,468
Burkett	6,455	6,628	6,595	6,839
Tully	6,628	6,761	6,839	7,067
Marcellus	6,761	6,790	7,067	7,123

*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:	8/19/2017
Job End Date:	9/8/2017
State:	West Virginia
County:	Doddridge
API Number:	47-017-06781-00-00
Operator Name:	Antero Resources Corporation
Well Name and Number:	Janice Unit 2H
Latitude:	39.30047200
Longitude:	-80.86385600
Datum:	NAD83
Federal Well:	NO
Indian Well:	NO
True Vertical Depth:	6,458
Total Base Water Volume (gal):	14,078,455
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
Water	Supplied by Operator	Base Fluid					
			Water	7732-18-5	70.00000	88.94308	
SANIFRAC 8844	CWS	Biocide					
			Listed Below				

				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	10.63912
				Hydrochloric acid	7647-01-0	37.00000	0.08290
				Calcite	471-34-1	1.00000	0.08183
				Guar gum	9000-30-0	60.00000	0.04792
				Distillates (petroleum), hydrotreated middle	64742-46-7	60.00000	0.04792
				Polymer	26100-47-0	45.00000	0.02806
				Illite	12173-60-3	1.00000	0.02452
				Distillates (petroleum), hydrotreated light	64742-47-8	30.00000	0.01871
				Ammonium Persulfate	64742-47-8	100.00000	0.01237
				Biotite	1302-27-8	0.10000	0.01064
				Goethite	1310-14-1	0.10000	0.01064
				Apatite	64476-38-6	0.10000	0.01064
				Ammonium chloride	12125-02-9	11.00000	0.00686
				Polyethylene glycol mixture	25322-68-3	54.50000	0.00631
				2-Propenoic acid, homopolymer, sodium salt	9003-04-7	40.00000	0.00622
				Quaternary ammonium compounds, bis (hydrogenated tallow alkyl)dimethyl, salts with bentonite	68953-58-2	5.00000	0.00399
				Sorbitan monooleate	1338-43-8	4.00000	0.00249
				Vinylidene chloride-methyl acrylate copolymer	69418-26-4	20.00000	0.00247
				Ilmenite	98072-94-7	0.10000	0.00245
				2,2-Dibromo-3-Nitrilopropionamide	10222-01-2	20.00000	0.00231
				Polyethylene glycol monooleate	9004-96-0	3.00000	0.00187

				1,2-Propanediol	57-55-6	10.00000	0.00155
				Sorbitol tetraoleate	61723-83-9	2.00000	0.00125
				Oxirane, 2-methyl-, polymer with oxirane, monodecyl ether	37251-67-5	1.50000	0.00120
				Citric acid	77-92-9	60.00000	0.00075
				Amines, tallow alkyl, ethoxylated	61791-26-2	1.00000	0.00062
				Sodium bromide	7647-15-6	4.00000	0.00046
				Dibromoacetonitrile	3252-43-5	3.00000	0.00035
				Alkoxypolyethyleneoxy ethanol	84133-50-6	0.50000	0.00031
				Acrylamide	79-06-1	0.10000	0.00006
				Ethylene glycol	107-21-1	40.00000	0.00005
				Diethylene glycol (mono) methyl ether	34590-94-8	20.00000	0.00002
				Formic Acid	64-18-6	10.00000	0.00001
				Ethoxylated alcohols	Proprietary	10.00000	0.00001
				Cinnamaldehyde	104-55-2	10.00000	0.00001
				Isopropanol	67-63-0	5.00000	0.00001
				Tar bases, quinolone derivs, benzyl chloride- quaternized	72480-70-7	10.00000	0.00001
				Tar bases, quinolone derivs	68513-87-1	1.00000	0.00001
				Diethylene glycol	111-46-6	1.00000	0.00001

* 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(f) and Appendix D are obtained from suppliers Material Safety Data Sheets (MSDS)

LATITUDE 39°20'00"

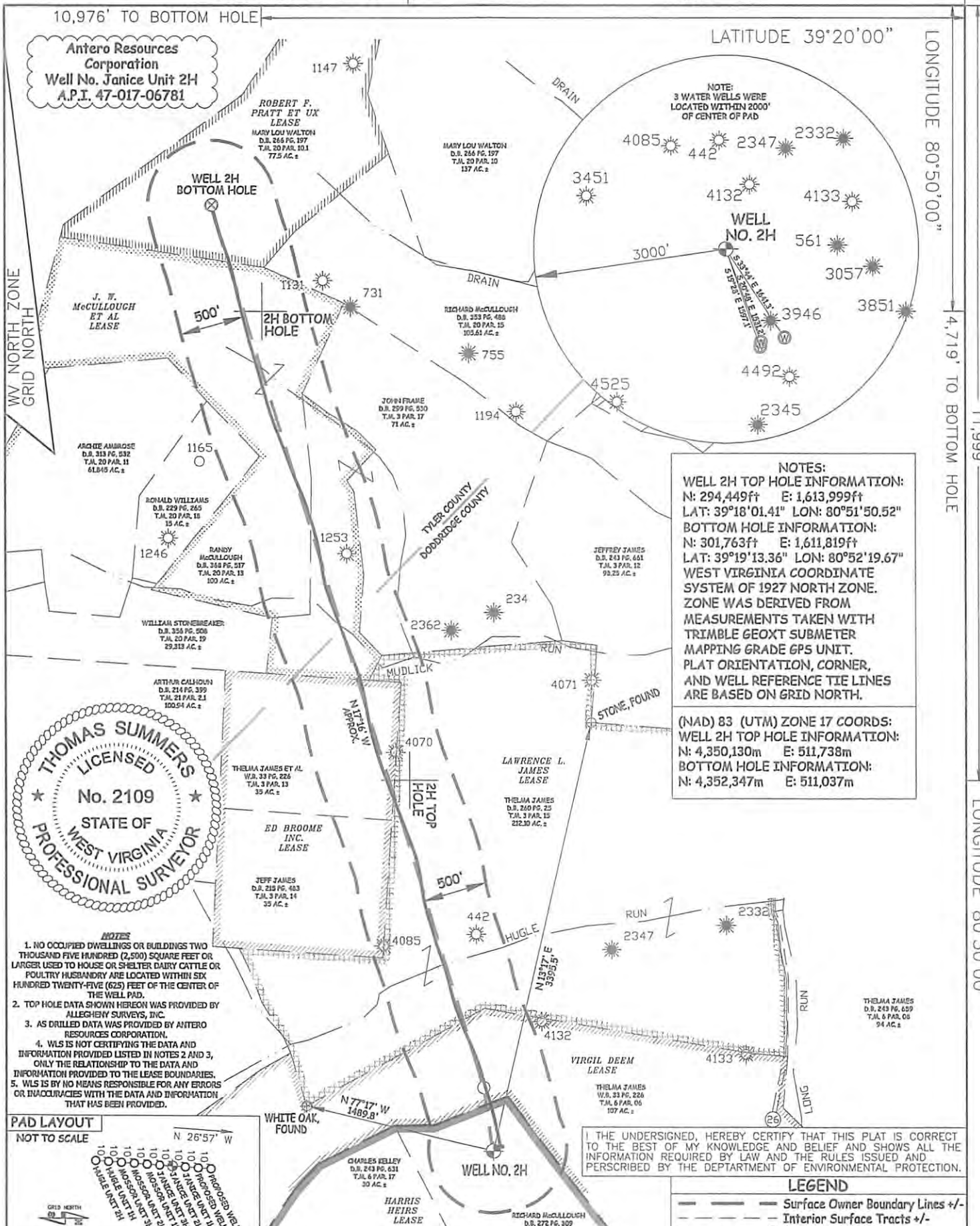
8,688'

LONGITUDE 80°50'00"

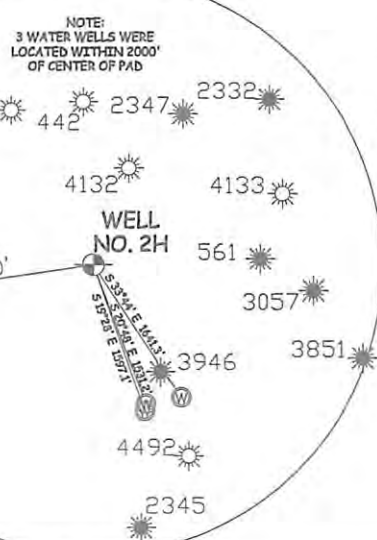
4,719' TO BOTTOM HOLE

11,999'

LONGITUDE 80°50'00"

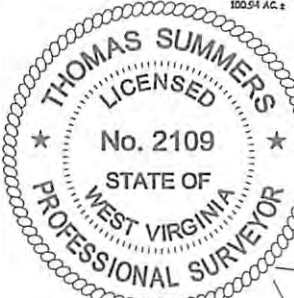


Antero Resources Corporation
Well No. Janice Unit 2H
A.P.I. 47-017-06781

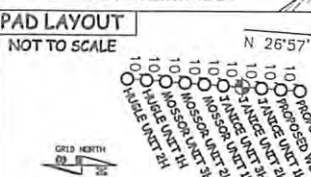


NOTES:
WELL 2H TOP HOLE INFORMATION:
 N: 294,449ft E: 1,613,999ft
 LAT: 39°18'01.41" LON: 80°51'50.52"
BOTTOM HOLE INFORMATION:
 N: 301,763ft E: 1,611,819ft
 LAT: 39°19'13.36" LON: 80°52'19.67"
 WEST VIRGINIA COORDINATE SYSTEM OF 1927 NORTH ZONE. ZONE WAS DERIVED FROM MEASUREMENTS TAKEN WITH TRIMBLE 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: 4,350,130m E: 511,738m
BOTTOM HOLE INFORMATION:
 N: 4,352,347m E: 511,037m



- 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.
 2. TOP HOLE DATA SHOWN HEREON WAS PROVIDED BY ALLEGHENY SURVEYS, INC.
 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.



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.

LEGEND

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

JOB # **16-038WA**
 DRAWING # **JANICE2HAD**
 SCALE **1" = 1000'**
 MINIMUM DEGREE OF ACCURACY **SUBMETER**
 PROVEN SOURCE OF ELEV. **SUBMETER MAPPING GRADE GPS**



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

Thomas Summers
 THOMAS SUMMERS P.S. 2109
 DATE **01/24/18**
 OPERATOR'S WELL# **JANICE UNIT #2H**
 API WELL # **47 - 017 - 06781**
 STATE COUNTY PERMIT

STATE OF WEST VIRGINIA DEPT. OF ENERGY DIVISION OF OIL AND GAS
 WELL TYPE: OIL GAS LIQUID INJECTION WASTE DISPOSAL
 (IF "GAS") PRODUCTION STORAGE DEEP SHALLOW
 LOCATION: ELEVATION **1,021' - AS DRILLED** WATERSHED **HEADWATERS MIDDLE ISLAND CREEK**
 QUADRANGLE **WEST UNION 7.5'** DISTRICT **CENTRAL** COUNTY **DODD**
 SURFACE OWNER **RICHARD F. McCULLOUGH** ACREAGE **39 ACRES +/-**
 OIL & GAS ROYALTY OWNER **HARRIS HEIRS; VIRGIL DEEM; LAWRENCE L. JAMES; ED BROOME INC.; J. W. McCULLOUGH ET AL; ROBERT F. PRATT ET UX** LEASE ACREAGE **217 AC±; 107 AC±; 215 AC±; 70 AC±; 99.5 AC±; 77.5 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 **6,457' TVD 13,850' MD**
 WELL OPERATOR **ANTERO RESOURCES CORP.** DESIGNATED AGENT **DIANNA STAMPER**
 ADDRESS **1615 WYNKOOP STREET** ADDRESS **CT CORPORATION SYSTEM**
DENVER, CO 80202 ADDRESS **5400 D BIG TYLER ROAD**
DENVER, CO 80202 ADDRESS **CHARLESTON, WV 25313**

06/01/2018

COUNTY NAME PERMIT

LATITUDE 39°20'00" 8,688'

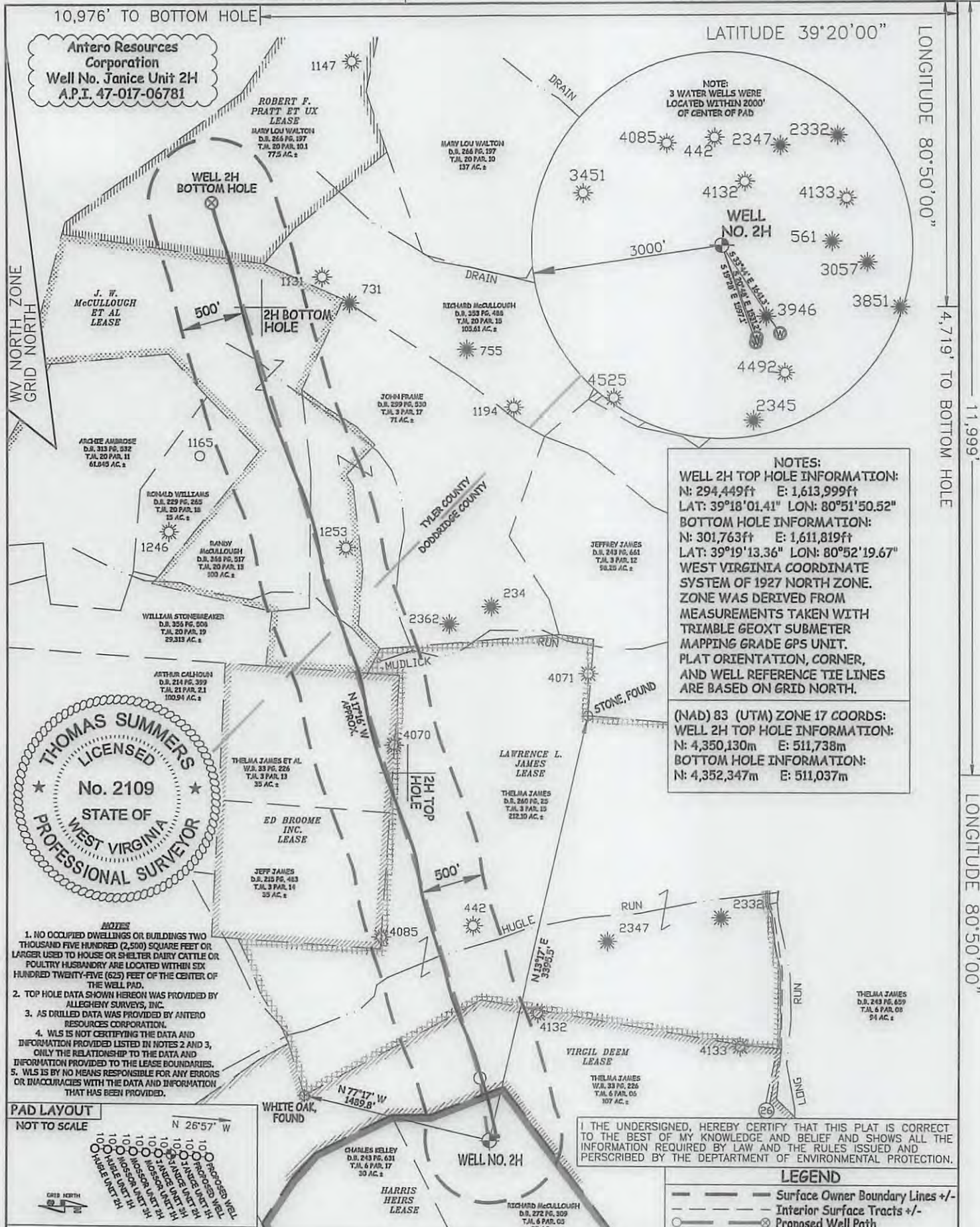
LATITUDE 39°20'00"

LONGITUDE 80°50'00"

4,719' TO BOTTOM HOLE

11,999'

LONGITUDE 80°50'00"

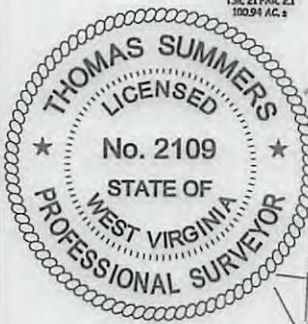


Antero Resources Corporation
Well No. Janice Unit 2H
A.P.I. 47-017-06781

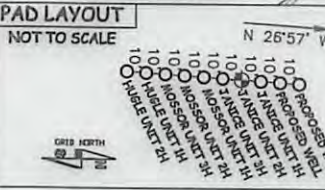
NOTE:
3 WATER WELLS WERE
LOCATED WITHIN 2000'
OF CENTER OF PAD

NOTES:
WELL 2H TOP HOLE INFORMATION:
N: 294,449ft E: 1,613,999ft
LAT: 39°18'01.41" LON: 80°51'50.52"
BOTTOM HOLE INFORMATION:
N: 301,763ft E: 1,611,819ft
LAT: 39°19'13.36" LON: 80°52'19.67"
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: 4,350,130m E: 511,738m
BOTTOM HOLE INFORMATION:
N: 4,352,347m E: 511,037m



- 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.
 2. TOP HOLE DATA SHOWN HEREON WAS PROVIDED BY ALLEGHENY SURVEYS, INC.
 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.



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.

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

JOB # 16-038WA
DRAWING # JANICE2HAD
SCALE 1" = 1000'
MINIMUM DEGREE OF ACCURACY SUBMETER
PROVEN SOURCE OF ELEV. SUBMETER MAPPING GRADE GPS



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

THOMAS SUMMERS P.S. 2109
DATE 01/24/18
OPERATOR'S WELL # JANICE UNIT #2H
API WELL # 47 - 017 - 06781
STATE COUNTY PERMIT

STATE OF WEST VIRGINIA DEPT. OF ENERGY DIVISION OF OIL AND GAS
WELL TYPE: OIL GAS X LIQUID INJECTION WASTE DISPOSAL
(IF "GAS") PRODUCTION X STORAGE DEEP SHALLOW X
LOCATION: ELEVATION 1,021' - AS DRILLED WATERSHED HEADWATERS MIDDLE ISLAND CREEK
QUADRANGLE WEST UNION 7.5' DISTRICT CENTRAL COUNTY DODDRIDGE
SURFACE OWNER RICHARD F. McCULLOUGH ACREAGE 39 ACRES +/-
OIL & GAS ROYALTY OWNER HARRIS HEIRS; VIRGIL DEEM; LAWRENCE L. JAMES; LEASE ACREAGE 217 AC±; 107 AC±; 215 AC±;
ED BROOME INC.; J. W. McCULLOUGH ET AL; ROBERT F. PRATT ET UX 70 AC±; 99.5 AC±; 77.5 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 6,457' TVD 13,850' MD

WELL OPERATOR ANTERO RESOURCES CORP. DESIGNATED AGENT DIANNA STAMPER
ADDRESS 1615 WYNKOOP STREET ADDRESS 5400 D BIG TYLER ROAD
FORM WW-6 DENVER, CO 80202 CHARLESTON, WV 25313

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