WR-35
Rev. 8/23/13

Reviewed 5/9/18

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

API 47 - 017 - 06782 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 3H
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 4350128m Easting 511739m
Landing Point of Curve Northing 4350317.05m Easting 511893.01m
Bottom Hole Northing 4352433m Easting 511226m

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 5/10/2017
Date completion activities began 6/17/2017 Date completion activities ceased 11/4/2017
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:

RECEIVED
Office of Oil and Gas
APR 30 2018
WV Department of Environmental Protection

07/20/2018

API 47- 017 - 06782 Farm name Richard F. McCullough, et al Well number Janice Unit 3H

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"	53'	New	94#, H-40	N/A	Y
Surface	17-1/2"	13-3/8"	503'	New	48#, H-40	N/A	Y
Coal							
Intermediate 1	12-1/4"	9-5/8"	2566'	New	36#, J-55	N/A	Y
Intermediate 2							
Intermediate 3							
Production	8-3/4"/8-1/2"	5-1/2"	14230'	New	23#, P-110	N/A	Y
Tubing		2-3/8"	6328'		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	487 sx	15.6	1.19	580	0'	8 Hrs.
Coal							
Intermediate 1	Class A	890 sx	15.6	1.18	1050	0'	8 Hrs.
Intermediate 2							
Intermediate 3							
Production	Class H	730 sx (Lead) 1160 sx (Tail)	13.50 (Lead), 15.20 (Tail)	1.56 (Lead), 1.83 (Tail)	3262	~500' into Intermediate Casing	8 Hrs.
Tubing							

Drillers TD (ft) 14226' MD, 6456' TVD (BHL), 6472' (Deepest Point Drilled) Loggers TD (ft) 14226' MD

Deepest formation penetrated Marcellus Plug back to (ft) N/A

Plug back procedure N/A

Kick off depth (ft) 5867'

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

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API 47- 017 - 06782 Farm name Richard F. McCullough, et al Well number Janice Unit 3H

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**

Please insert additional pages as applicable.

07/20/2018

API 47- 017 - 06782 Farm name Richard F. McCullough, et al Well number Janice Unit 3H

PRODUCING FORMATION(S)	DEPTHS		
Marcellus	6441' (TOP) TVD	6681' (TOP) 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	Oil	NGL	Water	GAS MEASURED BY
	10165 mcfpd	52 bpd	--- bpd	2 bpd	☐ Estimated ■ Orifice ☐ Pilot

LITHOLOGY/ FORMATION NAME	TOP DEPTH IN FT 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_2S, ETC)

*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 Philippi Pike City Clarksburg State WV Zip 26301
Please insert additional pages as applicable.

Completed by Mallory Stanton Telephone 303-357-7182
Signature _____ Title Permitting Supervisor Date 4/27/2018

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

07/20/2018

API 47-017-06782 Farm Name Richard F. McCullough et al Well Number Janice Unit 3H					
EXHIBIT 1					
Stage No.	Perforation Date	Perforated from MD ft.	Perforated to MD ft.	Number of Perforations	Formations
1	8/20/2017	13959	14128	60	Marcellus
2	8/21/2017	13758	13927	60	Marcellus
3	8/22/2017	13557	13726	60	Marcellus
4	8/22/2017	13356	13525	60	Marcellus
5	8/23/2017	13155	13324	60	Marcellus
6	8/23/2017	12954	13123	60	Marcellus
7	8/24/2017	12753	12922	60	Marcellus
8	8/25/2017	12552	12721	60	Marcellus
9	8/26/2017	12351	12520	60	Marcellus
10	8/26/2017	12150	12320	60	Marcellus
11	8/27/2017	11949	12119	60	Marcellus
12	8/27/2017	11748	11918	60	Marcellus
13	8/28/2017	11547	11717	60	Marcellus
14	8/28/2017	11346	11516	60	Marcellus
15	8/29/2017	11145	11315	60	Marcellus
16	8/30/2017	10944	11114	60	Marcellus
17	8/31/2017	10744	10913	60	Marcellus
18	8/31/2017	10543	10712	60	Marcellus
19	9/1/2017	10342	10511	60	Marcellus
20	9/1/2017	10141	10310	60	Marcellus
21	9/2/2017	9940	10109	60	Marcellus
22	9/2/2017	9739	9908	60	Marcellus
23	9/3/2017	9538	9707	60	Marcellus
24	9/3/2017	9337	9506	60	Marcellus
25	9/4/2017	9136	9305	60	Marcellus
26	9/4/2017	8935	9105	60	Marcellus
27	9/5/2017	8734	8904	60	Marcellus
28	9/6/2017	8533	8703	60	Marcellus
29	9/6/2017	8332	8502	60	Marcellus
30	9/7/2017	8131	8301	60	Marcellus
31	9/7/2017	7930	8100	60	Marcellus
32	9/8/2017	7729	7899	60	Marcellus
33	9/8/2017	7528	7698	60	Marcellus
34	9/9/2017	7328	7497	60	Marcellus
35	9/9/2017	7127	7296	60	Marcellus
36	9/9/2017	6926	7095	60	Marcellus
37	9/9/2017	6725	6894	60	Marcellus

API 47-017-06782 Farm Name Richard F. McCullough et al Well Number Janice Unit 3H								
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	8/20/2017	76.1	7124	5920	3248	407650	9110	N/A
2	8/21/2017	77	7214	6573	3248	408000	9021	N/A
3	8/22/2017	74	7492	6360	3502	408350	9467	N/A
4	8/22/2017	75.9	7495	8805	3601	407950	9156	N/A
5	8/23/2017	74.6	7179	6385	3333	408700	8835	N/A
6	8/23/2017	79.4	6981	5964	3776	408000	8752	N/A
7	8/24/2017	76.1	6880	6256	3576	408200	9220	N/A
8	8/25/2017	79.3	7129	6187	4148	408050	8704	N/A
9	8/26/2017	79.9	7001	6847	3344	410550	8784	N/A
10	8/26/2017	78.6	7552	6886	4421	408450	11807	N/A
11	8/27/2017	79.7	7267	6850	3464	409700	8672	N/A
12	8/27/2017	77.6	7479	5975	3357	408300	9152	N/A
13	8/28/2017	79	7259	7512	3453	410700	8875	N/A
14	8/28/2017	70	7784	7672	3524	408250	9092	N/A
15	8/29/2017	22.3	8848	6703	8216	9540	7949	N/A
16	8/30/2017	22.7	8481	7126	6290	14800	10501	N/A
17	8/31/2017	71.8	6684	6553	3745	408600	9159	N/A
18	8/31/2017	78.2	6984	6097	3410	409200	8456	N/A
19	9/1/2017	70.6	6662	6343	3535	409500	8592	N/A
20	9/1/2017	69.8	6910	5779	3779	408800	8589	N/A
21	9/2/2017	74.1	6743	6834	4077	408050	8629	N/A
22	9/2/2017	71.1	7033	6138	3580	408700	10009	N/A
23	9/3/2017	77.4	6806	6417	3624	411200	8613	N/A
24	9/3/2017	77.6	6762	6059	4125	408550	8522	N/A
25	9/4/2017	74.1	7092	6557	4110	409550	10497	N/A
26	9/4/2017	75.8	6668	6340	4430	408650	8471	N/A
27	9/5/2017	76.6	6987	7215	3679	410700	8519	N/A
28	9/6/2017	78.2	6890	6828	5125	405050	8328	N/A
29	9/6/2017	76.2	7341	5975	4588	408250	12073	N/A
30	9/7/2017	75.9	6438	6487	4489	408200	8274	N/A
31	9/7/2017	76.6	6423	6132	5235	409050	8406	N/A
32	9/8/2017	76	6245	5748	5490	408550	8296	N/A
33	9/8/2017	79.9	6192	5140	4685	408550	8246	N/A
34	9/9/2017	78.2	6151	5235	5355	408450	8342	N/A
35	9/9/2017	77.8	6308	5466	4841	407950	8345	N/A
36	9/9/2017	79.6	6190	6042	4176	408450	8273	N/A
37	9/9/2017	79.8	6012	5893	3796	408400	8174	N/A
	AVG=	72.6	7,120	6,548	4,110	12,285,790	290,530	TOTAL

07/20/2018

API 47-017-06782 Farm Name Richard F. McCullough et al Well Number Janice Unit 3H				
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	66'	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.

07/20/2018

Hydraulic Fracturing Fluid Product Component Information Disclosure

Job Start Date:	8/20/2017
Job End Date:	9/9/2017
State:	West Virginia
County:	Doddridge
API Number:	47-017-06782-00-00
Operator Name:	Antero Resources Corporation
Well Name and Number:	Janice Unit 3H
Latitude:	39.30044400
Longitude:	-80.86384400
Datum:	NAD83
Federal Well:	NO
Indian Well:	NO
True Vertical Depth:	6,458
Total Base Water Volume (gal):	14,272,211
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	88.85963	
Sand (Proppant)	CWS	Propping Agent					
				Listed Below			

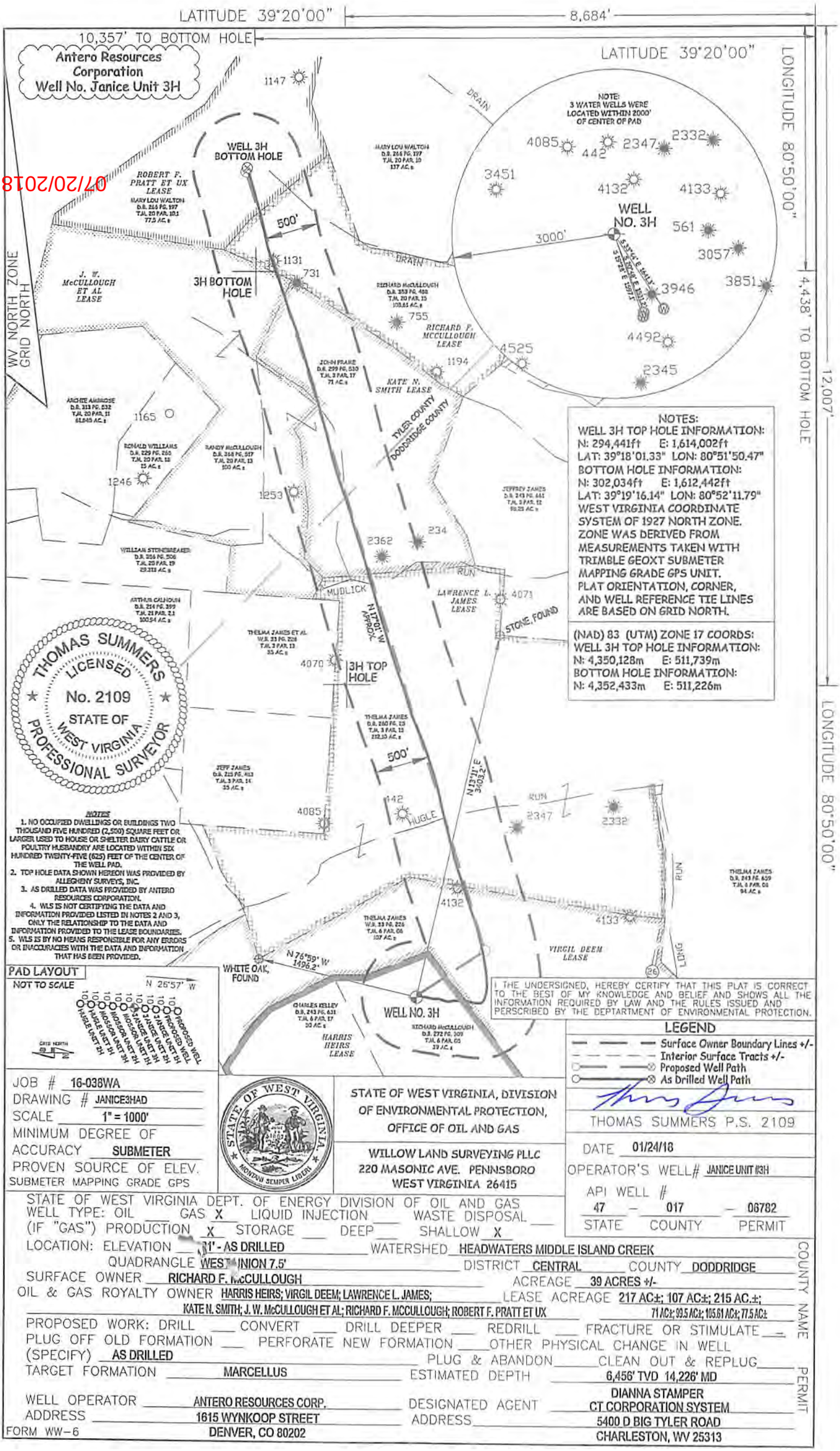
Hydrochloric Acid	CWS	Clean Perforations					
				Listed Below			
DWP-111	CWS	Gel Slurry					
				Listed Below			
DAP-902	CWS	Scale Inhibitor					
				Listed Below			
DWP-641	CWS	Friction Reducer					
				Listed Below			
SANIFRAC 8844	CWS	Biocide					
				Listed Below			
DAP-103	CWS	Iron Control					
				Listed Below			
CI-9100G	CWS	Corrosion Inhibitor					
				Listed Below			
Calbreak 5501	CWS	Breaker					
				Listed Below			
Other Chemical (s)	Listed Above	See Trade Name (s) List					

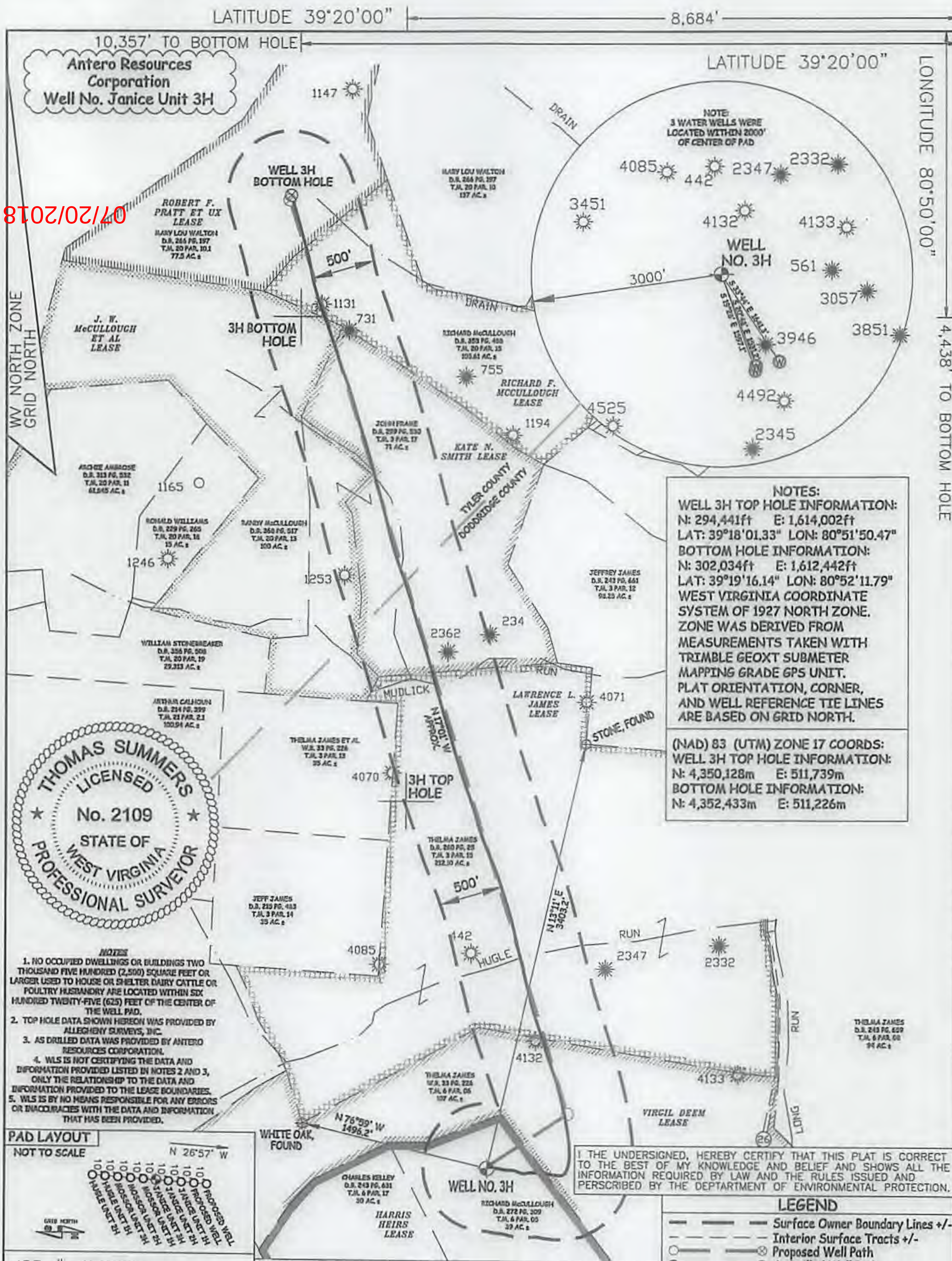
				Listed Below			
Items above are Trade Names with the exception of Base Water . Items below are the individual ingredients.							
			Crystalline silica (Quartz)	14808-60-7	100.00000	10.70049	
			Hydrochloric acid	7647-01-0	37.00000	0.08789	
			Calcite	471-34-1	1.00000	0.08238	
			Distillates (petroleum), hydrotreated middle	64742-46-7	60.00000	0.05499	
			Guar gum	9000-30-0	60.00000	0.05499	
			Polymer	26100-47-0	45.00000	0.02825	
			Illite	12173-60-3	1.00000	0.02458	
			Distillates (petroleum), hydrotreated light	64742-47-8	30.00000	0.01883	
			Ammonium Persulfate	64742-47-8	100.00000	0.01308	
			Biotite	1302-27-8	0.10000	0.01070	
			Goethite	1310-14-1	0.10000	0.01070	
			Apatite	64476-38-6	0.10000	0.01070	
			Ammonium chloride	12125-02-9	11.00000	0.00690	
			Polyethylene glycol mixture	25322-68-3	54.50000	0.00636	
			2-Propenoic acid, homopolymer, sodium salt	9003-04-7	40.00000	0.00623	
			Quaternary ammonium compounds, bis (hydrogenated tallow alkyl)dimethyl, salts with bentonite	68953-58-2	5.00000	0.00458	
			Vinylidene chloride-methyl acrylate copolymer	69418-26-4	20.00000	0.00262	
			Sorbitan monooleate	1338-43-8	4.00000	0.00251	
			Ilmenite	98072-94-7	0.10000	0.00246	
			2,2-Dibromo-3-Nitrilopropionamide	10222-01-2	20.00000	0.00233	
			Polyethylene glycol monooleate	9004-96-0	3.00000	0.00188	

			1,2-Propanediol	57-55-6	10.00000	0.00156	
			Oxirane, 2-methyl-, polymer with oxirane, monodecyl ether	37251-67-5	1.50000	0.00137	
			Sorbitol tetraoleate	61723-83-9	2.00000	0.00126	
			Citric acid	77-92-9	60.00000	0.00080	
			Amines, tallow alkyl, ethoxylated	61791-26-2	1.00000	0.00063	
			Sodium bromide	7647-15-6	4.00000	0.00047	
			Dibromoacetonitrile	3252-43-5	3.00000	0.00035	
			Alkyloxypolyethyleneoxy 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	
			Diethylene glycol	111-46-6	1.00000	0.00001	
			Tar bases, quinolone derivs	68513-87-1	1.00000	0.00001	
			Ethoxylated alcohols	Proprietary	10.00000	0.00001	Proprietary CAS
			Formic Acid	64-18-6	10.00000	0.00001	
			Isopropanol	67-63-0	5.00000	0.00001	
			Cinnamaldehyde	104-55-2	10.00000	0.00001	
			Tar bases, quinolone derivs, benzyl chloride-quatenized	72480-70-7	10.00000	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(i) and Appendix D are obtained from suppliers Material Safety Data Sheets (MSDS)


LATITUDE 39°20'00"
8,684'
10,357' TO BOTTOM HOLE
LATITUDE 39°20'00"
LONGITUDE 80°50'00"
4,438' TO BOTTOM HOLE
12,007'
LONGITUDE 80°50'00"
Antero Resources Corporation
Well No. Janice Unit 3H
07/20/2018
WV NORTH ZONE GRID NORTH
WELL 3H BOTTOM HOLE
3H BOTTOM HOLE
WELL NO. 3H
3H TOP HOLE
ROBERT F. PRATT ET UX LEASE
MARY LOU WALTON D.B. 266 PG. 197 T.M. 20 PAR. 10.1 77.5 AC.±
J. W. McCULLOUGH ET AL LEASE
RICHARD F. MCCULLOUGH LEASE
KATE N. SMITH LEASE
LAWRENCE L. JAMES LEASE
VIRGIL DEEM LEASE
HARRIS HEIRS LEASE
TYLER COUNTY
DODDRIDGE COUNTY
DRAIN
RUN
MUDLICK
HUGLE
LONG
STONE FOUND
WHITE OAK, FOUND
500'
3000'
N 11°01' W APPROX.
N 13°11' E 3403.2'
N 76°59' W 1496.2'
NOTE: 3 WATER WELLS WERE LOCATED WITH-IN 2000' OF CENTER OF PAD
1147
1131
731
1165
1246
1253
755
1194
4525
4492
2345
3946
3851
3057
561
4085
442
2347
2332
3451
4132
4133
2362
234
4071
4070
142
4085
2347
2332
4132
4133
THOMAS SUMMERS LICENSED No. 2109 STATE OF WEST VIRGINIA PROFESSIONAL SURVEYOR
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.
NOTES:
WELL 3H TOP HOLE INFORMATION:
N: 294,441ft E: 1,614,002ft
LAT: 39°18'01.33" LON: 80°51'50.47"
BOTTOM HOLE INFORMATION:
N: 302,034ft E: 1,612,442ft
LAT: 39°19'16.14" LON: 80°52'11.79"
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 3H TOP HOLE INFORMATION:
N: 4,350,128m E: 511,739m
BOTTOM HOLE INFORMATION:
N: 4,352,433m E: 511,226m
PAD LAYOUT
NOT TO SCALE
N 26°57' W
PROPOSED WELL
JANICE UNIT 1H
JANICE UNIT 2H
JANICE UNIT 3H
MOSSOR UNIT 1H
MOSSOR UNIT 2H
MOSSOR UNIT 3H
HUGLE UNIT 1H
HUGLE UNIT 2H
GRID NORTH
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 DEPTARTMENT OF ENVIRONMENTAL PROTECTION.
LEGEND
Surface Owner Boundary Lines +/-
Interior Surface Tracts +/-
Proposed Well Path
As Drilled Well Path
THOMAS SUMMERS P.S. 2109
DATE 01/24/18
OPERATOR'S WELL# JANICE UNIT #3H
API WELL #
47 - 017 - 06782
STATE COUNTY PERMIT
JOB # 16-038WA
DRAWING # JANICE3HAD
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
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' - 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; KATE N. SMITH; J. W. McCULLOUGH ET AL; RICHARD F. MCCULLOUGH; ROBERT F. PRATT ET UX
LEASE ACREAGE 217 AC±; 107 AC±; 215 AC.±; 71 AC±; 99.5 AC±; 105.61 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 6,456' TVD 14,226' MD
WELL OPERATOR ANTERO RESOURCES CORP. DESIGNATED AGENT DIANNA STAMPER
ADDRESS 1615 WYNKOOP STREET ADDRESS CT CORPORATION SYSTEM
DENVER, CO 80202 5400 D BIG TYLER ROAD
CHARLESTON, WV 25313
FORM WW-6
COUNTY NAME
PERMIT



NOTES:
WELL 3H TOP HOLE INFORMATION:
N: 294,441ft E: 1,614,002ft
LAT: 39°18'01.33" LON: 80°51'50.47"
BOTTOM HOLE INFORMATION:
N: 302,034ft E: 1,612,442ft
LAT: 39°19'16.14" LON: 80°52'11.79"
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 3H TOP HOLE INFORMATION:
N: 4,350,128m E: 511,739m
BOTTOM HOLE INFORMATION:
N: 4,352,433m E: 511,226m

THOMAS SUMMERS LICENSED No. 2109 STATE OF WEST VIRGINIA PROFESSIONAL SURVEYOR

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.

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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
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