pm ✓

WR-35
Rev. 8/23/13

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

Received
Office of Oil & Gas
MAY 18 2015

API 47 - 017 - 06231 County Doddridge District Greenbrier
Quad Salem Pad Name Leonard Pad Field/Pool Name
Farm name Walter Davidson & Leonard Davidson Well Number Rikk 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 4,346,304.558m Easting 534,819.345m
Landing Point of Curve Northing 4,346,202.78m Easting 535, 142.24m
Bottom Hole Northing 4,343,825.574m Easting 536,789.201m

Elevation (ft) 1320' 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 6/12/2013 Date drilling commenced 12/6/2013 Date drilling ceased 6/3/2014
Date completion activities began 7/24/2014 Date completion activities ceased 3/6/2015
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 113', 212' Open mine(s) (Y/N) depths N
Salt water depth(s) ft 1302', 1911' Void(s) encountered (Y/N) depths N
Coal depth(s) ft 517', 1077', 2013' Cavern(s) encountered (Y/N) depths N
Is coal being mined in area (Y/N) N

Reviewed by:
A.L. 5/26/15 ✓
06/05/2015

WR-35
Rev. 8/23/13

Page ___ of ___

API 47- 017 - 06231 Farm name Walter Davidson & Leonard Davidson Well number Rikk 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#/K-55	N/A	Y
Surface	17-1/2"	13-3/8"	369'	New	68#/J-55	N/A	Y
Coal							
Intermediate 1	12-1/4"	9-5/8"	2635'	New	36#/J-55	N/A	Y
Intermediate 2							
Intermediate 3							
Production	8-3/4"/8-1/2"	5-1/2"	17,870'	New	23#/P-110	N/A	Y
Tubing		2-3/8"	7644'	New	4.7#/N-80	N/A	N/A
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	171 sx	15.6	1.18	38 Cu. Ft.	0'	8 Hrs.
Surface	Class A	467 sx	15.6	1.18	256 Cu. Ft.	0'	8 Hrs.
Coal							
Intermediate 1	Class A	968 sx	15.6	1.18	825 Cu. Ft.	0'	8 Hrs.
Intermediate 2							
Intermediate 3							
Production	Class H	1106 sx (Lead), 1639 sx (Tail)	13.5 (Lead), 15.2 (Tail)	1.30 (Lead), 1.86 (Tail)	3605 Cu. Ft.	~500' into Intermediate Casing	8 Hrs.
Tubing							

Drillers TD (ft) 17,870' MD, 7430' TVD (BHL); 7509' TVD (Deepest Point Drilled) Loggers TD (ft) 17,819' MD

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

Plug back procedure N/A

Kick off depth (ft) 6725'

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

** This is a subsequent well. Antero only runs wireline logs on one well on a multi-well pad (Rikk Unit 1H API# 47-017-06228). Please reference the wireline logs submitted with Form WR-35 for the Rikk Unit 1H. A Cement Bond Log has been included with this submittal.

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

Received
Office of Oil & Gas
MAY 18 2015

06/05/2015

WR-35
Rev. 8/23/13

API 47- 017 - 06231 Farm name Walter Davidson & Leonard Davidson Well number Rikk Unit 2H

PERFORATION RECORD

Stage No.	Perforation date	Perforated from MD ft.	Perforated to MD ft.	Number of Perforations	Formation(s)
			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)
			SEE ATTACHED EXHIBIT 2					

Please insert additional pages as applicable.

WR-35
Rev. 8/23/13

Page ___ of ___

API 47- 017 - 06231 Farm name Walter Davidson & Leonard Davidson Well number Rikk Unit 2H

PRODUCING FORMATION(S)	DEPTHS		
Marcellus	7439' (Top) TVD	7891' (Top) MD	

Received
Office of Oil & Gas
MAY 18 2015

Please insert additional pages as applicable.

GAS TEST ☐ Build up ☐ Drawdown ■ Open Flow OIL TEST ☐ Flow ☐ Pump

SHUT-IN PRESSURE Surface 3600 psi Bottom Hole ---- psi DURATION OF TEST ---- hrs

OPEN FLOW Gas 11,480 mcfpd Oil ---- bpd NGL --- bpd Water ---- 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_2S, ETC)
	0		0		
					SEE ATTACHED EXHIBIT 3

Please insert additional pages as applicable.

Drilling Contractor Patterson - UTI Drilling Company, LLC
Address 207 Carlton Drive City Eighty Four State PA Zip 15330

Logging Company Rush Wellsite Services
Address 600 Alpha Drive City Canonsburg State PA Zip 15317

Cementing Company Nabors Completion & Production Services, Co. (bought Superior)
Address 1650 Hackers Creek City Jane Lew State WV Zip 26378

Stimulating Company US Well Services
Address 533 Industrial Park Drive City Jane Lew State WV Zip 26378

Please insert additional pages as applicable.

Completed by Natalie Komp Telephone 303-357-6820
Signature Natalie Komp Title Permitting Agent Date 5/6/2015

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

06/05/2015

API 47-017-06231 Farm Name Davidson, Walter & Leonard Well Number Rikk Unit 2H					
EXHIBIT 1					
Stage No.	Perforation Date	Perforated from MD ft.	Perforated to MD ft.	Number of Perforations	Formations
1	24-Jul-14	17609'	17779'	60	Marcellus
2	16-Jan-15	17408'	17578'	60	Marcellus
3	17-Jan-15	17176'	17301'	60	Marcellus
4	18-Jan-15	17029'	17159'	60	Marcellus
5	18-Jan-15	16803'	16973'	60	Marcellus
6	19-Jan-15	16601'	16771'	60	Marcellus
7	19-Jan-15	16400'	16570'	60	Marcellus
8	19-Jan-15	16198'	16368'	60	Marcellus
9	20-Jan-15	15997'	16167'	60	Marcellus
10	20-Jan-15	15795'	15965'	60	Marcellus
11	20-Jan-15	15593'	15763'	60	Marcellus
12	21-Jan-15	15392'	15562'	60	Marcellus
13	21-Jan-15	15190'	15360'	60	Marcellus
14	21-Jan-15	14989'	15174'	60	Marcellus
15	22-Jan-15	14787'	14957'	60	Marcellus
16	22-Jan-15	14586'	14756'	60	Marcellus
17	22-Jan-15	14384'	14554'	60	Marcellus
18	22-Jan-15	14182'	14352'	60	Marcellus
19	23-Jan-15	13981'	14151'	60	Marcellus
20	23-Jan-15	13779'	13949'	60	Marcellus
21	23-Jan-15	13578'	13748'	60	Marcellus
22	24-Jan-15	13376'	13546'	60	Marcellus
23	24-Jan-15	13175'	13345'	60	Marcellus
24	24-Jan-15	12973'	13143'	60	Marcellus
25	25-Jan-15	12771'	12941'	60	Marcellus
26	25-Jan-15	12570'	12740'	60	Marcellus
27	25-Jan-15	12368'	12538'	60	Marcellus
28	25-Jan-15	12167'	12337'	60	Marcellus
29	26-Jan-15	11965'	12135'	60	Marcellus
30	26-Jan-15	11764'	11934'	60	Marcellus
31	26-Jan-15	11562'	11732'	60	Marcellus
32	27-Jan-15	11360'	11530'	60	Marcellus
33	27-Jan-15	11159'	11329'	60	Marcellus
34	27-Jan-15	10957'	11127'	60	Marcellus
35	27-Jan-15	10756'	10926'	60	Marcellus
36	28-Jan-15	10554'	10724'	60	Marcellus
37	28-Jan-15	10353'	10523'	60	Marcellus
38	28-Jan-15	10151'	10321'	60	Marcellus
39	28-Jan-15	9949'	10119'	60	Marcellus
40	29-Jan-15	9748'	9918'	60	Marcellus
41	29-Jan-15	9546'	9716'	60	Marcellus
42	29-Jan-15	9345'	9515'	60	Marcellus
43	30-Jan-15	9143'	9313'	60	Marcellus
44	30-Jan-15	9143'	9313'	60	Marcellus
45	30-Jan-15	8740'	8910'	60	Marcellus
46	30-Jan-15	8538'	8708'	60	Marcellus
47	31-Jan-15	8337'	8507'	60	Marcellus
48	31-Jan-15	8135'	8305'	60	Marcellus
49	31-Jan-15	7934'	8104'	60	Marcellus

API 47-017-06231 Farm Name Davidson, Walter & Leonard Well Number Rikk Unit 2H

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	16-Jan-15	62.5	7,488	N/A	5,569	240,990	6,865	N/A
2	16-Jan-15	64.4	7,311	6,895	5,151	239,750	6,821	N/A
3	17-Jan-15	62.7	7,275	5,962	4,823	197,610	6,111	N/A
4	18-Jan-15	62.1	7,407	5,944	5,780	147,860	6,048	N/A
5	18-Jan-15	64.7	7,392	5,692	5,224	202,590	7,140	N/A
6	19-Jan-15	65.0	7,510	5,829	5,202	206,050	7,163	N/A
7	19-Jan-15	64.6	7,315	5,829	5,428	245,200	7,246	N/A
8	19-Jan-15	69.6	7,529	5,965	5,443	245,000	6,600	N/A
9	20-Jan-15	63.0	7,151	5,651	5,256	244,600	6,594	N/A
10	20-Jan-15	64.0	7,416	5,877	5,237	244,800	6,547	N/A
11	20-Jan-15	72.6	7,482	5,638	4,814	245,850	6,683	N/A
12	21-Jan-15	69.0	7,424	5,692	5,522	243,850	6,541	N/A
13	21-Jan-15	65.0	7,395	5,825	5,818	246,400	6,552	N/A
14	21-Jan-15	70.8	7,531	5,850	4,929	244,735	6,502	N/A
15	22-Jan-15	69.0	7,738	5,880	5,465	244,820	6,480	N/A
16	22-Jan-15	65.0	7,393	6,060	4,714	243,650	6,477	N/A
17	22-Jan-15	68.1	7,743	6,073	4,593	218,120	7,074	N/A
18	22-Jan-15	67.9	7,896	6,168	4,759	234,260	6,992	N/A
19	23-Jan-15	65.0	7,306	5,827	4,858	245,750	7,030	N/A
20	23-Jan-15	66.2	7,360	5,756	5,192	187,520	6,977	N/A
21	23-Jan-15	67.8	7,808	5,809	5,475	244,900	6,431	N/A
22	24-Jan-15	65.0	7,162	6,047	5,751	166,150	6,925	N/A
23	24-Jan-15	66.5	7,476	5,966	5,382	243,550	6,538	N/A
24	24-Jan-15	67.9	7,720	5,836	4,752	243,860	6,346	N/A
25	25-Jan-15	67.0	7,381	6,088	5,214	244,650	6,388	N/A
26	25-Jan-15	67.0	7,293	5,771	5,665	247,500	6,335	N/A
27	25-Jan-15	65.7	7,352	5,735	5,526	244,720	6,289	N/A
28	25-Jan-15	66.7	7,413	5,852	5,644	243,350	6,287	N/A
29	26-Jan-15	66.0	7,629	5,999	4,939	246,050	6,271	N/A
30	26-Jan-15	65.0	7,736	5,701	5,133	227,450	6,901	N/A
31	26-Jan-15	66.0	7,283	5,760	5,725	248,620	6,206	N/A
32	27-Jan-15	66.2	7,544	5,894	5,909	247,260	6,208	N/A
33	27-Jan-15	64.0	7,314	6,365	4,075	236,200	6,030	N/A
34	27-Jan-15	63.0	7,598	5,750	4,808	247,350	6,726	N/A
35	27-Jan-15	66.6	7,194	5,982	5,200	238,170	6,144	N/A
36	28-Jan-15	67.3	7,425	6,068	5,646	236,660	6,037	N/A
37	28-Jan-15	67.0	7,531	6,189	6,013	245,750	6,142	N/A
38	28-Jan-15	65.3	7,762	6,271	4,840	241,080	6,103	N/A
39	28-Jan-15	65.9	7,669	6,155	5,272	183,510	6,251	N/A
40	29-Jan-15	66.0	7,361	6,020	4,810	247,850	6,051	N/A
41	29-Jan-15	65.0	7,495	6,247	4,703	196,300	5,580	N/A
42	29-Jan-15	67.5	7,518	5,633	5,824	240,640	6,064	N/A
43	30-Jan-15	67.3	6,812	5,676	5,205	235,670	6,011	N/A
44	30-Jan-15	67.0	6,862	5,615	5,587	242,200	5,987	N/A
45	30-Jan-15	68.0	6,790	5,793	5,351	247,400	5,969	N/A
46	30-Jan-15	71.5	6,942	5,527	5,025	247,230	5,958	N/A
47	31-Jan-15	67.5	7,267	6,239	5,050	249,055	6,053	N/A
48	31-Jan-15	66.0	7,223	5,767	5,180	244,350	5,935	N/A
49	31-Jan-15	68.0	7,258	6,129	5,058	246,890	5,920	N/A
	AVG=	66.3	7,406	5,923	5,235	10	314,529	TOTAL

API 47-017-06231 Farm Name Walter Davidson & Leonard Davidson Well Number Rikk Unit 2H				
EXHIBIT 3				
LITHOLOGY/ FORMATION	**TOP DEPTH (TVD) From Surface**	**BOTTOM DEPTH (TVD) From Surface**	**TOP DEPTH (MD) From Surface**	**BOTTOM DEPTH (MD) From Surface**
Freshwater	113	NA	113	NA
Freshwater	212	NA	212	NA
Siltstone	0	217	0	217
Sand	est 217	457	est 217	457
Siltstone	est 457	497	est 457	497
Sandstone	est 497	517	est 497	517
Coal	est 517	657	est 517	657
Siltstone	est 657	697	est 657	697
Sandstone	est 697	857	est 697	857
Siltstone	est 857	927	est 857	927
Limestone	est 927	1,057	est 927	1,057
Sandstone/Silt	est 1057	1,077	est 1057	1,077
Coal	est 1077	1,477	est 1077	1,477
Limestone/Silt	est 1477	1,577	est 1477	1,577
Siltstone	est 1577	1,737	est 1577	1,737
Sandstone/Limestone	est 1737	2,004	est 1737	2,004
Sandstone/Silt	est 2004	2,013	est 2004	2,013
Coal	est 2013	2,317	est 2013	2,317
Sandstone/Silt	est 2317	2,396	est 2317	2,402
Big Lime	2,396	2,507	2,402	2,513
Big Injun	2,507	2,838	2,513	2,844
Gantz Sand	2,838	2,964	2,844	2,970
Fifty Foot Sandstone	2,964	3,127	2,970	3,133
Gordon	3,127	3,397	3,133	3,404
Fifth Sandstone	3,397	3,471	3,404	3,478
Bayard	3,471	3,744	3,478	3,751
Warren	3,744	3,975	3,751	3,982
Speechley	3,975	4,297	3,982	4,304
Baltown	4,297	4,758	4,304	4,765
Bradford	4,758	5,353	4,765	5,360
Benson	5,353	5,621	5,360	5,628
Alexander	5,621	5,830	5,628	5,837
Elk	5,830	6,396	5,837	6,403
Rhinestreet	6,396	6,857	6,403	6,870
Sycamore	6,857	7,089	6,870	7,159
Middlesex	7,089	7,274	7,159	7,454
Burkett	7,274	7,306	7,454	7,517
Tully	7,306	7,439	7,517	7,891
Marcellus	7,439	NA	7,891	NA

*Please note Antero determines shallow formation tops based on mud and/or wireline logs that are only run on one well on a multi-well pad (Please reference Wireline Logs submitted for the Rikk Unit 1H API# 47-017-06228). The measured depth (MD) data on subsequent wells may be slightly different due to the well's unique departure.

Hydraulic Fracturing Fluid Product Component Information Disclosure

Job Start Date:	1/16/2015
Job End Date:	1/31/2015
State:	West Virginia
County:	Doddridge
API Number:	47-017-06231-00-00
Operator Name:	Antero Resources Corporation
Well Name and Number:	Rikk Unit 2H
Longitude:	-80.59638300
Latitude:	39.26537800
Datum:	NAD83
Federal/Tribal Well:	NO
True Vertical Depth:	7,509
Total Base Water Volume (gal):	13,210,218
Total Base Non Water Volume:	570,263

FracFocus Chemical Disclosure Registry

GROUNDWATER PROTECTION COUNCIL

Interstate Oil & Gas Compact Commission

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	Antero Resources	Base Fluid					
			Water	7732-18-5	100.00000	90.32711	
Sand	U.S. Well Services, LLC	Proppant					
			Crystalline Silica, quartz	14808-60-7	100.00000	9.38234	
HCL Acid (12.6%-18.0%)	U.S. Well Services, LLC	Bulk Acid					
			Water	7732-18-5	87.50000	0.08368	
			Hydrogen Chloride	7641-01-1	18.00000	0.01999	
LGC-15	U.S. Well Services, LLC	Gelling Agents					
			Guar Gum	9000-30-0	50.00000	0.04187	
			Petroleum Distillates	64742-47-8	60.00000	0.03965	
			Suspending agent (solid)	14808-60-7	3.00000	0.00640	
			Surfactant	68439-51-0	3.00000	0.00251	
WFRA-405	U.S. Well Services, LLC	Friction Reducer					
			Water	7732-18-5	40.00000	0.02010	
			Anionic Polyacrylamide	Proprietary		0.02010	
			Petroleum Distillates	64742-47-8	22.00000	0.01618	
			Ethoxylated alcohol blend	Proprietary	5.00000	0.00251	

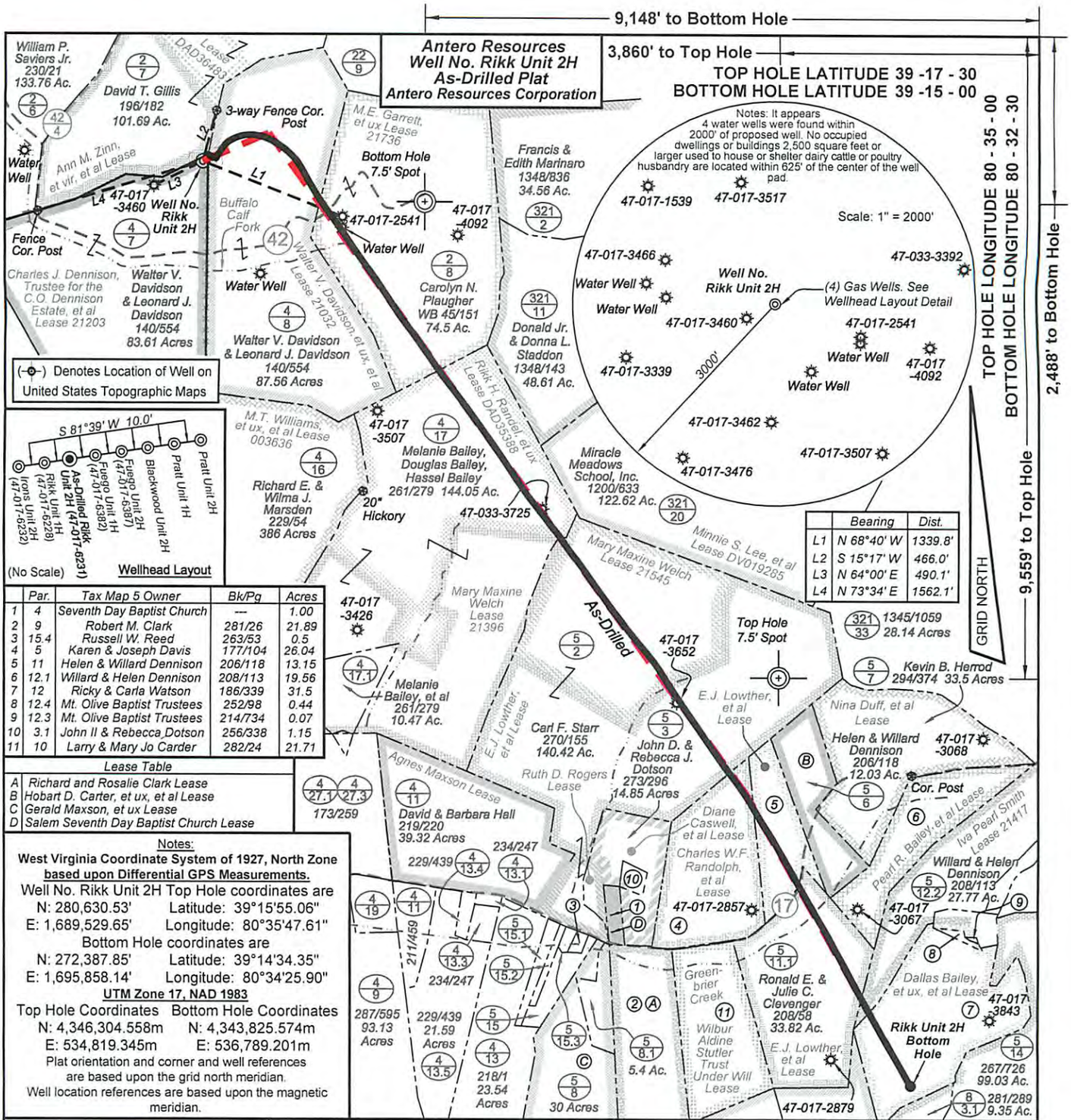
06/05/2015

			Crystalline Salt	12125-02-9	5.00000	0.00251	
SI-1100	U.S. Well Services	Scale Inhibitor					
			Di Water	7732-18-5	80.00000	0.01074	
			Ethylene Glycol	107-21-1	40.00000	0.00607	
			Potassium salt of diethylene triamine penta (methylene phosphonic acid)	15827-60-8	10.00000	0.00181	
			2-Phosphonobutane 1,2,4 tricarboxylic salt	37971-36-1	10.00000	0.00173	
			hexamethylenediamine tetra (methylene phosphonic acid)	38820-59-6	10.00000	0.00168	
			Copolymer of Maleic and Acrylic acid	26677-99-6	10.00000	0.00158	
			bis (hexamethylene) tramine penta (methylene phosphonic acid) - phosphate acid	40623-75-4	10.00000	0.00154	
			Acrylic polymer	52255-49-9	5.00000	0.00067	
K-BAC 1020	U.S. Well Services, LLC	Anti-Bacterial Agent					
			2,2-dibromo-3-nitrilopropionamide	10222-01-2	20.00000	0.00460	
			Deionized Water	7732-18-5	28.00000	0.00262	
AP One	U.S. Well Services, LLC	Gel Breakers					
			Ammonium Persulfate	7727-54-0	100.00000	0.00166	
AI-301	U.S. Well Services, LLC	Acid Corrosion Inhibitors					
			Diethylene Glycol	111-46-6	30.00000	0.00013	
			Methenamine	100-97-0	20.00000	0.00010	
			Hydrogen Chloride	7647-01-0	10.00000	0.00004	
			Polyethylene polyamine	68603-67-8	10.00000	0.00004	
			Coco amine	61791-14-8	5.00000	0.00002	

Ingredients shown above are subject to 29 CFR 1910.1200(i) and appear on Material Safety Data Sheets (MSDS). Ingredients shown below are Non-MSDS.

* Total Water Volume sources may include fresh water, produced water, and/or recycled water
** Information is based on the maximum potential for concentration and thus the total may be over 100%

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)



	Par.	Tax Map 5 Owner	Bk/Pg	Acres
1	4	Seventh Day Baptist Church	---	1.00
2	9	Robert M. Clark	281/26	21.89
3	15.4	Russell W. Reed	263/53	0.5
4	5	Karen & Joseph Davis	177/104	26.04
5	11	Helen & Willard Dennison	206/118	13.15
6	12.1	Willard & Helen Dennison	208/113	19.56
7	12	Ricky & Carla Watson	186/339	31.5
8	12.4	Mt. Olive Baptist Trustees	252/98	0.44
9	12.3	Mt. Olive Baptist Trustees	214/734	0.07
10	3.1	John II & Rebecca Dotson	256/338	1.15
11	10	Larry & Mary Jo Carder	282/24	21.71

Lease Table	
A	Richard and Rosalie Clark Lease
B	Hobart D. Carter, et ux, et al Lease
C	Gerald Maxson, et ux Lease
D	Salem Seventh Day Baptist Church Lease

Notes:

West Virginia Coordinate System of 1927, North Zone based upon Differential GPS Measurements.

Well No. Rikk Unit 2H Top Hole coordinates are
N: 280,630.53' Latitude: 39°15'55.06"
E: 1,689,529.65' Longitude: 80°35'47.61"
Bottom Hole coordinates are
N: 272,387.85' Latitude: 39°14'34.35"
E: 1,695,858.14' Longitude: 80°34'25.90"

UTM Zone 17, NAD 1983

Top Hole Coordinates	Bottom Hole Coordinates
N: 4,346,304.558m	N: 4,343,825.574m
E: 534,819.345m	E: 536,789.201m

Plat orientation and corner and well references are based upon the grid north meridian.
Well location references are based upon the magnetic meridian.

ALLEGHENY SURVEYS, INC.

Top Hole coordinates verified by survey grade GPS. As-drilled data and information was provided by Antero Resources Corporation. Allegheny Surveys, Inc. (ASI) is not certifying the data and information provided. ASI is not responsible for any errors or inaccuracies with the data and information that has been provided.

Legend
- Proposed gas well
- Found corner, as noted
- Creek or Drain
- Existing Road
- Surface boundary (approx.)
- Interior surface tracts (approx.)

FILE NO: 41-30-GR-13
DRAWING NO: Rikk 2H Well Plat_As-Drilled
SCALE: 1" = 1200'
MINIMUM DEGREE OF ACCURACY: Submeter
PROVEN SOURCE OF ELEVATION: WVDOT, Bridgeport, WV

STATE OF WEST VIRGINIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
OIL AND GAS DIVISION

DATE: March 3 2015
OPERATOR'S WELL NO. Rikk Unit 2H
API WELL NO
47 - 017 - 06231
STATE COUNTY PERMIT

WELL TYPE: ☐ OIL ☒ GAS ☐ LIQUID INJECTION ☐ WASTE DISPOSAL
(IF GAS) PRODUCTION : ☐ STORAGE ☐ DEEP ☒ SHALLOW
LOCATION: ELEVATION: 1320' WATERSHED: Headwaters Middle Island Creek QUADRANGLE: Salem & Big Isaac
DISTRICT: Greenbrier COUNTY: Doddridge 06/05/2015
SURFACE OWNER: Walter V. Davidson & Leonard J. Davidson
Charles W.F. Randolph, et al; E.J. Lowther, et al (3) Mary Maxine Welch (2); Dallas Bailey, et ux, et al Walter V. Davidson, et ux, et al; Ann M. Zinn, et vir, et al M.E. Garrett, et ux; Rikk H. Randel, et ux; Iva Pearl Smith
ROYALTY OWNER: Charles J. Dennison, Trustee for the C.O. Dennison Estate, et al LEASE NO: 21736; DAD35388; 21545 ACREAGE: 84; 87; 74.5; 65; 90
ACREAGE: 83.61 35 47; 47; 27.12 45.75; 92; 27
21417 21203; 21032; 21396
PROPOSED WORK: ☐ DRILL ☐ CONVERT ☐ DRILL DEEPER ☐ FRACTURE OR STIMULATE ☐ PLUG OFF OLD FORMATION
☐ PERFORATE NEW FORMATION ☒ OTHER PHYSICAL CHANGE IN WELL (SPECIFY) As-Drilled
☐ PLUG AND ABANDON ☐ CLEAN OUT AND REPLUG TARGET FORMATION: Marcellus Shale DEPTH: 7,430' TVD 17,870' MD

WELL OPERATOR: Antero Resources Corporation DESIGNATED AGENT: Dianna Stamper - CT Corporation System
ADDRESS: 1615 Wynkoop Street ADDRESS: 5400 D Big Tyler Road
Denver, CO 80202 Charleston, WV 25313

Received
Office of Oil & Gas
MAY 18 2015