

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

API 47-017-06422 County Doddridge District Greenbrier
Quad Big Isaac 7.5' Pad Name Wagner Pad Field/Pool Name _____
Farm name Perine, Junior Well Number Lettie Unit 1H
Operator (as registered with the OOG) Antero Resources Corporation
Address 1615 Wynkoop Street City Denver State CO Zip 80202

As Drilled location NAD 83/UTM Attach an as-drilled plat, profile view, and deviation survey
Top hole Northing 4,340,228m Easting 534,187m
Landing Point of Curve Northing 4,340,222.13m Easting 533,843.38m
Bottom Hole Northing 4,343,235m Easting 532,878m

Elevation (ft) 1,270' 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 12/30/2013 Date drilling commenced 02/27/2014 Date drilling ceased 06/02/2014
Date completion activities began 09/05/2014 Date completion activities ceased 12/02/2014
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 49' Open mine(s) (Y/N) depths No
Salt water depth(s) ft 1,692' Void(s) encountered (Y/N) depths None
Coal depth(s) ft None Identified Cavern(s) encountered (Y/N) depths None
Is coal being mined in area (Y/N) No

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API 47- 017 - 06422 Farm name Perine, Junior Well number Lettie Unit 1H

CASING STRINGS	Hole Size	Casing Size	Depth	New or Used	Grade wt/ft	Basket Depth(s)	Did cement circulate (Y/N) * Provide details below*
Conductor	24"	20"	40'	New	51#; J-55	N/A	Yes
Surface	17 1/2"	13 3/8"	482'	New	48#; H-40	N/A	Yes
Coal							
Intermediate 1	12 1/4"	9 5/8"	2,505'	New	36#; J-55	N/A	Yes
Intermediate 2							
Intermediate 3							
Production	8 3/4" & 8 1/2"	5 1/2"	18,304'	New	23#; C-75	N/A	Yes
Tubing		2 3/8"	7,599'		4.7#; N-80	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	188 sx	15.6	1.18	38	0'	8 Hrs.
Surface	Class A	576 sx	15.6	1.18	335	0'	8 Hrs.
Coal							
Intermediate 1	Class A	988 sx	15.6	1.18	798	0'	8 Hrs.
Intermediate 2							
Intermediate 3							
Production	Class H	1,182 sx (Lead); 1,680 sx (Tail)	14.2 (Lead); 15.2 (Tail)	1.3 (Lead); 1.86 (Tail)	3,725	-500' into Intermediate Casing	8 Hrs.
Tubing							

Drillers TD (ft) 18,308' MD, 7,326' TVD (BHL) 7,329' (Deepest Point Drilled) Loggers TD (ft) 18,281'
 Deepest formation penetrated Marcellus Plug back to (ft) N/A
 Plug back procedure N/A

Kick off depth (ft) 6,882'

**This is a subsequent well. Antero only runs wireline logs on one well on a multi-well pad (Downs Unit 1H, API #47-017-06433). Please reference the wireline logs submitted with Form WR-35 for the Downs Unit 1H. A Cement Bond Log has been included with this submittal.

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

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 _____

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API 47- 017 - 06422 Farm name Perine, Junior Well number Lettie Unit 1H

PERFORATION RECORD

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

Please insert additional pages as applicable.

STIMULATION INFORMATION PER STAGE

Complete a separate record for each stimulation stage.

Stage No.	Stimulations Date	Ave Pump Rate (BPM)	Ave Treatment Pressure (PSI)	Max Breakdown Pressure (PSI)	ISIP (PSI)	Amount of Proppant (lbs)	Amount of Water (bbls)	Amount of Nitrogen/other (units)
* PLEASE SEE ATTACHED EXHIBIT 2								

Please insert additional pages as applicable.

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PRODUCING FORMATION(S)	DEPTHS	
Marcellus	7,238' (top) TVD	7,711' (top) MD

Please insert additional pages as applicable.

GAS TEST Build up Drawdown Open Flow OIL TEST Flow Pump

SHUT-IN PRESSURE Surface 3950 psi Bottom Hole _____ psi DURATION OF TEST _____ hrs

OPEN FLOW Gas 11,675 mcfpd Oil _____ bpd NGL _____ bpd Water 188 bpd GAS MEASURED BY Estimated Orifice Pilot

LITHOLOGY/ FORMATION	TOP	BOTTOM	TOP	BOTTOM	DESCRIBE ROCK TYPE AND RECORD QUANTITY AND TYPE OF FLUID (FRESHWATER, BRINE, OIL, GAS, H ₂ S, ETC)
	DEPTH IN FT NAME TVD	DEPTH IN FT TVD	DEPTH IN FT MD	DEPTH IN FT MD	
	0		0		
* PLEASE SEE ATTACHED EXHIBIT 3					

Please insert additional pages as applicable.

Drilling Contractor Precision Drilling Company, LP
Address 2640 Reach Road City Williamsport State PA Zip 17701

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

Cementing Company Nabors Completion & Production Services, Co.
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 Megan Darling Telephone 303-357-7230
Signature Megan C. Darling Title Permitting Agent Date 06/26/2015

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

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EXHIBIT 1

Stage No.	Perforation Date	Perforated from MD ft.	Perforated to MD ft.	Number of Perforations	Formations
1	5-Sep-14	18,047	18,214	60	Marcellus
2	15-Sep-14	17,849	18,016	60	Marcellus
3	15-Sep-14	17,651	17,818	60	Marcellus
4	15-Sep-14	17,453	17,620	60	Marcellus
5	16-Sep-14	17,255	17,422	60	Marcellus
6	16-Sep-14	17,057	17,224	60	Marcellus
7	16-Sep-14	16,859	17,026	60	Marcellus
8	17-Sep-14	16,661	16,828	60	Marcellus
9	17-Sep-14	16,463	16,630	60	Marcellus
10	18-Sep-14	16,265	16,432	60	Marcellus
11	18-Sep-14	16,067	16,234	60	Marcellus
12	19-Sep-14	15,869	16,036	60	Marcellus
13	19-Sep-14	15,671	15,838	60	Marcellus
14	19-Sep-14	15,473	15,640	60	Marcellus
15	20-Sep-14	15,275	15,442	60	Marcellus
16	20-Sep-14	15,077	15,244	60	Marcellus
17	20-Sep-14	14,879	15,046	60	Marcellus
18	20-Sep-14	14,681	14,848	60	Marcellus
19	21-Sep-14	14,483	14,650	60	Marcellus
20	21-Sep-14	14,285	14,452	60	Marcellus
21	21-Sep-14	14,087	14,254	60	Marcellus
22	22-Sep-14	13,889	14,056	60	Marcellus
23	22-Sep-14	13,691	13,858	60	Marcellus
24	23-Sep-14	13,493	13,660	60	Marcellus
25	23-Sep-14	13,295	13,462	60	Marcellus
26	23-Sep-14	13,097	13,264	60	Marcellus
27	23-Sep-14	12,899	13,066	60	Marcellus
28	24-Sep-14	12,701	12,868	60	Marcellus
29	24-Sep-14	12,503	12,670	60	Marcellus
30	24-Sep-14	12,305	12,472	60	Marcellus
31	24-Sep-14	12,107	12,274	60	Marcellus
32	25-Sep-14	11,909	12,076	60	Marcellus
33	25-Sep-14	11,711	11,878	60	Marcellus
34	25-Sep-14	11,513	11,680	60	Marcellus
35	25-Sep-14	11,315	11,482	60	Marcellus
36	26-Sep-14	11,117	11,284	60	Marcellus
37	26-Sep-14	10,919	11,086	60	Marcellus
38	26-Sep-14	10,721	10,888	60	Marcellus
39	26-Sep-14	10,523	10,690	60	Marcellus
40	27-Sep-14	10,325	10,492	60	Marcellus
41	27-Sep-14	10,127	10,294	60	Marcellus
42	27-Sep-14	9,928	10,096	60	Marcellus
43	27-Sep-14	9,730	9,897	60	Marcellus
44	27-Sep-14	9,532	9,699	60	Marcellus
45	28-Sep-14	9,334	9,501	60	Marcellus
46	28-Sep-14	9,136	9,303	60	Marcellus
47	28-Sep-14	8,938	9,105	60	Marcellus
48	28-Sep-14	8,740	8,907	60	Marcellus
49	28-Sep-14	8,542	8,709	60	Marcellus
50	29-Sep-14	8,344	8,511	60	Marcellus
51	29-Sep-14	8,146	8,313	60	Marcellus
52	29-Sep-14	7,948	8,115	60	Marcellus
53	29-Sep-14	7,750	7,917	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	14-Sep-14	56.3	7,837	N/A	5,036	200,270	7,458	N/A
2	15-Sep-14	65.0	7,837	6,271	4,268	202,400	6,818	N/A
3	15-Sep-14	65.0	7,557	6,261	4,790	169,500	7,411	N/A
4	15-Sep-14	75.5	7,901	5,879	4,684	234,840	6,839	N/A
5	16-Sep-14	65.0	7,928	5,997	4,992	165,200	7,391	N/A
6	16-Sep-14	67.0	7,698	5,870	5,140	195,160	7,342	N/A
7	16-Sep-14	68.9	7,759	6,128	4,829	238,180	6,579	N/A
8	17-Sep-14	67.0	7,491	5,941	5,279	214,260	6,766	N/A
9	17-Sep-14	74.7	7,870	5,796	5,449	237,420	6,654	N/A
10	18-Sep-14	68.0	7,481	5,865	5,739	231,000	6,663	N/A
11	18-Sep-14	66.0	7,446	5,747	5,741	230,280	6,598	N/A
12	19-Sep-14	78.4	7,687	5,557	5,355	220,470	6,588	N/A
13	19-Sep-14	74.0	7,615	5,661	4,880	203,560	6,427	N/A
14	19-Sep-14	78.0	7,928	5,741	4,928	203,220	6,419	N/A
15	20-Sep-14	75.7	7,796	5,573	5,087	146,680	5,571	N/A
16	20-Sep-14	70.0	7,567	5,549	5,117	218,100	6,503	N/A
17	20-Sep-14	71.0	7,508	5,643	4,970	222,220	6,503	N/A
18	20-Sep-14	75.3	7,534	5,460	5,285	219,090	6,473	N/A
19	21-Sep-14	73.0	7,618	5,630	5,469	218,440	6,449	N/A
20	21-Sep-14	71.0	7,635	5,824	5,528	185,040	7,055	N/A
21	21-Sep-14	75.3	7,706	5,660	5,057	221,460	6,424	N/A
22	22-Sep-14	78.3	7,795	5,595	5,294	216,380	6,383	N/A
23	22-Sep-14	76.2	7,384	5,461	5,887	204,015	6,335	N/A
24	23-Sep-14	75.3	7,325	5,522	5,900	203,890	6,333	N/A
25	23-Sep-14	75.0	7,437	5,437	5,414	229,940	6,311	N/A
26	23-Sep-14	75.0	7,567	5,655	5,788	227,860	6,288	N/A
27	23-Sep-14	71.1	7,443	5,659	5,612	226,640	6,218	N/A
28	24-Sep-14	73.0	7,561	5,775	5,184	229,500	6,263	N/A
29	24-Sep-14	78.0	7,501	5,601	5,593	228,640	6,240	N/A
30	24-Sep-14	71.5	7,510	6,059	5,997	225,160	6,439	N/A
31	24-Sep-14	76.4	7,346	5,811	6,056	223,480	6,177	N/A
32	25-Sep-14	74.1	7,202	5,601	5,556	224,840	6,146	N/A
33	25-Sep-14	78.0	7,279	5,703	5,371	230,040	6,189	N/A
34	25-Sep-14	79.0	7,450	6,090	5,812	227,880	6,124	N/A
35	25-Sep-14	76.1	7,194	5,745	5,819	222,950	6,093	N/A
36	26-Sep-14	77.5	6,899	5,398	5,926	224,920	6,070	N/A
37	26-Sep-14	80.0	7,197	5,695	5,504	229,640	6,115	N/A
38	26-Sep-14	81.0	7,201	5,827	5,587	227,600	6,104	N/A
39	26-Sep-14	75.3	6,825	5,724	5,683	223,920	6,035	N/A
40	27-Sep-14	78.3	7,021	5,869	5,782	224,920	5,975	N/A
41	27-Sep-14	79.0	7,169	6,050	5,579	229,020	5,973	N/A
42	27-Sep-14	80.0	7,003	5,790	5,592	229,500	5,963	N/A
43	27-Sep-14	80.0	6,945	5,737	5,650	229,020	5,940	N/A
44	27-Sep-14	77.7	7,177	5,620	5,713	207,620	5,903	N/A
45	28-Sep-14	75.2	7,203	5,848	5,851	225,390	5,892	N/A
46	28-Sep-14	77.0	7,006	5,863	5,657	229,420	5,966	N/A
47	28-Sep-14	81.0	7,084	6,061	5,504	227,900	5,852	N/A
48	28-Sep-14	81.0	6,993	5,735	5,511	228,760	5,829	N/A
49	28-Sep-14	76.5	6,853	6,183	5,765	226,630	5,832	N/A
50	29-Sep-14	77.5	7,000	5,499	5,605	233,830	5,825	N/A
51	29-Sep-14	77.0	7,017	6,328	5,279	230,140	5,761	N/A
52	29-Sep-14	76.0	6,742	6,100	5,787	230,920	5,755	N/A
53	29-Sep-14	78.0	6,989	5,868	5,037	229,050	5,719	N/A
	AVG=	74.4	7,391	5,788	5,432	11,586,205	334,979	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	49'	N/A	49'	N/A
Shale	0	29	0	29
Siltstone	est. 29	289	est. 29	289
Siltstone/ Trace Coal	est. 289	449	est. 289	449
Siltstone/ Sandstone	est. 449	649	est. 449	649
Sandy Shale/ Trace Coal	est. 649	669	est. 649	669
Siltstone	est. 669	829	est. 669	829
Limestone/ Coal	est. 829	889	est. 829	889
Siltstone	est. 889	1,269	est. 889	1,269
Sandstone	est. 1269	1,389	est. 1269	1,389
Siltstone	est. 1389	1,469	est. 1389	1,469
Sandstone	est. 1469	1,509	est. 1469	1,509
Limestone/ Siltstone	est. 1509	1,589	est. 1509	1,589
Sandstone/ Trace Coal	est. 1589	1,649	est. 1589	1,649
Siltstone/ Trace Coal	est. 1649	1,789	est. 1649	1,789
Sandstone	est. 1789	1,909	est. 1789	1,909
Shale/ Trace Coal	est. 1909	2,049	est. 1909	2,049
Siltstone/ Shale	est. 2049	2,256	est. 2049	2,256
Big Lime	2,256	2,356	2,256	2,356
Big Injun	2,356	2,586	2,356	2,586
Gantz Sand	2,586	2,678	2,586	2,678
Fifty Foot Sandstone	2,678	2,881	2,678	2,881
Gordon	2,881	3,210	2,881	3,210
Fifth Sandstone	3,210	3,256	3,210	3,256
Bayard	3,256	3,574	3,256	3,574
Warren	3,574	3,869	3,574	3,869
Speechley	3,869	4,073	3,869	4,073
Baltown	4,073	4,684	4,073	4,686
Bradford	4,684	5,182	4,686	5,205
Benson	5,182	5,489	5,205	5,544
Alexander	5,489	5,688	5,544	5,463
Elk	5,688	6,217	5,463	6,348
Rhinestreet	6,217	6,755	6,348	6,947
Sycamore	6,755	6,921	6,947	7,141
Middlesex	6,921	7,069	7,141	7,349
Burkett	7,069	7,101	7,349	7,398
Tully	7,101	7,238	7,398	7,711
Marcellus	7,238	NA	7,711	NA

*Please note Antero determines shallow 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:	9/14/2014
Job End Date:	9/29/2014
State:	West Virginia
County:	Doddridge
API Number:	47-017-06422-00-00
Operator Name:	Antero Resources Corporation
Well Name and Number:	Lettie Unit 1H
Longitude:	-80.60401700
Latitude:	39.21065300
Datum:	NAD83
Federal/Tribal Well:	NO
True Vertical Depth:	7,329
Total Base Water Volume (gal):	13,587,210
Total Base Non Water Volume:	569,219

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	90.77617	
Sand	U.S. Well Services, LLC	Proppant	Crystalline Silica, quartz	14808-60-7	100.00000	8.91655	
LGC-15	U.S. Well Services, LLC	Gelling Agents	Guar Gum	9000-30-0	50.00000	0.06102	
			Petroleum Distillates	64742-47-8	60.00000	0.05779	
			Suspending agent (solid)	14808-60-7	3.00000	0.00933	
			Surfactant	68439-51-0	3.00000	0.00366	
HCL Acid (12.6%-18.0%)	U.S. Well Services, LLC	Bulk Acid	Water	7732-18-5	87.50000	0.08754	
			Hydrogen Chloride	7647-01-1	18.00000	0.02091	
WFR-405	U.S. Well Services, LLC	Friction Reducer	Water	7732-18-5	40.00000	0.02969	
			Anionic Polyacrylamide	Proprietary	40.00000	0.02969	
			Petroleum Distillates	64742-47-8	40.00000	0.02390	
			Crystalline Salt	12125-02-9	5.00000	0.00371	



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SI-1100	U.S. Well Services	Scale Inhibitor	Ethoxylated alcohol blend	Proprietary	5.00000	0.00371
			DI Water	7732-18-5	80.00000	0.01098
			Ethylene Glycol	107-21-1	40.00000	0.00619
			Potassium salt of diethylene triamine penta (methylene phosphonic acid)	15827-60-8	10.00000	0.00185
			2-Phosphonobutane 1,2,4 tricarboxylic salt	37971-36-1	10.00000	0.00177
			hexamethylenediamine tetra (methylene phosphonic acid)	38820-59-6	10.00000	0.00171
			Copolymer of Maleic and Acrylic acid	26677-99-6	10.00000	0.00162
			bis (hexamethylene) triamine penta (methylene phosphonic acid) - phosphate acid	40623-75-4	10.00000	0.00157
			Acrylic polymer	52255-49-9	5.00000	0.00068
K-BAC 1020	U.S. Well Services, LLC	Anti-Bacterial Agent				
			2,2-dibromo-3-nitropropionamide	10222-01-2	20.00000	0.00503
			Deionized Water	7732-18-5	28.00000	0.00288
AP One	U.S. Well Services, LLC	Gel Breakers				
			Ammonium Persulfate	7727-54-0	100.00000	0.00173
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)

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LATITUDE 39°15'00"

5,913'

LATITUDE 39°15'00"

LONGITUDE 80°35'00"

14,365'

LONGITUDE 80°35'00"

Antero Resources Corporation
Well No. Lettie Unit 1H
47-017-06422 (AS DRILLED)

PAD LAYOUT

NOT TO SCALE

- 10' DOWNS UNIT 1H
- 10' DOWNS UNIT 2H
- 10' MASON UNIT 2H
- 10' LETTIE UNIT 2H
- 10' MASON UNIT 1H
- 10' MCGUIRE UNIT 2H
- 10' BOLTE UNIT 1H
- 10' BOLTE UNIT 2H
- 10' MCGUIRE UNIT 1H

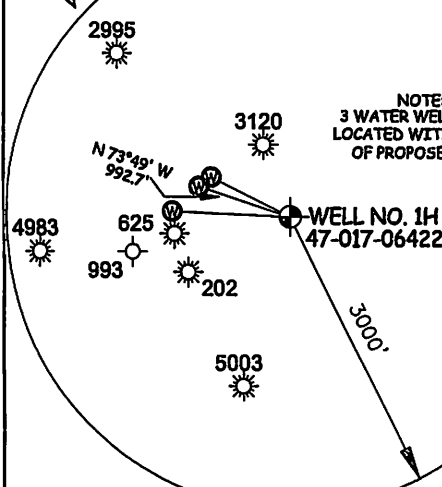


AS DRILLED DATA:
 WELL 1H TOP HOLE INFORMATION:
 N: 260,724ft E: 1,687,121ft
 LAT: 39°12'38.02" LON: 80°36'15.13"
 BOTTOM HOLE INFORMATION:
 N: 270,665ft E: 1,682,992ft
 LAT: 39°14'15.77" LON: 80°37'09.16"
 WEST VIRGINIA COORDINATE SYSTEM OF 1927 NORTH ZONE. ZONE WAS DERIVED FROM MEASUREMENTS TAKEN WITH TRIMBLE GEOXT SUBMETER MAPPING GRADE GPS UNIT. PLAT ORIENTATION, CORNER, AND WELL REFERENCE TIE LINES ARE BASED ON GRID NORTH.

(NAD) 83 (UTM) ZONE 17 COORDS:
 WELL 1H TOP HOLE INFORMATION:
 N: 4,340,228m E: 534,187m
 BOTTOM HOLE INFORMATION:
 N: 4,343,235m E: 532,878m

WV NORTH ZONE GRID NORTH

1100.000



LEGEND

- Surface Owner Boundary Lines +/-
- - - Interior Surface Tracts +/-
- X Existing Fence
- ⊕ Found monument, as noted
- Proposed Well Path
- ⊗ As Drilled Well Path

DATE 05/13/15

OPERATOR'S WELL# LETTIE UNIT #1H

API WELL # 47 - 017 - 06422

STATE COUNTY PERMIT



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 # 13-087WA

DRAWING # LETTIE1HAD

SCALE 1" = 1000'

MINIMUM DEGREE OF ACCURACY SUBMETER

PROVEN SOURCE OF ELEV. SUBMETER MAPPING GRADE GPS

- NOTE**
- 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.
 - TOP HOLE DATA SHOWN HEREON WAS PROVIDED BY ALLEGHENY SURVEYS, INC.
 - AS DRILLED DATA WAS PROVIDED BY ANTERO RESOURCES CORPORATION.
 - 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.
 - WLS IS BY NO MEANS RESPONSIBLE FOR ANY ERRORS OR INACCURACIES WITH THE DATA AND INFORMATION THAT HAS BEEN PROVIDED.

STATE OF WEST VIRGINIA DEPARTMENT OF ENERGY DIVISION OF OIL AND GAS

WELL TYPE: OIL GAS LIQUID INJECTION WASTE DISPOSAL

(IF "GAS") PRODUCTION STORAGE DEEP SHALLOW

LOCATION: ELEVATION 1,283' ORIGINAL - 1,270' AS DRILLED WATERSHED HEADWATERS MIDDLE ISLAND CREEK

QUADRANGLE BIG ISSAC 7.5' DISTRICT GREENBRIER COUNTY DODDRIDGE

SURFACE OWNER JUNIOR PERINE

OIL & GAS ROYALTY OWNER REXALL BARNETT ET AL.; E. MAY SUMMERS; E. MAY SUMMERS; MARY WELCH;

DAVID M. BELL ET UX; HARRIET A. CRABBE; ANNA S. LAYMAN; DENVER JACK CORK; J.J. ADAMS; DENNIS FOREMAN; HARRY H. MEEK JR. ET AL.; HARRY H. MEEK JR. ET AL.

PROPOSED WORK: DRILL CONVERT DRILL DEEPER REDRILL FRACTURE OR STIMULATE

PLUG OFF OLD FORMATION PERFORATE NEW FORMATION OTHER PHYSICAL CHANGE IN

(SPECIFY) AS DRILLED PLUG & ABANDON CLEAN OUT & REPLUG

TARGET FORMATION MARCELLUS ESTIMATED DEPTH 7,325' TVD 18,308' MD

ACREAGE 89.43 ACRES +/-

LEASE ACREAGE 81.4 AC ± 38 AC ± 68 AC ± 15.6 AC ±

47.2 AC ± 5.7 AC ± 18.275 AC ± 60.5 AC ± 138.3 AC ± 46 AC ± 96 AC ± 80 AC ±

DIANNA STAMPER
 CT CORPORATION SYSTEM
 5400 D BIG TYLER ROAD
 CHARLESTON, WV 25313

DESIGNATED AGENT ADDRESS

WELL OPERATOR ANTERO RESOURCES CORP.

ADDRESS 1615 WYNKOOP STREET

DENVER, CO 80202

FORM WW-6

RECEIVED
 Office of Oil and Gas
 JUL 16 2015
 Environmental Protection Department

