

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

API 47 - 017 - 06433 County Doddridge District Greenbrier
Quad Big Isaac 7.5' Pad Name Wagner Pad Field/Pool Name _____
Farm name Perine, Junior Well Number Downs 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 4,340,240m Easting 534,186m
Landing Point of Curve Northing 4,340,419.17m Easting 534,209.99m
Bottom Hole Northing 4,343,133m Easting 533,337m

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 01/22/2014 Date drilling commenced 03/29/2014 Date drilling ceased 07/30/2014
Date completion activities began 09/04/2014 Date completion activities ceased 11/24/2014
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

RECEIVED
Office of Oil and Gas
JUL 06 2015
WV Department of
Environmental Protection

Reviewed by:
JK 7/24/15
07/24/2015

API 47-017 - 06433 Farm name Perine, Junior Well number Downs Unit 1H

CASING STRINGS	Hole Size	Casing Size	Depth	New or Used	Grade w/ft	Basket Depth(s)	Did cement circulate (Y/N) * Provide details below*
Conductor	28"	20"	40'	New	51#; H-40	N/A	Yes
Surface	17 1/2"	13 3/8"	445'	New	48#; H-40	N/A	Yes
Coal							
Intermediate 1	12 1/4"	9 5/8"	2,526'	New	36#; J-55	N/A	Yes
Intermediate 2							
Intermediate 3							
Production	8 3/4" & 8 1/2"	5 1/2"	16,983'	New	23#; C-75	N/A	Yes
Tubing		2 3/8"	7,369'		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	100 sx	15.6	1.18	38	0'	8 Hrs.
Surface	Class A	534 sx	15.6	1.18	309	0'	8 Hrs.
Coal							
Intermediate 1	Class A	982 sx	15.6	1.18	791	0'	8 Hrs.
Intermediate 2							
Intermediate 3							
Production	Class H	1,141 sx (Lead); 1,489 sx (Tail)	14.5 (Lead); 15.2 (Tail)	1.3 (Lead); 1.86 (Tail)	3,427	-500' into Intermediate Casing	8 Hrs.
Tubing							

Drillers TD (ft) 16,983' MD, 7,322' TVD (BHL), 7,341' TVD (Deepest Point Drilled) Loggers TD (ft) 16,983'
 Deepest formation penetrated Marcellus Plug back to (ft) N/A
 Plug back procedure N/A

Kick off depth (ft) 6,716'

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 _____ **RECEIVED**
 Office of Oil and Gas

WAS WELL COMPLETED OPEN HOLE? Yes No DETAILS _____ **JUL 06 2015**

WERE TRACERS USED Yes No TYPE OF TRACER(S) USED _____ **WV Department of**

API 47- 017 - 06433

Farm name Perine, Junior

Well number Downs 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								

RECEIVED
Office of Oil and Gas
JUL 06 2015

Please insert additional pages as applicable.

WV Department of
Environmental Protection

API 47- 017 - 06433 Farm name Perine, Junior Well number Downs Unit 1H

PRODUCING FORMATION(S)	DEPTHS	
<u>Marcellus</u>	<u>7,235' (top)</u> TVD	<u>7,433' (top)</u> MD
_____	_____	_____
_____	_____	_____

Please insert additional pages as applicable.

GAS TEST Build up Drawdown Open Flow OIL TEST Flow Pump

SHUT-IN PRESSURE Surface 3,950 psi Bottom Hole _____ psi DURATION OF TEST _____ hrs

OPEN FLOW Gas 6,566 mcfpd Oil _____ bpd NGL _____ bpd Water 1,334 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 ₂ S, ETC)
	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 07/02/2015 **RECEIVED**

API 47-017-06433 Farm Name Perine, Junior Well Number Downs Unit 1H

EXHIBIT 1

Stage No.	Perforation Date	Perforated from MD ft.	Perforated to MD ft.	Number of Perforations	Formations
1	4-Sep-14	16,721	16,891	60	Marcellus
2	14-Oct-14	16,520	16,690	60	Marcellus
3	14-Oct-14	16,319	16,488	60	Marcellus
4	14-Oct-14	16,118	16,287	60	Marcellus
5	15-Oct-14	15,917	16,086	60	Marcellus
6	15-Oct-14	15,716	15,885	60	Marcellus
7	15-Oct-14	15,515	15,684	60	Marcellus
8	16-Oct-14	15,314	15,483	60	Marcellus
9	16-Oct-14	15,113	15,282	60	Marcellus
10	16-Oct-14	14,912	15,081	60	Marcellus
11	16-Oct-14	14,710	14,880	60	Marcellus
12	17-Oct-14	14,509	14,679	60	Marcellus
13	17-Oct-14	14,308	14,478	60	Marcellus
14	17-Oct-14	14,107	14,277	60	Marcellus
15	18-Oct-14	13,906	14,076	60	Marcellus
16	18-Oct-14	13,705	13,875	60	Marcellus
17	18-Oct-14	13,504	13,674	60	Marcellus
18	19-Oct-14	13,303	13,473	60	Marcellus
19	19-Oct-14	13,102	13,272	60	Marcellus
20	19-Oct-14	12,901	13,070	60	Marcellus
21	19-Oct-14	12,700	12,869	60	Marcellus
22	20-Oct-14	12,499	12,668	60	Marcellus
23	20-Oct-14	12,298	12,467	60	Marcellus
24	20-Oct-14	12,097	12,266	60	Marcellus
25	20-Oct-14	11,896	12,065	60	Marcellus
26	21-Oct-14	11,695	11,864	60	Marcellus
27	22-Oct-14	11,493	11,663	60	Marcellus
28	22-Oct-14	11,292	11,462	60	Marcellus
29	22-Oct-14	11,091	11,261	60	Marcellus
30	22-Oct-14	10,890	11,060	60	Marcellus
31	23-Oct-14	10,689	10,859	60	Marcellus
32	23-Oct-14	10,488	10,658	60	Marcellus
33	23-Oct-14	10,287	10,457	60	Marcellus
34	23-Oct-14	10,086	10,256	60	Marcellus
35	24-Oct-14	9,885	10,055	60	Marcellus
36	24-Oct-14	9,684	9,853	60	Marcellus
37	24-Oct-14	9,483	9,652	60	Marcellus
38	24-Oct-14	9,282	9,451	60	Marcellus
39	25-Oct-14	9,081	9,250	60	Marcellus
40	25-Oct-14	8,880	9,049	60	Marcellus
41	25-Oct-14	8,679	8,848	60	Marcellus
42	25-Oct-14	8,478	8,647	60	Marcellus
43	25-Oct-14	8,277	8,446	60	Marcellus
44	26-Oct-14	8,075	8,245	60	Marcellus
45	26-Oct-14	7,874	8,044	60	Marcellus
46	26-Oct-14	7,673	7,843	60	Marcellus
47	26-Oct-14	7,472	7,642	60	Marcellus

RECEIVED
Office of Oil and Gas

JUL 06 2015

Department of
Environmental Protection

07/24/2015

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	13-Oct-14	57.0	7,039	N/A	5,129	190,720	6,972	N/A
2	14-Oct-14	62.6	7,275	6,317	5,199	213,570	7,397	N/A
3	14-Oct-14	63.0	6,917	6,113	5,489	236,720	6,758	N/A
4	14-Oct-14	61.0	7,027	6,191	5,442	218,760	7,365	N/A
5	15-Oct-14	59.1	6,830	5,902	5,479	230,960	6,698	N/A
6	15-Oct-14	58.9	6,953	5,920	5,826	232,300	6,766	N/A
7	15-Oct-14	63.0	7,106	6,247	5,932	233,260	6,697	N/A
8	16-Oct-14	68.0	6,971	5,755	5,751	234,460	6,699	N/A
9	16-Oct-14	65.4	6,902	5,782	6,374	235,765	6,677	N/A
10	16-Oct-14	63.0	7,078	304	5,647	235,560	6,601	N/A
11	16-Oct-14	66.0	6,943	5,849	5,655	238,060	6,573	N/A
12	17-Oct-14	65.3	6,980	5,636	5,599	235,420	6,585	N/A
13	17-Oct-14	66.2	7,098	5,565	5,875	232,835	6,559	N/A
14	17-Oct-14	64.0	6,754	5,734	5,736	241,200	6,521	N/A
15	18-Oct-14	70.0	7,016	5,853	5,819	234,060	7,131	N/A
16	18-Oct-14	69.8	7,023	5,867	5,694	231,130	7,070	N/A
17	18-Oct-14	66.0	6,752	6,137	5,489	234,300	6,460	N/A
18	19-Oct-14	74.0	7,011	5,592	5,646	232,820	6,434	N/A
19	19-Oct-14	62.8	6,741	6,126	5,355	230,990	7,720	N/A
20	19-Oct-14	71.0	6,846	5,643	5,649	234,020	6,400	N/A
21	19-Oct-14	71.0	6,821	6,277	5,749	234,760	6,377	N/A
22	20-Oct-14	64.3	6,906	6,365	6,180	235,810	6,435	N/A
23	20-Oct-14	63.9	6,925	6,533	6,068	237,510	6,330	N/A
24	20-Oct-14	63.4	7,269	6,598	5,581	172,865	6,557	N/A
25	20-Oct-14	53.3	7,212	6,234	5,658	193,800	6,908	N/A
26	21-Oct-14	65.2	6,621	6,329	5,924	232,350	6,290	N/A
27	22-Oct-14	66.0	6,629	6,074	5,545	232,420	6,252	N/A
28	22-Oct-14	67.8	6,480	5,943	5,778	106,260	6,589	N/A
29	22-Oct-14	66.0	6,569	5,854	5,602	243,360	6,201	N/A
30	22-Oct-14	66.0	6,470	5,570	5,476	226,230	6,171	N/A
31	23-Oct-14	64.3	6,619	6,028	5,766	230,770	6,168	N/A
32	23-Oct-14	64.5	6,509	5,887	5,867	233,970	6,129	N/A
33	23-Oct-14	65.7	6,386	6,177	5,570	248,700	6,122	N/A
34	23-Oct-14	65.5	6,502	5,846	5,494	230,280	6,092	N/A
35	24-Oct-14	65.6	6,540	6,203	5,572	239,700	6,291	N/A
36	24-Oct-14	64.5	6,732	6,013	5,734	235,060	6,066	N/A
37	24-Oct-14	64.4	6,722	6,344	5,688	216,810	5,965	N/A
38	24-Oct-14	65.9	6,623	6,092	5,405	233,150	6,025	N/A
39	25-Oct-14	65.6	6,908	6,627	5,609	210,705	6,417	N/A
40	25-Oct-14	66.2	6,789	5,716	5,949	164,560	6,011	N/A
41	25-Oct-14	66.2	6,770	6,579	5,847	229,850	5,994	N/A
42	25-Oct-14	66.6	6,463	6,629	5,363	240,510	5,944	N/A
43	25-Oct-14	65.8	6,379	6,048	5,670	231,880	5,903	N/A
44	26-Oct-14	63.4	6,598	6,615	5,696	234,780	5,871	N/A
45	26-Oct-14	66.2	6,549	6,265	5,786	230,900	5,896	N/A
46	26-Oct-14	65.3	6,487	6,330	5,697	229,900	5,861	N/A
47	26-Oct-14	66.3	6,654	7,045	5,195	231,360	5,844	N/A
AVG=		65.0	6,796	5,973	5,665	10,595,160	302,792	N/A

RECEIVED
 Office of Oil and Gas
 JUL 06 2015
 Department of
 Environmental Protection
 07/24/2015

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	2,225	est. 2049	2,225
Big Lime	2,225	2,335	2,225	2,335
Big Injun	2,335	2,552	2,335	2,552
Gantz Sand	2,552	2,650	2,552	2,650
Fifty Foot Sandstone	2,650	2,852	2,650	2,852
Gordon	2,852	3,175	2,852	3,175
Fifth Sandstone	3,175	3,222	3,175	3,222
Bayard	3,222	3,546	3,222	3,546
Warren	3,546	3,837	3,546	3,837
Speechley	3,837	4,037	3,837	4,037
Baltown	4,037	4,653	4,037	4,653
Bradford	4,653	5,149	4,653	5,149
Benson	5,149	5,463	5,149	5,463
Alexander	5,463	5,658	5,463	5,658
Elk	5,658	6,191	5,658	6,191
Rhinestreet	6,191	6,749	6,191	6,750
Sycamore	6,749	6,917	6,750	6,927
Middlesex	6,917	7,069	6,927	7,110
Burkett	7,069	7,097	7,110	7,149
Tully	7,097	7,235	7,149	7,433
Marcellus	7,235	NA	7,433	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.

RECEIVED
Office of Oil and Gas

JUL 06 2015

WV Department of
Environmental Protection
07/24/2015

Hydraulic Fracturing Fluid Product Component Information Disclosure

Job Start Date:	10/14/2014
Job End Date:	10/26/2014
State:	West Virginia
County:	Doddridge
API Number:	47-017-06433-00-00
Operator Name:	Antero Resources Corporation
Well Name and Number:	Downs Unit 1H
Longitude:	-80.60402800
Latitude:	39.21076100
Datum:	NAD83
Federal/Tribal Well:	NO
True Vertical Depth:	7,341
Total Base Water Volume (gal):	12,717,264
Total Base Non Water Volume:	543,356

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	90.56808	
Sand	U.S. Well Services, LLC	Proppant	Crystalline Silica, quartz	14808-60-7	100.00000	9.04738	
IGC-15	U.S. Well Services, LLC	Gelling Agents	Guar Gum	9000-30-0	50.00000	0.07514	
			Petroleum Distillates	64742-47-8	60.00000	0.07116	
			Suspending agent (solid)	14808-60-7	3.00000	0.01149	
			Surfactant	68439-51-0	3.00000	0.00451	
HCL Acid (12.6%-18.0%)	U.S. Well Services, LLC	Bulk Acid	Water	7732-18-5	87.50000	0.08404	
			Hydrogen Chloride	7647-01-1	18.00000	0.02007	
WFRRA-405	U.S. Well Services, LLC	Friction Reducer	Water	7732-18-5	40.00000	0.02730	
			Anionic Polyacrylamide	Proprietary	40.00000	0.02730	
			Petroleum Distillates	64742-47-8	40.00000	0.02198	
			Crystalline Salt	12125-02-9	5.00000	0.00341	



RECEIVED
Office of Oil and Gas

JUL 06 2015

WV Department of
Environmental Protection

07/24/2015

SI-1100	U.S. Well Services	Scale Inhibitor	Ethoxylated alcohol blend	Proprietary	5.00000	0.00341
			D1 Water	7732-18-5	80.00000	0.01053
			Ethylene Glycol	107-21-1	40.00000	0.00595
			Potassium salt of diethylene triamine penta (methylene phosphonic acid)	15827-60-8	10.00000	0.00178
			2-Phosphonobutane 1,2,4 tricarboxylic salt	37971-96-1	10.00000	0.00170
			hexamethylenediamine tetra (methylene phosphonic acid)	38820-59-6	10.00000	0.00165
			Copolymer of Maleic and Acrylic acid	26677-99-6	10.00000	0.00155
			bis (hexamethylene) triamine penta (methylene phosphonic acid) - phosphate acid	40623-75-4	10.00000	0.00151
			Acrylic polymer	52255-49-9	5.00000	0.00066
K-BAC 1020	U.S. Well Services, LLC	Anti-Bacterial Agent				
			2,2-dibromo-3-nitropropionamide	10222-01-2	20.00000	0.00469
			Deionized Water	7732-18-5	28.00000	0.00268
AP One	U.S. Well Services, LLC	Gel Breakers				
			Ammonium Persulfate	7727-54-0	100.00000	0.00168
AI-301	U.S. Well Services, LLC	Acid Corrosion Inhibitors				
			Diethylene Glycol	111-46-6	30.00000	0.00013
			Methanamine	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)

RECEIVED
Office of Oil and Gas
JUL 06 2015
WV Department of Environmental Protection

07/24/2015

LATITUDE 39°15'00"

5,913'

LATITUDE 39°15'00"

LONGITUDE 80°35'00"

14,324'

LONGITUDE 80°35'00"

COUNTY NAME PERMIT

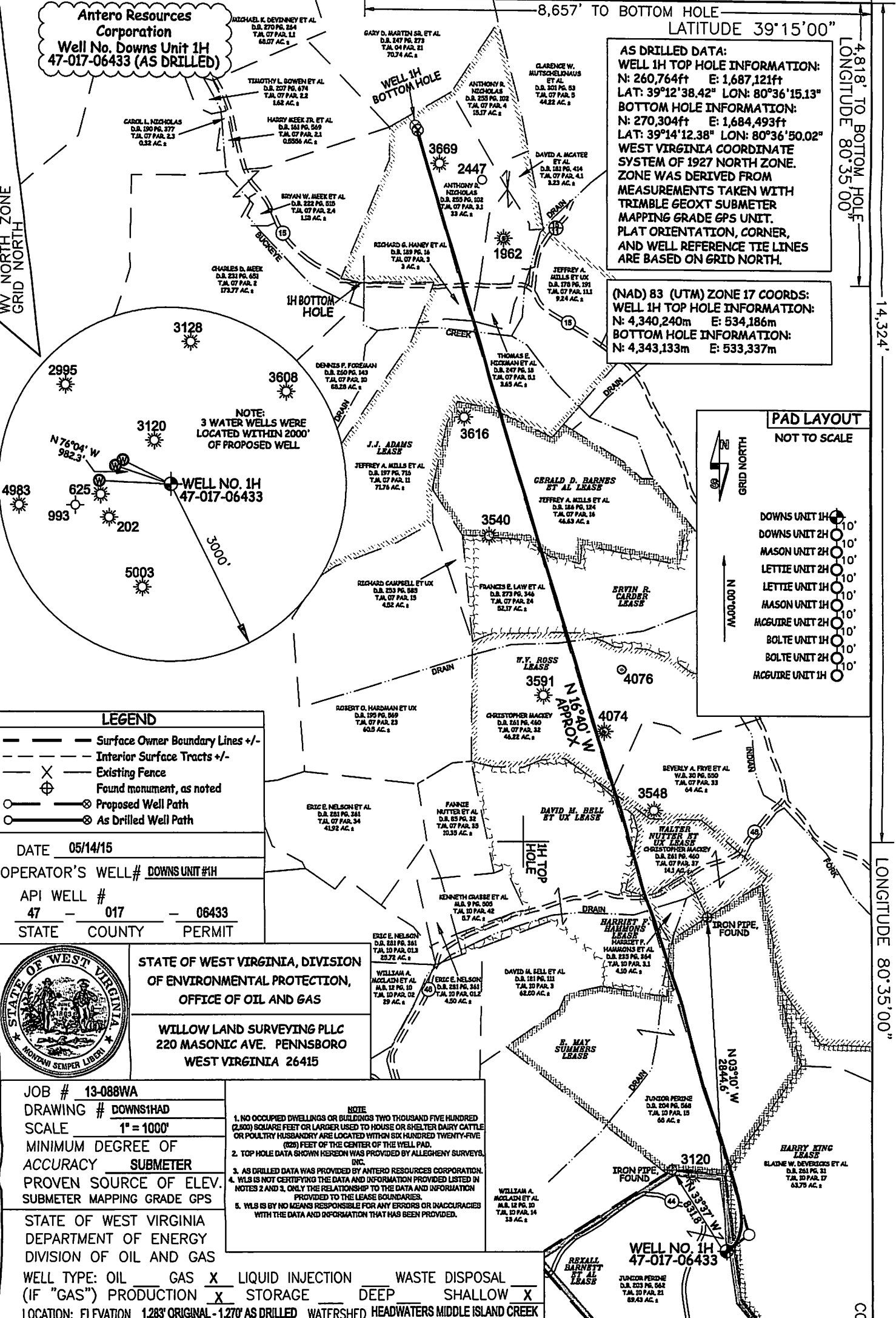
Antero Resources Corporation
Well No. Downs Unit 1H
47-017-06433 (AS DRILLED)

AS DRILLED DATA:
WELL 1H TOP HOLE INFORMATION:
N: 260,764ft E: 1,687,121ft
LAT: 39°12'38.42" LON: 80°36'15.13"
BOTTOM HOLE INFORMATION:
N: 270,304ft E: 1,684,493ft
LAT: 39°14'12.38" LON: 80°36'50.02"
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: 4,340,240m E: 534,186m
BOTTOM HOLE INFORMATION:
N: 4,343,133m E: 533,337m

PAD LAYOUT
NOT TO SCALE

- DOWNNS UNIT 1H
- DOWNNS UNIT 2H
- MASON UNIT 2H
- LETTIE UNIT 2H
- LETTIE UNIT 1H
- MASON UNIT 1H
- MCGUIRE UNIT 2H
- BOLTE UNIT 1H
- BOLTE UNIT 2H
- MCGUIRE UNIT 1H



LEGEND

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

DATE 05/14/15
 OPERATOR'S WELL# DOWNNS UNIT #1H
 API WELL # 47 - 017 - 06433
 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 # 13-088WA
 DRAWING # DOWNNS1HAD
 SCALE 1" = 1000'
 MINIMUM DEGREE OF ACCURACY SUBMETER
 PROVEN SOURCE OF ELEV. SUBMETER MAPPING GRADE GPS

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.
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.

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

WELL TYPE: OIL ___ GAS X LIQUID INJECTION ___ WASTE DISPOSAL ___
 (IF "GAS") PRODUCTION ___ STORAGE ___ DEEP ___ SHALLOW X
 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 ACREAGE 89.43 ACRES +/-

OIL & GAS ROYALTY OWNER REXALL BARNETT ET AL; HARRY KING; E. MAY SUMMERS; DAVID M. BELL ET UX; HARRIET F. HAMMONS; WALTER NUTTER ET UX; W.V. ROSS; ERVIN R. CORDER; GERALD D. BARNES ET AL; J.J. ADAMS LEASE ACREAGE 81.4 ACRES +/-; 59.3 ACRES +/-; 68 ACRES +/-; 47.2 AC +/-; 4.10 AC +/-; 14.1 AC +/-; 132 AC +/-; 52.2 AC +/-; 48.5 AC +/-; 136.3 AC +/-

PROPOSED WORK: DRILL ___ CONVERT ___ DRILL DEEPER ___ REDRILL ___ FRACTURE OR STIMULATE ___
 PLUG OFF OLD FORMATION ___ PERFORATE NEW FORMATION ___ OTHER PHYSICAL CHANGE IN WELL (SPECIFY) (X) AS DRILLED PLUG & ABANDON ___ CLEAN OUT & REPLUG ___
 TARGET FORMATION MARCELLUS ESTIMATED DEPTH 7,321' TVD 16,983' 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