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WR-35  
Rev. 8/23/13

Page \_\_\_ of \_\_\_

WV GEOLOGICAL SURVEY  
MORGANTOWN, WV

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

API 47-017-06487 County Doddridge District Grant  
Quad Smithburg 7.5' Pad Name Pearl Jean Pad Field/Pool Name \_\_\_\_\_  
Farm name Pennington, Dean R. et al Well Number Manser 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 4,348,475m Easting 528,205m  
Landing Point of Curve Northing 4,348,630.77m Easting 528,521.46m  
Bottom Hole Northing 4,350,614m Easting 527,830m

Elevation (ft) 1,141' 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 06/10/2014 Date drilling commenced 09/03/2014 Date drilling ceased 11/24/2014  
Date completion activities began 12/03/2014 Date completion activities ceased 02/04/2015  
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 108', 238' Open mine(s) (Y/N) depths No  
Salt water depth(s) ft 1253' 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

Reviewed by: \_\_\_\_\_

AUG 03 2015

WR-35 Rev. 8/23/13

WV GEOLOGICAL SURVEY MORGANTOWN, WV

Page \_\_\_ of \_\_\_

API 47-017 - 06487 Farm name Pennington, Dean R. et al Well number Manser Unit 3H

Table with 8 columns: CASING STRINGS, Hole Size, Casing Size, Depth, New or Used, Grade wt/ft, Basket Depth(s), Did cement circulate (Y/N). Rows include Conductor, Surface, Coal, Intermediate 1-3, Production, Tubing, and Packer type and depth set.

Comment Details \_\_\_\_\_

Table with 8 columns: CEMENT DATA, Class/Type of Cement, Number of Sacks, Slurry wt (ppg), Yield (ft^3/sks), Volume (ft^3), Cement Top (MD), WOC (hrs). Rows include Conductor, Surface, Coal, Intermediate 1-3, Production, and Tubing.

Drillers TD (ft) 14,420' MD; 6,966' TVD (BHL); 6,979' TVD (Deepest Point Drilled) Loggers TD (ft) 14,369'

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

Plug back procedure N/A

Kick off depth (ft) 6.757

\*\*This is a subsequent well. Antero only runs wireline logs on one well on a multi-well pad (Manser Unit 2H, API #47-017-06486). Please reference the wireline logs submitted with Form WR-35 for the Manser Unit 2H. A Cement Bond Log has been included with this submittal.

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

Well cored [ ] Yes [x] No Conventional [ ] Sidewall Were cuttings collected [ ] Yes [x] 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 [x] No DETAILS \_\_\_\_\_

WAS WELL COMPLETED OPEN HOLE? [ ] Yes [x] No DETAILS \_\_\_\_\_

WERE TRACERS USED [ ] Yes [x] No TYPE OF TRACER(S) USED \_\_\_\_\_



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AUG 03 2015

WR-35  
Rev. 8/23/13

WV GEOLOGICAL SURVEY  
MORGANTOWN, WV

Page \_\_\_ of \_\_\_

API 47- 017 - 06487 Farm name Pennington, Dean R. et al Well number Manser Unit 3H

PRODUCING FORMATION(S)	DEPTHS	
Marcellus	6,894' (top) TVD	7,229' (top) MD

Please insert additional pages as applicable.

GAS TEST  Build up  Drawdown  Open Flow OIL TEST  Flow  Pump

SHUT-IN PRESSURE Surface 3,550 psi Bottom Hole \_\_\_\_\_ psi DURATION OF TEST \_\_\_\_\_ hrs

OPEN FLOW Gas 7,991 mcfpd Oil \_\_\_\_\_ bpd NGL \_\_\_\_\_ bpd Water \_\_\_\_\_ 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 <sub>2</sub> S, ETC)
	DEPTH IN FT NAME TVD	DEPTH IN FT TVD	DEPTH IN FT MD	DEPTH IN FT MD	
	0		0		
<b>* PLEASE SEE ATTACHED EXHIBIT 3</b>					

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 STRC  
Address 1560 Good Hope Pike City Clarksburg State WV Zip 26301

Cementing Company Allied Oil & Gas Services, LLC  
Address 1036 East Main Street City Bridgeport State WV Zip 26330

Stimulating Company Halliburton  
Address 121 Champion Way, Suite 200 City Canonsburg State PA Zip 15317

Please insert additional pages as applicable.

Completed by Megan Darling Telephone 303-357-7230  
Signature *Megan Darling* Title Permitting Agent Date 07/31/2015

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

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 WV GEOLOGICAL SURVEY  
 MORGANTOWN, WV

API 47-017-06487 Farm Name Pennington, Dean R. et al Well Number Manser Unit 3H

**EXHIBIT 1**

Stage No.	Perforation Date	Perforated from MD ft.	Perforated to MD ft.	Number of Perforations	Formations
1	3-Dec-14	14,164	14,330	60	Marcellus
2	20-Dec-14	13,967	14,133	60	Marcellus
3	20-Dec-14	13,770	13,936	60	Marcellus
4	21-Dec-14	13,573	13,739	60	Marcellus
5	21-Dec-14	13,376	13,542	60	Marcellus
6	22-Dec-14	13,179	13,345	60	Marcellus
7	22-Dec-14	12,982	13,148	60	Marcellus
8	22-Dec-14	12,786	12,952	60	Marcellus
9	23-Dec-14	12,589	12,755	60	Marcellus
10	24-Dec-14	12,392	12,558	60	Marcellus
11	24-Dec-14	12,195	12,361	60	Marcellus
12	24-Dec-14	11,998	12,164	60	Marcellus
13	26-Dec-14	11,801	11,967	60	Marcellus
14	26-Dec-14	11,604	11,770	60	Marcellus
15	27-Dec-14	11,408	11,574	60	Marcellus
16	27-Dec-14	11,211	11,377	60	Marcellus
17	28-Dec-14	11,014	11,180	60	Marcellus
18	28-Dec-14	10,817	10,983	60	Marcellus
19	28-Dec-14	10,620	10,786	60	Marcellus
20	29-Dec-14	10,423	10,589	60	Marcellus
21	29-Dec-14	10,226	10,392	60	Marcellus
22	30-Dec-14	10,029	10,196	60	Marcellus
23	30-Dec-14	9,833	9,999	60	Marcellus
24	30-Dec-14	9,636	9,802	60	Marcellus
25	31-Dec-14	9,439	9,605	60	Marcellus
26	31-Dec-14	9,242	9,408	60	Marcellus
27	1-Jan-15	9,045	9,211	60	Marcellus
28	1-Jan-15	8,848	9,014	60	Marcellus
29	1-Jan-15	8,651	8,818	60	Marcellus
30	2-Jan-15	8,455	8,621	60	Marcellus
31	2-Jan-15	8,258	8,424	60	Marcellus
32	3-Jan-15	8,061	8,227	60	Marcellus
33	3-Jan-15	7,864	8,030	60	Marcellus
34	4-Jan-15	7,667	7,833	60	Marcellus
35	4-Jan-15	7,470	7,636	60	Marcellus
36	4-Jan-15	7,273	7,440	60	Marcellus

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AUG 03 2015

WV GEOLOGICAL SURVEY  
MORGANTOWN, WV

API 47-017-06487 Farm Name Pennington, Dean R. et al Well Number Manser 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	19-Dec-14	63.1	7,091	5,414	5,089	247,288	6,789	N/A
2	20-Dec-14	63.2	6,966	5,564	5,341	242,839	6,604	N/A
3	20-Dec-14	62.8	6,779	5,570	5,298	228,413	7,049	N/A
4	21-Dec-14	63.3	6,587	5,589	4,942	244,973	6,676	N/A
5	21-Dec-14	64.2	6,803	5,395	4,951	244,137	6,493	N/A
6	22-Dec-14	60.4	6,635	5,382	5,210	158,147	7,184	N/A
7	22-Dec-14	62.6	6,783	5,440	5,212	239,895	6,472	N/A
8	22-Dec-14	58.9	6,760	5,412	5,237	241,460	6,394	N/A
9	23-Dec-14	62.0	6,420	5,351	5,155	242,862	6,413	N/A
10	24-Dec-14	64.0	6,378	5,203	4,969	244,204	6,395	N/A
11	24-Dec-14	67.2	6,568	5,355	5,108	242,923	6,391	N/A
12	24-Dec-14	65.9	6,607	5,368	4,942	243,960	6,491	N/A
13	26-Dec-14	63.0	6,563	5,786	5,237	180,940	6,888	N/A
14	26-Dec-14	62.9	6,575	5,471	5,158	241,131	6,312	N/A
15	27-Dec-14	63.2	6,647	5,446	5,364	241,497	6,392	N/A
16	27-Dec-14	66.2	6,645	5,430	5,296	240,654	6,321	N/A
17	28-Dec-14	61.3	6,931	5,580	5,208	232,863	6,797	N/A
18	28-Dec-14	66.2	6,834	5,547	5,537	240,733	6,277	N/A
19	28-Dec-14	59.7	6,522	5,657	5,477	209,292	5,682	N/A
20	29-Dec-14	63.3	6,576	5,699	5,643	233,421	6,012	N/A
21	29-Dec-14	66.6	6,836	5,655	5,373	243,248	6,209	N/A
22	30-Dec-14	61.8	6,914	5,766	5,183	244,131	6,320	N/A
23	30-Dec-14	64.0	6,507	5,616	5,443	242,232	6,182	N/A
24	30-Dec-14	63.9	6,510	5,540	5,151	241,951	6,201	N/A
25	31-Dec-14	64.1	6,551	5,576	5,211	243,368	6,254	N/A
26	31-Dec-14	63.7	6,509	5,826	5,087	243,816	6,178	N/A
27	1-Jan-15	63.9	6,406	5,552	5,122	241,520	6,147	N/A
28	1-Jan-15	63.8	6,276	5,356	5,074	242,706	6,251	N/A
29	1-Jan-15	65.6	6,328	5,445	5,168	244,831	6,147	N/A
30	2-Jan-15	64.3	6,435	5,563	5,401	242,404	5,985	N/A
31	2-Jan-15	63.2	6,304	5,641	5,341	242,240	6,056	N/A
32	3-Jan-15	64.9	6,256	5,467	5,556	242,652	6,059	N/A
33	3-Jan-15	64.2	6,583	5,686	5,395	239,208	5,901	N/A
34	4-Jan-15	63.9	6,387	5,766	5,564	242,252	5,916	N/A
35	4-Jan-15	64.4	6,489	5,876	5,809	240,455	5,922	N/A
36	4-Jan-15	63.4	6,461	5,984	4,863	242,451	6,130	N/A
	AVG=	<b>63.6</b>	<b>6,595</b>	<b>5,555</b>	<b>5,253</b>	<b>8,521,097</b>	<b>227,893</b>	TOTAL

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WV GEOLOGICAL SURVEY  
MORGANTOWN, WV

API 47-017-06487 Farm Name Pennington, Dean R. et al Well Number Manser Unit 3H

**EXHIBIT 3**

LITHOLOGY/ FORMATION	TOP DEPTH (TVD)	BOTTOM DEPTH (TVD)	TOP DEPTH (MD)	BOTTOM DEPTH (MD)
	From Surface	From Surface	From Surface	From Surface
Fresh Water	108'	N/A	108'	N/A
Fresh Water	238'	N/A	238'	N/A
Shale	0	168	0	168
Shale/ Trace Coal	est. 168	188	est. 168	188
Shale	est. 188	228	est. 188	228
Sandstone/ Siltstone	est. 228	288	est. 228	288
Shale/ Coal	est. 288	368	est. 288	368
Limestone/ Shale	est. 368	408	est. 368	408
Siltstone/ Shale	est. 408	568	est. 408	568
Shale/ Coal	est. 568	588	est. 568	588
Siltstone/ Limestone	est. 588	628	est. 588	628
Shale/ Limestone	est. 628	788	est. 628	788
Shale/ Siltstone	est. 788	988	est. 788	988
Shale/ Sandstone	est. 988	1,228	est. 988	1,228
Sandstone	est. 1228	1,408	est. 1228	1,408
Sandstone/ Coal	est. 1408	1,448	est. 1408	1,448
Sandstone	est. 1448	1,688	est. 1448	1,688
Siltstone	est. 1688	1,933	est. 1688	1,933
Big Lime	1,933	2,039	1,933	2,039
Big Injun	2,039	2,421	2,039	2,421
Gantz Sand	2,421	2,548	2,421	2,548
Fifty Foot Sandstone	2,548	2,612	2,548	2,612
Gordon	2,612	2,953	2,612	2,953
Fifth Sandstone	2,953	2,969	2,953	2,969
Bayard	2,969	3,370	2,969	3,370
Warren	3,370	3,682	3,370	3,682
Speechley	3,682	3,994	3,682	3,994
Baltown	3,994	4,464	3,994	4,465
Bradford	4,464	4,968	4,465	4,981
Benson	4,968	5,237	4,981	5,268
Alexander	5,237	5,451	5,268	5,511
Elk	5,451	6,016	5,511	6,153
Rhinestreet	6,016	6,408	6,153	6,591
Sycamore	6,408	6,638	6,591	6,849
Middlesex	6,638	6,776	6,849	7,027
Burkett	6,776	6,802	7,027	7,065
Tully	6,802	6,894	7,065	7,229
Marcellus	6,894	NA	7,229	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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WV GEOLOGICAL SURVEY  
MORGANTOWN, WV

**Hydraulic Fracturing Fluid Product Component Information Disclosure**

Job Start Date:	12/19/2014
Job End Date:	1/4/2015
State:	West Virginia
County:	Doddridge
API Number:	47-017-06487-08-00
Operator Name:	Antero Resources Corporation
Well Name and Number:	Manser Unit 3H
Longitude:	-80.67296100
Latitude:	39.28518100
Datum:	NAD83
Federal/Tribal Well:	NO
True Vertical Depth:	6,979
Total Base Water Volume (gal):	10,145,458
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
Fresh Water	Operator	Base Fluid	Fresh Water	7732-18-5	100.00000	90.59912	Density = 8.380
SAND - PREMIUM WHITE	Halliburton	Proppant	Crystalline silica, quartz	14808-60-7	100.00000	5.02576	
SAND - PREMIUM - 20/40	Halliburton	Proppant	Crystalline silica, quartz	14808-60-7	100.00000	3.33236	
SSA-2	Halliburton	Proppant	Crystalline silica, quartz	14808-60-7	100.00000	0.72229	
HCl > 10%	Halliburton	Solvent	Hydrochloric Acid	7647-01-0	100.00000	0.20501	
WG-36 GELLING AGENT	Halliburton	Gelling Agent	Guar gum	9000-30-0	100.00000	0.04683	
FR-76	Halliburton	Friction Reducer	Hydrotreated light petroleum distillate	64742-47-8	30.00000	0.01759	
SP BREAKER	Halliburton	Breaker	Sodium persulfate	7775-27-1	100.00000	0.00179	
LP-65	Halliburton	Scale Inhibitor					



BE-9W	Halliburton	Biocide	Ammonium Chloride	12125-02-9	10.00000	0.00141
			Tributyl tetradecyl phosphonium chloride	81741-28-8	10.00000	0.00080
HAI-OS ACID INHIBITOR	Halliburton	Corrosion Inhibitor				
			Methanol	67-56-1	60.00000	0.00010
			Propargyl alcohol	107-19-7	10.00000	0.00002
Ingredients shown above are subject to 29 CFR 1910.1200(f) and appear on Material Safety Data Sheets (MSDS). Ingredients shown below are Non-MSDS.						
		Other Ingredient(s)	Water	7732-18-5		0.04321
		Other Ingredient(s)	Polyacrylamide copolymer	Confidential		0.01759
		Other Ingredient(s)	Propylene glycol	57-55-6		0.00481
		Other Ingredient(s)	Amide	Confidential		0.00293
		Other Ingredient(s)	Ammonium chloride	12125-02-9		0.00293
		Other Ingredient(s)	Alcohols ethoxylated	Confidential		0.00293
		Other Ingredient(s)	Sodium chloride	7647-14-5		0.00293
		Other Ingredient(s)	Bentonite, benzy(hydrogenated tallow alkyl) dimethylammonium stearate complex	121888-68-4		0.00234
		Other Ingredient(s)	Sorbitan, mono-9-octadecenoate, (Z)	1338-43-8		0.00059
		Other Ingredient(s)	Sorbitan monooleate polyoxyethylene derivative	9005-65-6		0.00059
		Other Ingredient(s)	Surfactant mixture	Confidential		0.00047
		Other Ingredient(s)	Silica gel	112926-00-8		0.00047
		Other Ingredient(s)	Surfactant mixture	Confidential		0.00047
		Other Ingredient(s)	Alcohols, C14-C15, ethoxylated	68951-67-7		0.00005

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MORGANTOWN, WV

Denise Tuck,  
Halliburton  
3000 N. Sam Houston Pkwy  
E.,  
Houston, TX 77032  
281-871-6226

			68527-49-1	0.00005	
	Reaction product of acetophenone, formaldehyde, thiourea and oleic acid in dimethyl formamide				
	Other Ingredient(s)		Confidential	0.00005	
	Other Ingredient(s)		Confidential	0.00005	
	Other Ingredient(s)		14808-60-7	0.00005	
	Other Ingredient(s)		Confidential	0.00001	
	Other Ingredient(s)		Confidential	0.00001	
	Other Ingredient(s)		7757-82-6	0.00000	
	Other Ingredient(s)		Confidential	0.00000	
	Other Ingredient(s)		Confidential	0.00000	

\* 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°17'30" 1,832'

3,036' TO BOTTOM HOLE  
LATITUDE 39°20'00"

2,393'  
LONGITUDE 80°40'00"  
10,545' TO BOTTOM HOLE  
LONGITUDE 80°40'00"

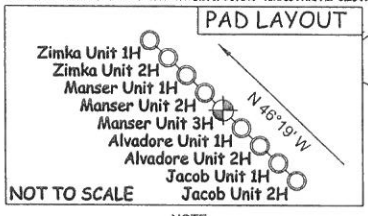
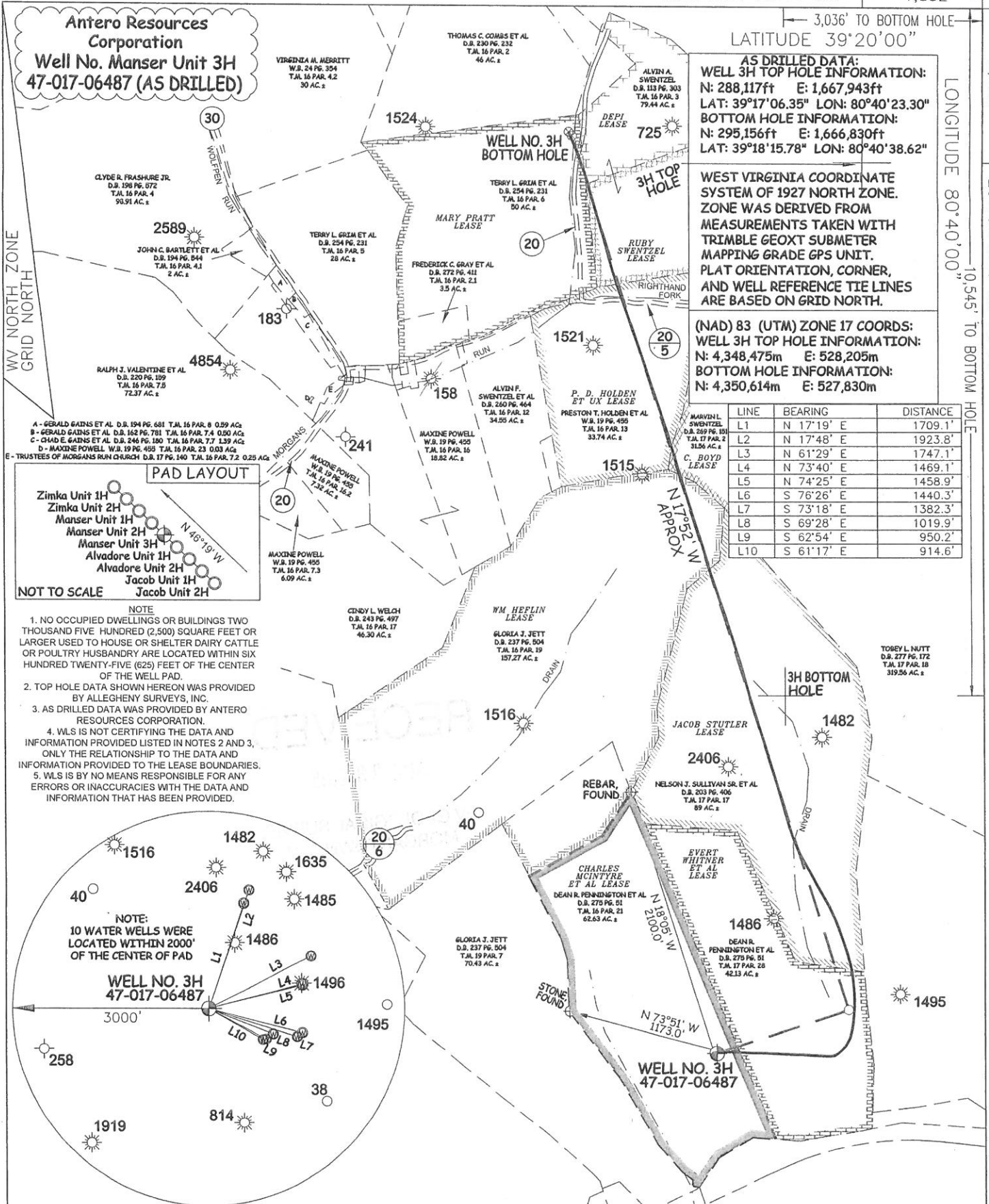
### Antero Resources Corporation Well No. Manser Unit 3H 47-017-06487 (AS DRILLED)

**AS DRILLED DATA:**  
**WELL 3H TOP HOLE INFORMATION:**  
N: 288,117ft E: 1,667,943ft  
LAT: 39°17'06.35" LON: 80°40'23.30"  
**BOTTOM HOLE INFORMATION:**  
N: 295,156ft E: 1,666,830ft  
LAT: 39°18'15.78" LON: 80°40'38.62"

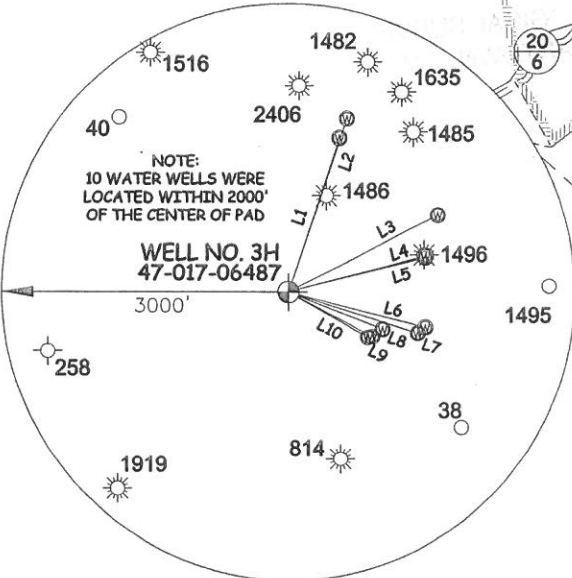
**WEST VIRGINIA COORDINATE SYSTEM OF 1927 NORTH ZONE.**  
ZONE WAS DERIVED FROM MEASUREMENTS TAKEN WITH TRIMBLE GEOXT SUBMETER MAPPING GRADE GPS UNIT. PLAT ORIENTATION, CORNER, AND WELL REFERENCE TIE LINES ARE BASED ON GRID NORTH.

**(NAD) 83 (UTM) ZONE 17 COORDS:**  
**WELL 3H TOP HOLE INFORMATION:**  
N: 4,348,475m E: 528,205m  
**BOTTOM HOLE INFORMATION:**  
N: 4,350,614m E: 527,830m

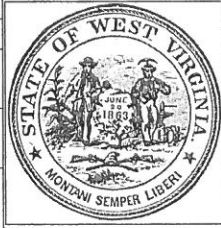
LINE	BEARING	DISTANCE
L1	N 17°19' E	1709.1'
L2	N 17°48' E	1923.8'
L3	N 61°29' E	1747.1'
L4	N 73°40' E	1469.1'
L5	N 74°25' E	1458.9'
L6	S 76°26' E	1440.3'
L7	S 73°18' E	1382.3'
L8	S 69°28' E	1019.9'
L9	S 62°54' E	950.2'
L10	S 61°17' E	914.6'



- 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.



JOB # 14-027WA  
DRAWING # MANSER3HAD  
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

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

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 1,198' ORIGINAL - 1,141' AS DRILLED WATERSHED HEADWATERS MIDDLE ISLAND CREEK  
QUADRANGLE SMITHBURG 7.5' DISTRICT GRANT COUNTY DODDRIDGE

SURFACE OWNER DEAN R. PENNINGTON ET AL ACREAGE 62.63 ACRES +/-  
OIL & GAS ROYALTY OWNER CHARLES MCINTYRE ET AL; EVERT WHITNER ET AL; JACOB STUTLER; WM. HEFLIN; CAROL BOYD; P.D. HOLDEN ET UX; RUBY SWENTZEL; DEPI; MARY PRATT LEASE ACREAGE 70 AC±; 42 AC±; 91.5 AC±; 120.6 AC±; 31.56 AC±; 35 AC±; 21.25 AC±; 33.5 AC±; 54 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 6,966' TVD 14,420' MD

WELL OPERATOR ANTERO RESOURCES CORPORATION DESIGNATED AGENT DIANNA STAMPER  
ADDRESS 1615 WYNKOOP STREET ADDRESS CT CORPORATION SYSTEM  
DENVER, CO 80202 CHARLESTON, WV 25313

DATE 06/12/15  
OPERATOR'S WELL# MANSER UNIT #3H  
API WELL # 47 - 017 - 06487  
STATE COUNTY PERMIT

COUNTY NAME PERMIT