

# APPROVED

NAME: [Signature] Page     of    

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

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Office of Oil and Gas

AUG 21 2017

WV Department of  
Environmental Protection

API 47-017-06767 County Doddridge District Central  
Quad Pennsboro 7.5' Pad Name Alvadore Pad Field/Pool Name         
Farm name Alvadore McCloy Jr et ux Well Number Doak 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 4347120m Easting 510121m  
Landing Point of Curve Northing 4347286.827m Easting 510522.968m  
Bottom Hole Northing 4349518m Easting 509801m

Elevation (ft) 1057' 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 04/11/2016 Date drilling commenced 05/27/2016 Date drilling ceased 07/10/2016  
Date completion activities began 12/06/2016 Date completion activities ceased 02/19/2017  
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 332' Open mine(s) (Y/N) depths No  
Salt water depth(s) ft 1546', 1567', 1571' Void(s) encountered (Y/N) depths No  
Coal depth(s) ft 207', 1187', 1727' Cavern(s) encountered (Y/N) depths No  
Is coal being mined in area (Y/N) No

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

01/05/2018

WR-35  
Rev. 8/23/13

API 47-017 - 06767

Farm name Alvadore McCloy Jr et ux

Well number Doak 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"	65'	New	94#, H-40	N/A	Y
Surface	17-1/2"	13-3/8"	500'	New	48#, H-40	N/A	Y
Coal							
Intermediate 1	12-1/4"	9-5/8"	2600'	New	36#, J-55	N/A	Y
Intermediate 2							
Intermediate 3							
Production	8-3/4"/8-1/2"	5-1/2"	15192'	New	23#, P-110	N/A	Y
Tubing		2-3/8"	6819'		4.6#, 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 <sup>3</sup> /sks)	Volume (ft <sup>3</sup> )	Cement Top (MD)	WOC (hrs)
Conductor	Class A	102 sx	15.6	1.18	120	0'	8 Hrs.
Surface	Class A	610 sx	15.6	1.19	726	0'	8 Hrs.
Coal							
Intermediate 1	Class A	1030 sx	15.6	1.18	1215	0'	8 Hrs.
Intermediate 2							
Intermediate 3							
Production	Class H	850 sx (Lead) 1284 sx (Tail)	13.5 (Lead), 15.2 (Tail)	1.62 (Lead), 1.83 (Tail)	3727	-500' into Intermediate Casing	8 Hrs.
Tubing							

Drillers TD (ft) 15192' MD, 6476' TVD (BHL) & 6491' TVD (Deepest Point Drilled)

Loggers TD (ft) 15179' MD

Deepest formation penetrated Marcellus

Plug back to (ft) N/A

Plug back procedure N/A

Kick off depth (ft) 6347

\*\* This is a subsequent well. Antero only runs wireline logs on one well on a multi-well pad (Hudkins Unit 1H API #47-017-06415). Please reference the wireline logs submitted with Form WR-35 for Hudkins Unit 1H. 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  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



API 47- 017 - 06767 Farm name Alvadore McCloy Jr et ux Well number Doak Unit 2H

<u>PRODUCING FORMATION(S)</u>	<u>DEPTHS</u>		
<u>Marcellus</u>	<u>6445' (TOP)</u>	<u>TVD</u>	<u>6894' (TOP)</u> <u>MD</u>
_____	_____	_____	_____
_____	_____	_____	_____

Please insert additional pages as applicable.

GAS TEST  Build up  Drawdown  Open Flow OIL TEST  Flow  Pump

SHUT-IN PRESSURE Surface 3000 psi Bottom Hole --- psi DURATION OF TEST --- hrs

OPEN FLOW Gas 7600 mcfpd Oil 37 bpd NGL --- bpd Water 540 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	

**\*PLEASE SEE ATTACHED EXHIBIT 3**


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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 Allied Horizontal Wireline Services  
Address 381 Colonial Manor Rd. City North Huntingdon State PA Zip 15642

Cementing Company C&J Energy Services  
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 Samantha Klaas Telephone 303-357-6759  
Signature *Samantha Klaas* Title Permitting Agent Date 08/18/2017

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

**EXHIBIT 1**

Stage No.	Perforation Date	Perforated from MD ft.	Perforated to MD ft.	Number of Perforations	Formations
1	12/6/2016	14921	15089	60	Marcellus
2	1/8/2017	14721	14890	60	Marcellus
3	1/8/2017	14522	14690	60	Marcellus
4	1/9/2017	14322	14491	60	Marcellus
5	1/9/2017	14123	14291	60	Marcellus
6	1/9/2017	13923	14091	60	Marcellus
7	1/10/2017	13724	13892	60	Marcellus
8	1/10/2017	13524	13692	60	Marcellus
9	1/11/2017	13325	13493	60	Marcellus
10	1/12/2017	13125	13293	60	Marcellus
11	1/12/2017	12925	13094	60	Marcellus
12	1/12/2017	12726	12894	60	Marcellus
13	1/13/2017	12526	12695	60	Marcellus
14	1/13/2017	12327	12495	60	Marcellus
15	1/13/2017	12127	12296	60	Marcellus
16	1/14/2017	11928	12096	60	Marcellus
17	1/14/2017	11728	11896	60	Marcellus
18	1/14/2017	11529	11697	60	Marcellus
19	1/15/2017	11329	11497	60	Marcellus
20	1/15/2017	11129	11298	60	Marcellus
21	1/15/2017	10930	11098	60	Marcellus
22	1/16/2017	10730	10899	60	Marcellus
23	1/17/2017	10531	10699	60	Marcellus
24	1/17/2017	10331	10500	60	Marcellus
25	1/17/2017	10132	10300	60	Marcellus
26	1/18/2017	9932	10101	60	Marcellus
27	1/18/2017	9733	9901	60	Marcellus
28	1/18/2017	9533	9701	60	Marcellus
29	1/19/2017	9334	9502	60	Marcellus
30	1/19/2017	9134	9302	60	Marcellus
31	1/19/2017	8934	9103	60	Marcellus
32	1/20/2017	8735	8903	60	Marcellus
33	1/20/2017	8535	8704	60	Marcellus
34	1/20/2017	8336	8504	60	Marcellus
35	1/21/2017	8136	8305	60	Marcellus
36	1/21/2017	7937	8105	60	Marcellus
37	1/21/2017	7737	7905	60	Marcellus
38	1/22/2017	7538	7706	60	Marcellus
39	1/22/2017	7338	7506	60	Marcellus
40	1/22/2017	7139	7307	60	Marcellus
41	1/22/2017	6939	7107	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	1/7/2017	72.4	7437	0	4138	353115	7924	N/A
2	1/8/2017	76.2	7333	5254	4756	353500	7888	N/A
3	1/8/2017	75.4	7383	5354	4216	354000	7801	N/A
4	1/9/2017	74.8	7247	5043	4081	353170	7782	N/A
5	1/9/2017	73.5	7310	5457	3905	354500	7789	N/A
6	1/9/2017	73.9	7507	5407	4131	353035	7756	N/A
7	1/10/2017	75.2	7396	5183	3927	348860	7746	N/A
8	1/10/2017	75.8	7373	5314	3279	352400	7959	N/A
9	1/11/2017	75.8	7241	5103	4997	353730	7735	N/A
10	1/12/2017	74.7	7162	5209	4996	353310	7718	N/A
11	1/12/2017	77.1	7195	5064	4352	352900	7769	N/A
12	1/12/2017	76.1	7135	5461	4588	351705	7702	N/A
13	1/13/2017	74.5	7266	5734	4788	352895	7694	N/A
14	1/13/2017	77.2	7326	5021	4699	351900	7730	N/A
15	1/13/2017	73.8	7193	5076	4905	351035	7674	N/A
16	1/14/2017	76.8	7317	5362	4603	352800	7734	N/A
17	1/14/2017	77.0	7548	5035	3476	353100	7765	N/A
18	1/14/2017	71.5	7406	5011	4235	338935	9879	N/A
19	1/15/2017	74.6	6974	5035	4703	352200	7732	N/A
20	1/15/2017	76.2	6897	4817	4306	352300	7701	N/A
21	1/15/2017	75.4	6915	5117	4889	352795	7631	N/A
22	1/16/2017	77.3	7019	5239	3934	354700	7689	N/A
23	1/17/2017	75.0	6866	4917	4327	354400	7608	N/A
24	1/17/2017	77.3	6902	5035	4470	353800	7653	N/A
25	1/17/2017	75.3	6830	4928	4964	354000	7594	N/A
26	1/18/2017	75.2	6807	4971	4259	354300	7584	N/A
27	1/18/2017	76.4	6865	4964	3566	353300	7623	N/A
28	1/18/2017	77.4	6981	5175	4227	354200	8963	N/A
29	1/19/2017	78.1	6848	5157	4921	353400	7676	N/A
30	1/19/2017	75.8	6746	5454	5071	354200	7612	N/A
31	1/19/2017	77.0	6717	5157	5218	353800	7440	N/A
32	1/20/2017	76.0	6470	5093	4724	353300	7448	N/A
33	1/20/2017	75.9	6670	5050	4842	353800	7485	N/A
34	1/20/2017	78.1	6522	5157	5132	354300	7442	N/A
35	1/21/2017	77.8	6481	5282	5143	354800	7554	N/A
36	1/21/2017	74.5	6565	5397	4935	354900	7595	N/A
37	1/21/2017	76.1	6444	5411	5482	352200	7414	N/A
38	1/22/2017	74.8	6299	5161	5050	351200	7414	N/A
39	1/22/2017	76.0	6423	5783	5254	351100	7457	N/A
40	1/22/2017	75.0	6424	5683	5196	350900	7449	N/A
41	1/22/2017	77.2	6366	5805	4456	350200	7376	N/A
<b>AVG=</b>		<b>75.7</b>	<b>6971</b>	<b>5,095</b>	<b>4,564</b>	<b>14,458,985</b>	<b>317,185</b>	<b>TOTAL</b>

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**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	332'	N/A	332'	N/A
Shale/ Sandstone	0	207	0	207
Shale/ Trace Coal	est. 207	247	est. 207	247
Sandstone	est. 247	467	est. 247	467
Shale/ Limestone	est. 467	567	est. 467	567
Sandstone	est. 567	627	est. 567	627
Shale/ Trace Limestone	est. 627	787	est. 627	787
Siltstone	est. 787	812	est. 787	812
Shale/ Limestone	est. 812	967	est. 812	967
Sandstone	est. 967	1047	est. 967	1047
Shale/ Limestone	est. 1047	1147	est. 1047	1147
Shale/ Trace Coal	est. 1147	1187	est. 1147	1187
Sandstone/ Trace Coal	est. 1187	1247	est. 1187	1247
Shale/ Trace Limestone	est. 1247	1327	est. 1247	1327
Sandstone/ Shale	est. 1327	1427	est. 1327	1427
Sanstone/ Coal	est. 1427	1567	est. 1427	1567
Shale/ Trace Coal	est. 1567	1727	est. 1567	1727
Siltstone/ Trace Coal	est. 1727	1933	est. 1727	1945
Big Lime	1934	2888	1974	2984
Fifth Sandstone	2888	3147	2984	3259
Bayard	3147	3807	3259	3956
Speechley	3807	4113	3956	4279
Baltown	4113	4546	4279	4731
Bradford	4546	4937	4731	5143
Benson	4937	5208	5143	5432
Alexander	5208	5367	5432	5600
Elk	5367	5852	5600	6108
Rhinestreet	5852	6165	6108	6435
Sycamore	6165	6272	6435	6560
Middlesex	6272	6385	6560	6731
Burkett	6385	6417	6731	6800
Tully	6417	6445	6800	6894
Marcellus	6445	NA	6894	NA

\*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.

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# Hydraulic Fracturing Fluid Product Component Information Disclosure

Job Start Date:	1/7/2017
Job End Date:	1/22/2017
State:	West Virginia
County:	Doddridge
API Number:	47-017-06767-00-00
Operator Name:	Antero Resources Corporation
Well Name and Number:	Doak 2H
Latitude:	39.27328889
Longitude:	-80.88283333
Datum:	NAD83
Federal Well:	NO
Indian Well:	NO
True Vertical Depth:	6,491
Total Base Water Volume (gal):	13,751,160
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	Antero Resources	Carrier/Base Fluid					
			Water	7732-18-5	100.00000	88.56729	
Sand	U.S. Well Services, LLC	Proppant					
			Crystalline Silica, quartz	14808-60-7	100.00000	11.16621	
HCL Acid (12.6%-17.5%)	U.S. Well Services, LLC	Bulk Acid					
			Water	7732-18-5	87.40000	0.13497	
			Hydrogen Chloride	7647-01-0	17.50000	0.03138	
LGC-15	U.S. Well Services, LLC	Gelling Agents					
			Guar Gum	9000-30-0	50.00000	0.02527	
			Petroleum Distillates	64742-47-8	60.00000	0.02393	
			Suspending agent (solid)	14808-60-7	3.00000	0.00387	
			Surfactant	68439-51-0	3.00000	0.00152	
WFRA-405	U.S. Well Services, LLC	Friction Reducer					
			2-Propenoic acid, polymer with 29 propenamide	9003-06-9	30.00000	0.01240	
			Hydrated light distillate (petroleum)	64742-47-8	30.00000	0.00998	

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LATITUDE 39°17'30" 2,218'

3,256' TO BOTTOM HOLE

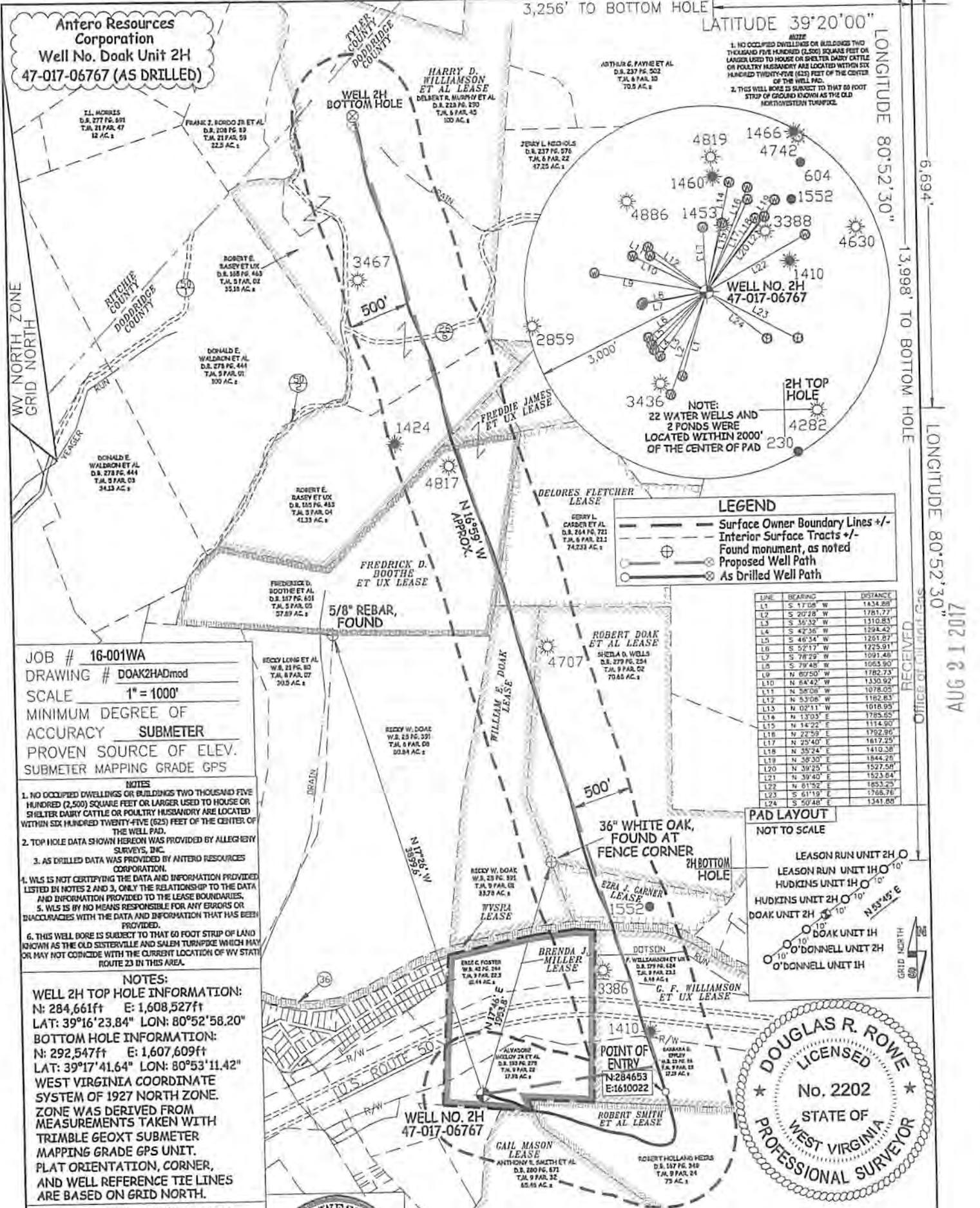
LATITUDE 39°20'00"

LONGITUDE 80°52'30" 6,694'

13,998' TO BOTTOM HOLE

LONGITUDE 80°52'30" 10218 9 AUG 2017

Antero Resources Corporation  
Well No. Doak Unit 2H  
47-017-06767 (AS DRILLED)



JOB # 16-001WA  
DRAWING # DOAK2HADmod  
SCALE 1" = 1000'  
MINIMUM DEGREE OF ACCURACY SUBMETER  
PROVEN SOURCE OF ELEV. SUBMETER MAPPING GRADE GPS

- 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.  
6. THIS WELL BORE IS SUBJECT TO THAT 60 FOOT STRIP OF LAND KNOWN AS THE OLD SISTERVILLE AND SALEM TURNPIKE WHICH MAY OR MAY NOT COINCIDE WITH THE CURRENT LOCATION OF WV STATE ROUTE 23 IN THIS AREA.

NOTES:  
WELL 2H TOP HOLE INFORMATION:  
N: 284,661ft E: 1,608,527ft  
LAT: 39°16'23.84" LON: 80°52'58.20"  
BOTTOM HOLE INFORMATION:  
N: 292,547ft E: 1,607,609ft  
LAT: 39°17'41.64" LON: 80°53'11.42"  
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 2H TOP HOLE INFORMATION:  
N: 4,347,120m E: 510,121m  
BOTTOM HOLE INFORMATION:  
N: 4,349,518m E: 509,801m

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



STATE OF WEST VIRGINIA, DIVISION OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS

WILLIAM LAND SURVEYING PLLC  
220 MASONIC AVE. PENNSBORO WEST VIRGINIA 26415

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 DEPARTMENT OF ENVIRONMENTAL PROTECTION.

DOUGLAS R. ROWE P.S. 2202

DATE 07/07/17

OPERATOR'S WELL# DOAK UNIT #2H

API WELL # 47-017-06767

STATE COUNTY PENNSBORO

DIANNA STAMPER

CT CORPORATION SYSTEM

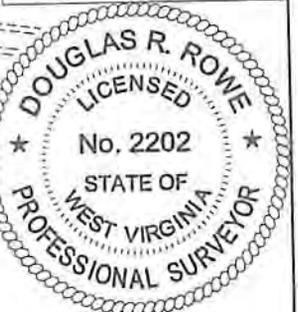
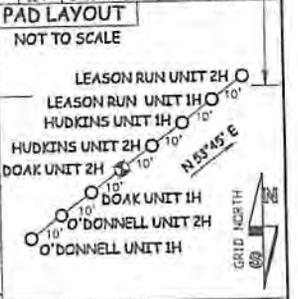
5400 D BIG TYI FR ROAD

LEGEND

- Surface Owner Boundary Lines +/-
- Interior Surface Tracts +/-
- Found monument, as noted
- Proposed Well Path
- As Drilled Well Path

LINE BEARING DISTANCE

L1	S 47°08' W	1834.28'
L2	S 20°28' W	1781.77'
L3	S 36°32' W	1310.83'
L4	S 42°36' W	1294.42'
L5	S 46°34' W	1261.87'
L6	S 52°17' W	1225.91'
L7	S 78°29' W	1091.46'
L8	S 79°48' W	1063.90'
L9	N 03°50' W	1782.73'
L10	N 64°42' W	1330.92'
L11	N 58°08' W	1078.05'
L12	N 53°08' W	1182.83'
L13	N 02°11' W	1018.95'
L14	N 13°03' E	1785.65'
L15	N 14°22' E	1114.90'
L16	N 22°59' E	1702.96'
L17	N 25°40' E	1617.25'
L18	N 35°24' E	1410.38'
L19	N 38°30' E	1544.28'
L20	N 39°25' E	1527.58'
L21	N 39°40' E	1523.64'
L22	N 01°52' E	1653.23'
L23	S 61°19' E	1768.76'
L24	S 50°48' E	1341.88'



WELL TYPE: OIL GAS X LIQUID INJECTION WASTE DISPOSAL  
(IF "GAS") PRODUCTION X STORAGE DEEP SHALLOW X  
LOCATION: ELEVATION 1,057' AS BUILT WATERSHED NORTH FORK HUGHES RIVER  
QUADRANGLE PENNSBORO 7.5 DISTRICT CENTRAL COUNTY DODDRIDGE  
SURFACE OWNER ALVADORE MCCLOY JR ET UX ACREAGE 17.98 ACRES +/-  
OIL & GAS ROYALTY OWNER BRENDA J. MILLER; GAIL MASON; ROBERT SMITH ET AL; G.F. WILLIAMSON ET UX; WYSRA; LEASE ACREAGE 39.15 ACRES; 143.79 ACRES; 75 ACRES; 50 ACRES; 301.19 ACRES;  
EZRA J. CARNER; ROBERT DOAK ET AL; WILLIAM E. DOAK; DELORES FLETCHER; FREDRICK D. BOOTHIE ET UX; FREDDIE JAMES ET UX; HARRY D. WILLIAMSON ET AL 11 ACRES; 71 ACRES; 35 ACRES; 40 ACRES; 62 ACRES; 31 ACRES; 176 ACRES;  
PROPOSED WORK: DRILL CONVERT DRILL DEEPER DRILL 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 6,476' TVD 15,192' MD  
WELL OPERATOR ANTERO RESOURCES CORP. DESIGNATED AGENT DIANNA STAMPER  
ADDRESS 1615 WYNKOOP STREET CT CORPORATION SYSTEM  
DENVER, CO 80202 ADDRESS

LATITUDE 39°17'30"

2,218'

3,256' TO BOTTOM HOLE

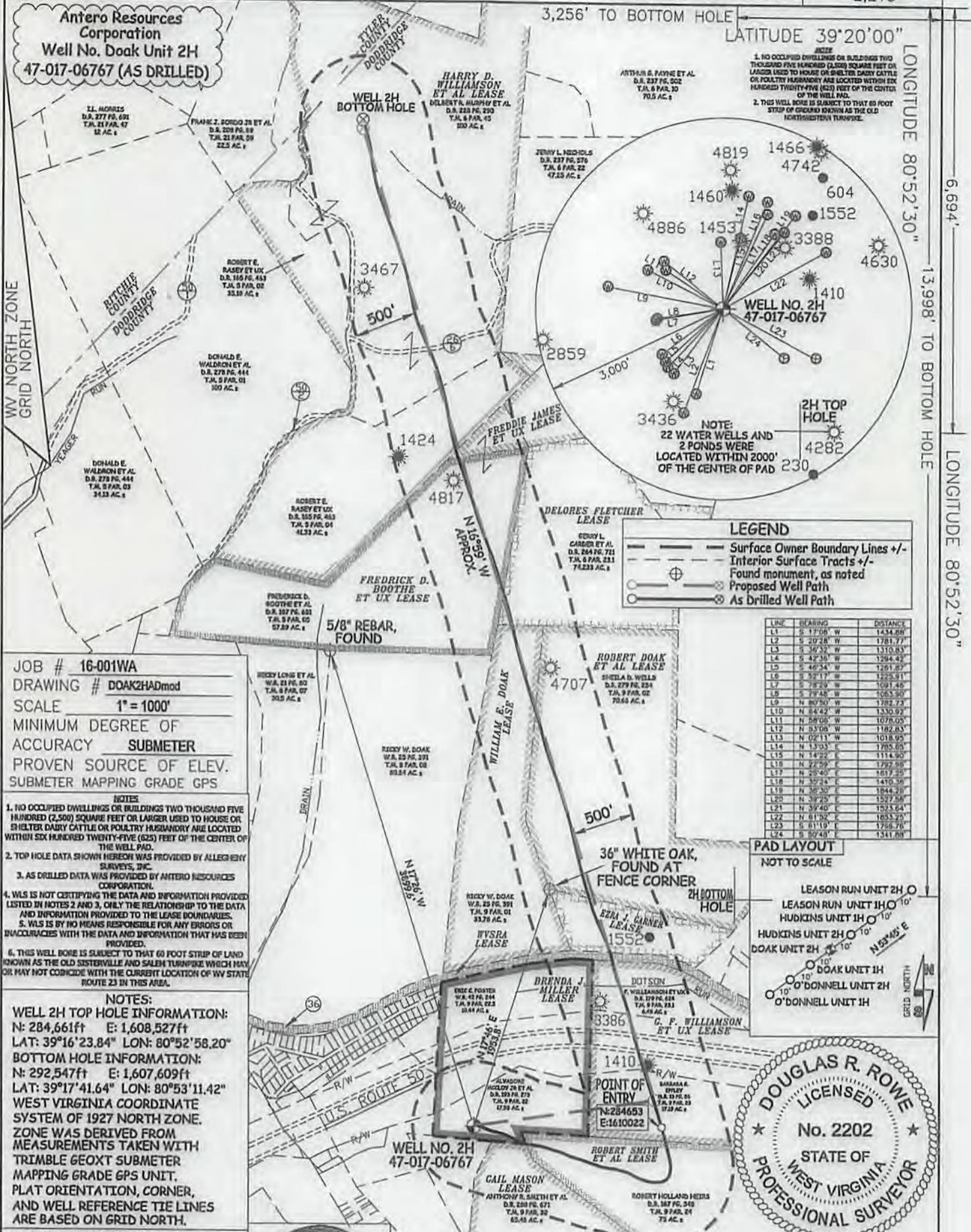
LATITUDE 39°20'00"

LONGITUDE 80°52'30"

6,694'

13,998' TO BOTTOM HOLE

LONGITUDE 80°52'30"



JOB # 16-001WA  
DRAWING # DOAK2HADmod  
SCALE 1" = 1000'  
MINIMUM DEGREE OF ACCURACY SUBMETER  
PROVEN SOURCE OF ELEV. SUBMETER MAPPING GRADE GPS

**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.  
 6. THIS WELL BORE IS SUBJECT TO THAT 60 FOOT STRIP OF LAND KNOWN AS THE OLD SISTERVILLE AND SALEM TURNPIKE WHICH MAY OR MAY NOT COINCIDE WITH THE CURRENT LOCATION OF WV STATE ROUTE 23 IN THIS AREA.

**NOTES:**  
 WELL 2H TOP HOLE INFORMATION:  
 N: 284,661ft E: 1,608,527ft  
 LAT: 39°16'23.84" LON: 80°52'58.20"  
 BOTTOM HOLE INFORMATION:  
 N: 292,547ft E: 1,607,609ft  
 LAT: 39°17'41.64" LON: 80°53'11.42"  
 WEST VIRGINIA COORDINATE SYSTEM OF 1927 NORTH ZONE. ZONE WAS DERIVED FROM MEASUREMENTS TAKEN WITH TRIMBLE 660XT 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 2H TOP HOLE INFORMATION:  
 N: 4,347,120m E: 510,121m  
 BOTTOM HOLE INFORMATION:  
 N: 4,349,518m E: 509,801m



STATE OF WEST VIRGINIA, DIVISION OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS  
 WILLOW LAND SURVEYING PLLC  
 220 MASONIC AVE. PENNSBORO WEST VIRGINIA 26415

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 DEPARTMENT OF ENVIRONMENTAL PROTECTION.

DOUGLAS R. ROWE P.S. 2202

STATE OF WEST VIRGINIA DEPARTMENT 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 1,057' AS BUILT WATERSHED NORTH FORK HUGHES RIVER  
 QUADRANGLE PENNSBORO 7.5' DISTRICT CENTRAL COUNTY DODDRIDGE  
 SURFACE OWNER ALVADORE MC CLOY JR ET UX ACREAGE 17.98 ACRES +/-  
 OIL & GAS ROYALTY OWNER BRENDA J. MILLER; GAIL MASON; ROBERT SMITH ET AL.; G.F. WILLIAMSON ET UX; WYNSRA; LEASE ACREAGE 30.15 ACRES; 140.783 ACRES; 75 ACRES; 50 ACRES; 301.19 ACRES;  
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 PLUG OFF OLD FORMATION \_\_\_ PERFORATE NEW FORMATION \_\_\_ OTHER PHYSICAL CHANGE IN WELL (SPECIFY) (X) AS DRILLED  
 TARGET FORMATION MARCELLUS ESTIMATED DEPTH 6,476' TVD 15,192' MD  
 WELL OPERATOR ANTERO RESOURCES CORP. DESIGNATED AGENT DIANNA STAMPER  
 ADDRESS 1615 WYNKOOP STREET ADDRESS CT CORPORATION SYSTEM  
 DENVER, CO 80202 CHARLESTON, WV 25313

DATE 07/07/17  
 OPERATOR'S WELL # DOAK UNIT #2H  
 API WELL # 47 - 017  
 STATE COUNTY PERMIT  
 COUNTY NAME PERMIT

01/05/2018