

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

API 47-095-02246 County Tyler District Meade  
Quad Pennsboro 7.5' Pad Name Hartley East Pad Field/Pool Name -----  
Farm name David M. Hartley Well Number Plum Run 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 4357317m Easting 500598m  
Landing Point of Curve Northing 4357136.048m Easting 500598.989m  
Bottom Hole Northing 4355455m Easting 501282m

Elevation (ft) 1021' 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 05/28/2015 Date drilling commenced 06/06/2015 Date drilling ceased 11/28/2015  
Date completion activities began 10/17/2016 Date completion activities ceased 03/01/2017  
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 76', 135', 162' Open mine(s) (Y/N) depths No  
Salt water depth(s) ft 846' Void(s) encountered (Y/N) depths No  
Coal depth(s) ft 196', 1136', 1716' Cavern(s) encountered (Y/N) depths No  
Is coal being mined in area (Y/N) No

Reviewed by:

\_\_\_\_\_

API 47-095 - 02246 Farm name David M. Hartley Well number Plum Run 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	94#, J-55	N/A	Y
Surface	17-1/2"	13-3/8"	358'	New	48#, J-55	N/A	Y
Coal							
Intermediate 1	12-1/4"	9-5/8"	2524'	New	36#, J-55	N/A	Y
Intermediate 2							
Intermediate 3							
Production	8-3/4"/8-1/2"	5-1/2"	12621'	New	20#, P-110	N/A	Y
Tubing		2-3/8"	6408'		4.00#, N-80		
Packer type and depth set		N/A					

Comment Details Although drilled to 12625', casing was run to 12621'

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	154 sx	15.6	1.20	185	0'	8 Hrs.
Surface	Class A	485 sx	15.6	1.20	582	0'	8 Hrs.
Coal							
Intermediate 1	Class A	987 sx	15.6	1.18	1165	0'	8 Hrs.
Intermediate 2							
Intermediate 3							
Production	Class H	810 sx (Lead) 1021 sx (Tail)	13.5 (Lead), 15.2 (Tail)	1.44 (Lead), 1.83 (Tail)	3035	~500' inc Intermediate Casing	8 Hrs.
Tubing							

Drillers TD (ft) 12625' MD, 6277' TVD (BHL), 6291' (Deepest Point Drilled) Loggers TD (ft) 12577' MD

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

Plug back procedure N/A

Kick off depth (ft) 5561'

\*\* This is a subsequent well. Antero only runs wireline logs on one well on a multi-well pad (Freeland Unit 2H API #47-095-02127). Please reference the wireline logs submitted with Form WR-35 for Freeland 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  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 \_\_\_\_\_



API 47- 095 - 02246 Farm name David M. Hartley Well number Plum Run Unit 1H

<u>PRODUCING FORMATION(S)</u>	<u>DEPTHS</u>	
<u>Marcellus</u>	<u>6245' (TOP)</u> TVD	<u>6826' (TOP)</u> MD
_____	_____	_____
_____	_____	_____
_____	_____	_____

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 10670 mcfpd Oil 172 bpd NGL --- bpd Water 693 bpd GAS MEASURED BY  Estimated  Orifice  Pilot

LITHOLOGY/ FORMATION	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**


Please insert additional pages as applicable.

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

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

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

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

Please insert additional pages as applicable.

Completed by Samantha Klaas Telephone 303-357-6759  
Signature [Signature] Title Permitting Agent Date 10/11/2017

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

API 47-095-02246 Farm Name David M. Hartley Well Number Plum Run Unit 1H

**EXHIBIT 1**

Stage No.	Perforation Date	Perforated from MD ft.	Perforated to MD ft.	Number of Perforations	Formations
1	10/17/2016	12337	12504	60	Marcellus
2	12/6/2016	12140	12306	60	Marcellus
3	12/7/2016	11942	12109	60	Marcellus
4	12/7/2016	11744	11911	60	Marcellus
5	12/7/2016	11547	11714	60	Marcellus
6	12/7/2016	11349	11516	60	Marcellus
7	12/8/2016	11152	11318	60	Marcellus
8	12/8/2016	10954	11121	60	Marcellus
9	12/8/2016	10756	10923	60	Marcellus
10	12/8/2016	10559	10726	60	Marcellus
11	12/9/2016	10361	10528	60	Marcellus
12	12/9/2016	10164	10330	60	Marcellus
13	12/9/2016	9966	10133	60	Marcellus
14	12/9/2016	9768	9935	60	Marcellus
15	12/9/2016	9571	9737	60	Marcellus
16	12/10/2016	9373	9540	60	Marcellus
17	12/10/2016	9176	9342	60	Marcellus
18	12/10/2016	8978	9145	60	Marcellus
19	12/10/2016	8780	8947	60	Marcellus
20	12/11/2016	8583	8749	60	Marcellus
21	12/11/2016	8385	8552	60	Marcellus
22	12/11/2016	8187	8354	60	Marcellus
23	12/11/2016	7990	8157	60	Marcellus
24	12/12/2016	7792	7959	60	Marcellus
25	12/12/2016	7595	7761	60	Marcellus
26	12/12/2016	7397	7564	60	Marcellus
27	12/12/2016	7199	7366	60	Marcellus
28	12/12/2016	7002	7169	60	Marcellus
29	12/13/2016	6804	6971	60	Marcellus
30	12/13/2016	6607	6773	60	Marcellus
31	12/13/2016	6409	6576	60	Marcellus

## 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	12/6/2016	71.6	7124	0	3887	405100	10798.0	N/A
2	12/6/2016	69.9	6602	6373	4267	400100	8830.0	N/A
3	12/7/2016	69.4	6637	6795	3769	406800	8897.0	N/A
4	12/7/2016	70.9	6494	6416	3891	406160	8992.0	N/A
5	12/7/2016	70.3	6573	6956	2997	404600	8906.0	N/A
6	12/7/2016	69.8	6687	6058	3440	406000	8925.0	N/A
7	12/8/2016	69.7	6379	6051	3619	405900	8892.0	N/A
8	12/8/2016	71.9	6446	6520	3308	405050	8923.0	N/A
9	12/8/2016	71.9	6380	6781	3548	406650	8865.0	N/A
10	12/8/2016	71.4	7017	7029	3465	407300	11458.0	N/A
11	12/9/2016	71.1	6549	6409	3533	405900	8787.0	N/A
12	12/9/2016	72.1	6507	6452	3619	405150	10040.0	N/A
13	12/9/2016	72.1	6672	6305	3476	406500	10209.0	N/A
14	12/9/2016	70.8	6531	5500	3365	406730	8652.0	N/A
15	12/9/2016	70.6	6356	5862	3448	404000	8679.0	N/A
16	12/10/2016	71.5	6676	5908	3605	406450	10085.0	N/A
17	12/10/2016	71.5	6725	6112	3809	406500	10036.0	N/A
18	12/10/2016	71.7	6481	5311	4320	399030	8715.0	N/A
19	12/10/2016	70.6	6566	5486	3827	401000	8562.0	N/A
20	12/11/2016	70.7	6664	5447	4117	405150	8653.0	N/A
21	12/11/2016	70.9	6564	5422	4227	405600	8611.0	N/A
22	12/11/2016	71.3	6355	5214	3630	407600	8655.0	N/A
23	12/11/2016	70.4	6414	5450	3920	409280	8549.0	N/A
24	12/12/2016	70.4	6735	5740	4070	407300	9651.0	N/A
25	12/12/2016	71.2	6126	5672	3780	405800	8539.0	N/A
26	12/12/2016	72.7	6183	5876	3326	405160	9900.0	N/A
27	12/12/2016	71.6	6294	5819	3415	403040	8757.0	N/A
28	12/12/2016	70.0	5681	4195	3469	408430	8525.0	N/A
29	12/13/2016	70.1	6280	5819	4889	402000	8568.0	N/A
30	12/13/2016	71.6	6047	5336	3562	406600	8532.0	N/A
31	12/13/2016	71.4	6067	6015	3455	405930	8673.0	N/A
	AVG=	<b>71.0</b>	<b>6,478</b>	<b>5,753</b>	<b>3,711</b>	<b>12,566,810</b>	<b>282,864</b>	TOTAL

## 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	76'		N/A		76'		N/A	
Fresh Water	135'		N/A		135'		N/A	
Fresh Water	162'		N/A		162'		N/A	
Shale/ Sandstone	est. -11		196		est. -11		196	
Shale/ Trace Coal	est. 196		236		est. 196		236	
Sandstone	est. 236		456		est. 236		456	
Shale/ Limestone	est. 456		556		est. 456		556	
Sandstone	est. 556		616		est. 556		616	
Shale/ Trace Limestone	est. 616		776		est. 616		776	
Siltstone	est. 776		801		est. 776		801	
Shale/ Limestone	est. 801		956		est. 801		956	
Sandstone	est. 956		1036		est. 956		1036	
Shale/ Limestone	est. 1036		1136		est. 1036		1136	
Shale/ Trace Coal	est. 1136		1176		est. 1136		1176	
Sandstone/ Trace Coal	est. 1176		1236		est. 1176		1236	
Shale/ Trace Limestone	est. 1236		1316		est. 1236		1316	
Sandstone/ Shale	est. 1316		1416		est. 1316		1416	
Sandstone/ Coal	est. 1416		1556		est. 1416		1556	
Shale/ Trace Coal	est. 1556		1716		est. 1556		1716	
Siltstone/ Trace Coal	est. 1716		1956		est. 1716		1966	
Big Lime	1956		2536		1966		2546	
Fifth Sandstone	2536		3398		2546		3429	
Bayard	3398		3940		3429		4034	
Speechley	3940		4229		4034		4353	
Baltown	4229		4629		4353		4801	
Bradford	4629		4926		4801		5137	
Benson	4926		5197		5137		5397	
Alexander	5197		5413		5397		5682	
Elk	5413		5724		5682		6028	
Rhinestreet	5724		6038		6028		6424	
Sycamore	6038		6134		6424		6572	
Middlesex	6134		6222		6572		6756	
Burkett	6222		6235		6756		6793	
Tully	6235		6245		6793		6826	
Marcellus	6245		NA		6826		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.

# Hydraulic Fracturing Fluid Product Component Information Disclosure

Job Start Date:	12/6/2016
Job End Date:	12/13/2016
State:	West Virginia
County:	Tyler
API Number:	47-095-02246-00-00
Operator Name:	Antero Resources Corporation
Well Name and Number:	Plum Run 1H
Latitude:	39.36523333
Longitude:	-80.99323333
Datum:	NAD83
Federal Well:	NO
Indian Well:	NO
True Vertical Depth:	6,291
Total Base Water Volume (gal):	12,134,288
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	88.73231	
Sand	U.S. Well Services, LLC	Proppant	Crystalline Silica, quartz	14808-60-7	100.00000	11.01860	
HCL Acid (12.6%-17.5%)	U.S. Well Services, LLC	Bulk Acid	Water	7732-18-5	87.40000	0.12131	
LGC-15	U.S. Well Services, LLC	Gelling Agents	Hydrogen Chloride	7647-01-0	17.50000	0.02820	
			Guar Gum	9000-30-0	50.00000	0.02481	
			Petroleum Distillates	64742-47-8	60.00000	0.02350	
			Suspending agent (solid)	14808-60-7	3.00000	0.00379	
			Surfactant	58439-51-0	3.00000	0.00149	
WFRA-405	U.S. Well Services, LLC	Friction Reducer	2-Propenoic acid, polymer with propenamide	29003-06-9	30.00000	0.01596	
			Hydrated light distillate (petroleum)	64742-47-8	30.00000	0.01285	





LATITUDE 39°22'30"

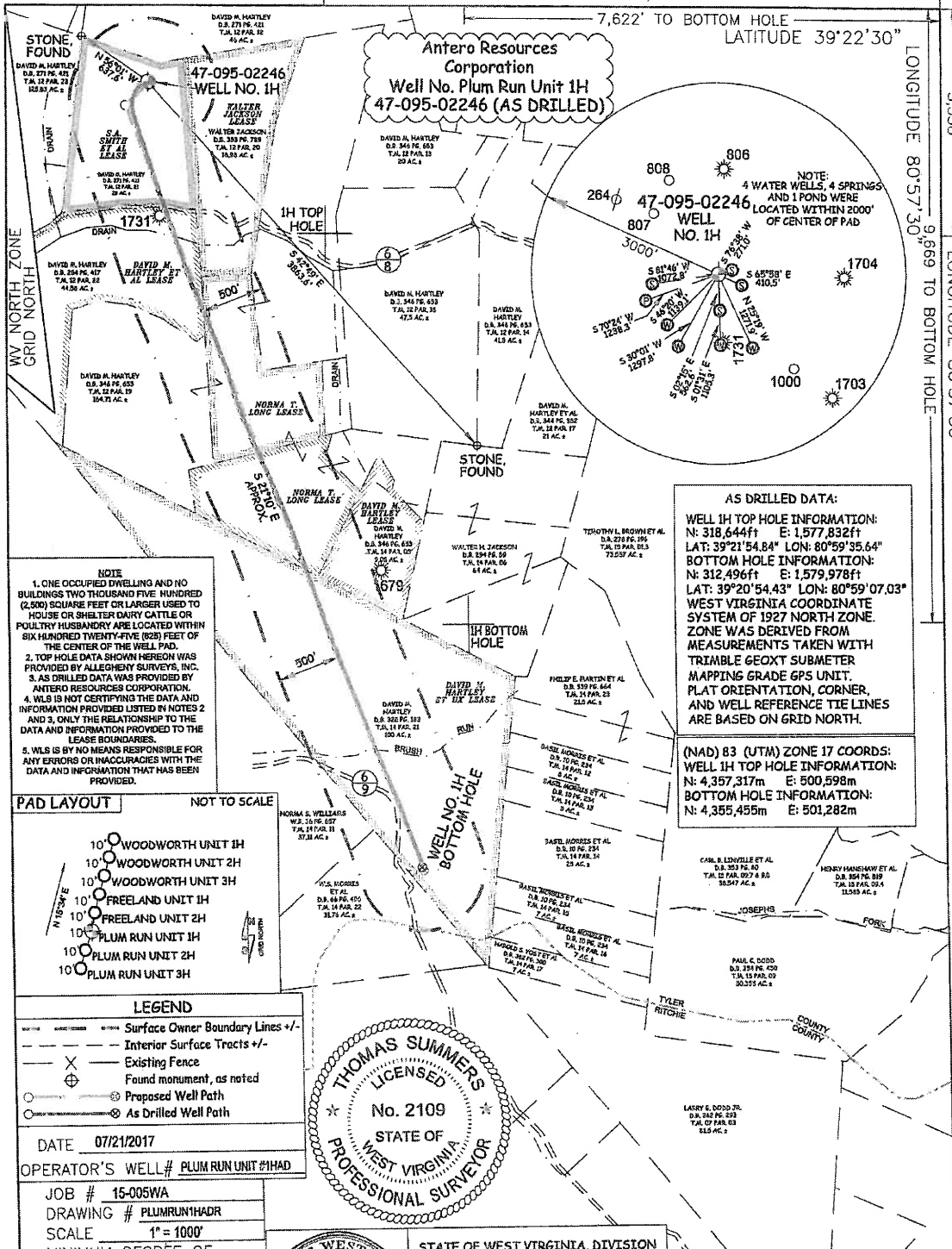
9,868'

7,622' TO BOTTOM HOLE

LATITUDE 39°22'30"

LONGITUDE 80°57'30"

LONGITUDE 80°57'30"



**NOTE**

- ONE OCCUPIED DWELLING AND NO 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.

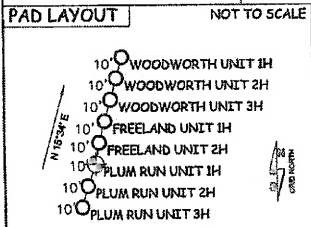
**AS DRILLED DATA:**

**WELL 1H TOP HOLE INFORMATION:**  
 N: 318,644ft E: 1,577,832ft  
 LAT: 39°21'54.84" LON: 80°59'35.64"

**BOTTOM HOLE INFORMATION:**  
 N: 312,496ft E: 1,579,978ft  
 LAT: 39°20'54.43" LON: 80°59'07.03"

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: 4,357,317m E: 500,598m  
 BOTTOM HOLE INFORMATION:  
 N: 4,355,455m E: 501,282m

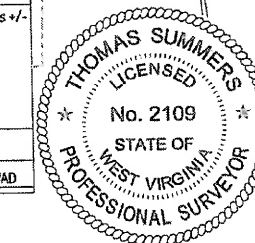


**LEGEND**

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

DATE 07/21/2017  
 OPERATOR'S WELL# PLUM RUN UNIT #1HAD

JOB # 15-005WA  
 DRAWING # PLUMRUN1HADR  
 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 AVENUE PENNSBORO WEST VIRGINIA 26415

I 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.

THOMAS SUMMERS P.S. 2109

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

WELL TYPE: OIL \_\_\_ GAS  LIQUID INJECTION \_\_\_ WASTE DISPOSAL \_\_\_ API WELL # 47 - 095 - 02246  
 (IF "GAS") PRODUCTION  STORAGE \_\_\_ DEEP \_\_\_ SHALLOW \_\_\_

LOCATION: ELEVATION AS DRILLED 1,021' WATERSHED OUTLET MIDDLE ISLAND CREEK STATE COUNTY PERMIT  
 QUADRANGLE PENNSBORO 7.5 DISTRICT MEADE COUNTY TYLER

SURFACE OWNER DAVID M. HARTLEY ACREAGE 28 ACRES +/-  
 OIL & GAS ROYALTY OWNER S.A. SMITH ET AL; DAVID M. HARTLEY ET AL; LEASE ACREAGE 28 AC.; 44.58 AC.;  
 NORMA T. LONG; NORMA T. LONG; DAVID M. HARTLEY ET AL 22.5 AC.; 22.55 AC.; 100 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 6,278' TVD 12,625' MD

WELL OPERATOR ANTERO RESOURCES CORP. DESIGNATED AGENT CT CORPORATION SYSTEM  
 ADDRESS 1615 WYNKOOP STREET ADDRESS 5400 D BIG TYLER ROAD  
 DENVER, CO 80202 CHARLESTON, WV 25313

LATITUDE 39°22'30"

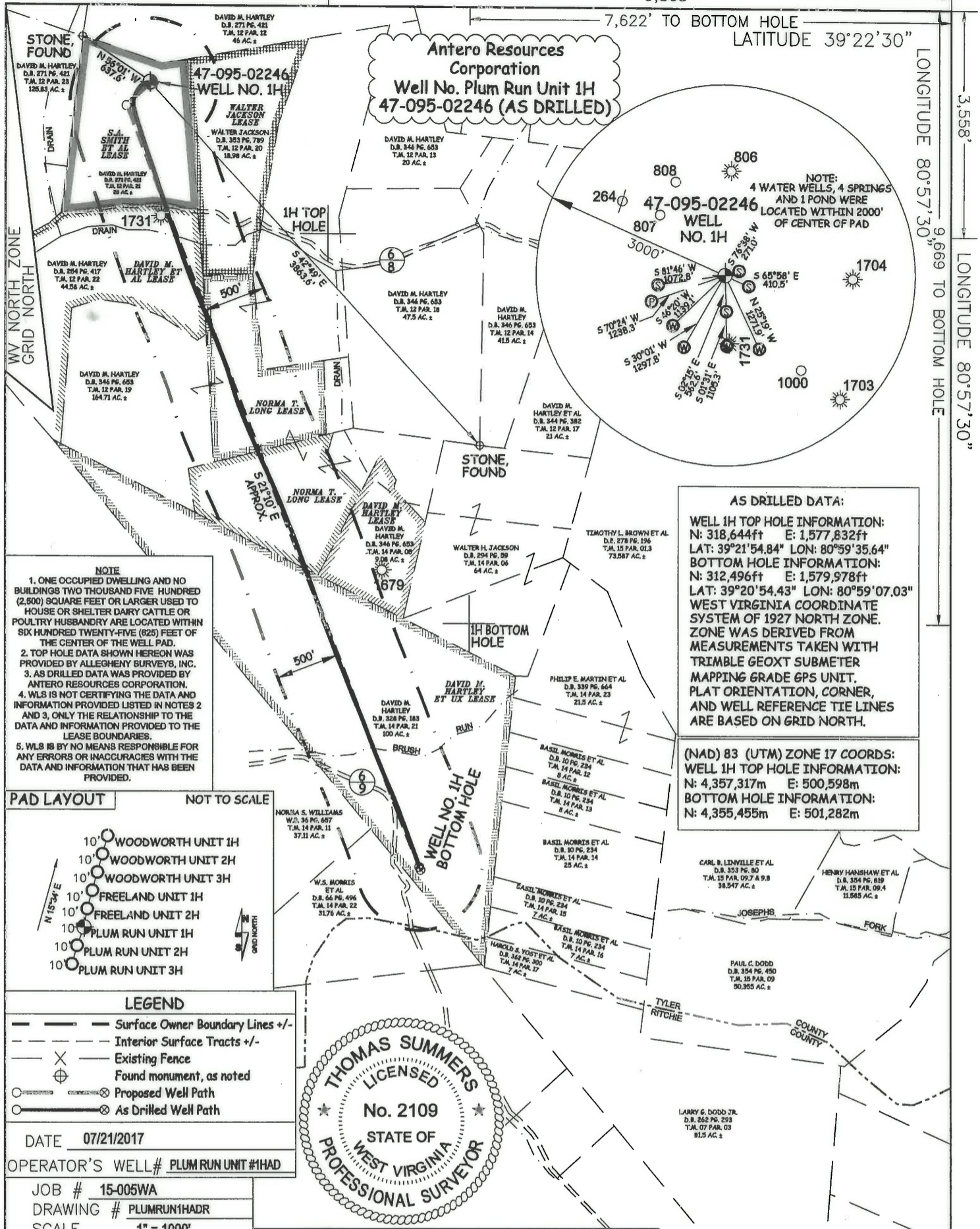
9,863'

7,622' TO BOTTOM HOLE

LATITUDE 39°22'30"

LONGITUDE 80°57'30"

LONGITUDE 80°57'30"



**NOTE**

- ONE OCCUPIED DWELLING AND NO 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.

**AS DRILLED DATA:**

**WELL 1H TOP HOLE INFORMATION:**  
 N: 318,644ft E: 1,577,832ft  
 LAT: 39°21'54.84" LON: 80°59'35.64"

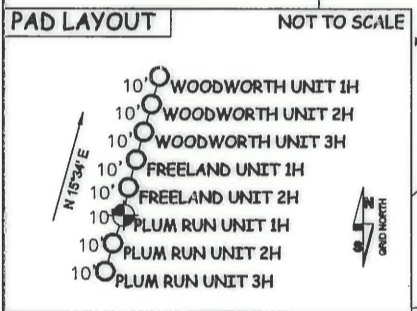
**BOTTOM HOLE INFORMATION:**  
 N: 312,496ft E: 1,579,978ft  
 LAT: 39°20'54.43" LON: 80°59'07.03"

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:**

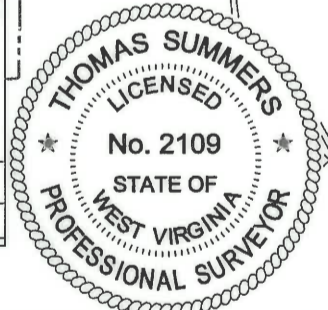
**WELL 1H TOP HOLE INFORMATION:**  
 N: 4,357,317m E: 500,598m

**BOTTOM HOLE INFORMATION:**  
 N: 4,355,455m E: 501,282m



**LEGEND**

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



DATE 07/21/2017

OPERATOR'S WELL# PLUM RUN UNIT #1HAD

JOB # 15-005WA

DRAWING # PLUMRUN1HADR

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 AVENUE PENNSBORO WEST VIRGINIA 26415

I 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 PRESCRIBED BY THE DEPARTMENT OF ENVIRONMENTAL PROTECTION.

*Thomas Summers*

THOMAS SUMMERS P.S. 2109

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

WELL TYPE: OIL  GAS  LIQUID INJECTION  WASTE DISPOSAL  API WELL # 47-095-02246

(IF "GAS") PRODUCTION  STORAGE  DEEP  SHALLOW

LOCATION: ELEVATION AS DRILLED 1,021' WATERSHED OUTLET MIDDLE ISLAND CREEK STATE TYLER COUNTY TYLER PERMIT 47-095-02246

QUADRANGLE PENNSBORO 7.5' DISTRICT MEADE COUNTY TYLER

SURFACE OWNER DAVID M. HARTLEY ACREAGE 28 ACRES +/-

OIL & GAS ROYALTY OWNER S.A. SMITH ET AL; DAVID M. HARTLEY ET AL; NORMA T. LONG; NORMA T. LONG; DAVID M. HARTLEY ET UX LEASE ACREAGE 28 AC±; 44.58 AC±; 22.5 AC±; 22.55 AC±; 100 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 6,278' TVD 12,625' MD

WELL OPERATOR ANTERO RESOURCES CORP. DESIGNATED AGENT DIANNA STAMPER

ADDRESS 1615 WYNKOOP STREET ADDRESS CT CORPORATION SYSTEM

DENVER, CO 80202 5400 D BIG TYLER ROAD

FORM WW-6 DENVER, CO 80202 CHARLESTON, WV 25313