

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

API 47- _____ - _____ County _____ District _____
Quad _____ Pad Name _____ Field/Pool Name _____
Farm name _____ Well Number _____
Operator (as registered with the OOG) _____
Address _____ City _____ State _____ Zip _____

As Drilled location NAD 83/UTM Attach an as-drilled plat, profile view, and deviation survey
Top hole Northing _____ Easting _____
Landing Point of Curve Northing _____ Easting _____
Bottom Hole Northing _____ Easting _____

Elevation (ft) _____ 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)

Date permit issued _____ Date drilling commenced _____ Date drilling ceased _____
Date completion activities began _____ Date completion activities ceased _____
Verbal plugging (Y/N) _____ Date permission granted _____ Granted by _____

Please note: Operator is required to submit a plugging application within 5 days of verbal permission to plug

Freshwater depth(s) ft _____ Open mine(s) (Y/N) depths _____
Salt water depth(s) ft _____ Void(s) encountered (Y/N) depths _____
Coal depth(s) ft _____ Cavern(s) encountered (Y/N) depths _____
Is coal being mined in area (Y/N) _____

Reviewed by:

API 47- _____ - _____ Farm name _____ Well number _____

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							
Surface							
Coal							
Intermediate 1							
Intermediate 2							
Intermediate 3							
Production							
Tubing							
Packer type and depth set							

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							
Surface							
Coal							
Intermediate 1							
Intermediate 2							
Intermediate 3							
Production							
Tubing							

Drillers TD (ft) _____ Loggers TD (ft) _____
 Deepest formation penetrated _____ Plug back to (ft) _____
 Plug back procedure _____

Kick off depth (ft) _____

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 _____

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- _____ - _____ Farm name _____ Well number _____

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.

API 47- _____ - _____ Farm name _____ Well number _____

PRODUCING FORMATION(S)

DEPTHS

_____	_____ TVD	_____ MD
_____	_____	_____
_____	_____	_____
_____	_____	_____

Please insert additional pages as applicable.

GAS TEST Build up Drawdown Open Flow OIL TEST Flow Pump

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

OPEN FLOW Gas _____ mcfpd Oil _____ bpd NGL _____ bpd Water _____ 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)
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***PLEASE SEE ATTACHED EXHIBIT 3**

Please insert additional pages as applicable.

Drilling Contractor _____
Address _____ City _____ State _____ Zip _____

Logging Company _____
Address _____ City _____ State _____ Zip _____

Cementing Company _____
Address _____ City _____ State _____ Zip _____

Stimulating Company _____
Address _____ City _____ State _____ Zip _____

Please insert additional pages as applicable.

Completed by _____ Telephone _____
Signature _____ Title _____ Date _____

11,760' to Top Hole

Antero Resources
Well No. Penn Unit 2H
As-Drilled
Antero Resources Corporation



Bearing	Dist
L1 S 56°16' W	2,974.1'
L2 N 78°03' W	3,442.0'
L3 N 59°24' E	2,688.0'
L4 N 66°58' E	3,854.5'

Wellhead
Layout

- Shimano Unit 2H
47-095-2617
- Shimano Unit 1H
47-095-02616
- As-Drilled
Penn Unit 2H
47-095-02615
- Penn Unit 1H
47-095-02614
- Sisterville Unit 2H
47-095-02619
- Sisterville Unit 1H
47-095-02618
- Keller Unit 3H
47-095-02613
- Keller Unit 1H
47-095-02526

Detail Not to Scale

Top Hole Coordinates, As-drilled data, and information was provided by Antero Resources Corporation. Allegheny Surveys Inc. (ASI) is not certifying the data and information provided. ASI is not responsible for any errors or inaccuracies with the data and information that has been provided.

ID	TMP	Pat	Owner	BM/PS	Acres
1	10/62		Haessley, Land & Timber, LLC	334/833	268.91
2	15/1		Martin L. Blair Jr. & Ronald K. Blair Sr	WB18/361	47.00
3	15/37		John D. Mendenhall & Jeffrey A. Davis	444/651	154.17
4	15/3		John W. Eddy Estate	77/319	40.33
5	15/16		Robert M. Feldmeier	330/109	52.37
6	15/78		John W. Eddy Estate	398/670	26.18
7	15/17		David Mendenhall, et al	289/662	85.71
8	15/22		Donald J. & Marlene A. MacNaughtan	366/289	99.56
9	15/23		David Mendenhall, et al	326/13	97.25
10	15/15		David Mendenhall, et al	289/4	50.00
11	15/25		Charles Loy Jr., et al	358/610	20.00
12	15/24		Charles & Wilma Lee Fruner	300/342	97.50
13	21/2		Donald K. Baker	WB36/543	130.45
14	21/3		Douglas O. & Morna K. Cooper	287/390	60.46
15	21/5		Michael & Bente H. Bidde	294/537	223.77
16	15/34		Michael & Bente H. Bidde	294/537	82.34
17	21/6		Carl E. & Elsie M. Taylor	391/181	63.50
18	21/18		Ridgeloop Capital II, LP	385/781	83.68
19	21/19		Ridgeloop Capital II, LP	385/781	20.00
20	21/5.2		Alfred B. & Elizabeth J. Briddle	319/408	6.592
21	21/5.1		Alfred B. & Elizabeth J. Briddle	319/408	1.062
22	21/4		Martha E. & Timothy Ruble	274/236	1.036
23	21/20		Charles O. Conaway	WB17/354	95.50
24	21/44		Tyler County Home	77/672	189.36

FILE NO: 05-54-E-16

DRAWING NO: Penn 2H As-Drilled Plat

SCALE: 1" = 1500'

MINIMUM DEGREE OF ACCURACY:
Submeter

PROVEN SOURCE OF ELEVATION:
WVDOT, Harrisville, WV

WELL TYPE: OIL GAS LIQUID INJECTION WASTE DISPOSAL
(IF GAS) PRODUCTION: STORAGE DEEP SHALLOW

LOCATION: ELEVATION: As-Built 1,064' WATERSHED: Outlet Middle Island Creek QUADRANGLE: Paden City/Porter Falls
DISTRICT: Ellsworth

SURFACE OWNER: John D. Mendenhall & Jeffrey A. Davis

ROYALTY OWNER: Diame T. Carpenter, Gina Pastors, Piney Holdings Inc., Carl E. Taylor, et ux;

PROPOSED WORK: DRILL CONVERT DRILL DEEPER FRACTURE OR STIMULATE PLUG OFF OLD FORMATION
 PERFORATE NEW FORMATION OTHER PHYSICAL CHANGE IN WELL (SPECIFY) As-Drilled
 PLUG AND ABANDON CLEAN OUT AND REPLUG TARGET FORMATION: Marcellus Shale ESTIMATED DEPTH: 16,032' MD

WELL OPERATOR: Antero Resources Corporation

ADDRESS: 1615 Wynkoop Street

Denver, CO 80202

DESIGNATED AGENT: Dianna Stamper - CT Corporation System

ADDRESS: 5400 D Big Tyler Road

Charleston, WV 25313

STATE OF WEST VIRGINIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
OIL AND GAS DIVISION



DATE: July 28 2020

OPERATOR'S WELL NO. Penn Unit 2H

API WELL NO

47 - 095 - 02615

STATE COUNTY PERMIT

Shirley/

QUADRANGLE: Paden City/Porter Falls

COUNTY: Tyler

ACREAGE: 154.17

ACREAGE: 154.17

ACREAGE: 154.17

ACREAGE: 154.17

ACREAGE: 154.17

ACREAGE: 154.17

ACREAGE: 154.17

ACREAGE: 154.17

8,377' to Bottom Hole

TOP HOLE LATITUDE 39 - 32 - 30
BTM HOLE LATITUDE 39 - 30 - 00

Notes:
West Virginia Coordinate System of 1927, North Zone based upon Differential GPS Measurements.
Well No. Penn Unit 2H Top Hole coordinates are
N: 370,247.58' Longitude: 39°30'30.25"
E: 1,612,229.41' Longitude: 80°52'27.77"
Bottom Hole coordinates are
N: 362,831.58' Longitude: 39°29'17.44"
E: 1,615,387.22' Longitude: 80°51'46.05"
UTM Zone 17, NAD 1983
Top Hole Coordinates Bottom Hole Coordinates
N: 4,373,213.305m N: 4,370,970.067m
E: 510,814.023m E: 511,813.749m
Plat orientation and corner and well references are based upon the grid north meridian.
Well location references are based upon the magnetic meridian.

Legend

- Proposed gas well
- Found corner, as noted
- Existing Well, as noted
- Digitized Well
- Creek or Drain
- Existing Road
- Surface boundary (approx.)
- Interior surface tracts (approx.)

Chris Folger Lease
Irevocable Trust Lease
Cliff & Virginia Perkins
Irevocable Trust Lease
500' Buffer

Carl E. Taylor, et ux Lease



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.

Bradley D. Miller, P.S. 2167

Note: 0 water wells or springs were found within 2000' of proposed well. No occupied dwellings or buildings 2,500 square feet or larger used to house or shelter dairy cattle or poultry, husbandry are located within 625' of the center of the well pad.

GRID NORTH