

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

API 47-033-05669 County Harrison District Union
Quad Big Isaac 7.5' Pad Name Quinn Pad Field/Pool Name -----
Farm name Antero Resources Appalachian Corporation Well Number Calkins 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 4338792.318m Easting 542608.007m
Landing Point of Curve Northing --- Easting ---
Bottom Hole Northing --- Easting ---

Elevation (ft) 1358' 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

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Date permit issued 10/17/2012 Date drilling commenced 5/29/2013 Date drilling ceased N/A
Date completion activities began N/A Date completion activities ceased N/A
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 140' Open mine(s) (Y/N) depths No
Salt water depth(s) ft 1936' Void(s) encountered (Y/N) depths No
Coal depth(s) ft 178', 458' Cavern(s) encountered (Y/N) depths No
Is coal being mined in area (Y/N) No

Reviewed by:
SDW
6/16/2020

API 47- 033 - 05669 Farm name Antero Resources Appalachian Corporation Well number Calkins 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#, H-40	N/A	Y
Surface	---	---	---	---	---	---	---
Coal							
Intermediate 1	---	---	---	---	---	---	---
Intermediate 2							
Intermediate 3							
Production	---	---	---	---	---	---	---
Tubing							
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	120 sx	15.6	1.18	120	0'	8 Hrs.
Surface	---	---	---	---	---	---	---
Coal							
Intermediate 1	---	---	---	---	---	---	---
Intermediate 2							
Intermediate 3							
Production	---	---	---	---	---	---	---
Tubing							

Drillers TD (ft) 40' (Deepest Point Drilled) Loggers TD (ft) N/A
 Deepest formation penetrated N/A Plug back to (ft) N/A
 Plug back procedure N/A

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Kick off depth (ft) N/A

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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

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

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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.

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STIMULATION INFORMATION PER STAGE

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Complete a separate record for each stimulation stage.

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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.

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PRODUCING FORMATION(S)	DEPTHS			
	N/A (TOP)	TVD	N/A (TOP)	MD
Marcellus				

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	BOTTOM	TOP	BOTTOM	DESCRIBE ROCK TYPE AND RECORD QUANTITY AND TYPE OF FLUID (FRESHWATER, BRINE, OIL, GAS, H ₂ 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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					WV Department of Environmental Protection

Please insert additional pages as applicable.

Drilling Contractor N/A
Address _____ City _____ State _____ Zip _____

Logging Company N/A
Address _____ City _____ State _____ Zip _____

Cementing Company N/A
Address _____ City _____ State _____ Zip _____

Stimulating Company N/A
Address _____ City _____ State _____ Zip _____

Please insert additional pages as applicable.

Completed by Megan Griffith Telephone 303-357-7223
Signature  Title Permitting Agent Date 6.15.20

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

1,914' to Top Hole

LATITUDE 39 - 12 - 30

LONGITUDE 80 - 30 - 00

Antero Resources
Well No. Calkins 1H
As-Drilled
Antero Resources Corporation

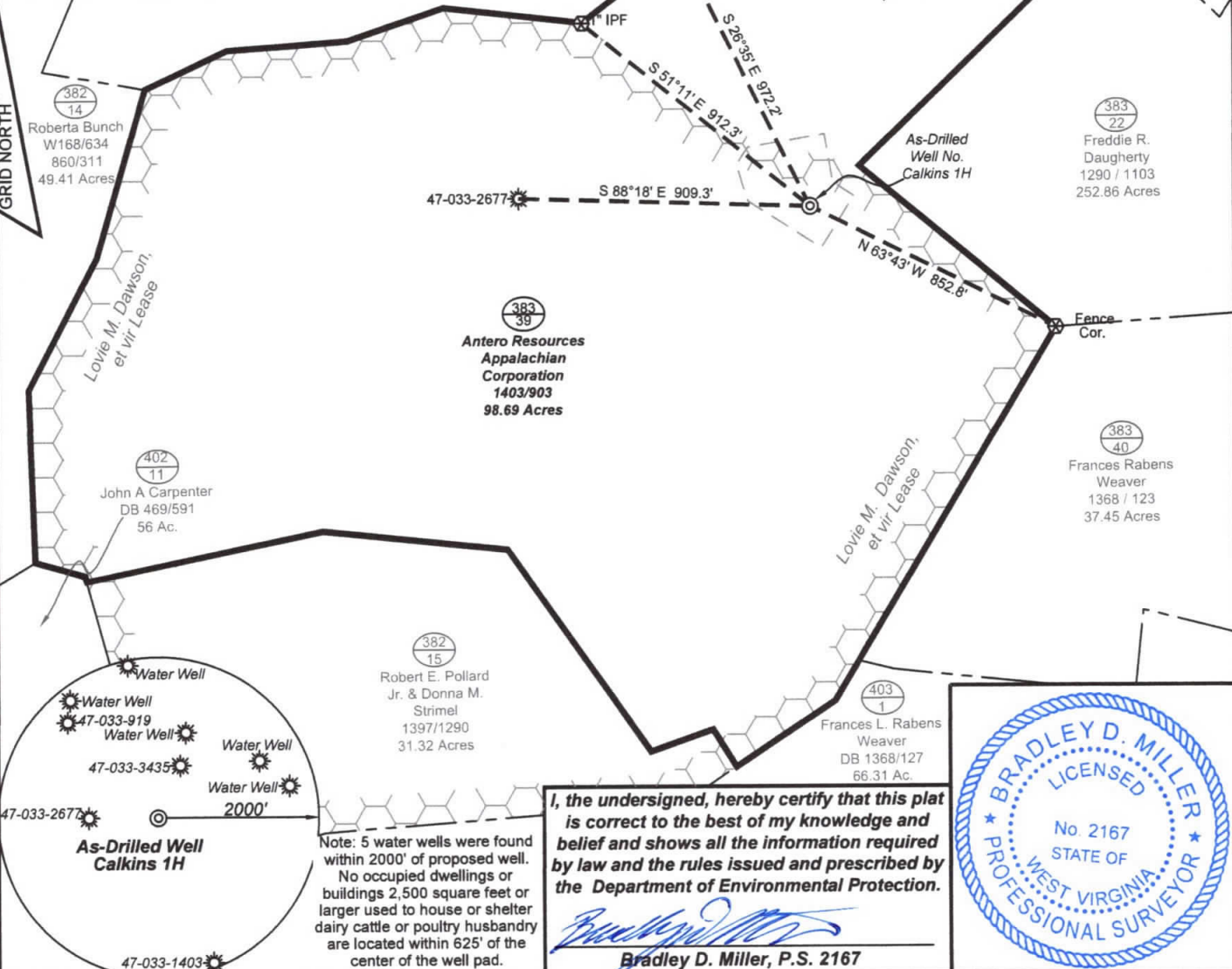
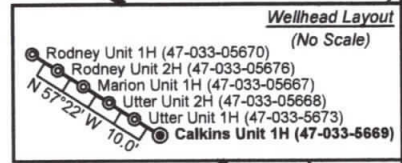


Notes:
West Virginia Coordinate System of 1927, North Zone based upon Differential GPS Measurements.
Well No. Calkins 1H coordinates are
N: 255,552.63' Latitude: 39°11'50.11"
E: 1,714,677.14' Longitude: 80°30'24.32"
UTM Zone 17, NAD 1983
Top Hole Coordinates
N: 4,338,792.318m
E: 542,608.007m
Plat orientation and corner and well references are based upon the grid north meridian.
Well location references are based upon the magnetic meridian.

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.

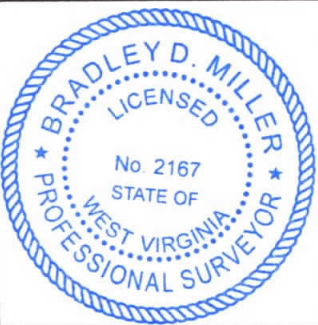


- Legend**
- ⊙ Proposed gas well
 - ⊗ Found corner, as noted
 - ☀ Existing Well, as noted
 - ☀ Digitized Well
 - Existing Road
 - Surface boundary (approx.)
 - - - Interior surface tracts (approx.)



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
Bradley D. Miller, P.S. 2167



FILE NO: 198-36-U-12
DRAWING NO: Calkins 1H As-Drilled
SCALE: 1" = 500'
MINIMUM DEGREE OF ACCURACY: Submeter
PROVEN SOURCE OF ELEVATION: WVDOT, Bridgeport, WV

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

DATE: June 3 2020
OPERATOR'S WELL NO. Calkins 1H
API WELL NO
47 - 033 - 5669
STATE COUNTY PERMIT

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

LOCATION: ELEVATION: As-Built 1,358 WATERSHED: Middle West Fork Creek QUADRANGLE: Big Issac
DISTRICT: Union COUNTY: Harrison

SURFACE OWNER: Antero Resources Appalachian Corp. ACREAGE: 98.69
ROYALTY OWNER: Lovie M. Dawson, et vir LEASE NO: ACREAGE: 139

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: 40' TVD 40' MD

WELL OPERATOR: Antero Resources Corporation DESIGNATED AGENT: Dianna Stamper - CT Corporation System
ADDRESS: 1615 Wynkoop Street ADDRESS: 5400 D Big Tyler Road
Denver, CO 80202 Charleston, WV 25313