



west virginia department of environmental protection

Office of Oil and Gas
601 57th Street, S.E.
Charleston, WV 25304
(304) 926-0450
fax: (304) 926-0452

Jim Justice , Governor
Austin Caperton , Cabinet Secretary
www.dep.wv.gov

Wednesday, November 29, 2017
WELL WORK PERMIT
Vertical / Plugging

ANTERO RESOURCES CORPORATION
1615 WYNKOOP STREET

DENVER, CO 80202

Re: Permit approval for POWELL 7
47-017-05814-00-00

This well work permit is evidence of permission granted to perform the specified well work at the location described on the attached pages and located on the attached plat, subject to the provisions of Chapter 22 of the West Virginia Code of 1931, as amended, and all rules and regulations promulgated thereunder, and to any additional specific conditions and provisions outlined in the pages attached hereto. Notification shall be given by the operator to the Oil and Gas Inspector at least 24 hours prior to the construction of roads, locations, and/or pits for any permitted work. In addition, the well operator shall notify the same inspector 24 hours before any actual well work is commenced and prior to running and cementing casing. Spills or emergency discharges must be promptly reported by the operator to 1-800-642-3074 and to the Oil and Gas Inspector.

Please be advised that form WR-35, Well Operators Report of Well Work is to be submitted to this office within 90 days of completion of permitted well work, as should form WR-34 Discharge Monitoring Report within 30 days of discharge of pits, if applicable. Failure to abide by all statutory and regulatory provisions governing all duties and operations hereunder may result in suspension or revocation of this permit and, in addition, may result in civil and/or criminal penalties being imposed upon the operators.

Per 35 CSR 4-5.2.g this permit will expire in two (2) years from the issue date unless permitted well work is commenced. If there are any questions, please feel free to contact me at (304) 926- 0450.

James A. Martin
Chief

Operator's Well Number: POWELL 7
Farm Name: POWELL, DENNIS & MILLIE
U.S. WELL NUMBER: 47-017-05814-00-00
Vertical / Plugging
Date Issued: 11/29/2017

Promoting a healthy environment.

12/01/2017

PERMIT CONDITIONS

West Virginia Code §22-6-11 allows the Office of Oil and Gas to place specific conditions upon this permit. Permit conditions have the same effect as law. Failure to adhere to the specified permit conditions may result in enforcement action.

CONDITIONS

1. All pits must be lined with a minimum of 20 mil thickness synthetic liner.
2. In the event of an accident or explosion causing loss of life or serious personal injury in or about the well or while working on the well, the well operator or its contractor shall give notice, stating the particulars of the accident or explosion, to the oil and gas inspector and the Chief within twenty-four (24) hours.
3. Well work activities shall not constitute a hazard to the safety of persons.
4. This well is under a consent order and must be plugged under the terms of that agreement.

1) Date October 4, 2017
2) Operator's Well No. Powell 7
3) API Well No. 47-017-05814

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

APPLICATION FOR A PERMIT TO PLUG AND ABANDON

- 4) Well Type: Oil ___/ Gas X/ Liquid injection ___/ Waste disposal ___/
(If "Gas, Production ___ or Underground storage ___) Deep ___/ ShallowX
- 5) Location: Elevation 811' Watershed Headwaters Middle Island Creek
District Grant County Doddridge Quadrangle Smithburg 7.5'
- 6) Well Operator Antero Resources Corporation 7) Designated Agent CT Corporation System - Dianna Stamper
Address 1615 Wynkoop Street Address 5400 D Big Tyler Road
Denver, CO 80202 Charleston, WV 25313
- 8) Oil and Gas Inspector to be notified Name Daniel Flack
Address 601 57th Street, SE
Charleston, WV 25304
- 9) Plugging Contractor Name N/A - Antero will plug well
Address _____

10) Work Order: The work order for the manner of plugging this well is as follows:
★ WBC FOR ALL PLUGS. TAG TOP OF PLUG, ADD CIA CEMENT IF NECESSARY, ★

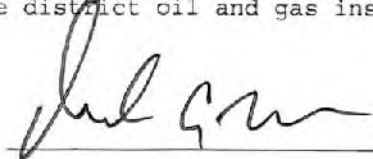
*Please see attached Work Order.

SEE OFFSET WELL 17-02314 FOR INFORMATION ON PRODUCING ZONES THAT NEED TO BE COVERED WITH CLASS A CEMENT PLUGS. WARREN, CEDAR CREEK AND ALEXANDER.

ADDITIONAL CLASS A CEMENT PLUGS MUST BE SET AS FOLLOWS:
PLUG 1 - SET 200' CIA PLUG FROM 150' ABOVE CUT TO 50' INSIDE REMAINING 4 1/2'.
PLUG 2 - SET 250' CIA PLUG FROM 5030' TO 4780'.
PLUG 3 - SET 200' CIA PLUG FROM 3100' TO 2900'.

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Notification must be given to the district oil and gas inspector 24 hours before permitted work can commence.

Work order approved by inspector  Date 10/28/17

1705814A

Powell 7
Doddridge County, WV
API #47-017-05814



Antero Resources
1615 Wynkoop St.
Denver, CO 80202
Office: 303.357.7310
Fax: 303.357.7315

Objective: Plug and Abandon Wellbore.

Pipe Schedule:

1. 13-3/8" set @ 64'. Cemented to surface
2. 9-5/8" set @ 465'. Cemented to surface
3. 6-5/8" set @ 1,792'. Cemented to surface
4. 4-1/2" P-110, 11.6# set @ 6,525' with estimated TOC @ 5,534'.

Elev.: 805'

Oil and Gas Zones:

1. Lime: 1,470'
2. Tully: 6,233'
3. Marcellus: 6,464' – 6,525'; perf'd from 6,470' – 6,525'

Procedure:

1. Check and record all casing/annular pressures into Wellview.
2. Coordinate and schedule casing jacks.
3. Notify WVDEP prior to commencing work, for plug witnessing (Doddridge County Inspector).
4. Move in and rig up flat tank and frac tank (No pits will be utilized).
5. Move in rig up service unit.
6. NU BOPE and test – check and report surface pressure including bradenhead pressure.
7. Kill well
8. RU wireline and lubricator.
9. Make gauge ring run to CIBP depth @ 6,452'. Pull out of hole. Note fluid depth tagged.
10. MIRU logging crew.
11. Load Hole with 6% gel.
12. Run CBL from TD (6,452") to surface.
13. Locate TOC around 4.5" casing.
14. Discuss results with completions engineers before proceeding.
15. RIH wireline and run free point above TOC in 4.5" casing
 - a. Chemical cut at ~6,350' (exact depth determined via freepoint and CBL)
 - b. RU casing jacks and POOH – LD 4.5" casing.
16. PU and RIH w/ tubing to 1,892'
17. Mix and pump ~48 sacks for plug from 1,692'-1,892' across bottom of 7" casing (Class A cement + 2% CaCl₂, 20% excess included; yield = 1.18 ft³/sk, WR=5.2 gal/sk).
 - a. Displace to balance plug
 - b. Slowly pull out of cement plug and LD tubing.
 - c. Reverse circulate tubing clear of cement
 - d. WOC and tag TOC @ 1,692'
 - e. If top of cement is deeper than 1,692', mix and spot cement so top is a minimum depth of 1,692'. Tag TOC.
18. Pull up to 1,400'
19. Mix and pump ~24 sacks from 1,300'-1,400' (Class A cement + 2% CaCl₂, 20% excess included; yield = 1.18 ft³/sk, WR=5.2 gal/sk)
20. Pull up to 303'
21. Mix and pump ~72 sacks from 303'-3' (Class A cement + 2% CaCl₂, 20% excess included; yield = 1.18 ft³/sk, WR=5.2 gal/sk)
22. TOOH
23. Wait on cement 8hrs.
24. Cut Casing @ TOC = 3' below ground level
25. Set marker with API number (API No.: 47-017-05814)
26. Cover and reclaim location to natural conditions.



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★ SET 200' CLASS A CEMENT RUG
150' ABOVE CASING CUT.
CASING CUT ≈ 5500'.

Handwritten signature
10/28/17

12/01/2017

Wellbore Diagram

12/20/2016

Elev.: 805'

Spud: 12/18/2007
Frac'd: 8/25/2008

**Freshwater show @ 15'

100' plug from 1,300'-1,400'

6 5/8" Intermediate Casing
Set @ 1,792' w/ 300 sks

200' plug from 1,692'-1,892'

Assumed 6 1/4" hole size

100' plug

2nd CIBP @ 6,452'

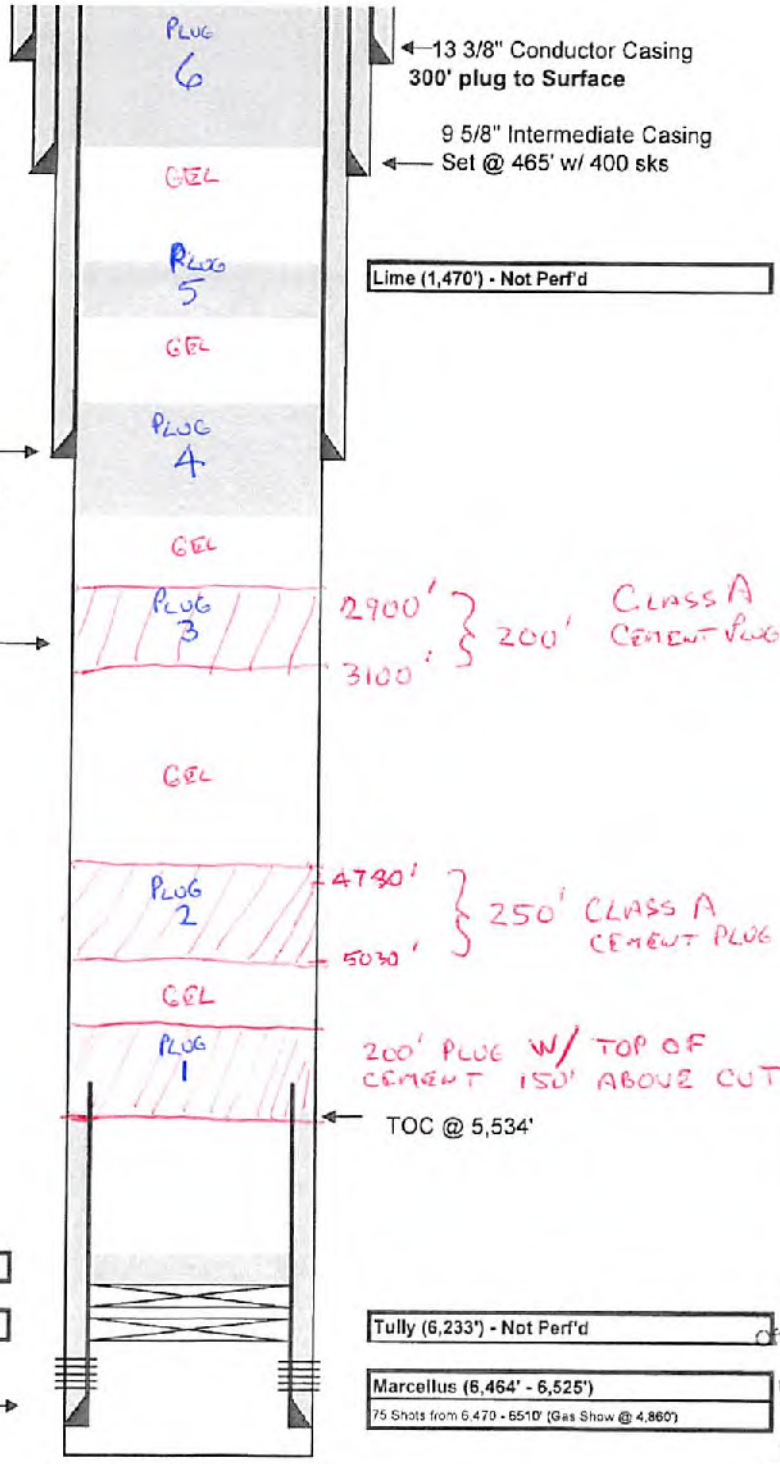
CIBP @ 6,465'

4-1/2" Production Casing
Set @ 6,525' w/ 65 sks

Antero Resources Corporation

Powell 7

API: 47-017-05814



TD @ 6,534'

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DAE
10/29/17

12/01/2017

1 Feet

Measurement Result

1,665.9 Feet



1702314 ABRWOODS

1705814P

12/01/2017



STATE OF WEST VIRGINIA
DEPARTMENT OF MINES

Oil and Gas Division

WELL RECORD

1702314
IS
OFFSET WELL
TO M05814P

Quadrangle _____

Permit No. B0DD-2314

Rotary X Oil _____
Cable _____ Gas _____
Recycling _____ Comb. _____
Water Flood _____ Storage _____
Disposal _____ (Kind) _____

Company <u>Key Oil Company</u>	Casing and Tubing	Used in Drilling	Left in Well	Cement fill up Cu. ft. (Sks.)
Address <u>West Union, WV</u>	Size			
Farm <u>Clarence Powell</u> Acres <u>260.8</u>	20-16			
Location (waters) <u>Buckeye Fork</u>	Cond.			
Well No. <u>1</u> Elev. <u>865</u>	13-10"			
District <u>Grant</u> County <u>Doddridge</u>	9 5/8			
The surface of tract is owned in fee by _____	5/8	1485		
<u>Clarence Powell, et al</u>	7			
Address <u>West Union, WV</u>	5 1/2			
Mineral rights are owned by <u>Clarence Powell, et al</u>	4 1/2	5080		
Address <u>West Union, WV</u>	3			
Drilling Commenced <u>11-8-78</u>	2 1/2	4900		
Drilling Completed <u>11-11-78</u>	Liners Used			
Initial open flow _____ cu. ft. _____ bbls.				
Final production <u>300,000</u> ft. per day _____ bbls.				
Well open <u>8</u> hrs. before test <u>1400</u> RP.				

Well treatment details:

Attach copy of cementing record.

740 bbl 20,000 80/100 40,000 20/40 1st stage 4943-4950
4965-4973

594 bbl 10,000 80/100 35,000 20/40 2nd stage 4789-4794

596 bbl 10,000 80/100 35,000 20/40 3rd stage 3008-3012 3032-3044

Coal was encountered at _____ Feet _____ Inches

Fresh water 1160 Feet _____ Salt Water _____ Feet _____

Producing Sand Warren, Cedar Creek & Alexander Depth _____

Formation	Color	Hard or Soft	Top Feet	Bottom Feet	Oil, Gas or Water	* Remarks
Clay, Sand, Shale	Red	Rock	0	1550		
Big Lime			1550	1630		
Big Injun			1630	1710		
Shale			1710	2308		
Gordon			2308	2320		
Shale			2320	3006		
Warren			3006	3073		
Shale			3073	4785		
Cedar Creek			4785	4795		
Shale			4795	4875		
Alexander			4875	4975		
Shale			4975	5304		

(over)

* Indicates Electric Log tops in the remarks section.

STATE OF WEST VIRGINIA
DEPARTMENT OF MINES
OIL AND GAS WELLS DIVISION

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NOV 29 1978

1702314
15
OFFSET WELL
1705814P

INSPECTOR'S WELL REPORT OIL & GAS DIVISION
DEPT. OF MINES

Permit No. Dod-2314

Oil or Gas Well _____
(KIND)

Company Address Farm Well No. District Drilling commenced Drilling completed Date shot Initial open flow Open flow after tubing Volume Stock pressure Oil Fresh water Salt water	CASING AND TUBING Size	USED IN DRILLING	LEFT IN WELL	PACKERS Kind of Packer Size of Depth set Perf. top Perf. bottom Perf. top Perf. bottom
<u>Key Oil Company</u>				
<u>106 Marie St. West Union, W. Va.</u>				
<u>Clarence Powell</u>				
<u>1</u>				
<u>Grant County, Doddridge</u>				
<u>11/11/78</u>				
<u>11/18/78</u> Total depth <u>5317</u>	<u>11 3/4"</u>	<u>37</u>	<u>37</u>	
	<u>8 5/8"</u>	<u>1471</u>	<u>Cemented with - 340 sks</u>	
	<u>4 1/2"</u>	<u>5029</u>	<u>Cemented with - 550 sks</u>	

Drillers' Names W. Hatfield - Tool Pusher
Fox Drilling Co. - Contractor
 Remarks: Completion Information From Fox Drilling Co.

11/27/78
DATE

Paul H. Howell-504
DISTRICT WELL INSPECTOR

WELL DETERMINATION REPORT

1702314

IS OFFSET WELL TO

PARTICIPANTS:

DATE: DEC 12 1979

BUYER-SELLER CODE

WELL OPERATOR: Key Oil Company

N/A

FIRST PURCHASER: NONE

1705814P

OTHER:

Production Section 143 see notes production well, signed

W. Va. Department of Mines, Oil & Gas Division
WELL DETERMINATION FILE NUMBER
790466-103-017-2314
Use Above File Number on all Communications
Relating to Determination of this Well

CHECK EACH ITEM AS COMPLETE OR NOTE WHAT IS MISSING

ITEM NO.

- 1 FERC-121 Items not completed - Line No. _____
- 2 IV-1 - Agent HAYS and Company, Inc. (No other agent listed)
- 3 IV-2 - Well Permit
- 4 IV-6 - Well Plat
- 5 IV-35- Well Record Drilling Deepening _____
- 6 IV-36- Gas-Oil Test: Gas Only _____ Was Oil Produced? _____ Ratio _____
- 7 IV-39- Annual Production NONE years
- 8 IV-40- 90 day Production NONE Days off Line: _____
- 9 IV-43- Application for Certification. Complete?
- 10 - 17 IV Form #51 - 52 - 53 - 54 - 55 - 56 - 57 - 58. Complete Affidavit Signed
- 18 - 28 Other: Survey _____ logs _____ Geological Charts _____ Structure Map _____
1:4000 _____ Well Tabulations _____ Gas Analyses _____
- (5) Date Commenced: 78
Date FRACED: 11-11-78 _____ Deepened _____
- (5) Production Depth: 3006-3013; 4785-4795; 4875-4975
- (5) Production Formation: WHEELER, Cedar Creek, Alexander
- (5) Final Open flow: 300,000 CF/d
- (5) Rock pressure after fraced: 1400 - 8 hrs.
- (6) Other Gas Test: _____
- (7) Avg. Daily Gas from Annual Production: NO PRODUCTION
- (8) Avg. Daily Gas from 90-day ending 11-120 days NO PRODUCTION
- (8) Line Pressure: NONE PSIG from Daily Report
- (5) Oil Production: NO From Completion Report
- (10-17) Does lease inventory indicate enhanced recovery being done? NO
- (10-17) Is affidavit signed? Notarized?
- Does official well record with the Department confirm the submitted information? YES
- Additional Information _____ Does computer program confirm? _____
- Determination Objected to? _____ By Whom? _____

SML

12/01/2017

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

AFFIDAVIT OF PLUGGING AND FILLING WELL

AFFIDAVIT SHOULD BE IN TRIPLICATE, one copy mailed to the Department, one copy to be retained by the Well Operator and the third copy (and extra copies if required) should be mailed to each coal operator at their respective addresses.

Farm name: Dennis & Millie Powell Operator Well No.: Powell 7

LOCATION: Elevation: 805' Quadrangle: Smithburg 7.5'
District: Grant County: Doddridge
Latitude: 6690' Feet South of 39 Deg. 17 Min. 30 Sec.
Longitude: 4660' Feet West of 80 Deg. 40 Min. 00 Sec.

Well Type: OIL _____ GAS X

Company Antero Resources Appalachian Corporation Coal Operator NO DECLARATIONS ON RECORD WITH COUNTY
1625 17th Street or Owner _____
Denver, CO 80202 _____
Agent Dianna Stamper - CT Corporation System Coal Operator _____
Permit Issued Date 11/26/2012 or Owner _____

AFFIDAVIT

STATE OF WEST VIRGINIA,
County of Harrison ss:

Ricky Jones and Terry Wyckoff being first duly sworn according to law depose and say that they are experienced in the work of plugging and filling oil and gas wells and were employed by the above named well operator, and participated in the work of plugging and filling the above well say that said work was commenced on the 30 day of November, 2012, and the well was plugged and filled in the following manner:

TYPE	FROM	TO	PIPE REMOVED
			CEMENT USED
Cement Plug	6452'		147 sx Class A
Cement Plug	6448'		CTS - 26 sx Class A

Description of monument: Welded cap and stand pipe with monument with API# and that the work of plugging and filling said well was completed on the 30 day of November, 2012.

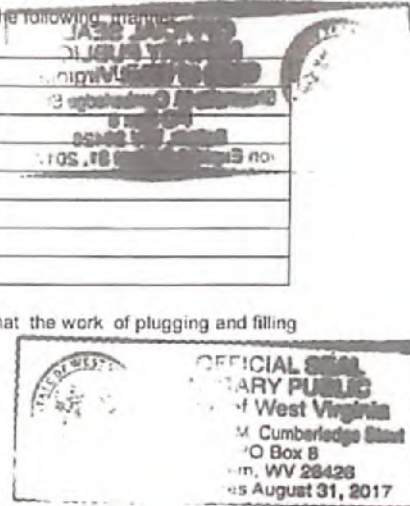
And further deponents saith not. _____

Sworn and subscribe before me this 30 day of November, 2012

My commission expires: August 31, 2017

Sharon M. Cumberlandy Stork
Notary Public

Affidavit reviewed by the Office of Oil and Gas _____ Title: _____



Received
Office of Oil & Gas
SEP 15 2016

WR-35
Rev (5-01)

DATE: 05-01-09
API #: 47-017-05814

State of West Virginia
Department of Environmental Protection
Office of Oil and Gas

Well Operator's Report of Well Work

Farm name: Dennis & Mellie Powell

Operator Well No.: Powell #7

LOCATION: Elevation: 805'

Quadrangle: Smithburg 7.5'

District: Grant
Latitude: 4,660 Feet South of
Longitude 6,690 Feet West of

County: Doddridge
39 Deg. 17 Min. 30 Sec.
80 Deg. 40 Min. 00 Sec.

Company:	Casing & Tubing	Used in drilling	Left in well	Cement fill up Cu. Ft.
Tapo Energy, Inc.				
Address:				
P.O. Box 235 West Union, WV 26456	13 3/8			
Agent: Jerry Poling				
Inspector: David Scranage /	9 5/8	465	465	400 sks
Date Permit Issued: 03/02/09				
Date Well Work Commenced: 03/19/09	6 5/8	1790	1790	300 sks
Date Well Work Completed: 03/26/09				
Verbal Plugging:	4 1/2	6534	6525	65 sks
Date Permission granted on:				
Rotary X Cable Rig				
Total Depth (feet): 6534				
Fresh Water Depth (ft.): 15'				
Salt Water Depth (ft.): N/A				
Is coal being mined in area (N/Y)? N				
Coal Depths (ft.): N/A				

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NOV 09 2017

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OPEN FLOW DATA

Producing formation Marcellus Pay zone depth (ft) 6462-6518 ft.
Gas: Initial open show MCF/d Oil: Initial open flow _____ Bbl/d
Final open flow 500 MCF/d Final open flow _____ Bbl/d
Time of open flow between initial and final tests _____ Hours
Static rock Pressure 1000# psig (surface pressure) after 48 Hours

Second producing formation Pay zone depth (ft)
Gas: Initial open flow _____ MCF/d Oil: Initial open flow _____ Bbl/d
Final open flow _____ MCF/d Final open flow _____ Bbl/d
Time of open flow between initial and final tests _____ Hours
Static rock Pressure _____ psig (surface pressure) after _____ Hours

* = commingled zones

NOTE: ON BACK OF THIS FORM PUT THE FOLLOWING: 1). DETAILS OF PERFORATED INTERVALS, FRACTURING OR STIMULATING, PHYSICAL CHANGE, ETC. 2). THE WELL LOG WHICH IS A SYSTEMATIC DETAILED GEOLOGICAL RECORD OF ALL FORMATIONS,

Signed:

By: _____
Date: _____

Julian
10/25/17

17-05814P

Powell #7
47-017-05814

Stage #1	perfs	sand	avg rate	isip
Marcellus	6470-6510 75 holes	5000 sks	55 bpm	3200#

Drillers Log

Sh	0	10
Sd/Sh	10	250
Sd	250	385
Sd/Sh	385	625
Sd	625	715
Sd/Sh	715	1120
Sd	1120	1250
Sh	1250	1280
Sd	1280	1300
Sh	1300	1470
Lime	1470	1570
Sd	1570	1680
Sh	1680	2210
Sd	2210	2220
Sd/Sh	2220	6250
Lime	6250	6270
Shale	6270	6470
Bl Shale	6470	6525
Lime	6525	6538
Td	6538	

gas ck @ TD = show

Electric Log Tops

Lime	1470
Tully	6233
Marcellus	6464-6525
Onandoga	6525

Paul G. M.
10/28/17

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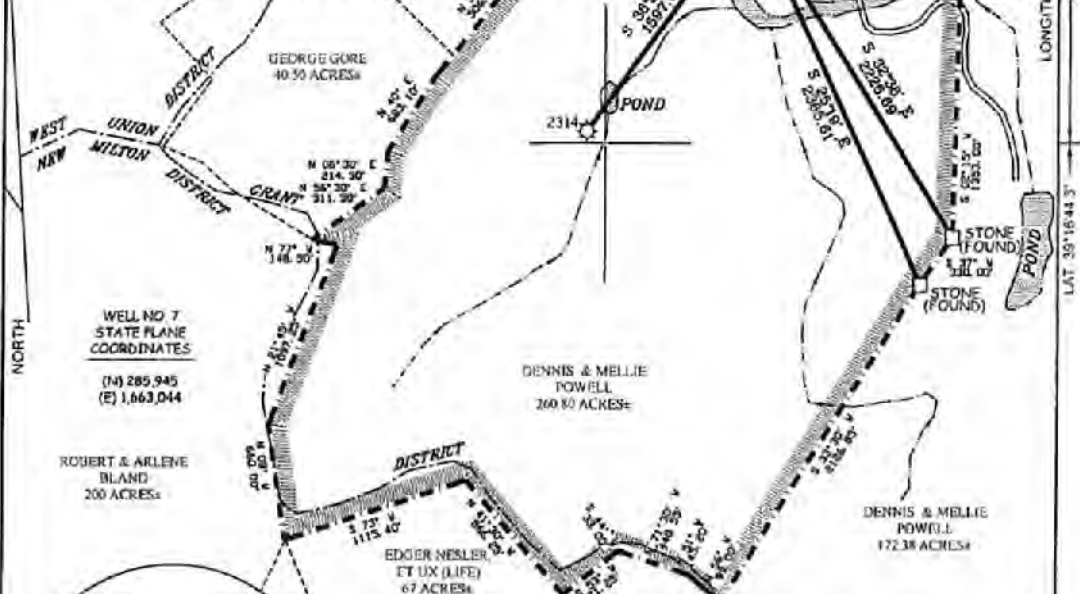
NOV 20 2012

WV Department of
Environmental Protection

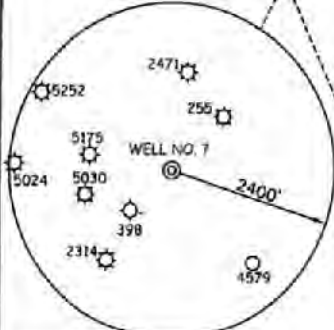
12/01/2017

FORM # 8 LONG 80°41'25.2" 6.690 LATITUDE 39°17'30" 4.880

POWELL LEASE 260.80 ACRES ± WELL NO. 7

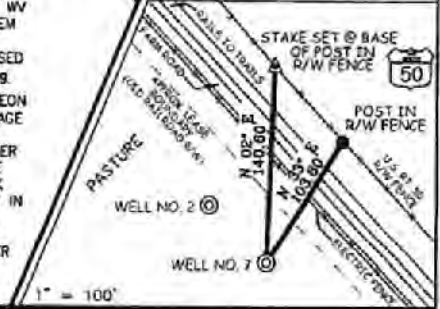


WELL NO. 7
STATE PLANE
COORDINATES
(N) 285,945
(E) 1,663,044



- ### NOTES ON SURVEY
1. TIES TO WELLS AND CORNERS ARE BASED ON GRID NORTH FOR THE WV STATE PLANE COORDINATE SYSTEM NORTH ZONE NAD '27.
 2. TIES TO REFERENCES ARE BASED ON MAGNETIC NORTH 01-30-09.
 3. LEASE BOUNDARY SHOWN HEREON TAKEN FROM DEED BOOK 200 PAGE 532.
 4. SURFACE OWNER AND ADJOINER INFORMATION TAKEN FROM THE ASSESSOR AND COUNTY CLERK RECORDS OF DODDRIDGE COUNTY IN JULY, 2008.
 5. WELL LAT./LONG. (NAD'27) ESTABLISHED BY DGPS(SUBMETER MAPPING GRADE).

REFERENCES



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 REGULATIONS ISSUED AND PRESCRIBED BY THE DIVISION OF ENVIRONMENTAL PROTECTION

P.S. *Gregory A. Smith*
677



(*) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS.
DATE JANUARY 30 20 09
OPERATORS WELL NO. POWELL #7
API WELL NO. 47-017-05814
STATE COUNTY PERMIT

MINIMUM DEGREE OF ACCURACY 1/200 FILE NO. 4331AP7(271-66)
PROVEN SOURCE OF ELEVATION DGPS (SUBMETER MAPPING GRADE) SCALE 1" = 800'

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

WELL TYPE	OIL	GAS	<input checked="" type="checkbox"/>	LIQUID INJECTION	WASTE DISPOSAL	IF "GAS" PRODUCTION	<input checked="" type="checkbox"/>	STORAGE	DEEP	SHALLOW	<input checked="" type="checkbox"/>	
LOCATION ELEVATION	<u>805'</u>											
DISTRICT	<u>GRANT</u>											
COUNTY	<u>DODDRIDGE</u>											
QUADRANGLE	<u>SMITHBURG 7.5'</u>											
SURFACE OWNER	<u>DENNIS & MELLIE POWELL</u>											
ACREAGE	<u>260.80±</u>											
ROYALTY OWNER	<u>DENNIS POWELL, ET AL</u>											
LEASE ACREAGE	<u>260.80±</u>											
PROPOSED WORK	LEASE NO. _____											
DRILL	<input checked="" type="checkbox"/>	CONVERT	_____	DRILL DEEPER	_____	REDRILL	_____	FRACTURE OR STIMULATE	<input checked="" type="checkbox"/>	PLUG OFF OLD FORMATION	_____	
PERFORATE NEW FORMATION	_____	PLUG AND ABANDON	_____	CLEAN OUT AND REPLUG	_____	OTHER	_____					
PHYSICAL CHANGE IN WELL (SPECIFY)	_____											
TARGET FORMATION	<u>MARCELLUS</u>											
ESTIMATED DEPTH	<u>7,800'</u>											

WELL OPERATOR TAPO DESIGNATED AGENT JERRY POLING
ADDRESS P.O. BOX 235 WEST UNION, WV 26458 ADDRESS P.O. BOX 235 WEST UNION, WV 26458

12/01/2017

WW-4A
Revised 6-07

1) Date: October 4, 2017
2) Operator's Well Number
Powell 7

3) API Well No.: 47 - 017 - 05814

STATE OF WEST VIRGINIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS
NOTICE OF APPLICATION TO PLUG AND ABANDON A WELL

4) Surface Owner(s) to be served:	5) (a) Coal Operator
(a) Name <u>Dennis & Melle M. Powell</u>	Name <u>NO DECLARATIONS ON RECORD WITH COUNTY</u>
Address <u>124 Stuart Street</u>	Address _____
<u>West Union, WV 26456</u>	_____
(b) Name _____	(b) Coal Owner(s) with Declaration
Address _____	Name <u>NO DECLARATIONS ON RECORD WITH COUNTY</u>
_____	Address _____
(c) Name <u>*All other surface owners with existing access road</u>	Name _____
Address <u>disturbance are off-lease and not required to be notified.</u>	Address _____
_____	_____
6) Inspector <u>Daniel Flack</u>	(c) Coal Lessee with Declaration
Address <u>601 57th Street SE</u>	Name <u>NO DECLARATIONS ON RECORD WITH COUNTY</u>
<u>Charleston, WV 25304</u>	Address _____
Telephone <u>304-545-0109</u>	_____


TO THE PERSONS NAMED ABOVE: You should have received this Form and the following documents:

- (1) The application to Plug and Abandon a Well on Form WW-4B, which sets out the parties involved in the work and describes the well its and the plugging work order; and
- (2) The plat (surveyor's map) showing the well location on Form WW-6.

The reason you received these documents is that you have rights regarding the application which are summarized in the instructions on the reverses side. However, you are not required to take any action at all.

Take notice that under Chapter 22-6 of the West Virginia Code, the undersigned well operator proposes to file or has filed this Notice and Application and accompanying documents for a permit to plug and abandon a well with the Chief of the Office of Oil and Gas, West Virginia Department of Environmental Protection, with respect to the well at the location described on the attached Application and depicted on the attached Form WW-6. Copies of this Notice, the Application, and the plat have been mailed by registered or certified mail or delivered by hand to the person(s) named above (or by publication in certain circumstances) on or before the day of mailing or delivery to the Chief.

Well Operator Antero Resources Corporation

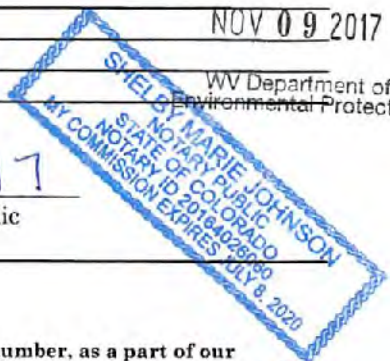
By: Robert S. Tucker  RECEIVED
Office of Oil and Gas

Its: Vice President of Geology

Address 1615 Wynkoop Street

Denver, CO 80202

Telephone 303-357-7310



Subscribed and sworn before me this 4th day of October 2017

[Signature] Notary Public

My Commission Expires 7/8/2020

Oil and Gas Privacy Notice

The Office of Oil and Gas processes your personal information, such as name, address and phone number, as a part of our regulatory duties. Your personal information may be disclosed to other State agencies or third parties in the normal course of business or as needed to comply with statutory or regulatory requirements, including Freedom of Information Act requests. Our office will appropriately secure your personal information. If you have any questions about our use of your personal information, please contact DEP's Chief Privacy Officer at depprivacyofficer@wv.gov.

1705814 P

WW-9
Rev. 5/08

Page _____ of _____
API Number 47 - 017 - 05814
Operator's Well No. Powell 7

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

CONSTRUCTION AND RECLAMATION PLAN AND SITE REGISTRATION APPLICATION FORM
GENERAL PERMIT FOR OIL AND GAS PIT WASTE DISCHARGE

Operator Name Antero Resources Corporation OP Code 494507062

Watershed Headwaters Middle Island Creek Quadrangle Smithburg 7.5'

Elevation 811' County Doddridge District Grant

Description of anticipated Pit Waste: No pit will be used at this site (All fluids will be stored in tanks and either reused or hauled off site.) *ANA DISPOSED OF PROPERLY. gwm.*

Will a synthetic liner be used in the pit? N/A

Proposed Disposal Method For Treated Pit Wastes:

- Land Application
- Underground Injection (UIC Permit Number UIC Permit # will be provided on Form WR-34)
- Reuse (at API Number Future permitted well locations when applicable. API# will be provided on Form WR-34)
- Off Site Disposal (Supply form WW-9 for disposal location) (Meadowfill Landfill Permit #SWF-1032-98) Northwestern Landfill Permit #SWF-1025/WV0109410
- Other (Explain _____)

Proposed Work For Which Pit Will Be Used:

- Drilling
- Workover
- Other (Explain _____)
- Swabbing
- Plugging

I certify that I understand and agree to the terms and conditions of the GENERAL WATER POLLUTION PERMIT issued on August 1, 2005, by the Office of Oil and Gas of the West Virginia Department of Environmental Protection. I understand that the provisions of the permit are enforceable by law. Violations of any term or condition of the general permit and/or other applicable law or regulation can lead to enforcement action.

I certify under penalty of law that I have personally examined and am familiar with the information submitted on this application form and all attachments thereto and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine or imprisonment.

Company Official Signature *Gretchen Kohler* RECEIVED Office of Oil and Gas
Company Official (Typed Name) Gretchen Kohler
Company Official Title Senior Environmental & Regulatory Manager NOV 09 2017

WV Department of Environmental Protection

Subscribed and sworn before me this 4 day of October, 20 17

S. Johnson Notary Public

My commission expires 7/8/2020

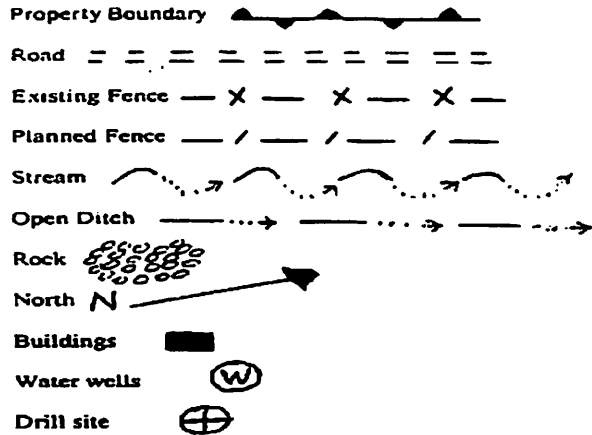


*Chad G m
10/29/17*

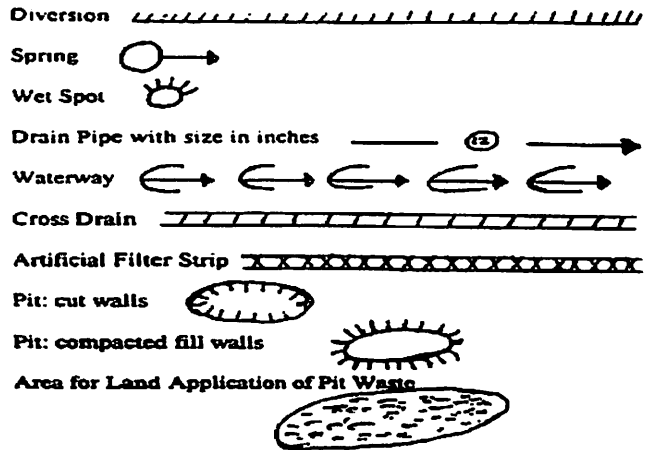
12/01/2017

Form WW-9

Operator's Well No. Powell 7



LEGEND



Proposed Revegetation Treatment: Acres Disturbed 2.04 acres Prevegetation pH _____

Lime 2-3 Tons/acre or to correct to pH 6.5

Fertilizer (10-20-20 or equivalent) 500 lbs/acre (500 lbs minimum)

Mulch 2-3 Tons/acre (Hay, straw or wood fiber (will be used where needed))

Seed Mixtures

Seed Type	Area I	lbs/acre
Annual Ryegrass		40
Field Bromegrass		40

Please reference Table IV-3 on page 5 of the Powell 7 Well Plugging Plan

*or type of grass seed requested by surface owner

Seed Type	Area II	lbs/acre
Crownvetch		10-15
Tall Fescue		30

Please reference Table IV-4A on page 5 of the Powell 7 Well Plugging Plan

*or type of grass seed requested by surface owner

Attach:
Drawing(s) of road, location, pit and proposed area for land application.

Photocopied section of involved 7.5' topographic sheet.

Plan Approved by: [Signature]

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NOV 09 2017

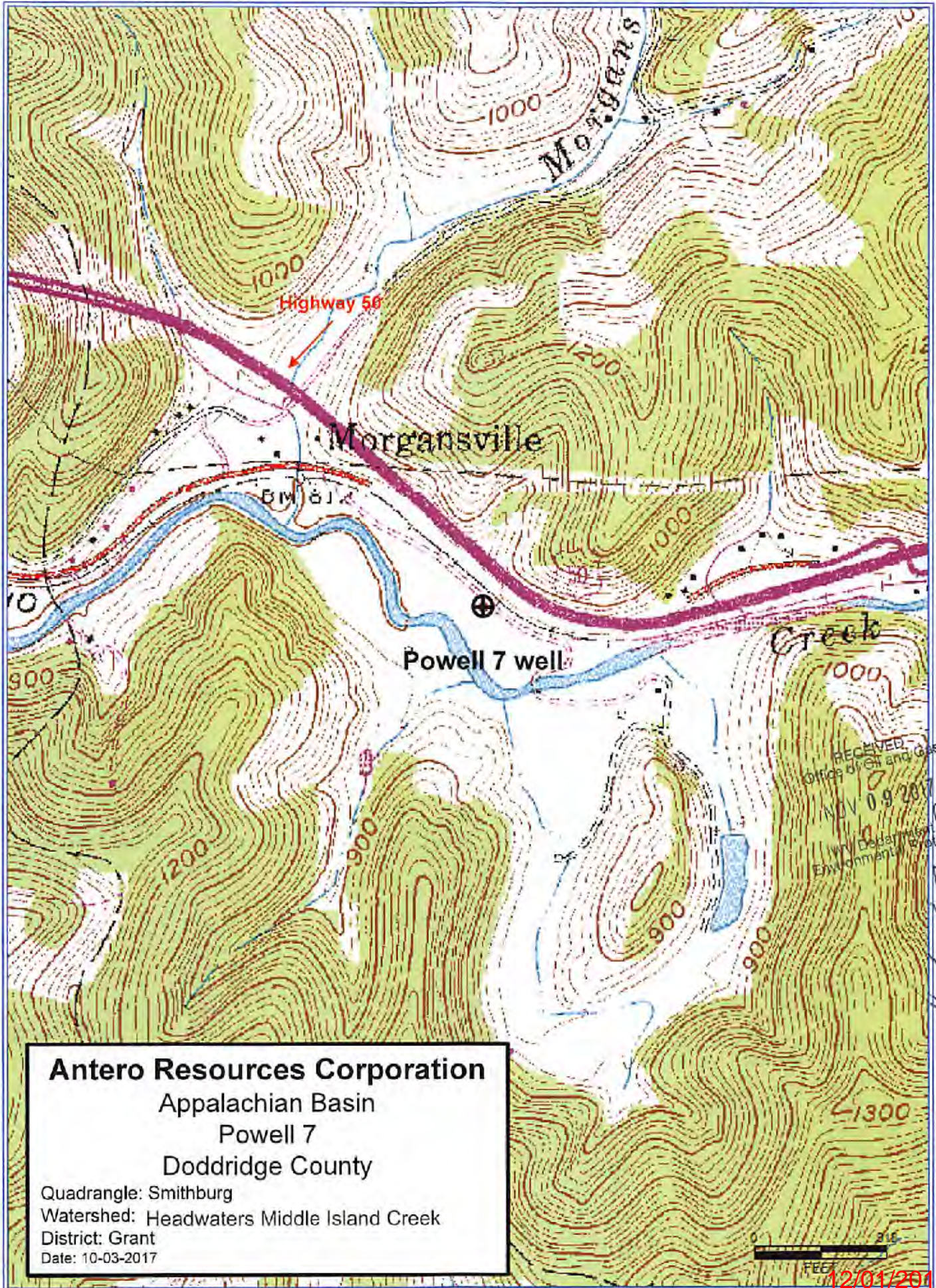
Comments: _____

WV Department of
Environmental Protection

Title: D: I + Gas Inspector

Date: 10/23/17

Field Reviewed? () Yes () No



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NOV 09 2017
West Virginia Department of
Environmental Protection

*check to me
10/28/17*

12/01/2017

1705814P

WW-7
8-30-06



West Virginia Department of Environmental Protection
Office of Oil and Gas

WELL LOCATION FORM: GPS

API: 47-017-05814 WELL NO.: Powell 7
FARM NAME: Powell, Dennis & Mellie
RESPONSIBLE PARTY NAME: Antero Resources Corporation
COUNTY: Doddridge DISTRICT: Grant
QUADRANGLE: Smithburg
SURFACE OWNER: Dennis & Mellie M Powell
ROYALTY OWNER: Dennis & Mellie M Powell
UTM GPS NORTHING: 4347789.68 m
UTM GPS EASTING: 526726.11 m GPS ELEVATION: 247.07 m (810.4')

The Responsible Party named above has chosen to submit GPS coordinates in lieu of preparing a new well location plat for a plugging permit or assigned API number on the above well. The Office of Oil and Gas will not accept GPS coordinates that do not meet the following requirements:

- 1. Datum: NAD 1983, Zone: 17 North, Coordinate Units: meters, Altitude: height above mean sea level (MSL) – meters.
- 2. Accuracy to Datum – 3.05 meters
- 3. Data Collection Method:

Survey grade GPS : Post Processed Differential _____
Real-Time Differential

Mapping Grade GPS : Post Processed Differential _____
Real-Time Differential

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Environmental Protection

4. Letter size copy of the topography map showing the well location.

I the undersigned, hereby certify this data is correct to the best of my knowledge and belief and shows all the information required by law and the regulations issued and prescribed by the Office of Oil and Gas.

Matt [Signature] Permitting Supervisor 11/27/17
Signature Title Date

12/01/2017

API#47-017 WELL #POW WELL PLUGGING

GRANT DISTRICT, DODDRIDGE CO
BUCKEYE CREEK WAT
USGS 7.5 WEST UNION & SMIT

LOCATION COORDINATES:

ACCESS ROAD ENTRANCE
LATITUDE: 39.281346 LONGITUDE: -80.693477 (NAD 83)
N 4348043.36 E 526436.98 (UTM ZONE 17 METERS)

CENTROID OF PAD
LATITUDE: 39.279090 LONGITUDE: -80.690285 (NAD 83)
N 4347793.97 E 526714.64 (UTM ZONE 17 METERS)

GENERAL DESCRIPTION:

THE EXISTING ACCESS ROAD AND WELL PAD ARE BEING UPGRADED TO AID IN THE PLUGGING OF EXISTING INDIVIDUAL GAS WELL.

FLOODPLAIN NOTES:

THE PROPOSED SITE IS LOCATED WITHIN FEMA FLOOD ZONE "X" PER FEMA FLOOD MAP #54017C0140C.

MISS UTILITY STATEMENT:

ANTERO RESOURCES CORPORATION WILL NOTIFY MISS UTILITY OF WEST VIRGINIA FOR THE LOCATING OF UTILITIES PRIOR TO THIS PROJECT DESIGN. IN ADDITION, MISS UTILITY WILL BE CONTACTED BY THE CONTRACTOR PRIOR TO THE START OF CONSTRUCTION FOR THIS PROJECT.

ENTRANCE PERMIT:

ANTERO RESOURCES CORPORATION WILL OBTAIN AN ENCROACHMENT PERMIT (FORM MM-109) FROM THE WEST VIRGINIA DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS, PRIOR TO COMMENCEMENT OF CONSTRUCTION ACTIVITIES, IF REQUIRED.

GEOTECHNICAL NOTES:

NO SOIL STUDIES OR SUBSURFACE INVESTIGATIONS WERE PERFORMED AND ANALYZED FOR THE DESIGN OF THIS SITE.

ENVIRONMENTAL NOTES:

NO WETLAND AND STREAM DELINEATION WAS PERFORMED FOR THIS SITE.

PROJECT CONTACTS:

OPERATOR:

ANTERO RESOURCES CORPORATION
535 WHITE OAKS BLVD.
BRIDGEPORT, WV 28330
PHONE: (304) 842-4100
FAX: (304) 842-4102

ELI WAGONER - ENVIRONMENTAL ENGINEER
OFFICE: (304) 842-4068 CELL: (304) 476-9770

JON McEVERS - OPERATIONS SUPERINTENDENT
OFFICE: (303) 357-9799 CELL: (303) 906-2423

AARON KUNZLER - CONSTRUCTION SUPERVISOR
CELL: (405) 227-6344

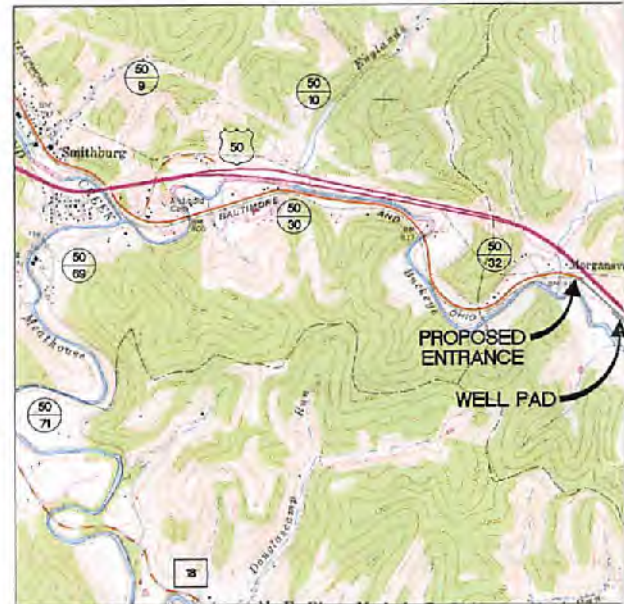
ROBERT B. WIRKS - FIELD ENGINEER
OFFICE: (304) 842-4100 CELL: (304) 627-7405

CHARLES E. COMPTON, III - SURVEYING COORDINATOR
CELL: (304) 719-6449

RICHARD LYLES - LAND AGENT
CELL: (770) 378-0833

ENGINEER/SURVEYOR:

NAVITUS ENGINEERING, INC.
CYRUS S. KUMP, PE - PROJECT MANAGER/ENGINEER
OFFICE: (888) 662-4185 CELL: (540) 686-6747



WEST VIRGINIA COUNTY MAP



(NOT TO SCALE)

MISS Utility of West
1-800-245-48
West Virginia Stat
(Section XIV: Chapt
Requires that you
business days before
the state of West V
IT'S THE LAW

REPRODUCTION NOTE

THESE PLANS WERE CREATED TO BE PLOTTED ON 22"x34" (ANSI D) PAPER. HALF SCALE DRAWINGS ARE ON 11"x17" (ANSI B) PAPER.

THESE PLANS WERE CREATED FOR COLOR PLOTTING AND ANY REPRODUCTIONS IN GRAY SCALE OR COLOR MAY RESULT IN A LOSS OF INFORMATION AND SHOULD NOT BE USED FOR CONSTRUCTION PURPOSES.

12/01/2017

-05814

WELL 7 DIG PLAN

WVDOH COUNTY, WEST VIRGINIA
MORGANTHAUERSHED
HUBURG QUAD MAP



WEST VIRGINIA STATE PLANE COORDINATE SYSTEM
NORTH ZONE, NAD83
ELEVATION BASED ON NAVD83
ESTABLISHED BY SURVEY GRADE GPS & OPUS
POST-PROCESSING

SHEET INDEX:

- 1 - COVER SHEET
- 2 - CONSTRUCTION AND E&S CONTROL NOTES
- 3 - LEGEND
- 4 - ACCESS ROAD & WELL PAD PLAN
- 5 - CONSTRUCTION DETAILS

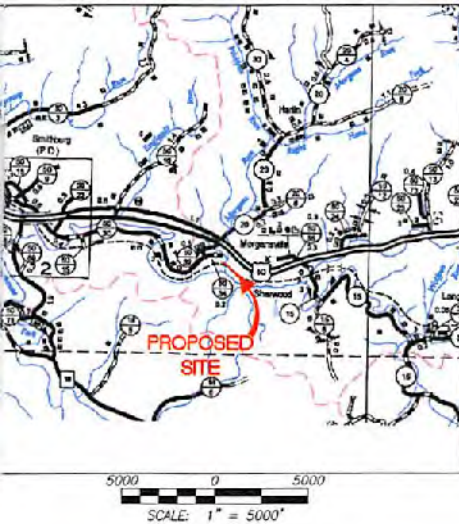
Julian 10/28/17



DATE	REVISION

API#47-017-05814 LIMITS OF DISTURBANCE AREA (AC)	
Total Site	
Total Affected Area	2.04
Total Wooded Acres Disturbed	0.00
Impacts to Dennis & Melie M Powell TM 19-31	
Total Affected Area	1.17
Total Wooded Acres Disturbed	0.00
Impacts to WV Railroad Maintenance TM 19-41	
Total Affected Area	0.87
Total Wooded Acres Disturbed	0.00

WVDOH COUNTY ROAD MAP



Proposed Well Name	WV North NAD 27	WV North NAD 83	UTM (METERS) Zone 17	NAD 83 Lat & Long
API#47-017-05814	N 285947.31	N 285983.28	N 4347789.68	LAT 39-16-44.5838
Well #Powell 7	E 1563053.06	E 1631811.99	E 526726.11	LONG -80-41-24.4843
Ex. Well Elevation	810.6			

COVER SHEET
API#47-017-05814
WELL #POWELL 7
GRANT DISTRICT
DODDRIDGE COUNTY, WEST VIRGINIA

Virginia
48
a Law
r 24-C)
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Virginia.

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Environmental Protection



DATE: 09/22/2017
SCALE: AS SHOWN
SHEET 1 OF 5

12/01/2017