

WW-3B
10/07



1) Date: October 27, 2009
2) Operator's Well No. LC-19
3) API Well No.: 47 109 01433
State County Permit
4) UIC Permit No. 2D1091433

STATE OF WEST VIRGINIA
NOTICE OF LIQUID INJECTION OR WASTE DISPOSAL WELL WORK PERMIT APPLICATION
FOR THE DEPARTMENT OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS

5) WELL TYPE: Liquid Injection ☒ / Gas Injection (not storage) ☐ / Waste Disposal ☐ /
6) LOCATION: Elevation: 2148 Watershed: Crane Fork
District: Oceana County Wyoming Quadrangle Pilot Knob
7) WELL OPERATOR: Penn Virginia Oil & Gas Corporation 8) DESIGNATED AGENT Bryant Bowman
Address Seven Sheridan Square, Suite 200 Address P.O. Box 6
Kingsport, TN 37660 Alum Creek, WV 25003
9) OIL & GAS INSPECTOR TO BE NOTIFIED 10) DRILLING CONTRACTOR
Name Barry Stollings Name N/A
Address P.O. Box 1228 Address _____
Chapmanville, WV 25508
11) PROPOSED WELL WORK Drill ☐ / Drill deeper ☐ / Redrill ☐ / Stimulate ☐
Plug off old formation ☐ / Perforate new formation ☐ / Convert ☐
Other physical change in well (specify) Renew UIC Permit
12) GEOLOGIC TARGET FORMATION Weir Depth 3540 Feet (top) to 3578 Feet (bottom)
13) Estimated Depth of Completed Well, (or actual depth of existing well): 4261 Feet
14) Approximate water strata depths: Fresh 110', 660' Feet Salt None Feet
15) Approximate coal seam depths: 275' - 278', 303' - 307', 592' - 596', 734' - 737'
16) Is coal being mined in the area? Yes ☐ No ☒
17) Virgin reservoir pressure in target formation 700 psig Source Data from wells in field
18) Estimated reservoir fracture pressure 2407 psig (BHFP) 0.68
19) MAXIMUM PROPOSED INJECTION OPERATIONS: Volume per hour 50 BBL Bottom hole pressure 2300 PSI
20) DETAILED IDENTIFICATION OF MATERIALS TO BE INJECTED, INCLUDING ADDITIVES Gas Field
Brine; No Additive Anticipated
21) FILTERS (IF ANY) _____
22) SPECIFICATIONS FOR CATHODIC PROTECTION AND OTHER CORROSION CONTROL None

23) CASING AND TUBING PROGRAM

CASING OR TUBING TYPE	SPECIFICATIONS					FOOTAGE INTERVALS		CEMENT FILL-UP OR SACKS (CU. FT.)	PACKERS
	Size	Grade	Weight per ft.	New	Used	For Drilling	Left In Well		
Conductor	16					30	30		Kinds Tension
Fresh Water	11 3/4	H-40	42			298	298	177	
Coal	8 5/8	J-55	24			1553	1553	476	Sizes 4 1/2 x 2 3/8
Intermediate									
Production	4 1/2	J-55	10.5				4186	455	Depths set 3492
Tubing	2 3/8	J-55	4.7						
Liners									Perforations Weir
									Top Bottom
									3550 3570

24) APPLICANT'S OPERATING RIGHTS were acquired from UMC Corporation
by deed ☐ / lease ☐ / other contract ☒ / dated January 1, 1995 of record in the
Wyoming County Clerk's office in Book 010 Page(s) 147

OFFICE USE ONLY

DRILLING PERMIT

Permit Number _____

Date: _____

This permit covering the well operator and well location shown below is evidence of permission granted to drill in accordance with the pertinent legal requirements subject to the conditions contained herein and on the reverse hereof. Notification must be given to the District Oil & Gas Inspector, (Refer to No. 9) prior to the construction of roads, locations, pits for any permitted work. In addition, the Well Operator or his contractor shall notify the proper District Oil & Gas Inspector 24 hours before actual permitted work has commenced.

The permitted work is as described in the Notice of Application, plat and (if required) Construction and Reclamation Plan, subject to any modifications and conditions specified below.

Permit Expires _____ unless well work is commenced prior to that date and prosecuted with due diligence.

Bond	Agent	Plat	Casing	Fee
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CHIEF, OFFICE OF OIL & GAS

Note: Keep One Copy of this permit posted at the drilling location.

PERMIT MODIFICATIONS AND CONDITIONS (IF ANY) TO THE PROPOSED WELL WORK

OFFICE USE ONLY

This part of Form IV-3(b) is to record the dates of certain occurrences and any follow-up inspections.

	Date		Date
Application Received	_____	Follow-up Inspection(s)	_____
Well Work Started	_____	" "	_____
Total Depth Reached	_____	" "	_____
Well Record Received	_____	" "	_____
Reclamation Completed	_____	" "	_____

OTHER INSPECTIONS

Reason: _____
Reason: _____



PENN VIRGINIA OIL & GAS CORPORATION

A subsidiary of Penn Virginia Corporation

November 2, 2009

CERTIFIED MAIL
7008 1140 0000 8536 1275

WV Dept. of Environmental Protection
Office of Oil & Gas
Permitting Branch
601 57th Street SE
Charleston, WV 25304-2345

RE: LC-19 WIW Water Injection Well
API # 47-109-01433 Permit Renewal
Wyoming County, West Virginia

Dear Sir or Madam:

Enclosed please find one original and a copy of the water injection permit application forms WW-3A and WW-3B for the above referenced water well to be re-permitted.

If you have any problems or questions, please call at the number listed below.

Sincerely,

Kita Gibson
Production Technician

RECEIVED
Office of Oil & Gas

NOV 05 2009

WV Department of
Environmental Protection

WW-3A
10/07



1) Date: October 27, 2009
2) Operator's Well No. LC-19
3) API Well No.: 47 - 109 - 01433
State County Permit
4) UIC Permit No. 2D1091433

STATE OF WEST VIRGINIA
NOTICE OF LIQUID INJECTION OF WASTE DISPOSAL WELL WORK PERMIT APPLICATION
FOR THE DEPARTMENT OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS,

5) Surface Owner(S) To Be Served	7) (a) Coal Operator
(a) Name <u>Pocahontas Land Corporation</u>	Name <u>Patriot Coal Company</u>
Address <u>P.O. Box 1517</u>	Address <u>600 Laidley Tower</u>
<u>Bluefield, WV 24701</u>	<u>Charleston, WV 25324</u>
(b) Name _____	7) (b) Coal Owner(S) With Declaration Of Record
Address _____	Name <u>Pocahontas Land Corporation</u>
(c) Name _____	Address <u>P.O. Box 1517</u>
Address _____	<u>Bluefield, WV 24701</u>
6) Inspector <u>Barry Stollings</u>	7) (c) Coal Lessee with Declaration Of Record
Address <u>P.O. Box 1228</u>	Name <u>Eastern Associated Coal Corporation</u>
<u>Chapmanville, WV 25508</u>	Address <u>800 Laidley Tower</u>
Telephone <u>304-552-4194</u>	<u>Charleston, WV 25324</u>

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

- (1) The Application For A Liquid Injection or Waste Disposal Well Work Permit on Form WW-3(B), which sets out the parties involved in the drilling or other work;
- (2) The plat (surveyor's map) showing the well location on Form WW-6; and
- (3) The Construction and Reclamation Plan on Form WW-9 (unless the well work is only to plug a well), which sets out the plan for erosion and sediment control and for reclamation for the site and access road.

The date proposed for the first injection or waste disposal is Permit Renewal October 20 09.

THE REASON YOU HAVE RECEIVED THESE DOCUMENTS IS THAT YOU HAVE RIGHTS REGARDING THE APPLICATION WHICH ARE SUMMARIZED IN THE "INSTRUCTIONS" ON THE REVERSE SIDE OF THE COPY OF THE APPLICATION [(FORM WW-3(B))] DESIGNATED TO YOU. HOWEVER YOU ARE NOT REQUIRED TO TAKE 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 Well Work Permit with the Chief of the Office of Oil and Gas, West Virginia Department of Environmental Protection, with respect to a well at the location described on the attached Application and depicted on the attached Form WW-6. Copies of this Notice, the Application, the plat, and the Construction and Reclamation Plan 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 the mailing or delivery to the Chief.

The person signing this document shall make the following certification:

"I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments 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 and imprisonment.

Well Operator Penn Virginia Oil & Gas Corporation
Address Seven Sheridan Square, Suite 200
Kingsport, TN 37660
By: James Burns
Its: Operations Manager
Signature: James Burns

MIP (479)

$$.8 \text{ psi} \times 3550 - .433 \times 1.1 \times 3550$$

$$2160 - 1691$$

: 469 (WR-37-In, pressure 479
from 2005)

$$2840 - .433 \times 1.1 \times 3550$$

$$2840 - 1691$$

$$= 1149$$

Based upon .8 psi/ft gradient



PENN VIRGINIA OIL & GAS CORPORATION

A subsidiary of Penn Virginia Corporation

November 2, 2009

CERTIFIED MAIL
7008 1140 0000 8536 1275

WV Dept. of Environmental Protection
Office of Oil & Gas
Permitting Branch
601 57th Street SE
Charleston, WV 25304-2345

RE: LC-19 WIW Water Injection Well
API # 47-109-01433 Permit Renewal
Wyoming County, West Virginia

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Sincerely,

Kita Gibson
Production Technician

RECEIVED
Office of Oil & Gas
NOV 05 2009

WV Department of
Environmental Protection

1521 9558 0000 0411 9002

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CERTIFIED MAIL™ RECEIPT
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For delivery information visit our website at www.usps.com

OFFICIAL USE

Postage	\$	LC-19 W= W Permit Renewal
Certified Fee		
Return Receipt Fee (Endorsement Required)		
Restricted Delivery Fee (Endorsement Required)		
Total Postage & Fees	\$	

Postmark Here
 NOV 02 2009
 GATE CITY WV 24251
 USPS

Sent To
 Pocahontas Land Corporation
 Attn: Mark Kinder
 P.O. Box 1517
 Bluefield, WV 24701

PS Form 38

2821 9558 0000 0411 9002

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Postage	\$	LC-19 W= W Permit Renewal
Certified Fee		
Return Receipt Fee (Endorsement Required)		
Restricted Delivery Fee (Endorsement Required)		
Total Postage & Fees	\$	

Postmark Here
 NOV 02 2009
 GATE CITY WV 24251
 USPS

Sent To
 Eastern Associated Coal Corporation
 C/O Peabody Energy
 Attn: Eddie Peros
 P.O. Box 1233
 Charleston, WV 25321

PS Form 38

8921 9558 0000 0411 9002

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OFFICIAL USE

Postage	\$	LC-19 W= W Permit Renewal
Certified Fee		
Return Receipt Fee (Endorsement Required)		
Restricted Delivery Fee (Endorsement Required)		
Total Postage & Fees	\$	

Postmark Here
 NOV 02 2009
 GATE CITY WV 24251
 USPS

Sent To
 Mr. Barry Stollings
 P.O. Box 1228
 Chapmanville, WV 25508

PS Form 38

6621 9558 0000 0411 9002

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Certified Fee		
Return Receipt Fee (Endorsement Required)		
Restricted Delivery Fee (Endorsement Required)		
Total Postage & Fees	\$	

Postmark Here
 NOV 02 2009
 GATE CITY WV 24251
 USPS

Sent To
 Patriot Coal Company
 600 Laidley Tower
 Charleston, WV 25324

PS Form 38

RECEIVED
 Office of Oil & Gas
 NOV 15 2009
 WV Department of
 Environmental Protection

Final after
2/13/10

← Received
2/22/10

State of West Virginia, Wyoming County, to-wit:

I, Gaither Perry, Publisher of Independent Herald, a paper published in the County aforesaid, do affirm that the

Notice hereto attached was published in said paper for 1 successive weeks, the first publication thereof being on 13th day of January 2010 and the subsequent publication on the day of 2010, the day of 2010, and the day of 2010.

R. Gaither Perry

State of West Virginia, Wyoming, to-wit:

 being duly sworn,

says that he posted a copy of the annexed

at the front door of the

Court House of said County, on the day of

2010.

Taken, subscribed and sworn to before me, this 1st day of February 2010. Printer's fee \$ 44.77

Rachel M. Lipps
Notary Public

