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west virginia department of environmental protection

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

Earl Ray Tomblin, Governor  
Randy C. Huffman, Cabinet Secretary  
[www.dep.wv.gov](http://www.dep.wv.gov)

## PERMIT MODIFICATION APPROVAL

November 16, 2015

K. PETROLEUM, INC.  
81 MILL STREET, SUITE 205  
GAHANNA, OH 432306510

Re: Permit Modification Approval for API Number 10901464, Well #: PLC 31

### PLUGGING USING VENT PIPE METHOD PER MSHA 101C MODIFICATION

Oil and Gas Operator:

The Office of Oil and Gas has reviewed the attached permit modification for the above referenced permit. The attached modification has been approved and well work may begin. Please be reminded that the oil and gas inspector is to be notified twenty-four (24) hours before permitted well work is commenced.

Please call James Martin at 304-926-0499, extension 1654 if you have any questions.

Sincerely,

A handwritten signature in blue ink that reads "Gene Smith". To the right of the signature is a small, handwritten mark that appears to be "J. M. M.".

Gene Smith  
Assistant Chief of Permitting  
Office of Oil and Gas

Promoting a healthy environment.

11/20/2015



**Patchwork Oil & Gas, LLC**

8165 Elizabeth Pike  
 Elizabeth, WV 26143  
 304-275-4446 Office/Fax  
 patchworkoilgas@yahoo.com

Department of Environmental Protection  
 Office of Oil & Gas  
 601 57th St. SE  
 Charleston, WV 25304

November 5th, 2015

Re: Pocahontas Land Corporation #31

To whom it may concern,

I have enclosed the original well plugging permit, revised work order, and the MSHA Approved procedure. Pinnacle Mining Company (who will be mining the Pocahontas #3 coal seam thru the PLC-31 gas well (that K-Petroleum and Patchwork will be plugging), would like to have the well completed above the Pocahontas #3 coal seam, differently than what is approved.

VENT Pinnacle would like the well to be left open from 15 feet above the Pocahontas #3 coal seam to the Surface, with perforations or ripping of the current 7" casing at the Pocahontas #4 coal seam (approximately 65 feet above the POCA 3) and Pocahontas #6 coal seam (approximately 103 feet above the POCA 3). This is so the well can later be used as a degasification borehole.

If you have any questions please feel free to contact me Monday-Friday 8:00-3:00 via phone, fax, or email.

Sincerely,

Jessica M. Lott  
 Office Manager

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**REVISED WORK ORDER****PLC #31**

47-109-01464

**PROPOSED PLUGGING PROCEDURE**

1. Prepare plugging permit application.
2. Certify to surface and coal owners.
3. Certify to designated State inspector for signature.
4. Once all signatures are obtained, copy for our records and certify to Jeff at the State Office for approval.
5. Receive plugging permit good for 2 years.
6. Notify the designated State inspector 24 hours prior to commencing operations.
7. Take equipment to location and begin prepping for plug.
8. Rig up
9. Verify total depth of 2533'.
10. Attempt to clean out well bore to original depth, if needed.
11. Run E-log (caliper, deviation, density, and gamma) to determine the location of the lowest mineable coal bed.
12. Run tubing to bottom of 4 1/2 at 2533'. Set first plug with 35 sacks of Class A cement with no more than 3% CaCl<sub>2</sub> and no other additives from 2533' up to 2038'. (Bottom, Pay zone)
13. Pull tubing back, wait 8 hours
14. Run in and tag plug, add additional cement if needed.
15. Run 1 sack of 6% Bentonite gel from 2038' up to 1740'.
16. Run back in to 1740' for second plug, run 17 sacks of Class A cement with no more than 3% CaCl<sub>2</sub> and no other additives from 1740' up to 1507' (This covers pay zone and elevation)
17. Pull tubing back, wait 8 hours
18. Run in and tag plug, add cement if needed.

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19. Run 2 sacks of 6% Bentonite gel from 1507' up to 1140'
  20. Begin looking for free point, according to state record WR-35 cement fill up should be about 900', which is higher than POCA 3 seam, if so, go in and mill the 4 1/2 and cement out of the inside of the of the 7" down to the depth of approx. 940" to expose the 7" casing in the POCA 3 seam.
  21. If the well bore still produces gas, a mechanical bridge plug shall be placed in the well bore in a competent stratum at least 200' below the lowest mineable seam of coal but above the uppermost hydrocarbon producing zone.
  22. Circulate gel. Section mill 7" from depth 885' to 905' to produce a 20' casing free zone from 5' below the P3 seam to 10' above. This will facilitate active mining of the P3 at depth 895'.
- \*\*If the production string of casing is cemented through the POCA 3 coal seam and unable to remove, then the Production string may be Section milled and the protection string perforated with approximately 8 shots per foot in a 10' area.
23. Perforate 4 1/2 at 10' intervals beginning at depth 1090' to 1006' and perforate 7" casing at 10' intervals beginning at depth 940' through depth 1006'.
  24. Run tubing to 1140', circulate gel, then run 27 sacks of expandable cement slurry down the tubing to displace the gel and fill well bore from depth of 1140' to 910'.
  25. Pull tubing back, wait 8 hours.
  26. Run in and tag plug, add cement if needed.
  27. Slot & perforate casing at approximately depths of 865-850 & 827-800
  30. Install 7" threaded adapter to 8" flanged on wellbore, install 8" flame arrestor with 10' stack pipe next to well bore. 7" VENT MUST BE PERMANENTLY MARKED WITH API NUMBER JMM
  - ~~31.. Set 3' high x 7" casing with concrete with API and date plugging was done. NO NEED TO SET THIS.~~
  32. Rig down, and move equipment out.
  34. Reclaim location
  35. Prepare WR-34 & WR-38 for permit release.

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