

**UNITED STATES  
SECURITIES AND EXCHANGE COMMISSION  
WASHINGTON, DC 20549**

**FORM 8-K**

**CURRENT REPORT  
Pursuant to Section 13 or 15(d)  
of the Securities Exchange Act of 1934**

Date of report (Date of earliest event reported): **May 21, 2012 (May 15, 2012)**

**Arch Coal, Inc.**

(Exact name of registrant as specified in its charter)

**Delaware**  
(State or other jurisdiction of  
incorporation)

**1-13105**  
(Commission File Number)

**43-0921172**  
(I.R.S. Employer Identification No.)

**CityPlace One**  
**One CityPlace Drive, Suite 300**  
**St. Louis, Missouri 63141**  
(Address, including zip code, of principal executive offices)

Registrant's telephone number, including area code: **(314) 994-2700**

Check the appropriate box below if the Form 8-K filing is intended to simultaneously satisfy the filing obligation of the registrant under any of the following provisions:

- Written communications pursuant to Rule 425 under the Securities Act (17 CFR 230.425)
- Soliciting material pursuant to Rule 14a-12 under the Exchange Act (17 CFR 240.14a-12)
- Pre-commencement communications pursuant to Rule 14d-2(b) under the Exchange Act (17 CFR 240.14d-2(b))
- Pre-commencement communications pursuant to Rule 13e-4(c) under the Exchange Act (17 CFR 240.13e-4(c))

**Item 1.04 Mine Safety — Reporting of Shutdowns and Patterns of Violation**

On May 15, 2012, Mountain Coal Company, L.L.C., a subsidiary of Arch Coal, Inc., received an imminent danger order under section 107(a) of the Mine Act due to a non-inert atmosphere in a mined out area at the West Elk Mine located in Somerset, Colorado. Mine personnel immediately took corrective action and the order was terminated.

On May 16, 2012, Cumberland River Coal Company, Inc., a subsidiary of Arch Coal, Inc., received an imminent danger order under section 107(a) of the Mine Act due to deterioration of a section of the mine roof at the Trace Fork 1 Mine located in Appalachia, Virginia. Mine personnel immediately took corrective action and the order was terminated.

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**Signatures**

Pursuant to the requirements of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned hereunto duly authorized.

Dated: May 21, 2012

Arch Coal, Inc.

By: /s/ Robert G. Jones  
Robert G. Jones  
Senior Vice President — Law, General Counsel and Secretary

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