

UNITED STATES  
SECURITIES AND EXCHANGE COMMISSION  
Washington, D.C. 20549

SCHEDULE 13G  
(Rule 13d-102)

Information Statement Pursuant to Rules 13d-1 and 13d-2  
Under the Securities Exchange Act of 1934  
(Amendment No. \_\_)\*

Arch Coal, Inc.  
\_\_\_\_\_  
(Name of Issuer)

Common stock, par value \$0.01 per share  
\_\_\_\_\_  
(Title of Class of Securities)

039380100  
\_\_\_\_\_  
(CUSIP Number)

March 6, 2014  
\_\_\_\_\_  
Date of Event Which Requires Filing of the Statement

Check the appropriate box to designate the rule pursuant to which this Schedule is filed:

- Rule 13d-1(b)  
 Rule 13d-1(c)  
 Rule 13d-1(d)

\*The remainder of this cover page shall be filled out for a reporting person's initial filing on this form with respect to the subject class of securities, and for any subsequent amendment containing information which would alter disclosures provided in a prior cover page.

The information required on the remainder of this cover page shall not be deemed to be "filed" for the purpose of Section 18 of the Securities Exchange Act of 1934 ("Act") or otherwise subject to the liabilities of that section of the Act but shall be subject to all other provisions of the Act (however, see the Notes).

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1.	NAME OF REPORTING PERSON S.S. OR I.R.S. IDENTIFICATION NO. OF ABOVE PERSON  <b>Citadel Advisors LLC</b>	
2.	CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP  (a) <input type="checkbox"/> (b) <input type="checkbox"/>	
3.	SEC USE ONLY	
4.	CITIZENSHIP OR PLACE OF ORGANIZATION  <b>Delaware</b>	
NUMBER OF SHARES BENEFICIALLY OWNED BY EACH REPORTING PERSON WITH	5.	SOLE VOTING POWER  <b>0</b>
	6.	SHARED VOTING POWER  <b>10,695,760 shares</b>
	7.	SOLE DISPOSITIVE POWER  <b>0</b>
	8.	SHARED DISPOSITIVE POWER  <b>See Row 6 above</b>
9.	AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON  <b>See Row 6 above</b>	
10.	CHECK BOX IF THE AGGREGATE AMOUNT IN ROW (9) EXCLUDES CERTAIN SHARES <input type="checkbox"/>	
11.	PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (9)  <b>5.0%<sup>1</sup></b>	
12.	TYPE OF REPORTING PERSON  <b>IA; OO; HC</b>	

<sup>1</sup> The percentages reported in this Schedule 13G are based upon 212,279,999 shares of common stock outstanding as of February 13, 2014 (according to the Form 10-K filed by the issuer with the Securities and Exchange Commission on February 28, 2014).

1.	NAME OF REPORTING PERSON S.S. OR I.R.S. IDENTIFICATION NO. OF ABOVE PERSON  <b>Citadel Advisors Holdings II LP</b>	
2.	CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP  (a) <input type="checkbox"/> (b) <input type="checkbox"/>	
3.	SEC USE ONLY	
4.	CITIZENSHIP OR PLACE OF ORGANIZATION  <b>Delaware</b>	
NUMBER OF SHARES BENEFICIALLY OWNED BY EACH REPORTING PERSON WITH	5.	SOLE VOTING POWER  <b>0</b>
	6.	SHARED VOTING POWER  <b>10,695,760 shares</b>
	7.	SOLE DISPOSITIVE POWER  <b>0</b>
	8.	SHARED DISPOSITIVE POWER  <b>See Row 6 above</b>
9.	AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON  <b>See Row 6 above</b>	
10.	CHECK BOX IF THE AGGREGATE AMOUNT IN ROW (9) EXCLUDES CERTAIN SHARES <input type="checkbox"/>	
11.	PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (9)  <b>5.0%</b>	
12.	TYPE OF REPORTING PERSON  <b>PN; HC</b>	

1.	NAME OF REPORTING PERSON S.S. OR I.R.S. IDENTIFICATION NO. OF ABOVE PERSON  <b>Citadel GP LLC</b>	
2.	CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP  (a) <input type="checkbox"/> (b) <input type="checkbox"/>	
3.	SEC USE ONLY	
4.	CITIZENSHIP OR PLACE OF ORGANIZATION  <b>Delaware</b>	
NUMBER OF SHARES BENEFICIALLY OWNED BY EACH REPORTING PERSON WITH	5.	SOLE VOTING POWER  <b>0</b>
	6.	SHARED VOTING POWER  <b>11,556,041 shares</b>
	7.	SOLE DISPOSITIVE POWER  <b>0</b>
	8.	SHARED DISPOSITIVE POWER  <b>See Row 6 above.</b>
9.	AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON  <b>See Row 6 above.</b>	
10.	CHECK BOX IF THE AGGREGATE AMOUNT IN ROW (9) EXCLUDES CERTAIN SHARES <input type="checkbox"/>	
11.	PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (9)  <b>5.4%</b>	
12.	TYPE OF REPORTING PERSON  <b>OO; HC</b>	

1.	NAME OF REPORTING PERSON S.S. OR I.R.S. IDENTIFICATION NO. OF ABOVE PERSON  <b>Kenneth Griffin</b>	
2.	CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP  (a) <input type="checkbox"/> (b) <input type="checkbox"/>	
3.	SEC USE ONLY	
4.	CITIZENSHIP OR PLACE OF ORGANIZATION  <b>U.S. Citizen</b>	
NUMBER OF SHARES BENEFICIALLY OWNED BY EACH REPORTING PERSON WITH	5.	SOLE VOTING POWER  <b>0</b>
	6.	SHARED VOTING POWER  <b>11,556,041 shares</b>
	7.	SOLE DISPOSITIVE POWER  <b>0</b>
	8.	SHARED DISPOSITIVE POWER  <b>See Row 6 above</b>
9.	AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON  <b>See Row 6 above</b>	
10.	CHECK BOX IF THE AGGREGATE AMOUNT IN ROW (9) EXCLUDES CERTAIN SHARES <input type="checkbox"/>	
11.	PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (9)  <b>5.4%</b>	
12.	TYPE OF REPORTING PERSON  <b>IN; HC</b>	

**Item 1(a) Name of Issuer**  
Arch Coal, Inc.

**Item 1(b) Address of Issuer's Principal Executive Offices**  
One CityPlace Drive, Ste. 300, St. Louis, Missouri 63141

**Item 2(a) Name of Person Filing**  
This Schedule 13G is being jointly filed by Citadel Advisors LLC ("Citadel Advisors"), Citadel Advisors Holdings II LP ("CAH2"), Citadel GP LLC ("CGP") and Mr. Kenneth Griffin (collectively with Citadel Advisors, CAH2 and CGP, the "Reporting Persons") with respect to shares of common stock (and options to purchase common stock) of the above-named issuer owned by Citadel Global Equities Master Fund Ltd., a Cayman Islands limited company ("CG"), Citadel Equity Fund Ltd., a Cayman Islands limited company ("CEF"), Surveyor Capital Ltd., a Cayman Islands limited company ("SC"), and Citadel Securities LLC, a Delaware limited liability company ("Citadel Securities").

Citadel Advisors is the portfolio manager for CG, CEF and SC. CAH2 is the managing member of Citadel Advisors. CALC III LP, a Delaware limited partnership ("CALC3"), is the non-member manager of Citadel Securities. CGP is the general partner of CALC3 and CAH2. Mr. Griffin is the President and Chief Executive Officer of, and owns a controlling interest in, CGP.

The filing of this statement shall not be construed as an admission that any of the Reporting Persons is the beneficial owner of any securities covered by the statement other than the securities actually owned by such person (if any).

**Item 2(b) Address of Principal Business Office**  
The address of the principal business office of each of the Reporting Persons is c/o Citadel LLC, 131 S. Dearborn Street, 32nd Floor, Chicago, Illinois 60603.

**Item 2(c) Citizenship**  
Each of Citadel Advisors and CGP is organized as a limited liability company under the laws of the State of Delaware. CAH2 is organized as a limited partnership under the laws of the State of Delaware. Mr. Griffin is a U.S. citizen.

**Item 2(d) Title of Class of Securities**  
Common stock, \$0.01 par value

**Item 2(e) CUSIP Number**  
039380100

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**Item 3** If this statement is filed pursuant to Rules 13d-1(b), or 13d-2(b) or (c), check whether the person filing is a:

- (a)  Broker or dealer registered under Section 15 of the Exchange Act;
- (b)  Bank as defined in Section 3(a)(6) of the Exchange Act;
- (c)  Insurance company as defined in Section 3(a)(19) of the Exchange Act;
- (d)  Investment company registered under Section 8 of the Investment Company Act;
- (e)  An investment adviser in accordance with Rule 13d-1(b)(1)(ii)(E);
- (f)  An employee benefit plan or endowment fund in accordance with Rule 13d-1(b)(1)(ii)(F);
- (g)  A parent holding company or control person in accordance with Rule 13d-1(b)(1)(ii)(G);
- (h)  A savings association as defined in Section 3(b) of the Federal Deposit Insurance Act;
- (i)  A church plan that is excluded from the definition of an investment company under Section 3(c)(14) of the Investment Company Act;
- (j)  Group, in accordance with Rule 13d-1(b)(1)(ii)(J).

If filing as a non-U.S. institution in accordance with Rule 13d-1(b)(1)(ii)(J), please specify the type of institution: \_\_\_\_\_.

**Item 4** **Ownership**

## A. Citadel Advisors LLC

- (a) Citadel Advisors may be deemed to beneficially own 10,695,760 shares of Common Stock.
  - (b) The number of shares Citadel Advisors may be deemed to beneficially own constitutes approximately 5.0% of the Common Stock outstanding.
  - (c) Number of shares as to which such person has:
    - (i) sole power to vote or to direct the vote: 0
    - (ii) shared power to vote or to direct the vote: 10,695,760
    - (iii) sole power to dispose or to direct the disposition of: 0
    - (iv) shared power to dispose or to direct the disposition of: 10,695,760
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**B. Citadel Advisors Holding II LP**

- (a) CAH2 may be deemed to beneficially own 10,695,760 shares of Common Stock.
- (b) The number of shares CAH2 may be deemed to beneficially own constitutes approximately 5.0% of the Common Stock outstanding.
- (c) Number of shares as to which such person has:
  - (i) sole power to vote or to direct the vote: 0
  - (ii) shared power to vote or to direct the vote: 10,695,760
  - (iii) sole power to dispose or to direct the disposition of: 0
  - (iv) shared power to dispose or to direct the disposition of: 10,695,760

**C. Citadel GP LLC and Kenneth Griffin**

- (a) CGP and Griffin may be deemed to beneficially own 11,556,041 shares of Common Stock.
- (b) The number of shares CGP and Griffin may be deemed to beneficially own constitutes approximately 5.4% of the Common Stock outstanding.
- (c) Number of shares as to which such person has:
  - (i) sole power to vote or to direct the vote: 0
  - (ii) shared power to vote or to direct the vote: 11,556,041
  - (iii) sole power to dispose or to direct the disposition of: 0
  - (iv) shared power to dispose or to direct the disposition of: 11,556,041

**Item 5 Ownership of Five Percent or Less of a Class**

If this statement is being filed to report the fact that as of the date hereof the reporting person has ceased to be the beneficial owner of more than 5 percent of the class of securities, check the following [ ]:

**Item 6 Ownership of More than Five Percent on Behalf of Another Person**

Not Applicable

**Item 7 Identification and Classification of the Subsidiary which Acquired the Security Being Reported on by the Parent Holding Company**

See Item 2 above

**Item 8 Identification and Classification of Members of the Group**

Not Applicable

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**Item 9**      **Notice of Dissolution of Group**  
Not Applicable

**Item 10**      **Certification**  
By signing below I certify that, to the best of my knowledge and belief, the securities referred to above were not acquired and are not held for the purpose of or with the effect of changing or influencing the control of the issuer of the securities and were not acquired and are not held in connection with or as a participant in any transaction having that purpose or effect.

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After reasonable inquiry and to the best of its knowledge and belief, the undersigned certify that the information set forth in this statement is true, complete and correct.

Dated this 13<sup>th</sup> day of March, 2014.

**CITADEL ADVISORS LLC**

By: /s/ Mark Polemeni  
Mark Polemeni, Authorized Signatory

**CITADEL GP LLC**

By: /s/ Mark Polemeni  
Mark Polemeni, Authorized Signatory

**CITADEL ADVISORS HOLDINGS II LP**

By: /s/ Mark Polemeni  
Mark Polemeni, Authorized Signatory

**KENNETH GRIFFIN**

By: /s/ Mark Polemeni  
Mark Polemeni, attorney-in-fact\*

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\* Mark Polemeni is signing on behalf of Kenneth Griffin as attorney-in-fact pursuant to a power of attorney previously filed with the Securities and Exchange Commission on January 18, 2013, and hereby incorporated by reference herein. The power of attorney was filed as an attachment to a filing by Citadel Advisors LLC on Schedule 13G for TiVo Inc.

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**JOINT FILING AGREEMENT**

The undersigned hereby agree that the Statement on Schedule 13G filed herewith (and any amendments thereto), relating to the Common Stock of Arch Coal, Inc., a Delaware corporation, is being filed jointly with the Securities and Exchange Commission pursuant to Rule 13d-1(c) under the Securities Exchange Act of 1934, as amended, on behalf of each of the undersigned.

This Agreement may be executed in counterparts and each of such counterparts taken together shall constitute one and the same instrument.

Dated this 13<sup>th</sup> day of March, 2014.

**CITADEL ADVISORS LLC**

By: /s/ Mark Polemeni  
Mark Polemeni, Authorized Signatory

**CITADEL GP LLC**

By: /s/ Mark Polemeni  
Mark Polemeni, Authorized Signatory

**CITADEL ADVISORS HOLDINGS II LP**

By: /s/ Mark Polemeni  
Mark Polemeni, Authorized Signatory

**KENNETH GRIFFIN**

By: /s/ Mark Polemeni  
Mark Polemeni, attorney-in-fact\*

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\* Mark Polemeni is signing on behalf of Kenneth Griffin as attorney-in-fact pursuant to a power of attorney previously filed with the Securities and Exchange Commission on January 18, 2013, and hereby incorporated by reference herein. The power of attorney was filed as an attachment to a filing by Citadel Advisors LLC on Schedule 13G for TiVo Inc.

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