

POTTER ROBERT G  
 Form 5  
 February 03, 2009

**FORM 5**

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

OMB APPROVAL

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Check this box if no longer subject to Section 16. Form 4 or Form 5 obligations may continue. See Instruction 1(b).  
 Form 3 Holdings Reported Form 4 Transactions Reported

**ANNUAL STATEMENT OF CHANGES IN BENEFICIAL OWNERSHIP OF SECURITIES**

Filed pursuant to Section 16(a) of the Securities Exchange Act of 1934, Section 17(a) of the Public Utility Holding Company Act of 1935 or Section 30(h) of the Investment Company Act of 1940

1. Name and Address of Reporting Person \*  
**POTTER ROBERT G**  
 (Last) (First) (Middle)

2. Issuer Name and Ticker or Trading Symbol  
**ARCH COAL INC [ACI]**

5. Relationship of Reporting Person(s) to Issuer

(Check all applicable)

**ONECITYPLACE DRIVE**  
 (Street)

3. Statement for Issuer's Fiscal Year Ended (Month/Day/Year)  
**12/31/2008**

Director  10% Owner  
 Officer (give title below)  Other (specify below)

**ST. LOUIS, MO 63141**  
 (City) (State) (Zip)

4. If Amendment, Date Original Filed(Month/Day/Year)

6. Individual or Joint/Group Reporting (check applicable line)

Form Filed by One Reporting Person  
 Form Filed by More than One Reporting Person

**Table I - Non-Derivative Securities Acquired, Disposed of, or Beneficially Owned**

1. Title of Security (Instr. 3)	2. Transaction Date (Month/Day/Year)	2A. Deemed Execution Date, if any (Month/Day/Year)	3. Transaction Code (Instr. 8)	4. Securities Acquired (A) or Disposed of (D) (Instr. 3, 4 and 5)	5. Amount of Securities Beneficially Owned at end of Issuer's Fiscal Year (Instr. 3 and 4)	6. Ownership Form: Direct (D) or Indirect (I) (Instr. 4)	7. Nature of Ownership (Instr. 4)
				(A) or (D) Price			

Reminder: Report on a separate line for each class of securities beneficially owned directly or indirectly.

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**Table II - Derivative Securities Acquired, Disposed of, or Beneficially Owned (e.g., puts, calls, warrants, options, convertible securities)**

1. Title of Derivative Security (Instr. 3)	2. Conversion or Exercise Price of Derivative	3. Transaction Date (Month/Day/Year)	3A. Deemed Execution Date, if any (Month/Day/Year)	4. Transaction Code (Instr. 8)	5. Number of Derivative Securities Acquired (A) or Disposed	6. Date Exercisable and Expiration Date (Month/Day/Year)	7. Title and Amount of Underlying Securities (Instr. 3 and 4)	8. Title and Amount of Underlying Securities (Instr. 3 and 4)

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Security					of (D) (Instr. 3, 4, and 5)			Title	Amount or Number of Shares		
	(A)	(D)	Date Exercisable	Expiration Date	(A)	(D)	Date Exercisable				
Phantom Stock	Â	03/31/2008	Â	A4 (2)	693	Â	Â (3)	Â (3)	Common Stock	693	\$
Phantom Stock	Â	06/30/2008	Â	A4 (2)	402	Â	Â (3)	Â (3)	Common Stock	402	\$
Phantom Stock	Â	09/30/2008	Â	A4 (2)	916	Â	Â (3)	Â (3)	Common Stock	916	\$
Phantom Stock	Â	12/31/2008	Â	A4 (2)	1,849	Â	Â (3)	Â (3)	Common Stock	1,849	\$

## Reporting Owners

Reporting Owner Name / Address	Relationships			
	Director	10% Owner	Officer	Other
POTTER ROBERT G ONECITYPLACE DRIVE ST. LOUIS, MO 63141	Â X	Â	Â	Â

## Signatures

/s/ Gregory A. Billhartz,  
Attorney-in-Fact

02/03/2009

\_\_Signature of Reporting Person

Date

## Explanation of Responses:

\* If the form is filed by more than one reporting person, see Instruction 4(b)(v).

\*\* Intentional misstatements or omissions of facts constitute Federal Criminal Violations. See 18 U.S.C. 1001 and 15 U.S.C. 78ff(a).

(1) Each share of phantom stock represents a right to receive the value in cash of one share of Arch Coal, Inc. common stock. The shares of phantom stock are held by the director through the Arch Coal, Inc. Deferred Compensation Plan for Non-Employee Directors (the "Plan") and represent past compensation that the director elected to defer under the Plan into a hypothetical investment in shares of Arch Coal, Inc. common stock and/or dividends attributable to such deferred amounts.

(2) These shares were omitted from the reporting person's Form 4 for the respective time period of the transaction due to an administrative error.

(3) Shares of phantom stock are payable in cash following termination of the director's service as a director of Arch Coal, Inc. The director may transfer certain portions of the phantom stock account into an alternative investment account at any time.

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