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UNITED STATES SECURITIES AND EXCHANGE COMMISSION  
 Washington, DC 20549

FORM 5

ANNUAL STATEMENT OF CHANGES IN BENEFICIAL OWNERSHIP

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

- Check 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

1. Name and Address of Reporting Person\*

Besten, Jr. C. Henry  
 -----  
 (Last) (First) (Middle)  
 -----  
 CityPlace One, Suite 300  
 -----  
 (Street)  
 St. Louis MO 63141  
 -----  
 (City) (State) (Zip)

2. Issuer Name and Ticker or Trading Symbol

Arch Coal, Inc. (ACI)

3. I.R.S. Identification Number of Reporting Person, if an entity (Voluntary)

4. Statement for Month/Year

December 31, 2002

5. If Amendment, Date of Original (Month/Year)

6. Relationship of Reporting Person(s) to Issuer  
 (Check all applicable)

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

Senior Vice President - Strategic Development

7. Individual or Joint/Group Filing  
 (check applicable line)

- Form filed by One Reporting Person  
 Form filed by More than One Reporting Person

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 Table I -- Non-Derivative Securities Acquired, Disposed of,  
 or Beneficially Owned  
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1. Title of Security (Instr. 3)	2. Trans- action Date (mm/dd/yy)	2A. Deemed Execution Date, if any (mm/dd/yy)	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 the End of Issuer's Fiscal Year (Instr. 3 & 4)	6. Owner- ship Form: Direct (D) or Indirect (I) (Instr.4)	7. Nature of Beneficial Ownership (Instr.4)
				Amount (D) Price			
Common Stock	(1)		D	5,428 D (1)	5,553	I	By 401(k) Savings Plan

Common Stock

1,717

D

(1) Disposed on various dates in 2002 pursuant to Arch Coal Inc.'s 401(k) plan at prices from \$16.42 to \$23.36 per share.

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

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. Conver- sion or Exer- cise Price of Deriv- ative Secur- ity	3. Trans- action Date (mm/dd/ yy)	3A. Deemed Execut- ion Date if any (mm/dd/ yy)	4. Trans- action Code (Instr. 8)	5. Number of Derivative Securities Acquired (A) or Disposed of(D) (Instr. 3, 4 and 5)  (A) (D)	6. Date Exercisable and Expiration Date (Month/Day/Year)  Date Expira- tion cisable Date	7. Title and Amount of Underlying Securities (Instr. 3 and 4)  Amount or Number of Shares  Title	8. Price of Deriv- ative Secur- ity (Instr. 5)	9. Number of Deriv- ative Secur- ities Bene- ficially Owned at End of Year (Instr. 4)	10. Owner- ship of Deriv- ative Secur- ity: Direct (D) or Indirect (I) (Instr. 4)	11. Nature of In- direct Bene- ficial Owner- ship (Instr. 4)
Phantom Stock 1-for-1 (1)				A	30	(2) (2)	Common Stock 30		5,513	I	By Plan

Explanation of Responses:

- (1) Acquired on various dates in 2002 pursuant to Arch Coal Inc.'s Deferred Compensation Plan.
- (2) Payable in cash upon termination of the Reporting Person's service as an Officer of Arch Coal, Inc.

By: /s/ Janet L. Horgan February 14, 2003  
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Janet L. Horgan, Attorney-in-fact Date

\*\* Intentional misstatements or omissions of facts constitute Federal Criminal Violations.

See 18 U.S.C. 1001 and 15 U.S.C. 78ff(a).

Note: File three copies of this Form, one of which must be manually signed.  
If space provided is insufficient, see Instruction 6 for procedure.