

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(f) 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*

Peugh David B.

(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. IRS Identification Number of Reporting Person, if an Entity (Voluntary)

4. Statement for Month/Year

December 31, 2001

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

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

Director 10% Owner
 Officer (give title below) Other (specify below)
Vice President - Business Development

7. Individual or Joint/Group Filing
(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 (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 End of Issuer's Fiscal Year (Instr. 3 and 4)	6. Owner- ship Form: Direct (D) or Indirect (I) (Instr.4)	7. Nature of Indirect Beneficial Ownership (Instr. 4)
			Amount	(A) or (D) Price			
Common Stock					2,994	D	
Common Stock	(1)	I	33	A (1)	650	I	By 401k Savings Plan

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(1) Acquired on various dates in 2001 pursuant to Arch Coal Inc.'s 401(k) plan at prices from \$14.40 to \$30.85 per share.

* If the form is filed by more than one Reporting Person, see Instruction 4(b)(v).

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

(Print or Type Responses)

(Over)

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 (Month/ Day/ Year)	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 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 Year (Instr. 4)	10. Owner- ship of Deriv- ative Secur- ity: Direct (D) or In- direct (I) (Instr. 4)	11. Nature of In- direct Bene- ficial Owner- ship (Instr. 4)
Employee Stock Option	\$21.95	2/22/01	A	8,400	(1)	2/22/11	Common Stock 8,400	8,400	8,400	D	
Employee Stock Option	\$22.90	6/27/01	A	36,600		1/1/04 6/30/06	Common Stock 36,600	36,600	36,600	D	

(1) Vests in three equal annual installments commencing on 2/22/02.

Explanation of Responses:

/s/ Janet L. Horgan February 14, 2002

By: Janet L. Horgan, as Attorney-in-Fact Date
**Signature of Reporting Person

** 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.