

STATEMENT OF CHANGES IN BENEFICIAL OWNERSHIP

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

Filed pursuant to Section 16(a) of the Securities Exchange Act of 1934 or Section 30(h) of the Investment Company Act of 1940

OMB APPROVAL	
OMB Number:	3235-0287
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1. Name and Address of Reporting Person* <u>EAVES JOHN W</u> (Last) (First) (Middle) <u>ONE CITYPLACE DRIVE</u> (Street) <u>ST. LOUIS MO 63141</u> (City) (State) (Zip)	2. Issuer Name and Ticker or Trading Symbol <u>ARCH COAL INC [ACI]</u>	5. Relationship of Reporting Person(s) to Issuer (Check all applicable) <input checked="" type="checkbox"/> Director 10% Owner <input checked="" type="checkbox"/> Officer (give title below) Other (specify below) <u>President & COO</u>
	3. Date of Earliest Transaction (Month/Day/Year) <u>01/31/2008</u>	
	4. If Amendment, Date of Original Filed (Month/Day/Year)	

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 Following Reported Transaction(s) (Instr. 3 and 4)	6. Ownership Form: Direct (D) or Indirect (I) (Instr. 4)	7. Nature of Indirect Beneficial Ownership (Instr. 4)
			Code	V	Amount	(A) or (D)	Price			
Common Stock	01/31/2008		M		75,000	A	(1)	112,319	D	
Common Stock ⁽²⁾	02/01/2008		S		2,600	D	\$43.73	109,719	D	
Common Stock ⁽²⁾	02/01/2008		S		900	D	\$43.74	108,819	D	
Common Stock ⁽²⁾	02/01/2008		S		2,500	D	\$41.09	106,319	D	
Common Stock ⁽²⁾	02/01/2008		S		400	D	\$41.1	105,919	D	
Common Stock ⁽²⁾	02/01/2008		S		1,100	D	\$41.12	104,819	D	
Common Stock ⁽²⁾	02/01/2008		S		3,500	D	\$42	101,319	D	
Common Stock ⁽²⁾	02/01/2008		S		2,500	D	\$42.57	98,819	D	
Common Stock ⁽²⁾	02/01/2008		S		1,900	D	\$42.65	96,919	D	
Common Stock ⁽²⁾	02/01/2008		S		800	D	\$42.66	96,119	D	
Common Stock ⁽²⁾	02/01/2008		S		500	D	\$42.67	95,619	D	
Common Stock ⁽²⁾	02/01/2008		S		600	D	\$42.71	95,019	D	
Common Stock ⁽²⁾	02/01/2008		S		200	D	\$42.72	94,819	D	
Common Stock ⁽²⁾	02/01/2008		S		4,000	D	\$43.44	90,819	D	
Common Stock ⁽²⁾	02/01/2008		S		4,000	D	\$43.78	86,819	D	
Common Stock ⁽²⁾	02/01/2008		S		1,200	D	\$43.84	85,619	D	
Common Stock ⁽²⁾	02/01/2008		S		800	D	\$43.86	84,819	D	
Common Stock ⁽²⁾	02/01/2008		S		500	D	\$43.87	84,319	D	
Common Stock ⁽²⁾	02/01/2008		S		200	D	\$43.88	84,119	D	
Common Stock ⁽²⁾	02/01/2008		S		100	D	\$43.89	84,019	D	
Common Stock ⁽²⁾	02/01/2008		S		4,600	D	\$43.9	79,419	D	
Common Stock ⁽²⁾	02/01/2008		S		100	D	\$43.91	79,319	D	
Common Stock ⁽²⁾	02/01/2008		S		5,000	D	\$40.69	74,319	D	
Common Stock								3,392	I	By 401(k) Plan

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

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1. Title of Derivative Security (Instr. 3)	2. Conversion or Exercise Price of Derivative Security	3. Transaction Date (Month/Day/Year)	Table 1. Deemed Execution Date, if any (Month/Day/Year)	4. Code (Instr. 8)		5. Number of Derivative Securities Acquired (A) or Disposed of (D) (Instr. 3, 4 and 5)	6. Date Exercisable and Expiration Date (Month/Day/Year)		7. Title and Amount of Underlying Derivative Security (Instr. 3 and 4)	8. Price of Derivative Security (Instr. 5)	9. Number of derivative Securities Beneficially Owned Following Reported Transaction(s) (Instr. 4)	10. Ownership Form: Direct (D) or Indirect (I) (Instr. 4)	11. Nature of Indirect Beneficial Ownership (Instr. 4)	
				(A)	(D)		Date Exercisable	Expiration Date						Title
Restricted Stock Units	(3)	01/31/2008		M		75,000	(4)	(5)	Common Stock	75,000	\$0.00	25,000 ⁽¹⁾	D	

Explanation of Responses:

- The reporting person received 100,000 restricted stock units on December 18, 2002. The restricted stock units vested on January 31, 2008. Upon vesting of 100,000 restricted stock units on January 31, 2008, the reporting person received 75,000 shares of common stock and deferred receipt of 25,000 shares of common stock pursuant to the Arch Coal, Inc. Executive Deferred Compensation Plan.
- The sale of shares of common stock by the reporting person reported on this Form 4 was effected pursuant to a Rule 10b5-1 trading plan previously adopted by the reporting person.
- Each restricted stock unit represents a right to receive one share of common stock, unless otherwise deferred, at the reporting person's election, pursuant to the Arch Coal, Inc. Executive Deferred Compensation Plan.
- The reporting person received 100,000 restricted stock units on December 18, 2002. On January 31, 2008, 100,000 restricted stock units vested.
- The restricted stock units do not expire.

Remarks:

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

02/04/2008

** Signature of Reporting Person Date

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

* 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).

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

Persons who respond to the collection of information contained in this form are not required to respond unless the form displays a currently valid OMB Number.