

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>PEUGH DAVID B</u> (Last) (First) (Middle) <u>ONECITYPLACE 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) Director 10% Owner <input checked="" type="checkbox"/> Officer (give title below) Other (specify below) <u>Vice President - Bus Dev</u>
	3. Date of Earliest Transaction (Month/Day/Year) <u>08/15/2005</u>	
		6. Individual or Joint/Group Filing (Check Applicable Line) <input checked="" type="checkbox"/> Form filed by One Reporting Person <input type="checkbox"/> 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 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	08/15/2005		M		11,500	A	\$10.6875	0	D	
Common Stock	08/15/2005		M		8,400	A	\$21.95	0	D	
Common Stock	08/15/2005		M		13,250	A	\$22.875	0	D	
Common Stock	08/15/2005		M		13,250	A	\$27.875	7,698	D	
Common Stock	08/15/2005		S		46,400	D	\$61.319	1,022	I	By 401(k) plan

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 Security	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 of (D) (Instr. 3, 4 and 5)		6. Date Exercisable and Expiration Date (Month/Day/Year)		7. Title and Amount of Securities 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)	
				Code	V	(A)	(D)	Date Exercisable	Expiration Date						Title
Employee Stock Options	\$10.6875	08/15/2005	08/17/2005	M			11,500	(1)	02/25/2009	Common Stock	11,500	\$10.6875	0	D	
Employee Stock Options	\$21.95	08/15/2005	08/17/2005	M			8,400	(2)	02/22/2011	Common Stock	8,400	\$21.95	0	D	
Employee Stock Options	\$22.875	08/15/2005	08/17/2005	M			13,250	(3)	07/22/2008	Common Stock	13,250	\$22.875	0	D	
Employee Stock Options	\$27.875	08/15/2005	08/17/2005	M			13,250	(4)	07/23/2007	Common Stock	13,250	\$27.875	0	D	

Explanation of Responses:

- 7,082 shares vested on February 25, 2002; and 4,418 shares vested on February 25, 2003.
- 2,800 shares vested on February 22, 2002; 2,800 shares vested on February 22, 2003; and 2,800 shares vested on February 22, 2004.
- 4,417 shares vested on July 22, 1999; 4,417 shares vested on July 22, 2000; and 4,416 shares vested on July 22, 2001.
- 4,417 shares vested on July 23, 1998; 4,417 shares vested on July 23, 1999; and 4,416 shares vested on July 23, 2000.

Remarks:

/s/ Janet L. Horgan, Attorney-in-Fact 08/17/2005

** 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.

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