

**INITIAL STATEMENT OF BENEFICIAL OWNERSHIP OF SECURITIES**

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

1. Name and Address of Reporting Person* <u>Slone Deck</u>  (Last) (First) (Middle) ONE CITYPLACE DRIVE SUITE 300  (Street) ST. LOUIS MO 63141  (City) (State) (Zip)	2. Date of Event Requiring Statement (Month/Day/Year) 07/28/2005	3. Issuer Name and Ticker or Trading Symbol <u>ARCH COAL INC [ ACI ]</u>	
		4. 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>VP Investor Rel &amp; Public Aff</u>	5. If Amendment, Date of Original Filed (Month/Day/Year)  6. Individual or Joint/Group Filing (Check Applicable Line) <input checked="" type="checkbox"/> Form filed by One Reporting Person Form filed by More than One Reporting Person

**Table I - Non-Derivative Securities Beneficially Owned**

1. Title of Security (Instr. 4)	2. Amount of Securities Beneficially Owned (Instr. 4)	3. Ownership Form: Direct (D) or Indirect (I) (Instr. 5)	4. Nature of Indirect Beneficial Ownership (Instr. 5)
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**Table II - Derivative Securities Beneficially Owned (e.g., puts, calls, warrants, options, convertible securities)**

1. Title of Derivative Security (Instr. 4)	2. Date Exercisable and Expiration Date (Month/Day/Year)		3. Title and Amount of Securities Underlying Derivative Security (Instr. 4)		4. Conversion or Exercise Price of Derivative Security	5. Ownership Form: Direct (D) or Indirect (I) (Instr. 5)	6. Nature of Indirect Beneficial Ownership (Instr. 5)
	Date Exercisable	Expiration Date	Title	Amount or Number of Shares			
Employee Stock Options	(1)	07/23/2007	CommonStock	500	27.87	D	
Employee Stock Options	(2)	02/29/2012	Common Stock	3,150	18.15	D	
Employee Stock Options	(3)	04/25/2012	Common Stock	6,300	22.6	D	
Employee Stock Options	(4)	07/22/2008	Common Stock	750	22.875	D	
Employee Stock Options	(5)	02/22/2011	Common Stock	2,900	21.95	D	
Phantom Stock	(6)	12/31/2008	Common Stock	2,700	(7)	D	

**Explanation of Responses:**

- These options vested as follows: 167 on 7/23/1998; 167 on 7/23/1999; and 166 on 7/23/2000.
- The Stock Options vested or will vest as follows: 1,575 on 2/28/2005 and 1,575 on 2/28/2006.
- These Stock Options vested or will vest as follows: 1,575 on 4/25/2003; 1,575 on 4/25/2004; 1,575 on 4/25/2005 and 1,575 on 4/25/2006.
- These Stock Options vested as follows: 250 on 7/22/1999; 250 on 7/22/2000; and 250 on 7/22/2001.
- These Stock Options vested as follows: 967 on 2/22/2002; 967 on 2/22/2003 and 966 on 2/22/2004.
- The Phantom Stock will vest in the event the Company's common stock hits target prices of \$70.00 or \$80.00 and the Company's financial performance meets certain targets at such time.
- 1-for-1

**Remarks:**

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

\*\* 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 5 (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.