

OMB APPROVAL	
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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

1. Name and Address of Reporting Person* LEER STEVEN F (Last) (First) (Middle) ONECITYPLACE DRIVE (Street) ST. LOUIS MO 63141 (City) (State) (Zip)	2. Issuer Name and Ticker or Trading Symbol ARCH COAL INC [ACI]	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) Chairman and CEO
	3. Date of Earliest Transaction (Month/Day/Year) 10/25/2007	
	4. 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 <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 ⁽¹⁾	10/25/2007		M		70,000	A	\$11.4375	71,010	D	
Common Stock ⁽¹⁾	10/25/2007		M		140,000	A	\$5.3438	211,010	D	
Common Stock ⁽¹⁾	10/25/2007		M		63,400	A	\$10.975	274,410	D	
Common stock ⁽¹⁾	10/25/2007		S		1,800	D	\$38.08	272,610	D	
Common stock ⁽¹⁾	10/25/2007		S		7,700	D	\$38	264,910	D	
Common stock ⁽¹⁾	10/25/2007		S		600	D	\$37.98	264,310	D	
Common stock ⁽¹⁾	10/25/2007		S		100	D	\$37.99	264,210	D	
Common stock ⁽¹⁾	10/25/2007		S		10,000	D	\$38.04	254,210	D	
Common stock ⁽¹⁾	10/25/2007		S		3,800	D	\$38.01	250,410	D	
Common stock ⁽¹⁾	10/25/2007		S		1,200	D	\$38.02	249,210	D	
Common stock ⁽¹⁾	10/25/2007		S		4,000	D	\$38.11	245,210	D	
Common stock ⁽¹⁾	10/25/2007		S		1,100	D	\$38.18	244,110	D	
Common stock ⁽¹⁾	10/25/2007		S		2,100	D	\$38.2	242,010	D	
Common stock ⁽¹⁾	10/25/2007		S		6,700	D	\$37.94	235,310	D	
Common stock ⁽¹⁾	10/25/2007		S		4,200	D	\$37.93	231,110	D	
Common stock ⁽¹⁾	10/25/2007		S		7,900	D	\$37.95	223,210	D	
Common stock ⁽¹⁾	10/25/2007		S		8,400	D	\$37.96	214,810	D	
Common stock ⁽¹⁾	10/25/2007		S		1,400	D	\$37.97	213,410	D	
Common stock ⁽¹⁾	10/25/2007		S		3,200	D	\$38.09	210,210	D	
Common stock ⁽¹⁾	10/25/2007		S		5,000	D	\$38.1	205,210	D	
Common stock ⁽¹⁾	10/25/2007		S		800	D	\$38.19	204,410	D	
Common stock ⁽¹⁾	10/25/2007		S		100	D	\$37.36	204,310	D	
Common stock ⁽¹⁾	10/25/2007		S		2,800	D	\$37.35	201,510	D	
Common stock ⁽¹⁾	10/25/2007		S		100	D	\$37.37	201,410	D	
Common stock ⁽¹⁾	10/25/2007		S		200	D	\$37.4	201,210	D	
Common stock ⁽¹⁾	10/25/2007		S		300	D	\$37.41	200,910	D	
Common stock ⁽¹⁾	10/25/2007		S		21,700	D	\$37.45	179,210	D	
Common stock ⁽¹⁾	10/25/2007		S		1,900	D	\$37.46	177,310	D	
Common stock ⁽¹⁾	10/25/2007		S		2,800	D	\$37.47	174,510	D	
Common stock ⁽¹⁾	10/25/2007		S		2,500	D	\$37.48	172,010	D	

**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	Amount or Number of Shares				
Employee stock options (right to buy) ⁽¹⁾	\$11.4375	10/25/2007		M			70,000	(2)	07/22/2008	Common stock	70,000	\$0.00	0	D	
Employee stock options (right to buy) ⁽¹⁾	\$5.3438	10/25/2007		M			140,000	(3)	02/25/2009	Common stock	140,000	\$0.00	0	D	
Employee stock options (right to buy) ⁽¹⁾	\$10.975	10/25/2007		M			63,400	(4)	02/22/2011	Common stock	63,400	\$0.00	0	D	

Explanation of Responses:

- The exercise of employee stock options and sale of underlying shares of common stock by the executive officer reported on this Form 4 were effected pursuant to a Rule 10b5-1 trading plan.
- The reporting person received 70,000 stock options on July 22, 1998. The stock options vested ratably over a three year period as follows: 23,334 stock options vested on July 22, 1999; 23,333 stock options vested on July 22, 2000; and 23,333 stock options vested on July 22, 2001.
- The reporting person received 140,000 stock options on February 25, 1999. The stock options vested over a four year period as follows: 23,338 stock options vested on February 25, 2000; 46,660 stock options vested on February 25, 2001; 46,662 stock options vested on February 25, 2002; and 23,340 stock options vested on February 25, 2003.
- The reporting person received 63,400 stock options on February 22, 2001. The stock options vested ratably over a three year period as follows: 21,134 stock options vested on February 22, 2002; 21,133 stock options vested on February 22, 2003; and 21,133 stock options vested on February 22, 2004.

Remarks:

1 of 3

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

10/29/2007

** 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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