

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>Strobel Jeffrey W.</u>			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 Pres, Bus Dev & Strategy</u>	
(Last)	(First)	(Middle)	3. Date of Earliest Transaction (Month/Day/Year) <u>01/11/2012</u>			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
<u>ONE CITYPLACE DRIVE</u>			4. If Amendment, Date of Original Filed (Month/Day/Year)			
(Street)	(City)	(State)	(Zip)			
<u>ST. LOUIS</u>	<u>MO</u>	<u>63141</u>				

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			

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
Phantom Stock	(1)	01/11/2012		A		7		(2)	(2)	Common Stock	7	\$15.69	7	D	
Phantom Stock	(1)	01/25/2012		A		7		(2)	(2)	Common Stock	7	\$14.55	14	D	
Phantom Stock	(1)	02/08/2012		A		7		(2)	(2)	Common Stock	7	\$15.17	21	D	
Phantom Stock	(1)	02/22/2012		A		7		(2)	(2)	Common Stock	7	\$13.91	28	D	
Phantom Stock	(1)	03/07/2012		A		9		(2)	(2)	Common Stock	9	\$11.85	37	D	
Phantom Stock	(1)	03/15/2012		A		0.25		(2)	(2)	Common Stock	0.25	\$12.34	37	D	
Phantom Stock	(1)	03/21/2012		A		9		(2)	(2)	Common Stock	9	\$12.06	46	D	
Phantom Stock	(1)	04/04/2012		A		10		(2)	(2)	Common Stock	10	\$10.31	56	D	
Phantom Stock	(1)	04/18/2012		A		11		(2)	(2)	Common Stock	11	\$9.83	67	D	
Phantom Stock	(1)	05/02/2012		A		12		(2)	(2)	Common Stock	12	\$8.5	79	D	
Phantom Stock	(1)	05/16/2012		A		14		(2)	(2)	Common Stock	14	\$7.66	92	D	
Phantom Stock	(1)	05/30/2012		A		15		(2)	(2)	Common Stock	15	\$6.91	107	D	
Phantom Stock	(1)	06/13/2012		A		18		(2)	(2)	Common Stock	18	\$5.76	125	D	
Phantom Stock	(1)	06/15/2012		A		0.53		(2)	(2)	Common Stock	0.53	\$6.01	126	D	
Phantom Stock	(1)	06/27/2012		A		17		(2)	(2)	Common Stock	17	\$6.03	143	D	
Phantom Stock	(1)	07/11/2012		A		17		(2)	(2)	Common Stock	17	\$6.1	160	D	
Phantom Stock	(1)	07/25/2012		A		20		(2)	(2)	Common Stock	20	\$5.31	180	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				
Phantom Stock	(1)	08/08/2012		A		15		(2)	(2)	Common Stock	15	\$6.93	195	D	
Phantom Stock	(1)	08/22/2012		A		14		(2)	(2)	Common Stock	14	\$7.3	209	D	
Phantom Stock	(1)	09/05/2012		A		17		(2)	(2)	Common Stock	17	\$5.97	226	D	
Phantom Stock	(1)	09/14/2012		A		0.79		(2)	(2)	Common Stock	0.79	\$7.1	227	D	
Phantom Stock	(1)	09/19/2012		A		14		(2)	(2)	Common Stock	14	\$7.32	241	D	
Phantom Stock	(1)	10/03/2012		A		17		(2)	(2)	Common Stock	17	\$6.2	258	D	
Phantom Stock	(1)	10/17/2012		A		13		(2)	(2)	Common Stock	13	\$8.13	271	D	

Explanation of Responses:

1. Each share of phantom stock represents a right to receive the value in cash of one share of Arch Coal, Inc. common stock. The shares of phantom stock are held by the Executive Officer through the Arch Coal, Inc. Deferred Compensation Plan (the "Plan") and represent past compensation, the vested portion of restricted stock awards and/or payouts under other incentive compensation arrangements that the Executive Officer elected to defer under the Plan into a hypothetical investment in shares of Arch Coal Common stock and/or dividends paid with respect to such deferral amounts.

2. Shares of phantom stock are payable in cash on the date or dates elected by the executive officer, subject to the terms of the Plan. The executive officer may transfer any and all of the phantom stock account into an alternative investment account at any time.

Remarks:

/s/ Jon S. Ploetz, Attorney-in-Fact 12/11/2012

** 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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