FORM 4

obligations may continue. See

Instruction 1(b).

Check this box if no longer subject to Section 16. Form 4 or Form 5

UNITED STATES SECURITIES AND EXCHANGE COMMISSION

| Washington, | D.C. | 20549 |
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| STATEMENT OF CHANGES IN BENEFICIAL OWNERSHIP |
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OMB APPROVAL OMB Number: Estimated average burden hours per response: 0.5

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

| Name and Address of Reporting Person* Godley Patricia Fry | | | | | 2. Issuer Name and Ticker or Trading Symbol ARCH COAL INC [ACI] | | | | | | | | | 5. Relationship of Reporting Person(s) to Issuer (Check all applicable) | | | | | |
|---|---|--|--|---|---|--|-------|--------------|--|-------|------------------|--|------------------------------------|---|---|--|--|--|---------------------------------------|
| Gottley | Pauricia | <u>FIY</u> | | | | | | | | | | | | X | Direct | or | | 10% O | wner |
| (Last) (First) (Middle) ONE CITYPLACE DRIVE | | | | 3. Date of Earliest Transaction (Month/Day/Year) 09/15/2009 | | | | | | | | | | | Officer (give title below) | | Other (below) | specify | |
| SUITE 3 | 800 | | | | 4. 11 | f Amer | ndmen | t, Date | of Origina | Filed | (Month/E | Day/Year) | | | lividual or | Joint/Group | Filin | g (Check A | pplicable |
| (Street) | | | | | | | | | | | | | | Line) X | Form | filed by One | Rep | orting Pers | on |
| ST. LOU | JIS M | [0 | 63141 | | | | | | | | | | | Form filed by More than One Reporting Person | | | | | |
| (City) | (S | tate) | (Zip) | | | | | | | | | | | | | | | | |
| | | Tab | le I - Nor | -Deriv | ative | Sec | uriti | es A | cquired, | Dis | posed | of, or B | enefic | ially | Owne | d | | | |
| 1. Title of Security (Instr. 3) 2. Transac Date (Month/Date) | | | | | ar) E | A. Deemed xecution Date any Month/Day/Yea | | Code (Instr. | | | | | | Securit Benefic Owned | 5. Amount of Securities Beneficially Owned Following | | wnership n: Direct or Indirect nstr. 4) | 7. Nature of Indirect Beneficial Ownership | |
| | | | | | | | | Code | v | Amoun | nt (A) or (D) | | се | Reported Transaction(s) (Instr. 3 and 4) | | | | (Instr. 4) | |
| | | Т | able II - I (| | | | | | juired, E s, optioi | | | | | | Owned | | | | |
| 1. Title of Derivative Security (Instr. 3) | 2. Conversion or Exercise Price of Derivative Security | 3. Transaction Date (Month/Day/Year) | 3A. Deeme Execution if any (Month/Day | Date, | 4. Transactic Code (Ins 8) | | | | 6. Date Exercisable and Expiration Date (Month/Day/Year) | | | 7. Title and Amount of Securities Underlying Derivative Securi (Instr. 3 and 4) | | D S (I | . Price of erivative ecurity nstr. 5) | 9. Number derivative Securities Beneficially Owned Following Reported Transaction (Instr. 4) | , | 10. Ownership Form: Direct (D) or Indirect (I) (Instr. 4) | Beneficial Ownership (Instr. 4) |
| | | | | | Code | v | (A) | (D) | Date Exercisab | | xpiration ate | Title | Amou or Numb of Shares | er | | | | | |
| Phantom Stock | (1) | 09/15/2009 | | | A | | 273 | | (2) | T | (2) | Common | 273 | | \$21.6 | 24,990 | | 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 director through the Arch Coal, Inc. Deferred Compensation Plan for Non-Employee Directors (the "Plan"). The shares of phantom stock acquired by the director represent dividends attributable to amounts that the director elected to defer under the Plan into a hypothetical investment in shares of Arch Coal, Inc. common stock.
- 2. Shares of phantom stock are payable in cash following termination of the director's service as a director of Arch Coal, Inc. The director may transfer amounts held in the phantom stock account into an alternative investment account at any time.

Remarks:

/s/ Gregory A. Billhartz, 09/17/2009 Attorney-in-Fact

** 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.