

Warnecke David N  
 Form 3  
 August 08, 2005

**FORM 3 UNITED STATES SECURITIES AND EXCHANGE COMMISSION**  
**Washington, D.C. 20549**

OMB APPROVAL

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**INITIAL STATEMENT OF BENEFICIAL OWNERSHIP OF SECURITIES**

Filed pursuant to Section 16(a) of the Securities Exchange Act of 1934,  
 Section 17(a) of the Public Utility Holding Company Act of 1935 or Section  
 30(h) of the Investment Company Act of 1940

(Print or Type Responses)

|   |         |                                      |  |  |
|---|---------|--------------------------------------|--|--|
| 1. Name and Address of Reporting Person * |         | 2. Date of Event Requiring Statement | 3. Issuer Name <b>and</b> Ticker or Trading Symbol                         |  |
| Â Warnecke David N                        |         | (Month/Day/Year)                     | ARCH COAL INC [ACI]  |  |
| (Last)                                    | (First) | (Middle)                             | 07/28/2005   |  |
| CITYPLACE ONE,Â SUITE                     |         |                                      | 4. Relationship of Reporting Person(s) to Issuer                           | 5. If Amendment, Date Original Filed(Month/Day/Year)                   |
| 300                                       |         |                                      |  |  |
| (Street)                                  |         |                                      | (Check all applicable)   |  |
| ST. LOUIS,Â MOÂ 63144                     |         |                                      | <input type="checkbox"/> Director <input type="checkbox"/> 10% Owner       | 6. Individual or Joint/Group Filing(Check Applicable Line)             |
| (City)                                    | (State) | (Zip)                                | <input checked="" type="checkbox"/> Officer <input type="checkbox"/> Other | <input checked="" type="checkbox"/> Form filed by One Reporting Person |
|   |         |                                      | (give title below) (specify below)   | <input type="checkbox"/> Form filed by More than One Reporting Person  |
|   |         |                                      | VP-Marketing & Trading   |  |

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

|                                    |  |   |  |
|------------------------------------|--|---|--|
| 1. Title of Security<br>(Instr. 4) | 2. Amount of Securities Beneficially Owned<br>(Instr. 4) | 3. Ownership Form:<br>Direct (D)<br>or Indirect (I)<br>(Instr. 5) | 4. Nature of Indirect Beneficial Ownership<br>(Instr. 5) |
|------------------------------------|--|---|--|

Reminder: Report on a separate line for each class of securities beneficially owned directly or indirectly.

SEC 1473 (7-02)

**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 control number.**

**Table II - Derivative Securities Beneficially Owned (e.g., puts, calls, warrants, options, convertible securities)**

|   |   |  |  |  |  |
|---|---|--|--|--|--|
| 1. Title of Derivative Security<br>(Instr. 4) | 2. Date Exercisable and Expiration Date<br>(Month/Day/Year) | 3. Title and Amount of Securities Underlying Derivative Security<br>(Instr. 4) | 4. Conversion or Exercise Price of Derivative Security | 5. Ownership Form of Derivative Security:<br>Direct (D)<br>or Indirect (I) | 6. Nature of Indirect Beneficial Ownership<br>(Instr. 5) |
|   | Date Exercisable  | Expiration Date  | Title  | Amount or Number of Shares   |  |

(Instr. 5)

|                        |            |            |              |        |          |   |   |
|------------------------|------------|------------|--------------|--------|----------|---|---|
| Employee Stock Options | 02/22/2004 | 02/22/2011 | Common Stock | 300    | \$ 21.95 | D | Â |
| Employee Stock Options | Â (1)      | 02/29/2012 | Common Stock | 6,574  | \$ 18.15 | D | Â |
| Employee Stock Options | Â (2)      | 04/25/2012 | Common Stock | 13,150 | \$ 22.6  | D | Â |
| Employee Stock Options | 04/28/2008 | Â (3)      | Common Stock | 5,000  | \$ 43.5  | D | Â |
| Phantom Stock          | Â (4)      | 12/31/2008 | Common Stock | 9,400  | \$ (5)   | D | Â |

## Reporting Owners

| Reporting Owner Name / Address  | Relationships |           |                          |       |
|---|---------------|-----------|--------------------------|-------|
|   | Director      | 10% Owner | Officer                  | Other |
| Warnecke David N<br>CITYPLACE ONE<br>SUITE 300<br>ST. LOUIS, MO 63144 | Â             | Â         | Â VP-Marketing & Trading | Â     |

## Signatures

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

08/08/2005

Signature of Reporting Person

Date

## Explanation of Responses:

- \* 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).
- (1) These Stock Options vests as follows: 3,287 on 2/28/2005 and 3,287 on 2/28/2006.
- (2) These Stock Options vest as follows: 3,288 on 4/25/2003; 3,288 on 4/25/2004; 3,287 on 4/25/2005; and 3,287 on 4/25/2006.
- (3) No expiration
- (4) 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.
- (5) 1-for-1

Note: File three copies of this Form, one of which must be manually signed. If space is insufficient, *See* Instruction 6 for procedure. Potential persons who are to respond to the collection of information contained in this form are not required to respond unless the form displays a currently valid OMB number.