

CF Industries Holdings, Inc.
 Form 4
 September 03, 2008

FORM 4 UNITED STATES SECURITIES AND EXCHANGE COMMISSION
 Washington, D.C. 20549

OMB APPROVAL

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STATEMENT OF CHANGES IN 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 *
 Barnard Douglas C

2. Issuer Name and Ticker or Trading Symbol
 CF Industries Holdings, Inc. [CF]

5. Relationship of Reporting Person(s) to Issuer

(Check all applicable)

(Last) (First) (Middle)
 C/O CF INDUSTRIES HOLDINGS, INC., 4 PARKWAY NORTH, SUITE 400

3. Date of Earliest Transaction (Month/Day/Year)
 09/02/2008

____ Director _____ 10% Owner
 Officer (give title below) _____ Other (specify below)
 VP, Gen. Counsel & Secretary

(Street)
 DEERFIELD, IL 60015

4. If Amendment, Date Original Filed(Month/Day/Year)

6. Individual or Joint/Group Filing(Check Applicable Line)
 Form filed by One Reporting Person
 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 Ownership (Instr. 4) | | |
|---------------------------------|--------------------------------------|--|--------------------------------|---|---|--|-----------------------------------|-----|-------|
| | | | | (A) or (D) | Code | V | Amount | (D) | Price |

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

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.

SEC 1474 (9-02)

Table II - Derivative Securities Acquired, Disposed of, or Beneficially Owned (e.g., puts, calls, warrants, options, convertible securities)

| 1. Title of Derivative | 2. Conversion | 3. Transaction Date (Month/Day/Year) | 3A. Deemed Execution Date, if | 4. Transaction of | 5. Number of Derivative | 6. Date Exercisable and Expiration Date | 7. Title and Amount of Underlying Securities | 8. Price of Derivative |
|------------------------|---------------|--------------------------------------|-------------------------------|-------------------|-------------------------|---|--|------------------------|
|------------------------|---------------|--------------------------------------|-------------------------------|-------------------|-------------------------|---|--|------------------------|

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| Security (Instr. 3) | or Exercise Price of Derivative Security | any (Month/Day/Year) | Code (Instr. 8) | Securities Acquired (A) or Disposed of (D) (Instr. 3, 4, and 5) | (Month/Day/Year) | (Instr. 3 and 4) | | | | |
|---------------------|--|----------------------|-----------------|---|------------------|------------------|------------------|-----------------|--|----------------------------|
| | | | Code | V | (A) | (D) | Date Exercisable | Expiration Date | Title | Amount or Number of Shares |
| Phantom Stock | (1) | 09/02/2008 | A | | 1.802 | | (1) | (1) | Common stock, par value \$0.01 per share | 1.802 \$ 138 |

Reporting Owners

| Reporting Owner Name / Address | Relationships | | | |
|--|---------------|-----------|------------------------------|-------|
| | Director | 10% Owner | Officer | Other |
| Barnard Douglas C C/O CF INDUSTRIES HOLDINGS, INC. 4 PARKWAY NORTH, SUITE 400 DEERFIELD, IL 60015 | | | VP, Gen. Counsel & Secretary | |

Signatures

/s/ Douglas C. Barnard 09/03/2008
 **Signature of Reporting Person Date

Explanation of Responses:

- * 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).
- Each share of phantom stock is the economic equivalent of one share of CF Industries Holdings, Inc. common stock. Shares of phantom (1) stock are payable in cash following the reporting person's termination of employment with CF Industries Holdings, Inc. and may be transferred by the reporting person into an alternative investment account in accordance with the terms of the plan.

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.