

Core-Mark Holding Company, Inc.

Form 4

May 15, 2008

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

Check this box  
if no longer  
subject to  
Section 16.  
Form 4 or  
Form 5  
obligations  
may continue.  
See Instruction  
1(b).

**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

## OMB APPROVAL

OMB  
Number: 3235-0287  
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2005  
Estimated average  
burden hours per  
response... 0.5

(Print or Type Responses)

1. Name and Address of Reporting Person \*  
McPherson Scott E

(Last) (First) (Middle)

395 OYSTER POINT BLVD.,  
SUITE 415

(Street)

SOUTH SAN  
FRANCISCO, CA 94080

(City) (State) (Zip)

2. Issuer Name and Ticker or Trading  
Symbol  
Core-Mark Holding Company, Inc.  
[CORE]

3. Date of Earliest Transaction  
(Month/Day/Year)  
05/15/2008

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

5. Relationship of Reporting Person(s) to  
Issuer

(Check all applicable)

\_\_\_\_ Director \_\_\_\_ 10% Owner  
\_\_\_\_ Officer (give title below) \_\_\_\_ Other (specify below)  
SVP - U.S. Distribution

6. Individual or Joint/Group Filing(Check  
Applicable Line)  
\_X\_ 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<br>Security<br>(Instr. 3) | 2. Transaction Date<br>(Month/Day/Year) | 2A. Deemed<br>Execution Date, if<br>any<br>(Month/Day/Year) | 3.<br>Transaction<br>Code<br>(Instr. 8) | 4. Securities Acquired<br>or Disposed of (D)<br>(Instr. 3, 4 and 5)<br><br>(A)<br>or<br>(D) | 5. Amount of<br>Securities<br>Beneficially<br>Owned<br>Following<br>Reported<br>Transaction(s)<br>(Instr. 3 and 4) | 6.<br>Ownership<br>Form:<br>Direct (D)<br>or Indirect<br>(I)<br>(Instr. 4) | 7. Nature of<br>Indirect<br>Beneficial<br>Ownership<br>(Instr. 4) |
|---------------------------------------|-----------------------------------------|-------------------------------------------------------------|-----------------------------------------|---------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------|-------------------------------------------------------------------|
|                                       |                                         |                                                             | Code                                    | V                                                                                           | Amount                                                                                                             | Price                                                                      |                                                                   |
| Coremark<br>Common<br>Stock           | 05/15/2008                              |                                                             | M                                       |                                                                                             | 2,268                                                                                                              | A \$ 0                                                                     | 3,770 D                                                           |
| Coremark<br>Common<br>Stock           | 05/15/2008                              |                                                             | S                                       |                                                                                             | 736                                                                                                                | D \$ 27.962                                                                | 3,034 D                                                           |

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**

SEC 1474  
(9-02)

**displays a currently valid OMB control number.**

**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 Underlying Securities (Instr. 3 and 4) |
|--------------------------------------------|--------------------------------------------------------|--------------------------------------|----------------------------------------------------|--------------------------------|-----------------------------------------------------------------------------------------|----------------------------------------------------------|---------------------------------------------------------------|
|                                            |                                                        |                                      |                                                    | Code                           | V (A) (D)                                                                               | Date Exercisable Expiration Date                         | Title Amount or Number of Shares                              |
| Restricted Stock Units 05 LTIP             | \$ 0                                                   | 05/15/2008                           |                                                    | M                              | 2,268                                                                                   | 02/01/2006 02/08/2015                                    | Coremark Common Stock 2,268                                   |

## Reporting Owners

| Reporting Owner Name / Address                                                          | Relationships |           |                            |       |
|-----------------------------------------------------------------------------------------|---------------|-----------|----------------------------|-------|
|                                                                                         | Director      | 10% Owner | Officer                    | Other |
| McPherson Scott E<br>395 OYSTER POINT BLVD., SUITE 415<br>SOUTH SAN FRANCISCO, CA 94080 |               |           | SVP - U.S.<br>Distribution |       |

## Signatures

S.  
Loretz-Congdon,  
POA 05/15/2008

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).

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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