

McPherson Scott E
 Form 4
 September 21, 2010

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 *
 McPherson Scott E

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

5. Relationship of Reporting Person(s) to Issuer
 (Check all applicable)

(Last) (First) (Middle)
 395 OYSTER POINT BLVD.,
 SUITE 415
 (Street)

3. Date of Earliest Transaction
 (Month/Day/Year)
 09/17/2010

____ Director
 ____ Officer (give title below)
 ____ 10% Owner
 ____ Other (specify below)
 SVP - Corporate Development

SOUTH SAN
 FRANCISCO, CA 94080

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

(City) (State) (Zip)

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 | | | |
| Coremark Common Stock | 09/17/2010 | | M | 5,453 A \$ 15.5 | 33,554 | D | |
| Coremark Common Stock | 09/17/2010 | | S | 2,000 D \$ 30 | 31,554 | D | |
| Coremark Common Stock | 09/17/2010 | | S | 912 D \$ 30.01 | 30,642 | D | |
| | 09/17/2010 | | S | 200 D \$ 30.02 | 30,442 | D | |

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| | | | | | | | |
|-----------------------------|------------|---|-------|---|---------------|--------|---|
| Coremark Common Stock | | | | | | | |
| Coremark Common Stock | 09/17/2010 | S | 300 | D | \$ 30.03 | 30,142 | D |
| Coremark Common Stock | 09/17/2010 | S | 241 | D | \$ 30.04 | 29,901 | D |
| Coremark Common Stock | 09/17/2010 | S | 800 | D | \$ 30.05 | 29,101 | D |
| Coremark Common Stock | 09/17/2010 | S | 100 | D | \$ 30.0575 | 29,001 | D |
| Coremark Common Stock | 09/17/2010 | S | 900 | D | \$ 30.08 | 28,101 | D |
| Coremark Common Stock | 09/20/2010 | M | 7,465 | A | \$ 15.5 | 35,566 | D |
| Coremark Common Stock | 09/20/2010 | S | 500 | D | \$ 30.02 | 35,066 | D |
| Coremark Common Stock | 09/20/2010 | S | 200 | D | \$ 30.03 | 34,866 | D |
| Coremark Common Stock | 09/20/2010 | S | 400 | D | \$ 30.04 | 34,466 | D |
| Coremark Common Stock | 09/20/2010 | S | 400 | D | \$ 30.1 | 34,066 | D |
| Coremark Common Stock | 09/20/2010 | S | 251 | D | \$ 30.1478 | 33,815 | D |
| Coremark Common Stock | 09/20/2010 | S | 100 | D | \$ 30.16 | 33,715 | D |
| Coremark Common Stock | 09/20/2010 | S | 400 | D | \$ 30.1725 | 33,315 | D |
| Coremark Common | 09/20/2010 | S | 200 | D | \$ 30.18 | 33,115 | D |

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Stock

Coremark

Common 09/20/2010 S 400 D \$ 30.265 32,715 D

Stock

Coremark

Common 09/20/2010 S 264 D \$ 30.35 32,451 D

Stock

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

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(9-02)

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) | Amount or Number of Shares |
|--|--|--------------------------------------|--|--------------------------------|---|--|---|----------------------------|
| 04LTIP plan grtd 8-23-2004 NQ | \$ 15.5 | 09/17/2010 | | M | 5,453 | 08/23/2005 08/23/2011 | Coremark Common Stock | 5,453 |
| 04LTIP plan grtd 8-23-2004 NQ | \$ 15.5 | 09/20/2010 | | M | 7,465 | 08/23/2005 08/23/2011 | Coremark Common Stock | 7,465 |

Reporting Owners

Reporting Owner Name / Address

Relationships

Director 10% Owner Officer Other

McPherson Scott E
395 OYSTER POINT BLVD., SUITE 415
SOUTH SAN FRANCISCO, CA 94080

SVP - Corporate
Development

Signatures

Amy Morgan,
POA

09/21/2010

__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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