UNITED STATES SECURITIES AND EXCHANGE COMMISSION

WASHINGTON, DC 20549

Form 8-K

CURRENT REPORT

Pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934

Date of Report (Date of earliest event reported): July 25, 2005

Bimini Mortgage Management, Inc.

(Exact Name of Registrant as Specified in Charter)

Maryland

(State or Other Jurisdiction of Incorporation)

001-32171 (Commission File Number)

72-1571637 (IRS Employer Identification No.)

3305 Flamingo Drive, Vero Beach, Florida 32963 (Address of Principal Executive Offices) (Zip Code)

Registrant's telephone number, including area code (772) 231-1400

N/A

(Former Name or Former Address, if Changed Since Last Report)

Check the appropriate box below if the Form 8-K filing is intended to simultaneously satisfy the filing obligation of the registrant under any of the following provisions:

- Written communications pursuant to Rule 425 under the Securities Act (17 CFR 230.425)
- Soliciting material pursuant to Rule 14a-12 under the Exchange Act (17 CFR 240.14a-12)
- Pre-commencement communications pursuant to Rule 14d-2(b) under the Exchange Act (17 CFR 240.14d-2(b))
- Pre-commencement communications pursuant to Rule 13e-4(c) under the Exchange Act (17 CFR 240.13e-4(c))

ITEM 2.02. RESULTS OF OPERATIONS AND FINANCIAL CONDITION

On July 25, 2005, Bimini Mortgage Management, Inc. (the "Company") issued a press release announcing its financial results for the second quarter ended June 30, 2005. A copy of the press release is furnished as Exhibit 99.1 to this report.

ITEM 7.01. REGULATION FD DISCLOSURE

The information being furnished pursuant to this "Item 7.01 Regulation FD Disclosure" shall not be deemed to be "filed" for the purposes of Section 18 of the Securities Exchange Act of 1934 (the "Exchange Act") or otherwise subject to the liabilities of that section and shall not be deemed to be incorporated by reference into any filing under the Securities Act of 1933, as amended, or the Exchange Act regardless of any incorporation language in such filing. The information will not be deemed an admission as to the materiality of such information that is required to be disclosed solely by Regulation FD.

ITEM 9.01. FINANCIAL STATEMENTS AND EXHIBITS

(c) Exhibits

99.1 Press Release dated July 25, 2005

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SIGNATURES

Pursuant to the requirements of the Securities Exchange Act of 1934, the Registrant has duly caused this report to be signed on its behalf by the undersigned hereunto duly authorized.

Date: July 25, 2005

BIMINI MORTGAGE MANAGEMENT, INC.

By: /s/ Jeffrey J. Zimmer

Jeffrey J. Zimmer

Chairman, Chief Executive Officer and

President

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Exhibit No.
99.1 Press Release dated July 25, 2005
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BIMINI MORTGAGE MANAGEMENT, INC. REPORTS SECOND QUARTER 2005 RESULTS

VERO BEACH, Fla. (July 25, 2005) — Bimini Mortgage Management, Inc. (NYSE:BMM), a real estate investment trust that invests primarily in residential mortgage-related securities, today announced financial results for the second quarter ended June 30, 2005.

For the second quarter, the Company recorded net income of \$8.2 million or \$0.39 per diluted Class A Common Share. Real Estate Investment Trust (REIT) rules require the Company to pay out at least 90% of its taxable earnings in the form of dividends annually. The approximate taxable income for the quarter, as well as dividends paid for the quarter, were \$0.40 per share. Residential Mortgage Backed Security Real Estate Investment Trust equity analysts use return on equity as a measurement standard. Annualized return on equity for the quarter, based on the book value of \$12.83 per Class A Common Share outstanding at June 30, 2005, and incorporating the year-to-date dividend of \$0.93, was 14.5%. The annualized return on equity as calculated by using the annualized rate of the second quarter taxable earnings was 12.5%. Return on equity determined on a taxable income basis is not a financial measure required by generally accepted accounting principles. The Company has included this information because it believes that it provides comparability among other publicly traded mortgage REITs. In addition, management uses taxable income as a basis to pay cash dividends to the Company's stockholders.

Commenting on the results, Jeffrey J. Zimmer, president and chief executive officer, said, "The Bimini Board of Directors is pleased to be able to continue to pay favorable dividends and achieve annualized double-digit investment returns on equity. The Company also experienced significant growth in its total assets during the second quarter of 2005 as a result of issuing \$50 million in trust preferred securities through Bimini Capital Trust I. However, the second quarter was a period when very short-term rates went up, resulting in lower net interest income compared with the first quarter of 2005. The Company began over a year ago to take steps to mitigate the continued impact of further interest rate movements initiated by the Federal Reserve by adding a greater proportion of adjustable-rate securities to the portfolio. But there is no assurance that net interest spreads will not be compressed further."

As of June 30, 2005, the Company held \$3.9 billion of mortgage-backed securities at fair value. Interest income was \$36.7 million and interest expense was \$26.5 million for the second quarter of 2005. As of June 30, 2005, the weighted average yield on assets was

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3.81% and the weighted average borrowing cost was 3.14%. The weighted average constant prepayment rate for the portfolio was 28.4% for June 2005. The effective duration of the portfolio at the end of the second quarter was 0.57.

"As of June 30, 2005, we had 19 master repurchase agreements with various investment banking firms and other lenders and outstanding balances of \$3.7 billion under 14 of these agreements," Mr. Zimmer added. "For more details about our assets and liabilities, please see our 10-Q for the quarter ended June 30, 2005, which we filed today with the Securities and Exchange Commission."

Bimini Mortgage Management will hold a conference call to discuss this press release tomorrow, July 26, 2005, at 10:00 a.m. Eastern time. Investors will have the opportunity to listen to a live Internet broadcast of the conference call through the Company's Web site at www.biminireit.com or through www.earnings.com. To listen to the live call, please go to the Web site at least 15 minutes early to register, download, and install any necessary audio software. For those who cannot listen to the live broadcast, an Internet replay will be available shortly after the call and continue through August 26, 2005.

Bimini Mortgage Management, Inc., a real estate investment trust, invests primarily in residential mortgage-related securities issued by the Federal National Mortgage Association (Fannie Mae), the Federal Home Loan Mortgage Corporation (Freddie Mac) and the Government National Mortgage Association (Ginnie Mae). It earns returns on the spread between the yield on its assets and its costs, including the interest expense on the funds it borrows.

This news release contains forward-looking statements made pursuant to the "safe harbor" provisions of the Private Securities Litigation Reform Act of 1995. The reader is cautioned that such forward-looking statements are based on information available at the time and on management's good faith belief with respect to future events, and are subject to risks and uncertainties that could cause actual performance or results to differ materially from those expressed in the statements. Important factors that could cause such differences are described in the Company's periodic filings with the Securities and Exchange Commission, including the Company's Registration Statement on Form S-11. The Company assumes no obligation to update forward-looking information to reflect subsequent results, changes in assumptions or changes in other factors affecting forward-looking information.

Contact: Robert E. Cauley

Chief Financial Officer (772) 231-1400 www.biminireit.com