

Kayne Anderson MLP Investment CO  
 Form 4  
 September 12, 2006

**FORM 4**

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

OMB APPROVAL

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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

(Print or Type Responses)

1. Name and Address of Reporting Person \*  
**KAYNE RICHARD A**

2. Issuer Name and Ticker or Trading Symbol  
**Kayne Anderson MLP Investment CO [KYN]**

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

(Last) (First) (Middle)  
**1800 AVENUE OF THE STARS, SECOND FLOOR**  
 (Street)

3. Date of Earliest Transaction (Month/Day/Year)  
**09/06/2006**

\_\_\_\_ Director  
 \_\_\_\_ Officer (give title below)  10% Owner  
 \_\_\_\_ Other (specify below)  
**CEO of Investment Adviser**

**LOS ANGELES, CA 90067**

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) |
|---------------------------------|--------------------------------------|--|--------------------------------|---|---|--|-----------------------------------|
|                                 |                                      |  |                                | Code V Amount (A) or (D) Price                                    |   |  |                                   |
| Common Stock                    | 09/06/2006                           |  | S                              | 300 D \$ 27.85  | 214,700   | D  |                                   |
| Common Stock                    | 09/06/2006                           |  | G                              | 728 D \$ 0  | 213,972   | D  |                                   |

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

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SEC 1474 (9-02)

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**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) | 8. Price of Derivative Security (Instr. 5) | 9. Nu                      |
|--|--|--------------------------------------|--|--------------------------------|---|--|---|--|----------------------------|
|  |  |                                      |  | Code                           | V (A) (D)   | Date Exercisable   | Expiration Date   | Title                                      | Amount or Number of Shares |

## Reporting Owners

| Reporting Owner Name / Address   | Relationships |           |         |                           |
|--|---------------|-----------|---------|---------------------------|
|  | Director      | 10% Owner | Officer | Other                     |
| KAYNE RICHARD A<br>1800 AVENUE OF THE STARS<br>SECOND FLOOR<br>LOS ANGELES, CA 90067 |               |           |         | CEO of Investment Adviser |

## Signatures

Richard A. Kayne 09/12/2006

\_\_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. 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.