

Kayne Anderson MLP Investment CO  
 Form 4  
 July 05, 2007

**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 \*  
 Frey John C

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)  
 \_\_\_ Director \_\_\_ 10% Owner  
 Officer (give title below) \_\_\_ Other (specify below)  
 Assistant Secretary

(Last) (First) (Middle)  
 C/O KAYNE ANDERSON  
 CAPITAL ADVISORS LP, 1800  
 AVENUE OF THE STARS  
 (Street)

3. Date of Earliest Transaction  
 (Month/Day/Year)  
 07/05/2007

LOS ANGELES, CA 90067  
 (City) (State) (Zip)

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 Indirect Beneficial Ownership (Instr. 4)
Common Stock	07/05/2007		P	V 2,000 A \$ 34.396	14,500	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 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)**

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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 Deriv Secur Bene Own Follo Repo Trans (Instr
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Date Exercisable	Expiration Date	Title	Amount or Number of Shares
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## Reporting Owners

### Reporting Owner Name / Address

### Relationships

Director    10% Owner    Officer    Other

Frey John C  
 C/O KAYNE ANDERSON CAPITAL ADVISORS LP  
 1800 AVENUE OF THE STARS  
 LOS ANGELES, CA 90067

Assistant Secretary

## Signatures

John C. Frey                      07/05/2007

\*\*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.