

Kayne Anderson MLP Investment CO
Form N-Q
March 24, 2005

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

FORM N-Q

**QUARTERLY SCHEDULE OF PORTFOLIO HOLDINGS OF REGISTERED
MANAGEMENT INVESTMENT COMPANY**

Investment Company Act file number 811-21593

KAYNE ANDERSON MLP INVESTMENT COMPANY

(Exact name of registrant as specified in charter)

1800 Avenue of the Stars, Second Floor, Los Angeles, California 90067

(Address of principal executive offices) (Zip code)

David Shladovsky, Esq.

Kayne Anderson Capital Advisors, L.P., 1800 Avenue of the Stars, Second Floor, Los Angeles, California 90067

(Name and address of agent for service)

Registrant's telephone number, including area code: (310) 556-2721

Date of fiscal year end: November 30th

Date of reporting period: December 1, 2004 through February 28, 2005

Item 1: Schedule of Investments

**KAYNE ANDERSON MLP INVESTMENT COMPANY
SCHEDULE OF INVESTMENTS
FEBRUARY 28, 2005
(unaudited)**

| Description | No. of Shares/Units | Value |
|---------------------------------------|--------------------------------|--------------|
| Long-Term Investments - 109.5% | | |

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Equity Investments - 103.3%

Pipeline MLP (a) - 79.1%

| | | |
|--|-----------|-------------|
| Atlas Pipeline Partners, L.P. | 11,200 | \$ 499,968 |
| Buckeye Partners, L.P. | 295,600 | 12,979,796 |
| Copano Energy, L.L.C | 72,700 | 2,029,784 |
| Crosstex Energy, L.P. | 140,300 | 4,955,536 |
| Enbridge Energy Management, L.L.C. (c) | 402,204 | 21,328,897 |
| Enbridge Energy Partners, L.P. | 446,300 | 24,122,515 |
| Enbridge Energy Partners, L.P. (d) | 1,503,900 | 77,165,109 |
| Energy Transfer Partners, L.P. | 120,800 | 7,707,040 |
| Energy Transfer Partners, L.P. - Unregistered (d) | 2,222,222 | 134,196,431 |
| Enterprise Products Partners L.P. | 800,215 | 21,381,745 |
| Enterprise Products Partners L.P. - Unregistered (d) | 4,427,878 | 111,807,019 |
| Genesis Energy, L.P. | 89,000 | 1,014,600 |
| Hiland Partners, LP (b) | 30,000 | 913,500 |
| Holly Energy Partners, L.P. | 105,000 | 4,089,750 |
| Kaneb Pipe Line Partners, L.P. | 484,900 | 29,748,615 |
| Kinder Morgan Management, LLC (c) | 2,577,698 | 110,634,784 |
| Magellan Midstream Partners, L.P. | 156,800 | 9,509,920 |
| MarkWest Energy Partners, L.P. | 103,000 | 5,061,420 |
| Northern Border Partners, L.P. | 401,500 | 20,516,650 |
| Pacific Energy Partners, L.P. | 405,100 | 13,129,291 |
| Plains All American Pipeline, L.P. | 901,800 | 35,296,452 |
| Sunoco Logistics Partners L.P. (f) | 12,300 | 515,370 |
| TC PipeLines, LP | 28,649 | 1,131,349 |
| TEPPCO Partners, L.P. | 396,600 | 17,386,944 |
| Valero L.P. | 7,550 | 469,384 |

667,591,869

Propane MLP - 16.3%

| | | |
|---------------------------|-----------|------------|
| Ferrellgas Partners, L.P. | 2,107,923 | 44,687,967 |
| Inergy, L.P. | 21,600 | 704,160 |
| Inergy, L.P. (d) | 2,946,955 | 91,891,951 |

137,284,078

Shipping MLP - 1.7%

| | | |
|------------------------------------|---------|------------|
| K-Sea Transportation Partners L.P. | 44,200 | 1,601,808 |
| Martin Midstream Partners L.P. | 69,315 | 2,283,236 |
| U.S. Shipping Partners L.P. | 384,500 | 10,427,640 |

14,312,684

Coal MLP - 0.3%

| | | |
|---------------------------------------|--------|-----------|
| Natural Resource Partners L.P. | 4,400 | 268,532 |
| Penn Virginia Resource Partners, L.P. | 44,600 | 2,416,874 |

2,685,406

MLP Affiliates - 5.1%

| | | |
|--------------------------------|---------|------------|
| Atlas America, Inc. (e) | 107,720 | 4,430,524 |
| Crosstex Energy, Inc. | 411,785 | 17,089,077 |
| Holly Corporation | 112,500 | 4,241,250 |
| Kaneb Services LLC | 140,100 | 6,035,508 |
| Kinder Morgan, Inc. | 51,800 | 4,152,806 |
| MarkWest Hydrocarbon, Inc. (f) | 251,300 | 5,980,940 |
| TransCanada Corporation | 38,300 | 926,094 |

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| | | |
|--|---------|--------------------|
| | | 42,856,199 |
| Other Midstream Companies - 0.8% | | |
| Arlington Tankers Ltd. | 188,600 | 4,639,560 |
| DryShips Inc. (b) | 90,500 | 2,022,675 |
| | | 6,662,235 |
| Total Equity Investments (Cost \$774,930,165) | | 871,392,471 |

KAYNE ANDERSON MLP INVESTMENT COMPANY
SCHEDULE OF INVESTMENTS
FEBRUARY 28, 2005
(unaudited)

| Description | Interest Rate | Maturity Date | Principal Amount (000 s) | Value |
|--|---------------|---------------|-----------------------------|--------------------|
| Fixed Income Investments - 6.2% | | | | |
| Pipeline MLP - 6.2% | | | | |
| Kinder Morgan Energy Partners, L.P. | 5.000% | 12/15/13 | \$ 10,000 | \$ 9,929,140 |
| Kinder Morgan Energy Partners, L.P. | 5.125 | 11/15/14 | 5,000 | 4,975,060 |
| Magellan Midstream Partners, L.P. | 5.650 | 10/15/16 | 12,000 | 12,162,480 |
| MarkWest Energy Partners, L.P. | 6.875 | 11/01/14 | 2,100 | 2,163,000 |
| Plains All American Pipeline, L.P. | 7.750 | 10/15/12 | 20,000 | 23,181,780 |
| Total Fixed Income Investments (Cost \$52,551,693) | | | | 52,411,460 |
| Total Long-Term Investments (Cost \$827,481,858) | | | | 923,803,931 |
| Short-Term Investment - 4.1% | | | | |
| Repurchase Agreement - 4.1% | | | | |
| Bear, Stearns & Co. Inc. (Agreement dated 2/28/05 to be repurchased at \$34,432,143), collateralized by \$35,172,786 in U.S. Government Securities (Cost \$34,429,656) | 2.600 | 03/01/05 | 34,430 | 34,429,656 |
| Total Investments Before Securities Sold Short - 113.6% (Cost \$861,911,514) | | | | 958,233,587 |

| | No. of Shares/Units | |
|---|------------------------|-------------|
| Liabilities in Excess of Cash and Other Assets - (13.6)% | | |
| Securities Sold Short - (0.5)% | | |
| Coal MLP - (0.3)% | | |
| Alliance Resource Partners, L.P. | 35,087 | (2,702,401) |
| Propane MLP - (0.2)% | | |
| AmeriGas Partners, L.P. | 7,000 | (205,380) |
| Suburban Propane Partners, L.P. | 33,700 | (1,194,665) |

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| | |
|---|-----------------------|
| | (1,400,045) |
| Total Securities Sold Short (cash proceeds received \$3,866,630) | (4,102,446) |
| Other Liabilities in Excess of Cash and Other Assets - (13.1)% | |
| Bank Loan Payable - (8.9)% | (75,000,000) |
| Current and Deferred Taxes Payable - (4.7)% | (39,508,517) |
| Cash and Other Assets in Excess of Other Liabilities - 0.5% | 4,232,334 |
| Total Liabilities in Excess of Cash and Other Assets | (114,378,629) |
| Net Assets - 100.0% | \$ 843,854,958 |

- (a) Includes Limited Liability Companies or L.L.C.s.
- (b) Currently non-income producing; security is expected to pay distributions within the next 12 months.
- (c) Distributions made are paid-in kind.
- (d) Fair valued security. These securities are restricted from public sale. Details are provided in the table below. The Company negotiates certain aspects of the method and timing of the disposition of these investments, including registration rights and related costs.
- (e) Security is non-income producing.
- (f) Security or a portion thereof is segregated as collateral on securities sold short.

Certain of the Company's investments are restricted as to resale and are valued as determined in accordance with procedures established by the Board of Directors. The table below shows the number of units held, the acquisition dates, aggregate costs, fair value as of February 28, 2005, value per unit of such securities, percent of net assets and total assets which the securities comprise.

| Security | Number of Units | Acquisition Date | Cost | Fair Value at 2/28/05 | Value Per Unit | Percent of Net Assets | Percent of Total Assets |
|--|-----------------------|---------------------|-----------------------|--------------------------|----------------------|--------------------------------|----------------------------------|
| Enbridge Energy Partners, L.P. | 1,503,900 | 02/11/05 | \$ 75,017,012 | \$ 77,165,109 | \$51.31 | 9.1% | 8.0% |
| Energy Transfer Partners, L.P. - Unregistered | 2,222,222 | 01/26/05 | 120,014,167 | 134,196,431 | 60.39 | 15.9 | 13.8 |
| Enterprise Products Partners L.P. - Unregistered | 4,427,878 | 12/29/04 | 100,011,619 | 111,807,019 | 25.25 | 13.3 | 11.5 |
| Inergy, L.P. | 2,946,955 | 12/17/04 | 75,015,213 | 91,891,951 | 31.18 | 10.9 | 9.5 |
| | | | <u>\$ 370,058,011</u> | <u>\$ 415,060,510</u> | | <u>49.2%</u> | <u>42.8%</u> |

At February 28, 2005, the cost basis of investments for Federal income tax purposes was \$861,911,514. At February 28, 2005, gross unrealized appreciation and depreciation of investments for Federal income tax purposes were as follows:

| | |
|-------------------------------|----------------------|
| Gross unrealized appreciation | \$ 96,608,760 |
| Gross unrealized depreciation | (286,687) |
| Net unrealized appreciation | <u>\$ 96,322,073</u> |

Securities valuation policies and other investment related disclosures are hereby incorporated by reference to the Company's annual report previously filed with the Securities and Exchange Commission on Form N-CSR.

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Other information regarding the Company is available in the Company's most recent annual report. This information is also available on the Company's website at <http://www.kaynemlp.com>; or on the website of the Securities and Exchange Commission, <http://www.sec.gov>.

Item 2: Controls and Procedures

(a) As of a date within 90 days from the filing date of this report, the principal executive officer and principal financial officer concluded that the registrant's disclosure controls and procedures (as defined in Rule 30a-3(c) under the Investment Company Act of 1940 (the "Act")), were effective based on their evaluation of the disclosure controls and procedures required by Rule 30a-3(b) under the Act and Rules 13a-15(b) or 15d-15(b) under the Securities and Exchange Act of 1934.

(b) There were no changes in the registrant's internal control over financial reporting (as defined in Rule 30a-3(d) under the Act) that occurred during the registrant's last fiscal quarter that have materially affected, or are reasonably likely to materially affect, the registrant's internal control over financial reporting.

Item 3: Exhibits

1. The certifications of the registrant as required by Rule 30a-2(a) under the Act are exhibits to this report.

SIGNATURES

Pursuant to the requirements of the Securities Exchange Act of 1934 and the Investment Company Act of 1940, the registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized.

KAYNE ANDERSON MLP INVESTMENT COMPANY

/s/ Kevin S. McCarthy

Name: Kevin S. McCarthy
Title: Chief Executive Officer
Date: March 24, 2005

Pursuant to the requirements of the Securities Exchange Act of 1934 and the Investment Company Act of 1940, this report has been signed below by the following persons on behalf of the registrant and in the capacities and on the dates indicated.

/s/ Kevin S. McCarthy

Name: Kevin S. McCarthy
Title: Chief Executive Officer
Date: March 24, 2005

/s/ Ralph Collins Walter

Name: Ralph Collins Walter
Title: Chief Financial Officer
Date: March 24, 2005