

Kayne Anderson MLP Investment CO
Form N-CSRS/A
July 27, 2009

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**UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549
FORM N-CSRS/A
CERTIFIED SHAREHOLDER REPORT OF REGISTERED
MANAGEMENT INVESTMENT COMPANIES
Investment Company Act file number 811-21593
Kayne Anderson MLP Investment Company
(Exact name of registrant as specified in charter)**

717 Texas Avenue, Suite 3100, Houston, Texas

77002

(Address of principal executive offices)

(Zip code)

David Shladovsky, Esq.

KA Fund Advisors, LLC, 717 Texas Avenue, Suite 3100, Houston, Texas 77002

(Name and address of agent for service)

Registrant's telephone number, including area code: (713) 493-2020

Date of fiscal year end: November 30, 2009

Date of reporting period: May 31, 2009

Form N-CSR is to be used by management investment companies to file reports with the Commission not later than 10 days after the transmission to stockholders of any report that is required to be transmitted to stockholders under Rule 30e-1 under the Investment Company Act of 1940 (17 CFR 270.30e-1). The Commission may use the information provided on Form N-CSR in its regulatory, disclosure review, inspection, and policymaking roles.

A registrant is required to disclose the information specified by Form N-CSR, and the Commission will make this information public. A registrant is not required to respond to the collection of information contained in Form N-CSR unless the Form displays a currently valid Office of Management and Budget (OMB) control number. Please direct comments concerning the accuracy of the information collection burden estimate and any suggestions for reducing the burden to Secretary, Securities and Exchange Commission, 450 Fifth Street, NW, Washington, DC 20549-0609. The OMB has reviewed this collection of information under the clearance requirements of 44 U.S.C. § 3507.

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EXPLANATORY NOTE

The purpose of this Amendment on Form N-CSRS/A to our Shareholder Report for the semi-annual period ended May 31, 2009 (the Original Filing), which was filed with the Securities and Exchange Commission on July 27, 2009, is to file officer certifications as Exhibits 99.906CERT and 99.CERT that were inadvertently omitted from the Original Filing. No other items of the Original Filing are being amended hereby.

Item 1. Reports to Stockholders.

The report of Kayne Anderson MLP Investment Company (the Registrant) to stockholders for the semi-annual period ended May 31, 2009 is attached below.

SEMI-ANNUAL REPORT

MAY 31, 2009

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Exhibit 99.CERT

Exhibit 99.906 CERT

CAUTIONARY NOTE REGARDING FORWARD-LOOKING STATEMENTS: This report contains forward-looking statements as defined under the U.S. federal securities laws. Generally, the words believe, expect, intend, estimate, anticipate, project, will and similar expressions identify forward-looking statements, which are not historical in nature. Forward-looking statements are subject to certain risks and uncertainties that could cause actual results to materially differ from the Company's historical experience and its present expectations or projections indicated in any forward-looking statements. These risks include, but are not limited to, changes in economic and political conditions; regulatory and legal changes; MLP industry risk; leverage risk; valuation risk; interest rate risk; tax risk; and other risks discussed in the Company's filings with the SEC. You should not place undue reliance on forward-looking statements, which speak only as of the date they are made. The Company undertakes no obligation to update or revise any forward-looking statements made herein. There is no assurance that the Company's investment objectives will be attained.

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**KAYNE ANDERSON MLP INVESTMENT COMPANY
PORTFOLIO SUMMARY
MAY 31, 2009
(UNAUDITED)**

Portfolio Investments by Category*

May 31, 2009 Coal MLP 1% Upstream MLP and Other 2% Midstream MLP 62% Propane MLP 7% MLP Affiliates 9% General Partner MLP 13% Shipping MLP 3%

Repurchase Agreement 3% **November 30, 2008** General Partner MLP 4% Coal MLP 4% MLP Affiliates 10% Propane MLP 5% Upstream MLP 4% Midstream MLP 67% Shipping MLP and Other 3% Repurchase Agreement 3%

* *As a percentage
of total
investments*

Top 10 Holdings by Issuer

| Holding | Sector | Percent of Total Investments as of May 31, 2009 |
|---------------------------------------|---------------------|--|
| 1. Plains All American Pipeline, L.P. | Midstream MLP | 11.2% |
| 2. Enterprise Products Partners L.P. | Midstream MLP | 8.6 |
| 3. Energy Transfer Partners, L.P. | Midstream MLP | 8.3 |
| 4. Kinder Morgan Management, LLC | MLP Affiliates | 7.3 |
| 5. Inergy, L.P. | Propane MLP | 7.0 |
| 6. Magellan Midstream Holdings, L.P. | General Partner MLP | 5.4 |
| 7. Copano Energy, L.L.C. | Midstream MLP | 5.1 |
| 8. MarkWest Energy Partners, L.P. | Midstream MLP | 4.4 |
| 9. Enbridge Energy Partners, L.P. | Midstream MLP | 4.2 |
| 10. Energy Transfer Equity, L.P. | General Partner MLP | 3.7 |

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KAYNE ANDERSON MLP INVESTMENT COMPANY
SCHEDULE OF INVESTMENTS
MAY 31, 2009
(amounts in 000 s)
(UNAUDITED)

| Description | No. of Shares/Units | Value |
|---------------------------------------|------------------------|-----------|
| Long-Term Investments 144.5% | | |
| Equity Investments(a) 140.2% | | |
| Midstream MLP(b) 91.4% | | |
| Buckeye Partners, L.P. | 284 | \$ 12,205 |
| Copano Energy, L.L.C.(c) | 3,553 | 56,169 |
| Crosstex Energy, L.P.(d) | 3,084 | 9,652 |
| DCP Midstream Partners, LP | 369 | 7,099 |
| Duncan Energy Partners L.P. | 58 | 1,113 |
| Eagle Rock Energy Partners, L.P. | 68 | 202 |
| El Paso Pipeline Partners, L.P. | 238 | 4,577 |
| Enbridge Energy Partners, L.P.(c) | 1,201 | 48,467 |
| Energy Transfer Partners, L.P.(c) | 2,231 | 94,389 |
| Enterprise Products Partners L.P. | 3,773 | 98,099 |
| Exterran Partners, L.P. | 811 | 10,991 |
| Global Partners L.P. | 1,445 | 23,845 |
| Hiland Partners, LP(d) | 58 | 311 |
| Holly Energy Partners, L.P. | 216 | 6,487 |
| Magellan Midstream Partners, L.P. | 867 | 30,317 |
| MarkWest Energy Partners, L.P. | 2,526 | 45,435 |
| Martin Midstream Partners L.P. | 400 | 7,563 |
| ONEOK Partners, L.P. | 56 | 2,731 |
| Plains All American Pipeline, L.P.(e) | 2,876 | 127,366 |
| Quicksilver Gas Services LP | 93 | 1,215 |
| Regency Energy Partners LP | 2,224 | 28,106 |
| Spectra Energy Partners, LP | 101 | 2,138 |
| Targa Resources Partners LP(c) | 259 | 3,412 |
| TC PipeLines, LP | 885 | 30,695 |
| TEPPCO Partners, L.P. | 199 | 5,924 |
| Transmontaigne Partners L.P. | 132 | 3,007 |
| Western Gas Partners LP | 691 | 10,470 |
| Williams Partners L.P. | 1,021 | 18,901 |
| Williams Pipeline Partners L.P. | 370 | 7,158 |
| | | 698,044 |
| Propane MLP 10.5% | | |
| Inergy, L.P. | 3,163 | 80,328 |
| Shipping MLP 4.4% | | |
| Capital Product Partners L.P. | 172 | 1,707 |

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| | | |
|------------------------------------|-----|--------|
| K-Sea Transportation Partners L.P. | 240 | 4,650 |
| Navios Maritime Partners L.P. | 297 | 3,027 |
| OSG America L.P. | 643 | 4,470 |
| Teekay LNG Partners L.P. | 819 | 15,721 |
| Teekay Offshore Partners L.P. | 293 | 4,071 |
| | | 33,646 |

See accompanying notes to financial statements.

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KAYNE ANDERSON MLP INVESTMENT COMPANY
SCHEDULE OF INVESTMENTS
MAY 31, 2009
(amounts in 000 s)
(UNAUDITED)

| Description | No. of Shares/Units | Value |
|---|--------------------------------|------------------|
| Coal MLP 0.8% | | |
| Clearwater Natural Resources, LP Unregistered(d)(f)(g)(h) | 3,889 | \$ 194 |
| Clearwater Natural Resources, LP Unregistered, Warrants(d)(f)(g)(i) | 34 | 1 |
| Natural Resource Partners L.P. | 99 | 2,353 |
| Penn Virginia Resource Partners, L.P. | 232 | 3,539 |
| | | 6,087 |
| Upstream MLP 0.3% | | |
| Legacy Reserves LP | 206 | 2,540 |
| MLP Affiliates(b) 13.9% | | |
| Enbridge Energy Management, L.L.C.(j) | 582 | 22,274 |
| Kinder Morgan Management, LLC(c)(j) | 1,866 | 83,785 |
| | | 106,059 |
| General Partner MLP(b) 18.6% | | |
| Alliance Holdings GP L.P. | 289 | 6,307 |
| CNR GP Holdco, LLC Unregistered(d)(f)(g)(k) | N/A | |
| Energy Transfer Equity, L.P. | 1,609 | 42,277 |
| Enterprise GP Holdings L.P. | 1,082 | 29,285 |
| Inergy Holdings GP | 76 | 2,923 |
| Magellan Midstream Holdings, L.P. | 2,916 | 61,319 |
| | | 142,111 |
| Other MLP 0.3% | | |
| Calumet Specialty Products Partners, L.P. | 167 | 2,208 |
| Total Equity Investments (Cost \$1,002,595) | | 1,071,023 |

See accompanying notes to financial statements.

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KAYNE ANDERSON MLP INVESTMENT COMPANY
SCHEDULE OF INVESTMENTS
MAY 31, 2009
(amounts in 000 s)
(UNAUDITED)

| Description | Interest Rate | Maturity Date | Principal Amount | Value |
|---|---------------|---------------|-------------------------|-----------|
| Energy Debt Investments 4.3% | | | | |
| Coal MLP 1.3% | | | | |
| Clearwater Natural Resources, LP(f)(g) | (l) | 12/3/09 | \$ 13,601 | \$ 9,520 |
| Midstream MLP(b) 1.5% | | | | |
| Copano Energy, L.L.C. | 8.13% | 3/1/16 | 2,200 | 2,046 |
| El Paso Pipeline Partners, L.P. | 7.75 | 1/15/32 | 5,000 | 3,967 |
| MarkWest Energy Partners, L.P. | 8.75 | 4/15/18 | 4,295 | 3,565 |
| MarkWest Energy Partners, L.P. | 6.88 | 11/1/14 | 2,000 | 1,610 |
| | | | | 11,188 |
| Upstream MLP(b) 1.0% | | | | |
| Atlas Energy Resources, LLC | 10.75 | 2/1/18 | 8,747 | 7,785 |
| Other 0.5% | | | | |
| Calumet Lubricants Co., L.P. | (m) | 3/15/15 | 4,401 | 3,653 |
| Calumet Lubricants Co., L.P. | (n) | 3/15/15 | 588 | 488 |
| | | | | 4,141 |
| Total Energy Debt Investments (Cost \$33,383) | | | | 32,634 |
| Total Long-Term Investments (Cost \$1,035,978) | | | | 1,103,657 |
| Short-Term Investment 5.1% | | | | |
| Repurchase Agreements 5.1% | | | | |
| J.P. Morgan Securities Inc. (Agreement dated 5/29/09 to be repurchased at \$38,540), collateralized by \$39,661 in U.S. Treasury note (Cost \$38,540) | 0.10 | 6/1/09 | | 38,540 |
| | | | | |
| | | | No. of Contracts | |
| Call Option Contracts Purchased(d) 0.0% | | | | |
| Midstream MLP 0.0% | | | | |

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| | | |
|--|-----|-----------|
| Enterprise Products Partners L.P., call option expiring 6/20/09 @ \$25.00 (Premium Paid \$162) | 887 | 89 |
| Total Short-Term Investments (Cost \$38,702) | | 38,629 |
| Total Investments 149.6% (Cost \$1,074,680) | | 1,142,286 |

See accompanying notes to financial statements.

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KAYNE ANDERSON MLP INVESTMENT COMPANY
SCHEDULE OF INVESTMENTS
MAY 31, 2009
(amounts in 000 s)
(UNAUDITED)

| Description | No. of Contracts | Value |
|--|-----------------------------|--------------|
| Liabilities | | |
| Option Contracts Written(d) | | |
| Midstream MLP | | |
| Copano Energy, L.L.C., call option expiring 6/20/09 @ \$15.00 | 2,000 | \$ (200) |
| Enbridge Energy Partners, L.P., call option expiring 6/20/09 @ \$40.00 | 1,000 | (110) |
| Energy Transfer Partners, L.P., call option expiring 6/20/09 @ \$40.00 | 2,000 | (430) |
| Targa Resources Partners LP, call option expiring 6/20/09 @ \$12.50 | 2,000 | (170) |
| Total Call Option Contracts Written (Premiums Received \$735) | | (910) |
| Senior Unsecured Notes | | (304,000) |
| Unrealized Depreciation on Interest Rate Swap Contracts | | (1,161) |
| Other Liabilities | | (19,826) |
| Total Liabilities | | (325,897) |
| Net Deferred Tax Asset | | 13,882 |
| Other Assets | | 8,383 |
| Total Liabilities in Excess of Other Assets | | (303,632) |
| Preferred Stock at Redemption Value | | (75,000) |
| Net Assets Applicable to Common Stockholders | | \$ 763,654 |

- (a) Unless otherwise noted, equity investments are common units/common shares.
- (b) Includes Limited Liability Companies.
- (c) Security or a portion thereof is segregated as

collateral on
option contracts
written or
interest rate
swap contracts.

- (d) Security is non-income producing.
- (e) The Company believes that it is an affiliate of Plains All American, L.P. (See Note 5 Agreements and Affiliations).
- (f) Fair valued securities, restricted from public sale (See Notes 2, 3 and 7).
- (g) Clearwater Natural Resources, LP is a privately-held MLP that the Company believes is a controlled affiliate (See Note 5 Agreements and Affiliations). On January 7, 2009, Clearwater Natural Resources, LP (Clearwater) filed a voluntary petition under Chapter 11 of the U.S. Bankruptcy Code.
- (h)

The Company owns 41 unregistered, deferred participation units of Clearwater which were assigned no value as of May 31, 2009. The deferred participation units are entitled, in certain circumstances, to receive a portion of value realized in a sale or initial public offering by certain of the partnership's common unitholders.

- (i) Warrants are non-income producing and expire on September 30, 2018.

See accompanying notes to financial statements.

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**KAYNE ANDERSON MLP INVESTMENT COMPANY
SCHEDULE OF INVESTMENTS
MAY 31, 2009
(amounts in 000 s)
(UNAUDITED)**

- (j) Distributions are paid in-kind.

- (k) CNR GP Holdco, LLC is the general partner of Clearwater. The Company owns 83.7% of CNR GP Holdco, LLC and believes it is a controlled affiliate (See Note 5 Agreements and Affiliations).

- (l) Floating rate unsecured working capital term loan. Interest is paid in-kind at a rate of the higher of (i) one year LIBOR or (ii) 4.75%, plus 900 basis points (13.75% as of May 31, 2009).

- (m) Floating rate senior secured first lien loan facility. Security pays interest at a rate of LIBOR + 400 basis points (4.85% as of May 31, 2009).

- (n) Fixed rate
senior secured
first lien letter
of credit facility.
Security pays
interest at
4.00%.

See accompanying notes to financial statements.

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KAYNE ANDERSON MLP INVESTMENT COMPANY
STATEMENT OF ASSETS AND LIABILITIES
MAY 31, 2009
(amounts in 000 s, except share and per share amounts)
(UNAUDITED)

ASSETS

| | |
|--|------------------|
| Investments at fair value: | |
| Non-affiliated (Cost \$861,421) | \$ 966,576 |
| Affiliated (Cost \$86,988) | 127,366 |
| Controlled (Cost \$87,569) | 9,715 |
| Call option contracts purchased (Cost \$162) | 89 |
| Repurchase agreement (Cost \$38,540) | 38,540 |
| | |
| Total investments (Cost \$1,074,680) | 1,142,286 |
| Deposits with brokers | 1,065 |
| Receivable for securities sold | 3,591 |
| Income tax receivable | 63 |
| Interest, dividends and distributions receivable | 1,347 |
| Deferred debt issuance costs and other, net | 2,317 |
| Net deferred tax asset | 13,882 |
| | |
| Total Assets | 1,164,551 |

LIABILITIES

| | |
|---|----------------|
| Payable for securities purchased | 8,318 |
| Investment management fee payable | 3,586 |
| Accrued directors' fees and expenses | 53 |
| Call option contracts written (Premiums received \$735) | 910 |
| Accrued expenses and other liabilities | 7,869 |
| Unrealized depreciation on interest rate swap contracts | 1,161 |
| Senior Unsecured Notes | 304,000 |
| | |
| Total Liabilities | 325,897 |

PREFERRED STOCK

| | |
|--|--------|
| \$25,000 liquidation value per share applicable to 3,000 outstanding shares (10,000 shares authorized) | 75,000 |
|--|--------|

NET ASSETS APPLICABLE TO COMMON STOCKHOLDERS **\$ 763,654**

NET ASSETS APPLICABLE TO COMMON STOCKHOLDERS CONSIST OF

| | |
|---|---------|
| Common stock, \$0.001 par value (44,807,094 shares issued and outstanding, 199,990,000 shares authorized) | \$ 45 |
| Paid-in capital | 799,976 |

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| | |
|---|-------------------|
| Accumulated net investment loss, net of income taxes, less dividends | (111,305) |
| Accumulated realized gains on investments and interest rate swap contracts, net of income taxes | 35,011 |
| Net unrealized gains on investments and interest rate swap contracts, net of income taxes | 39,927 |
| NET ASSETS APPLICABLE TO COMMON STOCKHOLDERS | \$ 763,654 |
| NET ASSET VALUE PER COMMON SHARE | \$ 17.04 |

See accompanying notes to financial statements.

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KAYNE ANDERSON MLP INVESTMENT COMPANY
STATEMENT OF OPERATIONS
FOR THE SIX MONTHS ENDED MAY 31, 2009
(amounts in 000 s)
(UNAUDITED)

INVESTMENT INCOME**Income**

Dividends and distributions:

| | |
|----------------------------|-----------|
| Non-affiliated investments | \$ 43,843 |
| Affiliated investments | 5,170 |

| | |
|-----------------------------------|----------|
| Total dividends and distributions | 49,013 |
| Return of capital | (43,840) |

| | |
|---------------------------------|-------|
| Net dividends and distributions | 5,173 |
|---------------------------------|-------|

Interest

| | |
|----------------------------|-----|
| Non-affiliated investments | 498 |
| Controlled investments | 851 |

| | |
|----------------|-------|
| Total interest | 1,349 |
|----------------|-------|

| | |
|-------------------------|-------|
| Total Investment Income | 6,522 |
|-------------------------|-------|

Expenses

| | |
|----------------------------|-------|
| Investment management fees | 6,783 |
| Professional fees | 621 |
| Administration fees | 251 |
| Reports to stockholders | 135 |
| Insurance | 122 |
| Directors fees | 102 |
| Custodian fees | 86 |
| Other expenses | 679 |

| | |
|--|-------|
| Total Expenses Before Interest Expense, Auction Agent Fees and Taxes | 8,779 |
|--|-------|

| | |
|------------------|-------|
| Interest expense | 9,123 |
|------------------|-------|

| | |
|--------------------|----|
| Auction agent fees | 25 |
|--------------------|----|

| | |
|-----------------------------|--------|
| Total Expenses Before Taxes | 17,927 |
|-----------------------------|--------|

| | |
|---|-----------------|
| Net Investment Loss Before Taxes | (11,405) |
|---|-----------------|

| | |
|----------------------|-------|
| Deferred tax benefit | 4,220 |
|----------------------|-------|

| | |
|----------------------------|----------------|
| Net Investment Loss | (7,185) |
|----------------------------|----------------|

REALIZED AND UNREALIZED GAINS/(LOSSES)**Net Realized Losses**

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| | |
|---|------------|
| Investments | (39,301) |
| Options | (1,963) |
| Payments on interest rate swap contracts | (13,565) |
| Deferred tax benefit | 20,287 |
| Net Realized Losses | (34,542) |
| Net Change in Unrealized Gains/(Losses) | |
| Investments | 289,774 |
| Options | (268) |
| Interest rate swap contracts | 7,716 |
| Deferred tax expense | (109,972) |
| Net Change in Unrealized Gains | 187,250 |
| Net Realized and Unrealized Gains | 152,708 |
| NET INCREASE IN NET ASSETS RESULTING FROM OPERATIONS | 145,523 |
| DISTRIBUTION TO PREFERRED STOCKHOLDERS | (343) |
| NET INCREASE IN NET ASSETS APPLICABLE TO COMMON STOCKHOLDERS RESULTING FROM OPERATIONS | \$ 145,180 |

See accompanying notes to financial statements.

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KAYNE ANDERSON MLP INVESTMENT COMPANY
STATEMENT OF CHANGES IN NET ASSETS APPLICABLE TO COMMON STOCKHOLDERS
(amounts in 000 s, except share amounts)

| | For the Six Months Ended | For the Fiscal Year Ended |
|---|---|--|
| | May 31, 2009 (Unaudited) | November 30, 2008 |
| OPERATIONS | | |
| Net investment loss, net of tax | \$ (7,185) | \$ (31,676) |
| Net realized losses, net of tax | (34,542) | (628) |
| Net change in unrealized gains/(losses), net of tax | 187,250 | (549,121) |
| Net Increase/(Decrease) in Net Assets Resulting from Operations | 145,523 | (581,425) |
| DIVIDENDS/DISTRIBUTIONS TO PREFERRED STOCKHOLDERS | | |
| Dividends | | |
| Distributions return of capital | (343) ⁽¹⁾ | (4,176) ⁽²⁾ |
| Dividends/Distributions to Preferred Stockholders | (343) | (4,176) |
| DIVIDENDS/DISTRIBUTIONS TO COMMON STOCKHOLDERS | | |
| Dividends | | |
| Distributions return of capital | (43,458) ⁽¹⁾ | (86,757) ⁽²⁾ |
| Dividends/Distributions to Common Stockholders | (43,458) | (86,757) |
| CAPITAL STOCK TRANSACTIONS | | |
| Issuance of 630,908 and 950,637 shares of common stock from reinvestment of distributions, respectively | 10,776 | 23,484 |
| Total Increase/(Decrease) in Net Assets Applicable to Common Stockholders | 112,498 | (648,874) |
| NET ASSETS ATTRIBUTABLE TO COMMON STOCKHOLDERS | | |
| Beginning of period | 651,156 | 1,300,030 |
| End of period | \$ 763,654 | \$ 651,156 |

- (1) This is an estimate of the characterization of the distributions paid to preferred stockholders and common stockholders for the six months ended May 31, 2009 as either a dividend (ordinary income) or distribution (return of capital). This estimate is based on the Company's operating results during the period. The actual characterization of the preferred stock and common stock distributions made during the current year will not be determinable until after the end of the fiscal year when the Company can determine earnings and profits and, therefore, it may differ from the preliminary estimates.
- (2) All distributions paid to preferred stockholders and common

stockholders for the fiscal year ended November 30, 2008 were characterized as distributions (return of capital). This characterization is based on the Company's earnings and profits.

See accompanying notes to financial statements.

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KAYNE ANDERSON MLP INVESTMENT COMPANY
STATEMENT OF CASH FLOWS
FOR THE SIX MONTHS ENDED MAY 31, 2009
(amounts in 000 s)
(UNAUDITED)

CASH FLOWS FROM OPERATING ACTIVITIES

| | |
|---|------------|
| Net increase in net assets resulting from operations | \$ 145,523 |
| Adjustments to reconcile net increase in net assets resulting from operations to net cash used in operating activities: | |
| Net deferred tax expense | 85,465 |
| Return of capital distributions | 43,840 |
| Net realized losses | 54,829 |
| Unrealized gains on investments, interest rate swap contracts and options written | (297,222) |
| Accretion of bond discount, net | (65) |
| Purchase of investments | (205,801) |
| Proceeds from sale of investments | 204,090 |
| Purchase of short-term investments, net | (10,872) |
| Sale of option contracts, net | 5,715 |
| Decrease in deposits with brokers | 1,250 |
| Increase in receivable for securities sold | (1,072) |
| Decrease in income tax receivable | 669 |
| Increase in interest, dividend and distributions receivable | (665) |
| Decrease in deferred debt issuance costs and other | 387 |
| Increase in payable for securities purchased | 8,289 |
| Decrease in investment management fee payable | (1,042) |
| Increase in accrued directors' fees | 1 |
| Decrease in accrued expenses and other liabilities | (294) |
| Net Cash Provided by Operating Activities | 33,025 |

CASH FLOWS FROM FINANCING ACTIVITIES

| | |
|---|--------------|
| Cash distributions paid to preferred stockholders | (343) |
| Cash distributions paid to common stockholders | (32,682) |
| Net Cash Used in Financing Activities | (33,025) |

NET CHANGE IN CASH**CASH BEGINNING OF PERIOD****CASH END OF PERIOD**

\$

Supplemental disclosure of cash flow information:

Non-cash financing activities not included herein consist of reinvestment of distributions of \$10,776 pursuant to the Company's dividend reinvestment plan.

During the six months ended May 31, 2009, the Company received a federal income tax refund of \$665 and interest paid was \$9,239.

See accompanying notes to financial statements.

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KAYNE ANDERSON MLP INVESTMENT COMPANY
FINANCIAL HIGHLIGHTS
(amounts in 000 s, except share and per share amounts)

| | For the Six Months Ended May 31, 2009 (Unaudited) | For the Fiscal Year Ended November 30, | | | | For the Period September 28, 2004 ⁽¹⁾ through November 30, 2004 |
|--|---|--|----------|----------|----------|--|
| | | 2008 | 2007 | 2006 | 2005 | |
| Per Share of Common Stock⁽²⁾ | | | | | | |
| Net asset value, beginning of period | \$ 14.74 | \$ 30.08 | \$ 28.99 | \$ 25.07 | \$ 23.91 | \$ 23.70 ⁽³⁾ |
| Net investment income/(loss) | (0.16) | (0.73) | (0.73) | (0.62) | (0.17) | 0.02 |
| Net realized and unrealized gain/(loss) on investments, securities sold short, options and interest rate swap contracts | 3.43 | (12.56) | 3.58 | 6.39 | 2.80 | 0.19 |
| Total income from investment operations | 3.27 | (13.29) | 2.85 | 5.77 | 2.63 | 0.21 |
| Preferred Stockholder Dividends ⁽⁴⁾ | | | (0.10) | | (0.05) | |
| Preferred Stockholder Distributions return of capital ⁽⁴⁾ . | (0.01) | (0.10) | | (0.10) | | |
| Total dividends and distributions Preferred Stockholders | (0.01) | (0.10) | (0.10) | (0.10) | (0.05) | |
| Common Stockholder Dividends ⁽⁴⁾ | | | (0.09) | | (0.13) | |
| Common Stockholder Distributions return of capital ⁽⁴⁾ | (0.98) | (1.99) | (1.84) | (1.75) | (1.37) | |

| | | | | | | | |
|--|----------------------|------------|--------------|--------------|------------|-----------------------|--|
| Total dividends and distributions | | | | | | | |
| Common Stockholders | (0.98) | (1.99) | (1.93) | (1.75) | (1.50) | | |
| Underwriting discounts and offering costs on the issuance of preferred stock | | | | | | (0.03) | |
| Anti-dilutive effect due to issuance of common stock, net of underwriting discounts and offering costs | | | 0.26 | | | 0.11 | |
| Anti-dilutive effect due to shares issued in reinvestment of dividends | 0.02 | 0.04 | 0.01 | | | | |
| Total capital stock transactions | 0.02 | 0.04 | 0.27 | | | 0.08 | |
| Net asset value, end of period | \$ 17.04 | \$ 14.74 | \$ 30.08 | \$ 28.99 | \$ 25.07 | \$ 23.91 | |
| Market value per share of common stock, end of period | \$ 21.00 | \$ 13.37 | \$ 28.27 | \$ 31.39 | \$ 24.33 | \$ 24.90 | |
| Total investment return based on common stock market value ⁽⁵⁾ | 66.2% ⁽⁶⁾ | (48.8)% | (4.4)% | 37.9%% | 3.7% | (0.4)% ⁽⁶⁾ | |
| Supplemental Data and Ratios⁽⁷⁾ | | | | | | | |
| Net assets applicable to common stockholders, end of period | \$ 763,654 | \$ 651,156 | \$ 1,300,030 | \$ 1,103,392 | \$ 932,090 | \$ 792,836 | |
| Ratio of Expenses to Average Net Assets ⁽⁸⁾ : | | | | | | | |
| Management fees | 2.1% | 2.2% | 2.3% | 3.2% | 1.2% | 0.8% | |
| Other expenses | 0.6 | 0.3 | 0.2 | 0.2 | 0.3 | 0.4 | |
| Subtotal | 2.7% | 2.5% | 2.5% | 3.4% | 1.5% | 1.2% | |

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| | | | | | | |
|--|----------------------|--------------|--------------|------------|------------|----------------------|
| Interest expense and auction agent fees | 2.8 | 3.4 | 2.3 | 1.7 | 0.8 | 0.0 |
| Income tax expense/(benefit) | 26.0 | (29.7) | 3.5 | 13.8 | 6.4 | 3.5 |
| Total expenses | 31.5% | (23.8)% | 8.3% | 18.9% | 8.7% | 4.7% |
| Ratio of net investment income/(loss) to average net assets | (2.2)% | (2.8)% | (2.3)% | (2.4)% | (0.7)% | 0.5% |
| Net increase/(decrease) in net assets to common stockholders resulting from operations to average net assets | 22.1% ⁽⁶⁾ | (51.2)% | 7.3% | 21.7% | 10.0% | 0.9% ⁽⁶⁾ |
| Portfolio turnover rate | 21.3% ⁽⁶⁾ | 6.7% | 10.6% | 10.0% | 25.6% | 11.8% ⁽⁶⁾ |
| Average net assets | \$ 657,592 | \$ 1,143,192 | \$ 1,302,425 | \$ 986,908 | \$ 870,672 | \$ 729,280 |
| Senior Notes outstanding, end of period | \$ 304,000 | \$ 304,000 | \$ 505,000 | \$ 320,000 | \$ 260,000 | |
| Revolving credit facility outstanding, end of period | | | \$ 97,000 | \$ 17,000 | | |

See accompanying notes to financial statements.

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KAYNE ANDERSON MLP INVESTMENT COMPANY
FINANCIAL HIGHLIGHTS
(amounts in 000 s, except share and per share amounts)

| | For the Six Months Ended May 31, 2009 (Unaudited) | For the Fiscal Year Ended November 30, | | | | For the Period September 28, 2004 ⁽¹⁾ through November 30, 2004 |
|--|---|--|-----------|-----------|-----------|---|
| | | 2008 | 2007 | 2006 | 2005 | |
| Supplemental Data and Ratios continued ⁽¹⁾ | | | | | | |
| Auction Rate Preferred Stock, end of period | \$ 75,000 | \$ 75,000 | \$ 75,000 | \$ 75,000 | \$ 75,000 | |
| Asset coverage of total debt Dividend Payment Test ⁽⁹⁾ | 375.9% | 338.9% | 372.3% | 468.3% | 487.3% | |
| Asset coverage of total debt Debt Incurrence Test ⁽¹⁰⁾ | 375.9% | 338.9% | 328.4% | 449.7% | 487.3% | |
| Asset coverage of total leverage (Debt and Preferred Stock) ⁽¹¹⁾ | 301.5% | 271.8% | 292.0% | 367.8% | 378.2% | |
| Average amount of borrowings outstanding per share of common stock during the period ⁽²⁾ | \$ 6.83 | \$ 11.52 | \$ 12.14 | \$ 8.53 | \$ 5.57 | |

(1) Commencement of operations.

(2) Based on average shares of common stock outstanding of 44,517,341; 43,671,666; 41,134,949; 37,638,314; 34,077,731 and 33,165,900 for the six months ended May 31, 2009; fiscal years ended November 30, 2008 through 2005 and the period September 28,

2004 through
November 30,
2004.

- (3) Initial public offering price of \$25.00 per share less underwriting discounts of \$1.25 per share and offering costs of \$0.05 per share.
- (4) The information presented for the six months ended May 31, 2009 is an estimate of the characterization of the distribution paid and is based on the Company's operating results during the period. The information presented for each other period is a characterization of a portion of the total distributions paid to preferred stockholders and common stockholders as either a dividend (ordinary income) or a distribution (return of capital) and is based on the Company's earnings and profits.

- (5) Total investment return is calculated assuming a purchase of common stock at the market price on the first day and a sale at the current market price on the last day of the period reported. The calculation also assumed reinvestment of distributions at actual prices pursuant to the Company's dividend reinvestment plan.
- (6) Not annualized.
- (7) Unless otherwise noted, ratios are annualized for periods of less than one full year.
- (8) The following table set forth the components of the Company's ratio of expenses to average total assets for each period presented in the Company's Financial Highlights.

| | For the Six Months Ended May 31, 2009 (Unaudited) | For the Fiscal Year Ended November 30, | | | | For the Period September 28, 2004⁽¹⁾ through November 30, 2004 | |
|--|--|---|--------------|--------------|--------------|--|--|
| | | 2008 | 2007 | 2006 | 2005 | | |
| Management fees | 1.2% | 1.4% | 1.4% | 2.0% | 0.9% | 0.7% | |
| Other expenses | 0.4 | 0.2 | 0.2 | 0.2 | 0.3 | 0.4 | |
| Subtotal | 1.6% | 1.6% | 1.6% | 2.2% | 1.2% | 1.1% | |
| Interest expense and auction agent fees | 1.7 | 2.1 | 1.3 | 1.1 | 0.6 | 0.0 | |
| Income tax expense/(benefit) | 15.7 | (18.5) | 2.2 | 8.9 | 5.0 | 3.3 | |
| Total expenses | 19.0% | (14.8)% | 5.1% | 12.2% | 6.8% | 4.4% | |
| Average total assets | \$ 1,090,448 | \$ 1,841,311 | \$ 2,105,217 | \$ 1,520,322 | \$ 1,137,399 | \$ 778,899 | |
| | | See accompanying notes to financial statements. | | | | | |

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**KAYNE ANDERSON MLP INVESTMENT COMPANY
FINANCIAL HIGHLIGHTS
(amounts in 000 s, except share and per share amounts)**

- (9) Calculated pursuant to section 18(a)(1)(B) of the 1940 Act. Represents the value of total assets less all liabilities not represented by senior notes or any other senior securities representing indebtedness divided by the aggregate amount of senior notes and any other securities representing indebtedness. Under the 1940 Act, the Company may not declare or make any distribution on its common stock and preferred stock if at the time of such declaration, asset coverage with respect to senior securities representing indebtedness would be less than 300% and 200%, respectively.

- (10) Calculated pursuant to section 18(a)(1)(A) of the 1940 Act. Represents the value of total assets less all liabilities not represented by senior notes or any other senior securities representing indebtedness divided by the aggregate amount of senior notes and any other senior securities representing indebtedness. Under the 1940 Act, the Company may not incur additional indebtedness if, at the time of such incurrence, asset coverage with respect to senior securities representing indebtedness would be less than 300%. For purposes of this test the revolving credit facility is considered a senior security representing indebtedness.
- (11) Calculated pursuant to section 18(a)(2)(A) and

section
18(a)(2)(B) of
the 1940 Act.
Represents the
value of total
assets less all
liabilities not
represented by
senior notes,
any other senior
securities
representing
indebtedness,
and auction rate
preferred stock
divided by the
aggregate
amount of
senior notes,
any other senior
securities
representing
indebtedness
and auction rate
preferred stock.
Under the 1940
Act, the
Company may
not declare or
make any
distribution on
its common
stock nor can it
incur additional
preferred stock
if at the time of
such declaration
or incurrence its
asset coverage
with respect to
all senior
securities would
be less than
200%. For
purposes of this
test, the
revolving credit
facility is
considered a
senior security
representing

indebtedness.

See accompanying notes to financial statements.

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**KAYNE ANDERSON MLP INVESTMENT COMPANY
NOTES TO FINANCIAL STATEMENTS
MAY 31, 2009**

**(amounts in 000 s, except option contracts, share and per share amounts)
(UNAUDITED)**

1. Organization

Kayne Anderson MLP Investment Company (the Company) was organized as a Maryland corporation on June 4, 2004, and is a non-diversified closed-end management investment company registered under the Investment Company Act of 1940, as amended (the 1940 Act). The Company's investment objective is to obtain a high after-tax total return by investing at least 85% of its net assets plus any borrowings (total assets) in energy-related master limited partnerships and their affiliates (collectively, MLPs), and in other companies that, as their principal business, operate assets used in the gathering, transporting, processing, storing, refining, distributing, mining or marketing of natural gas, natural gas liquids (including propane), crude oil, refined petroleum products or coal (collectively with MLPs, Midstream Energy Companies). The Company commenced operations on September 28, 2004. The Company's shares of common stock are listed on the New York Stock Exchange, Inc. (NYSE) under the symbol KYN.

2. Significant Accounting Policies

A. *Use of Estimates* The preparation of financial statements in conformity with accounting principles generally accepted in the United States of America (GAAP) requires management to make estimates and assumptions that affect the reported amount of assets and liabilities and disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of revenue and expenses during the period. Actual results could differ materially from those estimates.

B. *Calculation of Net Asset Value* The Company determines its net asset value as of the close of regular session trading on the NYSE no less frequently than the last business day of each month, and makes its net asset value available for publication monthly. Currently, the Company calculates its net asset value on a weekly basis and such calculation is made available on its website, www.kaynefunds.com. Net asset value is computed by dividing the value of the Company's assets (including accrued interest and distributions), less all of its liabilities (including accrued expenses, distributions payable, current and deferred and other accrued income taxes, and any borrowings) and the liquidation value of any outstanding preferred stock, by the total number of common shares outstanding.

C. *Investment Valuation* Readily marketable portfolio securities listed on any exchange other than the NASDAQ Stock Market, Inc. (NASDAQ) are valued, except as indicated below, at the last sale price on the business day as of which such value is being determined. If there has been no sale on such day, the securities are valued at the mean of the most recent bid and asked prices on such day. Securities admitted to trade on the NASDAQ are valued at the NASDAQ official closing price. Portfolio securities traded on more than one securities exchange are valued at the last sale price on the business day as of which such value is being determined at the close of the exchange representing the principal market for such securities.

Equity securities traded in the over-the-counter market, but excluding securities admitted to trading on the NASDAQ, are valued at the closing bid prices. Fixed income securities that are considered corporate bonds are valued by using the mean of the bid and ask prices provided by an independent pricing service. For fixed income securities that are considered corporate bank loans, the fair market value is determined by using the mean of the bid and ask prices provided by the syndicate bank or principal market maker. When price quotes are not available, fair market value will be based on prices of comparable securities. In certain cases, the Company may not be able to purchase or sell fixed income securities at the quoted prices due to the lack of liquidity for these securities.

Exchange-traded options and futures contracts are valued at the last sales price at the close of trading in the market where such contracts are principally traded or, if there was no sale on the applicable exchange on such day, at the mean between the quoted bid and ask price as of the close of such exchange.

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The Company holds securities that are privately issued or otherwise restricted as to resale. For these securities, as well as any other portfolio security held by the Company for which reliable market quotations are not readily available, valuations are determined in a manner that most fairly reflects fair value of the security on the valuation date. Unless otherwise determined by the Board of Directors, the following valuation process is used for such securities:

Investment Team Valuation. The applicable investments are initially valued by KA Fund Advisors, LLC (Kayne Anderson or the Adviser) investment professionals responsible for the portfolio investments;

Investment Team Valuation Documentation. Preliminary valuation conclusions are documented and discussed with senior management of Kayne Anderson. Such valuations generally are submitted to the Valuation Committee (a committee of the Company s Board of Directors) or the Board of Directors on a monthly basis, and stand for intervening periods of time.

Valuation Committee. The Valuation Committee meets on or about the end of each month to consider new valuations presented by Kayne Anderson, if any, which were made in accordance with the Valuation Procedures in such month. Between meetings of the Valuation Committee, a senior officer of Kayne Anderson is authorized to make valuation determinations. The Valuation Committee s valuations stand for intervening periods of time unless the Valuation Committee meets again at the request of Kayne Anderson, the Board of Directors, or the Valuation Committee itself. All valuation determinations of the Valuation Committee are subject to ratification by the Board at its next regular meeting.

Valuation Firm. No less than quarterly, a third-party valuation firm engaged by the Board of Directors reviews the valuation methodologies and calculations employed for these securities.

Board of Directors Determination. The Board of Directors meets quarterly to consider the valuations provided by Kayne Anderson and the Valuation Committee, if applicable, and ratify valuations for the applicable securities. The Board of Directors considers the report provided by the third-party valuation firm in reviewing and determining in good faith the fair value of the applicable portfolio securities.

Unless otherwise determined by the Board of Directors, securities that are convertible into or otherwise will become publicly traded (e.g., through subsequent registration or expiration of a restriction on trading) are valued through the process described above, using a valuation based on the market value of the publicly traded security less a discount. The discount is initially equal in amount to the discount negotiated at the time the purchase price is agreed to. To the extent that such securities are convertible or otherwise become publicly traded within a time frame that may be reasonably determined, Kayne Anderson may determine an applicable discount in accordance with a methodology approved by the Valuation Committee.

At May 31, 2009, the Company held 1.3% of its net assets applicable to common stockholders (0.8% of total assets) in securities valued at fair value as determined pursuant to procedures adopted by the Board of Directors, with fair value of \$9,715. Although these securities may be resold in privately negotiated transactions (subject to certain restrictions), these values may differ from the values that would have been used had a ready market for these securities existed, and the differences could be material (See Note 7 Restricted Securities).

D. Repurchase Agreements The Company has agreed to purchase securities from financial institutions, subject to the seller s agreement to repurchase them at an agreed-upon time and price (repurchase agreements). The financial institutions with which the Company enters into repurchase agreements are banks and broker/dealers which Kayne

Anderson considers creditworthy. The seller under a repurchase agreement is required to maintain the value of the securities as collateral, subject to the agreement, at not less than the repurchase price plus accrued interest. Kayne Anderson monitors daily the mark-to-market of the value of the collateral, and, if necessary, requires the seller to maintain additional securities so that the value of the collateral is not less than the repurchase price. Default by or bankruptcy of the seller would, however, expose the Company to possible loss because of adverse market action or delays in connection with the disposition of the underlying securities.

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**KAYNE ANDERSON MLP INVESTMENT COMPANY
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E. Short Sales A short sale is a transaction in which the Company sells securities it does not own (but has borrowed) in anticipation of or to hedge against a decline in the market price of the securities. To complete a short sale, the Company may arrange through a broker to borrow the securities to be delivered to the buyer. The proceeds received by the Company for the short sale are retained by the broker until the Company replaces the borrowed securities. In borrowing the securities to be delivered to the buyer, the Company becomes obligated to replace the securities borrowed at their market price at the time of replacement, whatever the price may be.

All short sales are fully collateralized. The Company maintains assets consisting of cash or liquid securities equal in amount to the liability created by the short sale. These assets are adjusted daily to reflect changes in the value of the securities sold short. The Company is liable for any dividends or distributions paid on securities sold short.

The Company may also sell short against the box (*i.e.*, the Company enters into a short sale as described above while holding an offsetting long position in the security which it sold short). If the Company enters into a short sale against the box, the Company segregates an equivalent amount of securities owned as collateral while the short sale is outstanding. At May 31, 2009, the Company had no open short sales.

F. Security Transactions Security transactions are accounted for on the date these securities are purchased or sold (trade date). Realized gains and losses are reported on an identified cost basis.

G. Return of Capital Estimates Distributions received from the Company's investments in MLPs generally are comprised of income and return of capital. The Company records investment income and return of capital based on estimates made at the time such distributions are received. Such estimates are based on historical information available from each MLP and other industry sources. These estimates may subsequently be revised based on information received from MLPs after their tax reporting periods are concluded.

For the six months ended May 31, 2009, the Company estimated that 90% of the MLP distributions received would be treated as a return of capital. The Company recorded as return of capital the amount of \$43,840 of dividends and distributions received from its investments. Net Realized Losses and Net Change in Unrealized Gains in the accompanying Statement of Operations were decreased and increased by \$27,466 and \$16,374, respectively, attributable to the recording of such dividends and distributions as reduction in the cost basis of investments.

H. Investment Income The Company records dividends and distributions on the ex-dividend date. Interest income is recognized on the accrual basis, including amortization of premiums and accretion of discounts. In accordance with Statement of Position 93-1, *Financial Accounting and Reporting for High-Yield Debt Securities by Investment Companies*, to the extent that interest income to be received is not to be realized, a reserve against income is established.

Many of the Company's fixed income securities were purchased at a discount or premium to the par value of the security. The non-cash accretion of a discount increases interest income while the non-cash amortization of a premium decreases interest income. These non-cash amounts are included in the Company's Statement of Cash Flows.

I. Distributions to Stockholders Distributions to common stockholders are recorded on the ex-dividend date. Distributions to stockholders of the Company's auction rate preferred stock are accrued on a daily basis and are determined as described in Note 12 Preferred Stock. The estimated characterization of the distributions paid to preferred and common stockholders will be either a dividend (ordinary income) or distribution (return of capital). This estimate is based on the Company's operating results during the period. The actual characterization of the preferred and common stock distributions made during the current year will not be determinable until after the end of the fiscal year when the Company can determine earnings and profits and, therefore, it may differ from the preliminary estimates.

During the six months ended May 31, 2009, the Company received \$5,001 of paid in-kind stock dividends in total from Enbridge Energy Management, L.L.C. and Kinder Morgan Management, LLC. Paid in-kind stock dividends consist of additional units of Enbridge Energy Management, L.L.C. and Kinder Morgan Management, LLC. The additional units are not reflected in investment income during the period received but are recorded as unrealized gains

upon receipt.

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J. Partnership Accounting Policy The Company records its pro-rata share of the income/(loss) and capital gains/(losses), to the extent of distributions it has received, allocated from the underlying partnerships and adjusts the cost of the underlying partnerships accordingly. These amounts are included in the Company's Statement of Operations.

K. Federal and State Income Taxation The Company, as a corporation, is obligated to pay federal and state income tax on its taxable income. The Company invests its assets primarily in MLPs, which generally are treated as partnerships for federal income tax purposes. As a limited partner in the MLPs, the Company includes its allocable share of the MLP's taxable income in computing its own taxable income. Deferred income taxes reflect (i) taxes on unrealized gains/(losses), which are attributable to the temporary difference between fair market value and tax basis, (ii) the net tax effects of temporary differences between the carrying amounts of assets and liabilities for financial reporting purposes and the amounts used for income tax purposes and (iii) the net tax benefit of accumulated net operating losses. To the extent the Company has a deferred tax asset; consideration is given as to whether or not a valuation allowance is required. The need to establish a valuation allowance for deferred tax assets is assessed periodically by the Company based on the criterion established by the Statement of Financial Standards, *Accounting for Income Taxes* (SFAS No. 109) that it is more likely than not that some portion or all of the deferred tax asset will not be realized. In the assessment for a valuation allowance, consideration is given to all positive and negative evidence related to the realization of the deferred tax asset. This assessment considers, among other matters, the nature, frequency and severity of current and cumulative losses, forecasts of future profitability (which are highly dependent on future cash distributions from the Company's MLP holdings), the duration of statutory carryforward periods and the associated risk that operating loss carryforwards may expire unused.

The Company may rely to some extent on information provided by the MLPs, which may not necessarily be timely, to estimate taxable income allocable to the MLP units held in the portfolio and to estimate the associated deferred tax liability. Such estimates are made in good faith. From time to time, as new information becomes available, the Company modifies its estimates or assumptions regarding the deferred tax liability.

The Company's policy is to classify interest and penalties associated with underpayment of federal and state income taxes, if any, as income tax expense on its Statement of Operations. As of May 31, 2009, the Company does not have any interest or penalties associated with the underpayment of any income taxes. All tax years since inception remain open and subject to examination by tax jurisdictions.

L. Derivative Financial Instruments The Company uses derivative financial instruments (principally interest rate swap contracts) to manage interest rate risks. The Company uses interest rate swap contracts to hedge against increasing interest expense on its leverage resulting from increases in short term interest rates. The Company does not hedge any interest rate risk associated with portfolio holdings. Interest rate transactions the Company uses for hedging purposes expose it to certain risks that differ from the risks associated with its portfolio holdings. A decline in interest rates may result in a decline in the value of the swap contracts, which, everything else being held constant, would result in a decline in the net assets of the Company. In addition, if the counterparty to an interest rate swap or cap defaults, the Company would not be able to use the anticipated net receipts under the interest rate swap or cap to offset its cost of financial leverage.

Interest rate swap contracts are recorded at fair value with changes in value during the reporting period, and amounts accrued under the agreements, included as unrealized gains or losses in the Statement of Operations. Monthly cash settlements under the terms of the interest rate swap agreements are recorded as realized gains or losses in the Statement of Operations. The Company generally values its interest rate swap contracts based on dealer quotations, if available, or by discounting the future cash flows from the stated terms of the interest rate swap agreement by using interest rates currently available in the market. See Note 13 Interest Rate Swap Contracts for more detail.

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KAYNE ANDERSON MLP INVESTMENT COMPANY
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MAY 31, 2009

(amounts in 000 s, except option contracts, share and per share amounts)
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The Company is also exposed to financial market risks including changes in the valuations of its investment portfolio. The Company may purchase or write (sell) call options. A call option on a security is a contract that gives the holder of the option, in return for a premium, the right to buy from the writer of the option the security underlying the option at a specified exercise price at any time during the term of the option.

The Company would normally purchase call options in anticipation of an increase in the market value of securities of the type in which it may invest. The Company would ordinarily realize a gain on a purchased call option if, during the option period, the value of such securities exceeded the sum of the exercise price, the premium paid and transaction costs; otherwise the Company would realize either no gain or a loss on the purchased call option.

The Company may also write (sell) call options with the purpose of generating income or reducing its holding of certain securities. The writer of an option on a security has the obligation upon exercise of the option to deliver the underlying security upon payment of the exercise price. The successful use of options depends in part on the degree of correlation between the options and securities.

When the Company writes a call option, an amount equal to the premium received by the Company is recorded as a liability and is subsequently adjusted to the current fair value of the option written. Premiums received from writing options that expire unexercised are treated by the Company on the expiration date as realized gains from investments. If the Company repurchases a written call option prior to its exercise, the difference between the premium received and the amount paid to repurchase the option is treated as a realized gain or loss. If a call option is exercised, the premium is added to the proceeds from the sale of the underlying security in determining whether the Company has realized a gain or loss. The Company, as the writer of an option, bears the market risk of an unfavorable change in the price of the security underlying the written option. See Note 8 Option Contracts for more detail on option contracts written and purchased.

In March 2008, the FASB issued SFAS No. 161, *Disclosures about Derivative Instruments and Hedging Activities*. This standard amends and expands the disclosure requirements of SFAS No. 133, *Accounting for Derivative Instruments and Hedging Activities*, to illustrate how and why an entity uses derivative instruments; how derivative instruments and related hedged items are accounted for under SFAS No. 133; and how derivative instruments and related hedged items affect an entity's financial position, financial performance and cash flows. SFAS No. 161 is effective for financial statements issued for fiscal years beginning after November 15, 2008 and interim periods within those fiscal years. As of December 1, 2008, the Company adopted SFAS No. 161.

The following table sets forth the fair value of the Company's derivative instruments.

| Derivatives Not Accounted for as Hedging | | Fair Value as of May 31, 2009 |
|---|---|--|
| Instruments under SFAS No. 133 | Statement of Assets and Liabilities Location | |
| Assets | | |
| Call options | Call option contracts purchased | \$ 89 |
| Liabilities | | |
| Call options | Call option contracts written | \$ 910 |
| Interest rate swap contracts | Unrealized depreciation on interest rate swap contracts | 1,161 |
| | | \$ 2,071 |

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KAYNE ANDERSON MLP INVESTMENT COMPANY
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The following tables set forth the effect of derivative instruments on the Statement of Operations.

| | | For the Six Months Ended May 31, 2009 | |
|---|---|--|---|
| | | Net Realized | Change in Unrealized Gains/(Losses) |
| Derivatives not accounted for as | Location of Gains/(Losses) on Derivatives Recognized in Income | Losses on Derivatives Recognized in Income | on Derivatives Recognized in Income |
| hedging instruments under SFAS No. 133 | | | |
| Call options | Options | \$ (1,963) | \$ (268) |
| Interest rate swap contracts | Payments on interest rate swap contracts | (13,565) | 7,716 |
| | | \$ (15,528) | \$ 7,448 |

M. Indemnifications Under the Company's organizational documents, its officers and directors are indemnified against certain liabilities arising out of the performance of their duties to the Company. In addition, in the normal course of business, the Company enters into contracts that provide general indemnification to other parties. The Company's maximum exposure under these arrangements is unknown, as this would involve future claims that may be made against the Company that have not yet occurred, and may not occur. However, the Company has not had prior claims or losses pursuant to these contracts and expects the risk of loss to be remote.

3. Fair Value

SFAS No. 157 establishes a fair value hierarchy that prioritizes the inputs to valuation techniques used to measure fair value into the following three broad categories.

Level 1 Quoted unadjusted prices for identical instruments in active markets to which the Company has access at the date of measurement.

Level 2 Quoted prices for similar instruments in active markets; quoted prices for identical or similar instruments in markets that are not active; and model-derived valuations in which all significant inputs and significant value drivers are observable in active markets. Level 2 inputs are those in markets for which there are few transactions, the prices are not current, little public information exists or instances where prices vary substantially over time or among brokered market makers.

Level 3 Model derived valuations in which one or more significant inputs or significant value drivers are unobservable. Unobservable inputs are those inputs that reflect the Company's own assumptions that market participants would use to price the asset or liability based on the best available information.

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(amounts in 000 s, except option contracts, share and per share amounts)
(UNAUDITED)

The following table presents our assets and liabilities measured at fair value on a recurring basis at May 31, 2009.

| | Total | Quoted Prices in Active Markets (Level 1) | Prices with Other Observable Inputs (Level 2) | Unobservable Inputs (Level 3)⁽¹⁾ |
|--|---------------------|--|--|--|
| Assets at Fair Value | | | | |
| Investments | \$ 1,103,746 | \$ 1,070,828 | \$ 23,203 | \$ 9,715 |
| Repurchase Agreements | 38,540 | | 38,540 | |
| Total assets at fair value | \$ 1,142,286 | \$ 1,070,828 | \$ 61,743 | \$ 9,715 |
| Liabilities at Fair Value | | | | |
| Unrealized depreciation on interest rate swaps | \$ 1,161 | | \$ 1,161 | |
| Option contracts written | 910 | | 910 | |
| Total liabilities at fair value | \$ 2,071 | | \$ 2,071 | |

(1) The Company's investments in Level 3 represent its investments in Clearwater Natural Resources, L.P. and CNR GP Holdco, LLC as more fully described in Note 7 Restricted Securities.

The following table presents our assets measured at fair value on a recurring basis using significant unobservable inputs (Level 3) at November 30, 2008 and at May 31, 2009.

| Assets at Fair Value Using Unobservable Inputs (Level 3) | Long-Term Investments |
|---|------------------------------|
| Balance November 30, 2008 | \$ 32,987 |

| | |
|-------------------------------------|----------|
| Transfers out of Level 3 | |
| Realized gains/(losses) | |
| Unrealized losses, net | (23,272) |
| Purchases, issuances or settlements | |
| Balance May 31, 2009 | \$ 9,715 |

The \$23,272 of unrealized losses presented in the table above relate to investments that are still held at May 31, 2009 and the Company includes these unrealized losses in the Statement of Operations Net Change in Unrealized Gains/(Losses).

The Company did not have any liabilities that were measured at fair value on a recurring basis using significant unobservable inputs (Level 3) at November 30, 2008 and at May 31, 2009.

4. Concentration of Risk

The Company's investment objective is to obtain a high after-tax total return with an emphasis on current income paid to its stockholders. Under normal circumstances, the Company intends to invest at least 85% of its total assets in securities of MLPs and other Midstream Energy Companies, and to invest at least 80% of its total assets in MLPs, which are subject to certain risks, such as supply and demand risk, depletion and exploration risk, commodity pricing risk, acquisition risk, and the risk associated with the hazards inherent in midstream energy industry activities. A substantial portion of the cash flow received by the Company is derived from investment in equity securities of MLPs. The amount of cash that an MLP has available for distributions and the tax character of such distributions are dependent upon the amount of cash generated by the MLP's operations. The Company may invest up to 15% of its total assets in any single issuer and a decline in value of the securities of such an issuer could significantly impact the net asset value of the Company. The Company may invest up to 20% of its total assets in debt securities, which may include below investment grade securities. The Company may, for defensive purposes, temporarily invest all or a significant portion of its assets in investment grade securities, short-term debt securities and cash or cash equivalents. To the extent the Company uses this strategy, it may not achieve its investment objectives.

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**KAYNE ANDERSON MLP INVESTMENT COMPANY
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5. Agreements and Affiliations

A. Administration Agreement On February 27, 2009, the Administration Agreement between the Company and Bear Stearns Funds Management Inc., dated September 15, 2004, was terminated. The termination was by mutual agreement of the parties. No penalties were incurred by the Company resulting from the termination of the Administration Agreement with Bear Stearns Funds Management Inc.

On February 27, 2009, the Company, entered into an Administration Agreement (the Administration Agreement) with Ultimus Fund Solutions, LLC (Ultimus). Pursuant to the Administration Agreement, Ultimus will provide certain administrative services for the Company. The Administration Agreement will terminate on February 27, 2010, with automatic one-year renewals unless earlier terminated by either party as provided under the terms of Administration Agreement.

B. Investment Management Agreement The Company has entered into an investment management agreement with Kayne Anderson under which the Adviser, subject to the overall supervision of the Company's Board of Directors, manages the day-to-day operations of, and provides investment advisory services to, the Company. For providing these services, the Adviser receives a management fee from the Company. On June 16, 2009, the Company renewed its agreement with the advisor for a period of one year. The agreement may be renewed annually upon approval of the Company's Board of Directors.

For the six months ended May 31, 2009, the Company paid and accrued management fees at an annual rate of 1.375% of average total assets.

For purposes of calculating the management fee, the Company's total assets are equal to the Company's gross asset value (which includes assets attributable to or proceeds from the Company's use of preferred stock, commercial paper or notes issuances and other borrowings and excludes any net deferred tax asset), minus the sum of the Company's accrued and unpaid distributions on any outstanding common stock and accrued and unpaid distributions on any outstanding preferred stock and accrued liabilities (other than liabilities associated with borrowing or leverage by the Company and any accrued taxes). Liabilities associated with borrowing or leverage by the Company include the principal amount of any borrowings, commercial paper or notes issued by the Company, the liquidation preference of any outstanding preferred stock, and other liabilities from other forms of borrowing or leverage such as short positions and put or call options held or written by the Company.

C. Portfolio Companies From time to time, the Company may control or may be an affiliate of one or more portfolio companies, each as defined in the 1940 Act. In general, under the 1940 Act, the Company would be presumed to control a portfolio company if the Company owned 25% or more of its outstanding voting securities and would be an affiliate of a portfolio company if the Company owned 5% or more of its outstanding voting securities. The 1940 Act contains prohibitions and restrictions relating to transactions between investment companies and their affiliates (including the Company's investment adviser), principal underwriters and affiliates of those affiliates or underwriters. The Company believes that there is significant ambiguity in the application of existing Securities and Exchange Commission (SEC) staff interpretations of the term voting security to complex structures such as limited partnership interests of the kind in which the Company invests. As a result, it is possible that the SEC staff may consider that certain securities investments in limited partnerships are voting securities under the staff's prevailing interpretations of this term. If such determination is made, the Company may be regarded as a person affiliated with and controlling the issuer(s) of those securities for purposes of Section 17 of the 1940 Act.

In light of the ambiguity of the definition of voting securities, the Company does not intend to treat any class of limited partnership interests that it holds as voting securities unless the security holders of such class currently have the ability, under the partnership agreement, to remove the general partner (assuming a sufficient vote of such securities, other than securities held by the general partner, in favor of such removal) or the Company has an economic interest of sufficient size that otherwise gives it the de facto power to exercise a controlling influence over

the partnership. The Company believes this treatment is appropriate given that the general partner controls the partnership, and without the ability to remove the general partner or the power to otherwise exercise a controlling influence over the partnership due to the size of an economic interest, the security holders have no control over the partnership.

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Clearwater Natural Resources, LP At May 31, 2009, the Company held approximately 42.5% of the limited partnership interest of Clearwater Natural Resources, LP (Clearwater). The Company controls CNR GP Holdco, LLC, which is the general partner of Clearwater. The Company believes that it controls and is an affiliate of Clearwater under the 1940 Act by virtue of its controlling interest in the general partner of Clearwater.

CNR GP Holdco, LLC At May 31, 2009, the Company held an 83.7% interest in CNR GP Holdco, LLC (CNR), which is the general partner of Clearwater. The Company believes that it controls and is an affiliate of CNR under the 1940 Act by virtue of its controlling interest.

On January 7, 2009, Clearwater filed a voluntary petition under Chapter 11 of the U.S. Bankruptcy Code. Clearwater has continued operations as a debtor-in-possession. Clearwater is conducting a sales process for the Company s assets.

Plains All American, L.P. Robert V. Sinnott is a senior executive of Kayne Anderson Capital Advisors, L.P. (KACALP), the managing member of KA Fund Advisors, LLC (KAFA). Mr. Sinnott also serves as a director on the board of Plains All American GP LLC, the general partner of Plains All American Pipeline, L.P. Members of senior management and various advisory clients of KACALP and KAFA own units of Plains All American GP LLC. Various advisory clients of KACALP and KAFA, including the Company, own units in Plains All American Pipeline, L.P. The Company believes that it is an affiliate of Plains All American Pipeline, L.P. under the 1940 Act.

6. Income Taxes

Deferred income taxes reflect (i) taxes on unrealized gains/(losses), which are attributable to the difference between fair market value and tax basis, (ii) the net tax effects of temporary differences between the carrying amounts of assets and liabilities for financial reporting purposes and the amounts used for income tax purposes and (iii) the net tax benefit of accumulated net operating losses. Components of the Company s deferred tax assets and liabilities as of May 31, 2009 are as follows:

Deferred tax assets:

| | |
|----------------------------------|------------|
| Net operating loss carryforwards | \$ 109,313 |
| Other | 109 |

Deferred tax liabilities:

| | |
|--|----------|
| Net unrealized gains on investment securities, interest rate swap contracts and option contracts | (72,406) |
| Basis reduction of investment in MLPs | (23,134) |
| Valuation allowance | |

| | |
|------------------------------|-----------|
| Total net deferred tax asset | \$ 13,882 |
|------------------------------|-----------|

At May 31, 2009, the Company had federal net operating loss carryforwards of \$295,443 (deferred tax asset of \$100,222). The federal net operating loss carryforwards available are subject to limitations on their annual usage. Realization of the deferred tax assets and net operating loss carryforwards are dependent, in part, on generating sufficient taxable income prior to expiration of the loss carryforwards. If not utilized, \$54,194; \$52,182; \$103,310 and \$85,757 of the net operating loss carryforward will expire in 2026, 2027, 2028 and 2029, respectively. In addition, the Company has state net operating losses which represent a deferred tax asset of \$9,091. These state net operating losses begin to expire in 2014 through 2029.

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The Company periodically reviews the recoverability of its deferred tax asset based on the weight of available evidence. The Company's analysis of the need for a valuation allowance considers that it has incurred a cumulative loss over the three year period ended November 30, 2008, and the six months ended May 31, 2009. Substantially all of the Company's net pre-tax losses related to unrealized depreciation of investments occurred during the fiscal fourth quarter of 2008 as a result of the unprecedented decline in the overall financial, commodity and MLP markets.

When assessing the recoverability of its deferred tax asset, significant weight was given to the Company's forecast of future taxable income, which is based principally on the expected continuation of cash distributions from the Company's MLP holdings and interest income from its fixed income holdings at or near current levels. Consideration was also given to the effects of potential of additional future realized and unrealized losses on investments and the period over which these deferred tax assets can be realized, as the expiration dates for the federal tax loss carryforwards range from seventeen to twenty years.

Recovery of the deferred tax asset is dependent on continued payment of the MLP cash distributions at or near current levels in the future and the resultant generation of taxable income. Based on the Company's assessment, it has determined that it is more likely than not that the net deferred tax asset will be realized through future taxable income of the appropriate character. Accordingly, no valuation allowance has been established for the Company's net deferred tax asset.

The Company will continue to assess the need for a valuation allowance in the future. The Company will review its financial forecasts in relation to actual results and expected trends on an ongoing basis. Unexpected significant decreases in cash distributions from the Company's MLP holdings or significant further declines in the fair value of its portfolio of investments may change the Company's assessment regarding the recoverability of its deferred tax asset and would likely result in a valuation allowance. If a valuation allowance is required to reduce the deferred tax asset in the future, it could have a material impact on the Company's net asset value and results of operations in the period it is recorded.

Total income taxes were different from the amount computed by applying the federal statutory income tax rate of 35 percent to the net investment loss and realized and unrealized gains (losses) on investments and interest rate swap contracts before taxes for the six months ended May 31, 2009, as follows:

| | |
|--|-----------|
| Computed expected federal income tax | \$ 80,845 |
| State income tax, net of federal tax expense | 4,620 |
| Total income tax expense | \$ 85,465 |

At May 31, 2009, the cost basis of investments for federal income tax purposes was \$944,617 and the net cash received on option contracts written was \$735. The cost basis of investments includes a \$130,063 reduction in basis attributable to the Company's portion of the allocated losses from its MLP investments. At May 31, 2009, gross unrealized appreciation and depreciation of investments and options for federal income tax purposes were as follows:

| | |
|---|------------|
| Gross unrealized appreciation of investments (including options) | \$ 343,810 |
| Gross unrealized depreciation of investments (including options) | (146,316) |
| Net unrealized appreciation before tax and interest rate swap contracts | 197,494 |
| Net unrealized depreciation on interest rate swap contracts | (1,161) |
| Net unrealized appreciation before tax | 196,333 |

| | |
|---------------------------------------|------------|
| Net unrealized appreciation after tax | \$ 123,689 |
|---------------------------------------|------------|

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7. Restricted Securities

From time to time, certain of the Company's investments may be restricted as to resale. For instance, securities that are not registered under the Securities Act of 1933, as amended, and cannot, as a result, be offered for public sale in a non-exempt transaction without first being registered. In other cases, certain of the Company's investments have restrictions such as lock-up agreements that preclude the Company from offering these securities for public sale.

At May 31, 2009, the Company held the following restricted investments:

| Investment | Security | Type of Restriction | Number of Units, Principal (\$)(in 000s) | Acquisition Date | Cost Basis | Fair Value | Warrant | Percent of Net Assets |
|--|-----------------------------------|---------------------|--|------------------|------------------|------------------|---------|-----------------------|
| Clearwater Natural Resources, L.P. | Common Units | (1) | 3,889 | (2) | \$ 72,860 | \$ 194 | \$ 0.05 | 0.0% |
| Clearwater Natural Resources, L.P. | Unsecured Term Loan | (1) | \$ 13,601 | (3) | 13,626 | 9,520 | n/a | 1.3 |
| Clearwater Natural Resources, L.P. | Deferred Participation Units | (1) | 41 | 3/5/2008 | | | | 0.0 |
| Clearwater Natural Resources, L.P. | Warrants | (1) | 34 | 9/29/2008 | | 1 | 0.04 | 0.0 |
| AP Holdco, LLC | LLC Interests | (1) | n/a | 3/5/2008 | 1,083 | | | 0.0 |
| of securities valued in accordance with procedures established by the Board of Directors(4) | | | | | \$ 87,569 | \$ 9,715 | | 1.3% |
| Energy Resources, LLC | Senior Notes | (5) | \$ 8,747 | (6) | \$ 7,103 | \$ 7,785 | n/a | 1.0% |
| Clearwater Lubricants Co., L.P. | Secured Term Loan | (5) | 4,401 | (6) | 2,379 | 3,653 | n/a | 0.5 |
| Clearwater Lubricants Co., L.P. | Secured Letter of Credit facility | (5) | 588 | (6) | 309 | 488 | n/a | 0.1 |
| West Energy Partners, L.P. | Senior Notes | (5) | 2,000 | (6) | 1,561 | 1,610 | n/a | 0.2 |
| of securities valued by prices provided by market maker or independent pricing services | | | | | \$ 11,352 | \$ 13,536 | | 1.8% |
| of all restricted securities | | | | | \$ 98,921 | \$ 23,251 | | 3.1% |

(1) On January 7, 2009, Clearwater Natural Resources, LP (Clearwater) filed a voluntary petition under Chapter 11 of the U.S. Bankruptcy

Code. Clearwater has continued operations as a debtor-in-possession. Clearwater is conducting a sales process for the Company's assets. Financial markets remain volatile and energy-related commodity prices have declined to levels below those experienced during 2008. As a result, it is more difficult for interested parties to finance the purchase of Clearwater than in a more stable environment. Additionally, significant uncertainty exists with respect to pending U.S. environmental legislation and the ultimate impact on coal producers, such as Clearwater. For these reasons no assurances can be made as to the success of such sales process and the proceeds received in such process. Clearwater has an active dialogue with its existing lenders regarding the timing of such sales process.

- (2) The Company purchased common units on August 1, 2005 and October 2, 2006.

- (3) The Company purchased term loans on January 11, 2008; February 28, 2008; May 5, 2008; July 8, 2008; August 6, 2008; and September 29, 2008. As part of an Agreement with Clearwater's existing lenders, the term loan owned by the Company is not currently paying cash interest expense. Such interest is payment in kind, with the principal amount of the term loan increased by such interest expense.
- (4) Restricted securities that represent Level 3 under SFAS No. 157. Security is valued using inputs reflecting the Company's own assumptions as more fully described in Note 2 Significant Accounting Policies.
- (5) Unregistered security of a public company. Restricted securities that represent Level 2 under SFAS No. 157. Securities with a fair market value determined by the mean of the bid and ask prices provided by a syndicate bank, principal market maker or an independent pricing service as more fully described in Note 2

Significant
Accounting Policies.
These securities have
limited trading
volume and are not
listed on a national
exchange.

- (6) Acquired at various
dates throughout the
six months ended
May 31, 2009.

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8. Option Contracts

Transactions in option contracts for the six months ended May 31, 2009 were as follows:

| | Number of Contracts | Premium |
|--|--------------------------------|----------------|
| Call Options Purchased | | |
| Options outstanding at beginning of period | 17,100 | \$ 5,243 |
| Options exercised | (13,213) | (3,542) |
| Options expired | (3,000) | (1,539) |
| Options outstanding at end of period | 887 | \$ 162 |
| Call Options Written | | |
| Options outstanding at beginning of period | 800 | \$ 101 |
| Options written | 16,143 | 2,096 |
| Options written and subsequently repurchased | (1,600) | (282) |
| Options exercised | (5,768) | (878) |
| Options expired | (2,575) | (302) |
| Options outstanding at end of period | 7,000 | \$ 735 |

9. Investment Transactions

For the six months ended May 31, 2009, the Company purchased and sold securities in the amount of \$205,801 and \$204,090 (excluding short-term investments, options and interest rate swaps), respectively.

10. Revolving Credit Facility

As of May 31, 2009, the Company had an unsecured revolving credit facility (the Credit Facility) with JPMorgan Chase Bank, N.A. Outstanding loan balances under the Credit Facility accrue interest daily at a rate equal to the one-month LIBOR plus 1.65 percent per annum. The Company pays a fee equal to a rate of 0.50 percent per annum on any unused amounts of the Credit Facility. The Credit Facility contains various covenants of the Company related to other indebtedness, liens and limits on the Company's overall leverage. For the six months ended May 31, 2009, the Company had no outstanding borrowings under the Credit Facility.

On January 19, 2009, the Company reduced the credit commitment under its Credit Facility with J.P. Morgan from \$200,000 to \$125,000 and on June 26, 2009, it further reduced the commitment amount from \$125,000 to \$100,000.

On June 26, 2009, the Company entered into a new credit facility, as more fully described in Note 16 Subsequent Events.

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11. Senior Unsecured Notes

At May 31, 2009, the Company had \$304,000, aggregate principal amount, of senior unsecured fixed and floating rate notes (the Senior Unsecured Notes) outstanding. The table below sets forth the key terms of each series of the Senior Unsecured Notes:

| Series | Principal Outstanding | Rate | Maturity |
|---------------|----------------------------------|-------------------------|-----------------|
| G | \$ 75,000 | 5.645% | 6/19/2011 |
| H | 20,000 | 3-month LIBOR + 225 bps | 6/19/2011 |
| I | 60,000 | 5.847% | 6/19/2012 |
| J | 24,000 | 3-month LIBOR + 225 bps | 6/19/2012 |
| K | 125,000 | 5.991% | 6/19/2013 |
| | \$ 304,000 | | |

Holders of the fixed rate Senior Unsecured Notes (Series G, Series I and Series K) are entitled to receive cash interest payments semi-annually (on June 19 and December 19) at the fixed rate. Holders of the floating rate Senior Unsecured Notes (Series H and J) are entitled to receive cash interest payments quarterly (on March 19, June 19, September 19, and December 19) at the floating rate equal to the 3-month LIBOR plus 2.25%.

During the period, the average principal balance outstanding was \$304,000 with a weighted average interest rate of 5.61%.

The Senior Unsecured Notes are not listed on any exchange or automated quotation system. Under the 1940 Act and the terms of the Senior Unsecured Notes, the Company may not declare dividends or make other distributions on shares of common stock or purchases of such shares if, at any time of the declaration, distribution or purchase, asset coverage with respect to the outstanding Senior Unsecured Notes would be less than 300%. The Senior Unsecured Notes contain various covenants of the Company related to other indebtedness, liens and limits on the Company's overall leverage.

The Senior Unsecured Notes are redeemable in certain circumstances at the option of the Company. The Senior Unsecured Notes are also subject to a mandatory redemption to the extent needed to satisfy certain requirements if the Company fails to meet an asset coverage ratio required by law and is not able to cure the coverage deficiency by the applicable deadline, or fails to cure a deficiency as stated in the Company's rating agency guidelines in a timely manner. A full copy of the note purchase agreement can be found on the Company's website, www.kaynefunds.com. The Senior Unsecured Notes are unsecured obligations of the Company and, upon liquidation, dissolution or winding up of the Company, will rank: (1) senior to all the Company's outstanding preferred shares; (2) senior to all of the Company's outstanding common shares; (3) on a parity with any unsecured creditors of the Company and any unsecured senior securities representing indebtedness of the Company; and (4) junior to any secured creditors of the Company.

At May 31, 2009, the Company was in compliance with all covenants required under the Senior Unsecured Notes agreements.

12. Preferred Stock

At May 31, 2009, the Company had 3,000 shares of Series D Auction Rate Preferred Stock (ARP Shares) outstanding, totaling \$75,000. The Company has 10,000 shares of authorized preferred stock. The preferred stock has rights determined by the Board of Directors. The ARP Shares have a liquidation value of \$25,000 per share plus any accumulated, but unpaid dividends, whether or not declared.

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Holders of the ARP Shares are entitled to receive cash dividend payments at an annual rate that may vary for each rate period. The dividend rate as of May 31, 2009 was 1.00%. The weighted average dividend rate for the six months ended May 31, 2009, was 1.02%. This rate includes the applicable rate based on the latest results of the auction and does not include commissions paid to the auction agent. Under the 1940 Act, the Company may not declare dividends or make other distribution on shares of common stock or purchases of such shares if, at any time of the declaration, distribution or purchase, asset coverage with respect to the outstanding senior securities representing indebtedness and preferred stock would be less than 200%.

Since February 14, 2008, there have been more ARP Shares offered for sale than there were buyers of those ARP Shares, and as a result, the auctions of the Company's Series D ARP Shares have failed. As a result, the dividend rate on the ARP Shares has been set at such maximum rate. Based on the Company's current credit ratings, the maximum rate is equal to 200% of the greater of (a) the AA Composite Commercial Paper Rate or (b) the applicable LIBOR.

The ARP Shares are redeemable in certain circumstances at the option of the Company. The ARP Shares are also subject to a mandatory redemption if the Company fails to meet an asset coverage ratio required by law, or fails to cure deficiency as stated in the Company's rating agency guidelines in a timely manner.

The holders of the ARP Shares have voting rights equal to the holders of common stock (one vote per share) and will vote together with the holders of shares of common stock as a single class except on matters affecting only the holders of ARP Shares or the holders of common stock.

13. Interest Rate Swap Contracts

The Company has entered into interest rate swap contracts to partially hedge itself from increasing interest expense on its leverage resulting from increasing short-term interest rates. A decline in interest rates may result in a decline in the value of the swap contracts, which, everything else being held constant, would result in a decline in the net assets of the Company. In addition, if the counterparty to the interest rate swap contracts defaults, the Company would not be able to use the anticipated receipts under the swap contracts to offset the interest payments on the Company's leverage. At the time the interest rate swap contracts reach their scheduled termination, there is a risk that the Company would not be able to obtain a replacement transaction or that the terms of the replacement transaction would not be as favorable as on the expiring transaction. In addition, if the Company is required to terminate any swap contract early, then the Company could be required to make a termination payment. On December 24, 2008, the Company terminated \$66,000 aggregate notional amount of interest rate swap contracts with a weighted average fixed interest rate of 3.77% for \$3,550. On February 4, 2009, the Company paid \$8,700 to reduce the fixed rates paid on the remaining interest rate swap contracts outstanding at the time.

As of May 31, 2009, the Company had entered into five interest rate swap contracts with UBS AG as summarized below.

| Termination Date | Notional Amount | Fixed Rate Paid by the Company | Net Unrealized Appreciation/ (Depreciation) |
|-------------------------|----------------------------|---|--|
| 10/17/2010 | \$ 25,000 | 1.16% | \$ (132) |
| 12/6/2010 | 50,000 | 1.16 | (248) |
| 1/22/2011 | 50,000 | 1.30 | (310) |
| 4/1/2011 | 19,000 | 1.28 | (96) |
| 10/17/2011 | 50,000 | 1.66 | (375) |
| Total | \$ 194,000 | | \$ (1,161) |

At May 31, 2009, the weighted average duration of the interest rate swap contracts was 1.8 years and the weighted average fixed rate was 1.34%. For all five interest rate swap contracts, the Company receives a floating rate, based on one-month LIBOR.

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14. Common Stock

The Company has 199,990,000 shares of common stock authorized and 44,807,094 shares outstanding at May 31, 2009. As of that date, KACALP owned 4,000 shares. Transactions in common shares for the six months ended May 31, 2009, were as follows:

| | |
|--|------------|
| Shares outstanding at November 30, 2008 | 44,176,186 |
| Shares issued through reinvestment of cash distributions | 630,908 |
| Shares outstanding at May 31, 2009 | 44,807,094 |

15. Notice of Potential Purchases of Preferred Stock

The Company may, from time to time, repurchase shares of its Series D auction rate preferred stock for cash at a price not above the market value of such shares at the time of such purchase, subject to the requirements of applicable law.

16. Subsequent Events

On June 16, 2009, the Company set aside for payment on July 10, 2009, a distribution to its common stockholders in the amount of \$0.48 per share, for a total of \$21,507. Of this total, \$4,981 was reinvested into the Company, pursuant to the Company's dividend reinvestment plan. In connection with that reinvestment, 263,401 shares of common stock were issued.

On June 26, 2009, the Company entered into a new \$80,000 unsecured revolving credit facility (the "New Facility") with a syndicate of lenders. JPMorgan Chase Bank, N.A. was lead arranger of the New Facility and Bank of America N.A., UBS Investment Bank and Citibank, N.A. participated in the syndication. The New Facility has a 364-day commitment terminating on June 25, 2010. Outstanding loan balances will accrue interest daily at a rate equal to the one-month LIBOR plus 2.25% per annum based on current asset coverage ratios. The interest rate may vary between LIBOR plus 2.25% and LIBOR plus 3.50% depending on asset coverage ratios. The Company will pay a fee equal to a rate of 0.50% per annum on any unused amounts of the New Facility. A full copy of the New Facility can be found on the Company's website, www.kaynefunds.com.

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**KAYNE ANDERSON MLP INVESTMENT COMPANY
PRIVACY POLICY NOTICE
(UNAUDITED)**

Kayne Anderson MLP Investment Company (the Company) considers privacy to be fundamental to its relationship with its stockholders. The Company is committed to maintaining the confidentiality, integrity and security of the non-public personal information of its stockholders and potential investors. Accordingly, the Company has developed internal policies to protect confidentiality while allowing stockholders' needs to be met. This notice applies to former as well as current stockholders and potential investors who provide the Company with nonpublic personal information.

The Company may collect several types of nonpublic personal information about stockholders or potential investors, including:

Information from forms that you may fill out and send to the Company or one of its affiliates or service providers in connection with an investment in the Company (such as name, address, and social security number);

Information you may give orally to the Company or one of its affiliates or service providers;

Information about your transactions with the Company, its affiliates, or other third parties, such as the amount stockholders have invested in the Company;

Information about any bank account stockholders or potential investors may use for transfers between a bank account and an account that holds or is expected to hold shares of its stock; and

Information collected through an Internet cookie (an information collecting device from a web server based on your use of a web site).

The Company may disclose all of the information it collects, as described above, to certain nonaffiliated third parties such as attorneys, accountants, auditors and persons or entities that are assessing its compliance with industry standards. Such third parties are required to uphold and maintain its privacy policy when handling your nonpublic personal information.

The Company may disclose information about stockholders or potential investors at their request. The Company will not sell or disclose your nonpublic personal information to anyone except as disclosed above or as otherwise permitted or required by law.

Within the Company and its affiliates, access to information about stockholders and potential investors is restricted to those personnel who need to know the information to service stockholder accounts. The personnel of the Company and its affiliates have been instructed to follow its procedures to protect the privacy of your information.

The Company reserves the right to change this privacy notice in the future. Except as described in this privacy notice, the Company will not use your personal information for any other purpose unless it informs you how such information will be used at the time you disclose it or the Company obtains your permission to do so.

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**KAYNE ANDERSON MLP INVESTMENT COMPANY
DIVIDEND REINVESTMENT PLAN
(UNAUDITED)**

Kayne Anderson MLP Investment Company, a Maryland corporation (the Company), hereby adopts the following plan (the Plan) with respect to distributions declared by its Board of Directors (the Board) on shares of its Common Stock:

1. Unless a stockholder specifically elects to receive cash as set forth below, all distributions hereafter declared by the Board shall be payable in shares of the Common Stock of the Company, and no action shall be required on such stockholder's part to receive a distribution in stock.
2. Such distributions shall be payable on such date or dates as may be fixed from time to time by the Board to stockholders of record at the close of business on the record date(s) established by the Board for the distribution involved.
3. The Company may use newly-issued shares of its Common Stock or purchase shares in the open market in connection with the implementation of the plan. The number of shares to be issued to a stockholder shall be based on share price equal to 95% of the closing price of the Company's Common Stock one day prior to the dividend payment date.
4. The Board may, in its sole discretion, instruct the Company to purchase shares of its Common Stock in the open market in connection with the implementation of the Plan as follows: If the Company's Common Stock is trading below net asset value at the time of valuation, upon notice from the Company, the Plan Administrator (as defined below) will receive the dividend or distribution in cash and will purchase Common Stock in the open market, on the New York Stock Exchange or elsewhere, for the Participants' accounts, except that the Plan Administrator will endeavor to terminate purchases in the open market and cause the Company to issue the remaining shares if, following the commencement of the purchases, the market value of the shares, including brokerage commissions, exceeds the net asset value at the time of valuation. These remaining shares will be issued by the Company at a price equal to the greater of (i) the net asset value at the time of valuation or (ii) 95% of the then current market price.
5. In a case where the Plan Administrator has terminated open market purchases and caused the issuance of remaining shares by the Company, the number of shares received by the participant in respect of the cash dividend or distribution will be based on the weighted average of prices paid for shares purchased in the open market, including brokerage commissions, and the price at which the Company issues the remaining shares. To the extent that the Plan Administrator is unable to terminate purchases in the open market before the Plan Administrator has completed its purchases, or remaining shares cannot be issued by the Company because the Company declared a dividend or distribution payable only in cash, and the market price exceeds the net asset value of the shares, the average share purchase price paid by the Plan Administrator may exceed the net asset value of the shares, resulting in the acquisition of fewer shares than if the dividend or distribution had been paid in shares issued by the Company.
6. A stockholder may, however, elect to receive his or its distributions in cash. To exercise this option, such stockholder shall notify American Stock Transfer & Trust Company, the plan administrator and the Company's transfer agent and registrar (collectively the Plan Administrator), in writing so that such notice is received by the Plan Administrator no later than the record date fixed by the Board for the distribution involved.
7. The Plan Administrator will set up an account for shares acquired pursuant to the Plan for each stockholder who has not so elected to receive dividends and distributions in cash (each, a Participant). The Plan Administrator may hold each Participant's shares, together with the shares of other Participants, in non-certificated form in the Plan Administrator's name or that of its nominee. Upon request by a Participant, received no later than three (3) days prior to the payable date, the Plan Administrator will, instead of crediting shares to and/or carrying shares in a Participant's account, issue, without charge to the Participant, a certificate registered in the Participant's name for the number of whole shares payable to the Participant and a check for any fractional share less a broker commission on the sale of such fractional shares. If a request to terminate a Participant's participation in the Plan is received less than three (3) days before the payable date, dividends and distributions for that payable date will be reinvested. However, subsequent dividends and distributions will be paid to the Participant in cash.

8. The Plan Administrator will confirm to each Participant each acquisition made pursuant to the Plan as soon as practicable but not later than ten (10) business days after the date thereof. Although each Participant may from time to time have an undivided fractional interest (computed to three decimal places) in a share of Common Stock of the Company, no certificates for a fractional share will be issued. However, dividends and distributions on fractional shares will be credited to each Participant's account. In the event of termination of a Participant's account under the Plan, the Plan Administrator will adjust for any such undivided fractional interest in cash at the market value of the Company's shares at the time of termination.

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**KAYNE ANDERSON MLP INVESTMENT COMPANY
DIVIDEND REINVESTMENT PLAN
(UNAUDITED)**

9. The Plan Administrator will forward to each Participant any Company related proxy solicitation materials and each Company report or other communication to stockholders, and will vote any shares held by it under the Plan in accordance with the instructions set forth on proxies returned by Participants to the Company.
10. In the event that the Company makes available to its stockholders rights to purchase additional shares or other securities, the shares held by the Plan Administrator for each Participant under the Plan will be added to any other shares held by the Participant in certificated form in calculating the number of rights to be issued to the Participant.
11. The Plan Administrator's service fee, if any, and expenses for administering the Plan will be paid for by the Company.
12. Each Participant may terminate his or its account under the Plan by so notifying the Plan Administrator via the Plan Administrator's website at www.amstock.com, by filling out the transaction request form located at the bottom of the Participant's Statement and sending it to American Stock Transfer and Trust Company, P.O. Box 922, Wall Street Station, New York, NY 10269-0560 or by calling the Plan Administrator at (888) 888-0317. Such termination will be effective immediately. The Plan may be terminated by the Company upon notice in writing mailed to each Participant at least 30 days prior to any record date for the payment of any dividend or distribution by the Company. Upon any termination, the Plan Administrator will cause a certificate or certificates to be issued for the full shares held for the Participant under the Plan and a cash adjustment for any fractional share to be delivered to the Participant without charge to the Participant. If a Participant elects by his or its written notice to the Plan Administrator in advance of termination to have the Plan Administrator sell part or all of his or its shares and remit the proceeds to the Participant, the Plan Administrator is authorized to deduct a \$15.00 transaction fee plus a \$0.10 per share brokerage commission from the proceeds.
13. These terms and conditions may be amended or supplemented by the Company at any time but, except when necessary or appropriate to comply with applicable law or the rules or policies of the Securities and Exchange Commission or any other regulatory authority, only by mailing to each Participant appropriate written notice at least 30 days prior to the effective date thereof. The amendment or supplement shall be deemed to be accepted by each Participant unless, prior to the effective date thereof, the Plan Administrator receives written notice of the termination of his or its account under the Plan. Any such amendment may include an appointment by the Plan Administrator in its place and stead of a successor agent under these terms and conditions, with full power and authority to perform all or any of the acts to be performed by the Plan Administrator under these terms and conditions. Upon any such appointment of any agent for the purpose of receiving dividends and distributions, the Company will be authorized to pay to such successor agent, for each Participant's account, all dividends and distributions payable on shares of the Company held in the Participant's name or under the Plan for retention or application by such successor agent as provided in these terms and conditions.
14. The Plan Administrator will at all times act in good faith and use its best efforts within reasonable limits to ensure its full and timely performance of all services to be performed by it under this Plan and to comply with applicable law, but assumes no responsibility and shall not be liable for loss or damage due to errors unless such error is caused by the Plan Administrator's negligence, bad faith, or willful misconduct or that of its employees or agents.
15. These terms and conditions shall be governed by the laws of the State of Maryland.
- Adopted: September 27, 2004
Amended: December 13, 2005
Amended: March 12, 2009

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**KAYNE ANDERSON MLP INVESTMENT COMPANY
PROXY VOTING AND PORTFOLIO HOLDINGS INFORMATION
(UNAUDITED)**

The policies and procedures that the Company uses to determine how to vote proxies relating to its portfolio securities are available:

- without charge, upon request, by calling (877) 657-3863/MLP-FUND;
- on the Company's website, <http://www.kaynefunds.com>; and
- on the website of the Securities and Exchange Commission, <http://www.sec.gov>.

Information regarding how the Company voted proxies relating to portfolio securities during the most recent 12-month period ended June 30 is available without charge, upon request, by calling (877) 657-3863/MLP-FUND, and on the SEC's website at <http://www.sec.gov> (see Form N-PX).

The Company files a complete schedule of its portfolio holdings for the first and third quarters of its fiscal year with the SEC on Form N-Q. The Company's Forms N-Q are available on the SEC's website at <http://www.sec.gov> and may be reviewed and copied at the SEC's Public Reference Room in Washington, DC. Information on the operation of the SEC's Public Reference Room may be obtained by calling 1-202-551-8090. The Company also makes its Forms N-Q available on its website at <http://www.kaynefunds.com>.

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**KAYNE ANDERSON MLP INVESTMENT COMPANY
RESULTS OF ANNUAL MEETING OF STOCKHOLDERS
(UNAUDITED)**

On June 16, 2009, the Company held its annual meeting of stockholders where the following matters were approved by stockholders:

- (i) The election of Steven C. Good and Kevin S. McCarthy as Class II directors, each to serve for a term of three years and until his successor is duly elected and qualified.
 - a. The election of Mr. Good requires the affirmative vote of the holders of a majority of shares of the Company's auction rate preferred stock outstanding and entitled to be cast for the election. On this matter, 1,726 shares were cast in favor, 665 shares were cast against, and no shares abstained in the election of Mr. Good.
 - b. The election of Mr. McCarthy requires the affirmative vote of the holders of a majority of shares of the Company's common stock and auction rate preferred stock outstanding and entitled to be cast for the election, voting together as a single class. On this matter, 40,394,810 shares were cast in favor and 1,195,442 shares abstained in the election of Mr. McCarthy.

As a result of the vote on this matter, Kevin S. McCarthy and Steven C. Good were each elected to serve as directors of the Company for a 3-year term.

Anne K. Costin and William H. Shea, Jr. continued as directors, and their terms expire on the date of the 2010 annual meeting of stockholders; Gerald I. Isenberg continued as a director, and his term expires on the date of the 2011 annual meeting of stockholders.

- (ii) The approval of a proposal to authorize the Company to sell shares of its common stock at a net price less than net asset value per share, so long as the gross price (before underwriting fees and offering expenses) is above net asset value per share for a period expiring on the date of the Company's 2010 annual meeting of stockholders. The approval of this proposal required:
 - a. The affirmative vote of a majority of all common stockholders of record as of the record date. With respect to this requirement, 18 holders of common stock voted in favor, 2 holders of common stock voted against, and 2 holders of common stock abstained out of 33 total common stock holders.
 - b. The affirmative vote of a majority of the votes cast by the holders of common stock and auction rate preferred stock outstanding as of the record date, voting together as a single class. With respect to this requirement, 14,507,715 shares were cast in favor, 1,261,170 shares were cast against, and 446,685 shares abstained.

As a result of the vote on this matter, the proposal has been approved.

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Directors and Corporate Officers

| | |
|---------------------|--|
| Kevin S. McCarthy | Chairman of the Board of Directors, President and Chief Executive Officer |
| Anne K. Costin | Director |
| Steven C. Good | Director |
| Gerald I. Isenberg | Director |
| William H. Shea Jr. | Director |
| Terry A. Hart | Chief Financial Officer and Treasurer |
| David J. Shladovsky | Secretary and Chief Compliance Officer |
| J.C. Frey | Executive Vice President, Assistant Secretary and Assistant Treasurer |
| James C. Baker | Executive Vice President |

Investment Adviser

KA Fund Advisors, LLC.
717 Texas Avenue, Suite 3100
Houston, TX 77002

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

Custodian

J.P. Morgan Chase Bank, N.A., Second Floor
14201 North Dallas Parkway
Dallas, TX 75254

Administrator

Ultimus Fund Solutions, LLC
305 Madison Avenue
New York, NY 10165

Stock Transfer Agent and Registrar

American Stock Transfer & Trust Company
59 Maiden Lane
New York, NY 10038

Independent Registered Public Accounting Firm

PricewaterhouseCoopers LLP
350 South Grand Avenue
Los Angeles, CA 90071

Legal Counsel

Paul, Hastings, Janofsky & Walker LLP
55 Second Street, 24th Floor
San Francisco, CA 94105

For stockholder inquiries, registered stockholders should call (800) 937-5449. For general inquiries, please call (877) 657-3863/MLP-FUND; or visit us on the web at <http://www.kaynefunds.com>.

This report, including the financial statements herein, is made available to stockholders of the Company for their information. The financial information included herein is taken from the records of the Company without examination by its independent registered public accounting firm who do not express an opinion thereon. It is not a prospectus, circular or representation intended for use in the purchase or sale of shares of the Company or of any securities mentioned in this report.

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Item 2. Code of Ethics.

Not applicable.

Item 3. Audit Committee Financial Expert.

Not applicable.

Item 4. Principal Accountant Fees and Services.

Not applicable.

Item 5. Audit Committee of Listed Registrants.

Not applicable.

Item 6. Schedule of Investments.

Please see the schedule of investments contained in the Report to Stockholders included under Item 1 of this Form N-CSR.

Item 7. Disclosure of Proxy Voting Policies and Procedures for Closed-End Management Investment Companies.

Not applicable.

Item 8. Portfolio Managers of Closed-End Management Investment Companies.

Not applicable.

Item 9. Purchases of Equity Securities by Closed-End Management Companies and Affiliated Purchasers.

None.

Item 10. Submission of Matters to a Vote of Security Holders.

None.

Item 11. Controls and Procedures.

(a) The Registrant's principal executive officer and principal financial officer have evaluated the Registrant's disclosure controls and procedures (as defined in rule 30a-3(c) under the 1940 Act) as of a date within 90 days of this filing and have concluded that the Registrant's disclosure controls and procedures are effective, as of such date, in ensuring that information required to be disclosed by the Registrant in this Form N-CSR was recorded, processed, summarized, and reported timely.

(b) The Registrant's principal executive officer and principal financial officer are aware of no changes in the Registrant's internal control over financial reporting (as defined in rule 30a-3(d) under the 1940 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.

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Item 12. Exhibits.

(a)(1) Not applicable to semi-annual reports.

(a)(2) Separate certifications of Principal Executive and Financial Officers pursuant to Section 302 of the Sarbanes-Oxley Act of 2002 attached as EX-99.CERT.

(b) Certification of Principal Executive and Financial Officers pursuant to Section 906 of the Sarbanes-Oxley Act of 2002 furnished as EX-99.906 CERT.

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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

Date: July 27, 2009

By: /s/ Kevin S. McCarthy
Kevin S. McCarthy
Chairman of the Board of Directors,
President and Chief Executive Officer

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.

Date: July 27, 2009

By: /s/ Kevin S. McCarthy
Kevin S. McCarthy
Chairman of the Board of Directors,
President and Chief Executive Officer

Date: July 27, 2009

By: /s/ Terry A. Hart
Terry A. Hart
Chief Financial Officer and
Treasurer

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EXHIBIT INDEX

| Exhibit No. | Description |
|---------------------|---|
| Exhibit 99.CERT | Separate certifications of Principal Executive and Financial Officers pursuant to Section 302 of the Sarbanes-Oxley Act of 2002 attached as EX-99.CERT. |
| Exhibit 99.906 CERT | Certification of Principal Executive and Financial Officers pursuant to Section 906 of the Sarbanes-Oxley Act of 2002 furnished as EX-99.906 CERT. |