

Kayne Anderson MLP Investment CO
Form N-CSRS
August 07, 2008

**UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549
FORM N-CSR
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)

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

90067

(Address of principal executive offices)

(Zip code)

David Shladovsky, Esq.

KA Fund Advisors, LLC, 1800 Avenue of the Stars, Second Floor, Los Angeles, California 90067

(Name and address of agent for service)

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

Date of fiscal year end: November 30, 2008

Date of reporting period: May 31, 2008

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.

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, 2008 is attached below.

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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 generally 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.

KAYNE ANDERSON MLP INVESTMENT COMPANY
PORTFOLIO SUMMARY
MAY 31, 2008
(UNAUDITED)

Portfolio Investments by Category*

* As a percentage of total investments.

Top 10 Holdings by Issuer

Holding	Sector	Percent of Total Investments
1. Energy Transfer Partners, L.P.	Midstream MLP	9.0%
2. Enterprise Products Partners L.P.	Midstream MLP	7.6
3. Plains All American Pipeline, L.P.	Midstream MLP	7.5
4. Kinder Morgan Management, LLC	Midstream MLP	7.4
5. Magellan Midstream Partners, L.P.	Midstream MLP	6.6
6. Copano Energy, L.L.C.	Midstream MLP	6.5
7. Crosstex Energy, L.P.	Midstream MLP	4.5
8. Inergy, L.P.	Propane MLP	4.0
9. MarkWest Energy Partners, L.P.	Midstream MLP	3.9
10. Enbridge Energy Partners, L.P.	Midstream MLP	3.5

KAYNE ANDERSON MLP INVESTMENT COMPANY
SCHEDULE OF INVESTMENTS
MAY 31, 2008
(amounts in 000 s)
(UNAUDITED)

Description	No. of Shares/Units	Value
Long-Term Investments 165.3%		
Equity Investments(a) 164.7%		
Midstream MLP(b) 126.7%		
Atlas Pipeline Partners, L.P.	484	\$ 19,885
Boardwalk Pipeline Partners, LP	471	12,589
Copano Energy, L.L.C.	3,429	126,374
Copano Energy, L.L.C. Unregistered, Class E Units(c)(d)	157	5,317
Crosstex Energy, L.P.	2,963	90,938
DCP Midstream Partners, LP	176	5,455
Duncan Energy Partners L.P.	193	3,877
Eagle Rock Energy Partners, L.P.	201	3,487
El Paso Pipeline Partners, L.P.	774	17,680
Enbridge Energy Management, L.L.C.(e)	665	35,392
Enbridge Energy Partners L.P.	1,413	71,056
Energy Transfer Partners, L.P.	3,752	181,416
Enterprise Products Partners L.P.	5,079	153,732
Global Partners LP(f)	1,452	27,401
Hiland Partners, LP	162	8,093
Holly Energy Partners, L.P.	184	8,344
Kinder Morgan Management, LLC(e)	2,718	149,880
Magellan Midstream Partners, L.P.	3,420	132,501
MarkWest Energy Partners, L.P.	2,187	78,859
Martin Midstream Partners L.P.	315	10,876
NuStar Energy L.P.	397	19,445
ONEOK Partners, L.P.	875	53,698
Plains All American Pipeline, L.P.(g)	3,112	152,041
Regency Energy Partners LP	1,949	52,649
SemGroup Energy Partners, L.P.	208	5,663
Spectra Energy Partners, LP	272	6,727
Sunoco Logistics Partners L.P.	52	2,700
Targa Resources Partners LP	427	11,329
TC PipeLines, LP	1,246	44,051
TEPPCO Partners, L.P.	677	24,114
Western Gas Partners LP(d)	678	11,363
Williams Partners L.P.	453	16,169
Williams Pipeline Partners L.P.	278	5,113
		1,548,214
Propane MLP 7.7%		

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Ferrellgas Partners, L.P.	587	12,995
Inergy, L.P.	2,875	80,825
		93,820

See accompanying notes to financial statements.

KAYNE ANDERSON MLP INVESTMENT COMPANY
SCHEDULE OF INVESTMENTS (CONTINUED)

MAY 31, 2008
(amounts in 000 s)
(UNAUDITED)

Description	No. of Shares/Units	Value
Shipping MLP 2.3%		
Capital Product Partners L.P.	121	\$ 2,453
K-Sea Transportation Partners L.P.	192	6,680
Navios Maritime Partners L.P.	8	114
OSG America L.P.	252	3,777
Teekay LNG Partners L.P.	302	8,844
Teekay Offshore Partners L.P.	254	5,836
		27,704
Coal MLP 6.3%		
Alliance Resource Partners L.P.	75	3,428
Clearwater Natural Resources, LP Unregistered, Deferred Participation Units(c)(h)(i)(j)	41	275
Clearwater Natural Resources, LP Unregistered(c)(h)(i)	3,889	52,500
Natural Resource Partners L.P.	190	7,474
Penn Virginia Resource Partners, L.P.	517	14,049
		77,726
Upstream MLP(b) 10.7%		
Atlas Energy Resources, LLC	1,599	65,494
BreitBurn Energy Partners L.P.	1,982	42,619
Constellation Energy Partners LLC	912	18,500
Dorchester Minerals, L.P.	14	394
Legacy Reserves LP	57	1,322
Pioneer Southwest Energy Partners, L.P.(d)	151	2,924
		131,253
MLP Affiliates(b) 8.3%		
Alliance Holdings GP LP	37	1,020
Atlas Pipeline Holdings, L.P.	76	2,243
Buckeye GP Holdings L.P.	173	4,305
CNR GP Holdco, LLC Unregistered(c)(h)(i)(k)	N/A	8,935
Energy Transfer Equity, L.P.	328	10,658
Enterprise GP Holdings L.P.	1,239	39,443
Hiland Holdings GP, LP	140	3,771

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Inergy Holdings GP	98	3,901
Magellan Midstream Holdings, L.P.	1,098	26,895
		101,171
Other MLP 2.7%		
Calumet Specialty Products Partners, L.P.	652	10,334
Exterran Partners, L.P.	702	22,353
		32,687
Total Equity Investments (Cost \$1,429,220)		2,012,575

See accompanying notes to financial statements.

KAYNE ANDERSON MLP INVESTMENT COMPANY
SCHEDULE OF INVESTMENTS (CONTINUED)
MAY 31, 2008
(amounts in 000 s)
(UNAUDITED)

	Interest Rate	Maturity Date	Principal Amount	Value
Fixed Income Investment 0.6%				
Coal MLP 0.6%				
Clearwater Natural Resources, LP(c)(h) (Cost \$7,460)	(1)	12/03/09	\$ 7,438	\$ 7,438
Total Long-Term Investments (Cost \$1,436,680)				2,020,013
Short-Term Investment 0.0%				
Repurchase Agreement 0.0%				
Bear, Stearns & Co. Inc. (Agreement dated 5/30/08 to be repurchased at \$307), collateralized by \$319 in U.S. Treasury Bonds (Cost \$307)	2.150%	6/02/08		307
Total Investments 165.3% (Cost \$1,436,987)				2,020,320
Liabilities				
Auction Rate Senior Notes				(505,000)
Deferred Taxes				(214,617)
Revolving Credit Facility				(2,000)
Other Liabilities				(10,516)
Unrealized Depreciation on Interest Rate Swap Contracts				(3,902)
Total Liabilities				(736,035)
Unrealized Appreciation on Interest Rate Swap Contracts				462
Income Tax Receivable				1,161
Other Assets				11,418
Total Liabilities in Excess of Other Assets				(722,994)
Preferred Stock at Redemption Value				(75,000)
Net Assets Applicable to Common Stockholders				\$ 1,222,326

(a) Unless otherwise noted, equity investments are common units/common shares.

- (b) Includes Limited Liability Companies.
- (c) Fair valued securities, restricted from public sale (See Notes 2, 3 and 7).
- (d) Security is currently not paying cash distributions but is expected to pay cash distributions or convert to securities which pay cash distributions within the next 12 months.
- (e) Distributions are paid in-kind.
- (f) Security or a portion thereof is segregated as collateral on interest rate swap contracts.
- (g) The Company believes that it is an affiliate of Plains All American, L.P. (See Note 5 Agreements and Affiliations).
- (h) Clearwater Natural Resources, LP is a privately-held MLP that the Company believes is a controlled affiliate (See Note 5 Agreements and Affiliations).
- (i) Security is non-income producing.

See accompanying notes to financial statements.

KAYNE ANDERSON MLP INVESTMENT COMPANY
SCHEDULE OF INVESTMENTS (CONCLUDED)
MAY 31, 2008
(UNAUDITED)

- (j) Holders of Clearwater Natural Resources, LP's deferred participation units are entitled to receive a portion of value realized in a sale or initial public offering by certain of the Partnership's common unitholders.
- (k) CNR GP Holdco, LLC is the general partner of Clearwater Natural Resources, LP. 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 one year LIBOR or 4.75% plus 900 basis points (13.75% as of May 31, 2008).

See accompanying notes to financial statements.

KAYNE ANDERSON MLP INVESTMENT COMPANY
STATEMENT OF ASSETS AND LIABILITIES
MAY 31, 2008
(amounts in 000 s, except share and per share amounts)
(UNAUDITED)

ASSETS

Investments at fair value:	
Non-affiliated (Cost \$1,247,724)	\$ 1,798,824
Affiliated (Cost \$107,570)	152,041
Controlled (Cost \$81,386)	69,148
Repurchase agreement (Cost \$307)	307
Total investments (Cost \$1,436,987)	2,020,320
Deposits with brokers	249
Receivable for securities sold	4,889
Interest, dividends and distributions receivable	286
Income tax receivable	1,161
Deferred debt issuance costs and other, net	5,994
Unrealized appreciation on interest rate swap contracts	462
Total Assets	2,033,361

LIABILITIES

Investment management fee payable	7,023
Payable for securities purchased	2,115
Revolving credit facility	2,000
Accrued directors' fees and expenses	51
Accrued expenses and other liabilities	1,327
Deferred tax liability	214,617
Unrealized depreciation on interest rate swap contracts	3,902
Total Liabilities before Senior Notes	231,035

Auction Rate Senior Notes:

Series A, due April 3, 2045	85,000
Series B, due April 5, 2045	85,000
Series C, due March 31, 2045	90,000
Series E, due December 21, 2045	60,000
Series F, due July 9, 2047	185,000
Total Senior Notes	505,000

Total Liabilities 736,035

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	\$ 1,222,326
NET ASSETS APPLICABLE TO COMMON STOCKHOLDERS CONSIST OF	
Common stock, \$0.001 par value (43,648,755 shares issued and outstanding, 199,990,000 shares authorized)	\$ 44
Paid-in capital	867,150
Accumulated net investment loss, net of income taxes less dividends	(88,485)
Accumulated realized gains on investments and interest rate swap contracts, net of income taxes	79,227
Net unrealized gains on investments and interest rate swap contracts, net of income taxes	364,390
NET ASSETS APPLICABLE TO COMMON STOCKHOLDERS	\$ 1,222,326
NET ASSET VALUE PER COMMON SHARE	\$28.00

See accompanying notes to financial statements.

KAYNE ANDERSON MLP INVESTMENT COMPANY
STATEMENT OF OPERATIONS
FOR THE SIX MONTHS ENDED MAY 31, 2008
(amounts in 000 s)
(UNAUDITED)

INVESTMENT INCOME

Income

Dividends and distributions:

Non-affiliated investments	\$ 58,038
Affiliated investment	5,337

Total dividends and distributions	63,375
Return of capital	(56,803)

Net dividends and distributions	6,572
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Interest:

Non-affiliated investments	63
Controlled investment	265

Total interest	328
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Total Investment Income	6,900
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Expenses

Investment management fees	14,347
Administration fees	462
Professional fees	449
Custodian fees	123
Reports to stockholders	115
Directors fees	99
Insurance	90
Other expenses	262

Total Expenses Before Interest Expense, Auction Agent Fees and Taxes	15,947
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Interest expense	15,676
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Auction agent fees	740
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Total Expenses Before Taxes	32,363
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Net Investment Loss Before Taxes	(25,463)
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Deferred tax benefit	9,421
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Net Investment Loss	(16,042)
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REALIZED AND UNREALIZED GAINS/(LOSSES)

Net Realized Gains/(Losses)

Investments	16,543
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Payments on interest rate swap contracts	(2,185)
Deferred tax expense	(5,312)
Net Realized Gains	9,046
Net Change in Unrealized Gains/(Losses)	
Investments	(67,812)
Interest rate swap contracts	8,434
Deferred tax benefit	21,970
Net Change in Unrealized Losses	(37,408)
Net Realized and Unrealized Losses	(28,362)
NET DECREASE IN NET ASSETS RESULTING FROM OPERATIONS	(44,404)
DIVIDENDS TO PREFERRED STOCKHOLDERS	(2,280)
NET DECREASE IN NET ASSETS APPLICABLE TO COMMON STOCKHOLDERS RESULTING FROM OPERATIONS	\$ (46,684)

See accompanying notes to financial statements.

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 May 31, 2008	For the Fiscal Year Ended November 30, 2007
	(Unaudited)	
OPERATIONS		
Net investment loss	\$ (16,042)	\$ (29,965)
Net realized gains	9,046	41,972
Net change in unrealized gains	(37,408)	87,498
Net Increase/(Decrease) in Net Assets Resulting from Operations	(44,404)	99,505
DIVIDENDS/DISTRIBUTIONS TO PREFERRED STOCKHOLDERS		
Dividends		(4,161) ⁽²⁾
Distributions return of capital	(2,280) ⁽¹⁾	
Dividends/Distributions to Preferred Stockholders	(2,280)	(4,161)
DIVIDENDS/DISTRIBUTIONS TO COMMON STOCKHOLDERS		
Dividends		(3,582) ⁽²⁾
Distributions return of capital	(43,004) ⁽¹⁾	(74,759) ⁽²⁾
Dividends/Distributions to Common Stockholders	(43,004)	(78,341)
CAPITAL STOCK TRANSACTIONS		
Proceeds from common stock public offerings of 4,420,916 shares of common stock		160,647
Underwriting discounts and offering expenses associated with the issuance of common stock		(4,597)
Issuance of 423,206 and 739,797 shares of common stock from reinvestment of distributions, respectively	11,984	23,585
Net Increase in Net Assets Applicable to Common Stockholders from Capital Stock Transactions	11,984	179,635
Total Increase/(Decrease) in Net Assets Applicable to Common Stockholders	(77,704)	196,638
NET ASSETS ATTRIBUTABLE TO COMMON STOCKHOLDERS		
Beginning of period	1,300,030	1,103,392

End of period	\$	1,222,326	\$	1,300,030
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- (1) The information presented in each of these items is an estimate of the characterization of a portion of the total dividends and distributions paid to preferred and common stockholders during the six months ended May 31, 2008 as either a dividend (ordinary income) or a 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 dividends and 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) The information presented in each of these items is a characterization of a portion of the total dividends and distributions paid to preferred and common stockholders for the fiscal year ended November 31, 2007 as either dividends (ordinary income) or distributions (return of capital). This characterization is based on the Company's earnings and profits.

See accompanying notes to financial statements.

KAYNE ANDERSON MLP INVESTMENT COMPANY
STATEMENT OF CASH FLOWS
FOR THE SIX MONTHS ENDED MAY 31, 2008
(amounts in 000 s)
(UNAUDITED)

CASH FLOWS FROM OPERATING ACTIVITIES

Net decrease in net assets resulting from operations	\$ (44,404)
Adjustments to reconcile net decrease in net assets resulting from operations to net cash used in operating activities:	
Net deferred tax benefit	(26,079)
Return of capital distributions	56,803
Net realized gains	(14,358)
Unrealized losses on investments and interest rate swap contracts	59,378
Purchase of investments	(53,968)
Proceeds from sale of investments	122,155
Purchase of short-term investments, net	(17)
Amortization of bond premium	4
Decrease in deposits with brokers	1,605
Decrease in receivable for securities sold	23,917
Decrease in interest, dividend and distributions receivables	1,423
Decrease in income tax receivable	1,314
Decrease in deferred debt issuance costs and other	128
Decrease in investment management fee payable	(692)
Increase in payable for securities purchased	1,387
Decrease in accrued directors' fees and expenses	(1)
Decrease in accrued expenses and other liabilities	(295)
Net Cash Provided by Operating Activities	128,300

CASH FLOWS FROM FINANCING ACTIVITIES

Repayment on revolving credit facility	(95,000)
Cash distributions paid to preferred stockholders	(2,280)
Cash distributions paid to common stockholders	(31,020)
Net Cash Used in Financing Activities	(128,300)

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

\$

Supplemental disclosure of cash flow information:

Noncash financing activities not included herein consist of reinvestment of distributions of \$11,984 pursuant to the Company's dividend reinvestment plan.

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During the six months ended May 31, 2008, federal and state tax refunds of \$1,314 were received and interest paid was \$15,678.

See accompanying notes to financial statements.

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

	For the Six Months Ended May 31, 2008	For the Fiscal Year Ended November 30,			For the Period September 28, 2004⁽¹⁾
	(Unaudited)	2007	2006	2005	through November 30, 2004
Per Share of Common Stock					
Net asset value, beginning of period	\$ 30.08	\$ 28.99	\$ 25.07	\$ 23.91	\$ 23.70 ⁽²⁾
Income from Operations⁽³⁾					
Net investment income/(loss)	(0.37)	(0.73)	(0.62)	(0.17)	0.02
Net realized and unrealized gain on investments, securities sold short, options and interest rate swap contracts	(0.67)	3.58	6.39	2.80	0.19
Total income from investment operations	(1.04)	2.85	5.77	2.63	0.21
Dividends/Distributions Preferred Stockholders⁽³⁾⁽⁴⁾					
Dividends		(0.10)		(0.05)	
Distributions	(0.05)		(0.10)		
Total dividends/distributions Preferred Stockholders	(0.05)	(0.10)	(0.10)	(0.05)	
Dividends/Distributions Common Stockholders					
Dividends		(0.09)		(0.13)	
Distributions	(0.99)	(1.84)	(1.75)	(1.37)	
Total dividends/distributions Common Stockholders	(0.99)	(1.93)	(1.75)	(1.50)	

Capital Stock Transactions⁽³⁾

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		0.01								
Total capital stock transactions		0.27			0.08					
Net asset value, end of period	\$	28.00	\$	30.08	\$	28.99	\$	25.07	\$	23.91
Market value per share of common stock, end of period	\$	30.68	\$	28.27	\$	31.39	\$	24.33	\$	24.90
Total investment return based on common stock market value ⁽⁵⁾		12.4%		(4.4)%		37.9%		3.7%		(0.4)%

Supplemental Data and Ratios⁽⁶⁾

Net assets applicable to common stockholders, end of period	\$	1,222,326	\$	1,300,030	\$	1,103,392	\$	932,090	\$	792,836
Ratio of expenses to average net assets: ⁽⁷⁾										
Excluding income tax expense/benefit, interest expense and auction agent fees		2.6%		2.5%		3.4%		1.5%		1.2%
Excluding income tax expense/benefit		5.2%		4.8%		5.1%		2.3%		1.2%
Including income tax expense/benefit		1.0%		8.3%		18.9%		8.7%		4.7%
Ratio of net investment income/(loss) to average net assets		(2.6)%		(2.3)%		(2.4)%		(0.7)%		0.5%
Net increase/(decrease) in net assets to common stockholders resulting		(3.8)% ⁽⁸⁾		7.3%		21.7%		10.0%		0.9% ⁽⁸⁾

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from operations to average net assets					
Portfolio turnover rate	2.6% ⁽⁸⁾	10.6%	10.0%	25.6%	11.8% ⁽⁸⁾
Auction Rate Senior Notes outstanding, end of period	\$ 505,000	\$ 505,000	\$ 320,000	\$ 260,000	
Revolving credit facility	\$ 2,000	\$ 97,000	\$ 17,000		
Auction Rate Preferred Stock, end of period	\$ 75,000	\$ 75,000	\$ 75,000	\$ 75,000	
Asset coverage of Auction Rate Senior Notes					
Dividend Payment Test ⁽⁹⁾	356.9%	372.3%	468.3%	487.3%	
Asset coverage of Auction Rate Senior Notes Debt Incurrence Test ⁽¹⁰⁾	355.9%	328.4%	449.7%	487.3%	
Asset coverage of Auction Rate Preferred Stock ⁽¹¹⁾	310.0%	292.0%	367.8%	378.2%	
Average amount of borrowings outstanding per share of common stock during the period	\$ 12.72 ⁽³⁾	\$ 12.14 ⁽³⁾	\$ 8.53 ⁽³⁾	\$ 5.57 ⁽³⁾	

See accompanying notes to financial statements.

KAYNE ANDERSON MLP INVESTMENT COMPANY
FINANCIAL HIGHLIGHTS (CONTINUED)

(amounts in 000 s, except share and per share amounts)

- (1) Commencement of operations.
- (2) 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.
- (3) Based on average shares of common stock outstanding of 43,443,523; 41,134,949; 37,638,314; 34,077,731 and 33,165,900 for the six months ended May 31, 2008, fiscal years ended November 30, 2007, November 30, 2006, November 30, 2005 and the period September 28, 2004 through November 30, 2004, respectively.
- (4) The information presented for the six months ended May 31, 2008 is an estimate of the characterization of the dividends and distributions 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 dividends and 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) Not annualized for the six months ended May 31, 2008 and the period September 28, 2004 through November 30, 2004. 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 assumes reinvestment of dividends at actual prices pursuant to the Company's dividend reinvestment plan.
- (6) Unless otherwise noted, ratios are annualized for periods of less than one full year.
- (7) The following table sets forth the components of the Company's ratio of expenses to average total assets and average net assets for each period presented.

	May 31, 2008		November 30, 2007		November 30, 2006		November 30, 2005		November 30, 2004	
	Ratio of Expense to (Unaudited) Average Total Assets	Average Net Assets	Average Total Assets	Average Net Assets	Average Total Assets	Average Net Assets	Average Total Assets	Average Net Assets	Average Total Assets	Average Net Assets
Management fees	1.4%	2.3%	1.4%	2.3%	2.0%	3.2%	0.9%	1.2%	0.7%	0.8%
Other expenses	0.2	0.3	0.2	0.2	0.2	0.2	0.3	0.3	0.4	0.4
Total expenses excluding income tax expense/benefit, interest expense and auction agent	1.6%	2.6%	1.6%	2.5%	2.2%	3.4%	1.2%	1.5%	1.1%	1.2%

fees										
Interest expense and auction agent fees	1.5	2.6	1.3	2.3	1.1	1.7	0.6	0.8	0.0	0.0
Total expenses excluding income tax expense/benefit	3.1%	5.2%	2.9%	4.8%	3.3%	5.1%	1.8%	2.3%	1.1%	1.2%
Income tax expense/benefit	(2.5)	(4.2)	2.2	3.5	8.9	13.8	5.0	6.4	3.3	3.5
Total expenses including tax expense/benefit	0.6%	1.0%	5.1%	8.3%	12.2%	18.9%	6.8%	8.7%	4.4%	4.7%

(8) Not annualized.

(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 Auction Rate Senior Notes or any other senior securities representing indebtedness divided by the aggregate amount of Auction Rate 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 or 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. For purposes of this test, the revolving credit facility is not considered a senior security representing indebtedness.

See accompanying notes to financial statements.

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

- (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 Auction Rate Senior Notes or any other senior securities representing indebtedness divided by the aggregate amount of Auction Rate 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 Auction Rate Senior Notes, any other senior securities representing indebtedness, or Auction Rate Preferred Stock divided by the aggregate amount of Auction Rate 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.

KAYNE ANDERSON MLP INVESTMENT COMPANY
NOTES TO FINANCIAL STATEMENTS
MAY 31, 2008

(amounts in 000 s, except option contracts written, 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 Fund determines its net asset value as of the close of regular session trading on the NYSE (normally 4:00 p.m. Eastern time) 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 dividends), less all of its liabilities (including accrued expenses, dividends 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, except for short sales and call options contracts written, for which the last quoted asked price is used. 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 with a remaining maturity of 60 days or more are valued by the Company using a pricing service. Fixed income securities maturing within 60 days will be valued on an amortized cost basis.

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

KAYNE ANDERSON MLP INVESTMENT COMPANY
NOTES TO FINANCIAL STATEMENTS (UNAUDITED) (CONTINUED)

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.

Exchange-traded options and futures contracts are valued at the closing price in the market where such contracts are principally traded.

SFAS No. 157. In September 2006, the Financial Accounting Standards Board (FASB) issued Statement on Financial Accounting Standards (SFAS) No. 157, Fair Value Measurements. This standard establishes a single authoritative definition of fair value, sets out a framework for measuring fair value and requires additional disclosures about fair value measurements. SFAS No. 157 applies to fair value measurements already required or permitted by existing standards. SFAS No. 157 is effective for financial statements issued for fiscal years beginning after November 15, 2007 and interim periods within those fiscal years. The changes to current generally accepted accounting principles from the application of this Statement relate to the definition of fair value, the methods used to measure fair value, and

the expanded disclosures about fair value measurements.

As of December 1, 2007, the Company adopted SFAS No. 157. The Company has performed an analysis of all existing investments and derivative instruments to determine the significance and character of all inputs to their fair value determination. Based on this assessment, the adoption of this standard did not have any material effect on the Company's net asset value.

At May 31, 2008, the Company held 6.1% of its net assets applicable to common stockholders (3.7% of total assets) in securities valued at fair value as determined pursuant to procedures adopted by the Board of Directors, with fair value of \$74,465. Although these securities may be resold in privately negotiated transactions (subject to

KAYNE ANDERSON MLP INVESTMENT COMPANY
NOTES TO FINANCIAL STATEMENTS (UNAUDITED) (CONTINUED)

certain lock-up 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.

On March 19, 2008, Financial Accounting Standards Board released Statement of Financial Accounting Standards No. 161, Disclosures about Derivative Instruments and Hedging Activities (FAS 161). FAS 161 requires qualitative disclosures about objectives and strategies for using derivatives, quantitative disclosures about fair value amounts of and gains and losses on derivative instruments, and disclosures about credit-risk-related contingent features in derivative agreements. The application of FAS 161 is required for fiscal years beginning after November 15, 2008 and interim periods within those fiscal years. At this time, management is evaluating the implications of FAS 161 and its impact on the financial statements has not yet been determined.

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.

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, 2008, the Company had no open short sales.

F. Option Writing When the Company writes an 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. The difference between the premium and the amount paid on effecting a closing purchase transaction, including brokerage commissions, is also treated as a realized gain, or if the premium is less than the amount paid for the closing purchase transaction, as a realized 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. If a put option is exercised, the premium reduces the cost basis of the securities purchased by the Company. 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. At May 31, 2008, there were no option contracts written.

G. Security Transactions and Investment Income Security transactions are accounted for on the date the securities are purchased or sold (trade date). Realized gains and losses are reported on an identified cost basis. Dividend and distribution income is recorded on the ex-dividend date. Distributions received from the Company's investments in MLPs generally are comprised of income and return of capital. For the six months ended May 31,

KAYNE ANDERSON MLP INVESTMENT COMPANY
NOTES TO FINANCIAL STATEMENTS (UNAUDITED) (CONTINUED)

2008, 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 \$56,803 of dividends and distributions received from MLPs. The return of capital of \$56,803, resulted in an equivalent reduction in the cost basis of the associated MLP investments. Net Realized Gains and Net Change in Unrealized Gains in the accompanying Statement of Operations were increased by \$6,656 and \$50,147, respectively, attributable to the recording of such dividends and distributions as reductions in the cost basis of investments. 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. Interest income is recognized on the accrual basis, including amortization of premiums and accretion of discounts.

H. *Dividends and Distributions to Stockholders* Dividends and distributions to common stockholders are recorded on the ex-dividend date. The character of dividends made during the year may differ from their ultimate characterization for federal income tax purposes. Dividends and distributions to stockholders of the Company's Auction Rate Preferred Stock, Series D are accrued on a daily basis and are determined as described in Note 11 Preferred Stock. The Company's dividends and distributions will be comprised of return of capital and/or ordinary income, which is based on the earnings and profits of the Company. The Company is unable to make final determinations as to the character of the dividend until the January after the end of the current fiscal year. The Company will inform its common stockholders of the character of dividends and distributions made during that fiscal year in January following such fiscal year.

I. *Partnership Accounting Policy* The Company records its pro-rata share of the income/(loss) and capital gains/(losses), to the extent of dividends 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.

J. *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 net deferred tax asset, a valuation allowance is recognized if, based on the weight of available evidence, it is more likely than not that some portion or all of the deferred income tax asset will not be realized. Future realization of deferred tax assets ultimately depends on the existence of sufficient taxable income of the appropriate character in either the carryback or carryforward period under the tax law.

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 and reviewed in accordance with the valuation process approved by the Board of Directors. From time to time, as new information become available, the Company modifies its estimates or assumptions regarding the deferred tax liability.

As of December 1, 2007, the Company adopted FASB Interpretation 48 (FIN 48), Accounting for Uncertainty in Income Taxes. This standard defines the threshold for recognizing the benefits of tax-return positions in the financial statements as more-likely-than-not to be sustained by the taxing authority and requires measurement of a tax position meeting the more-likely-than-not criterion, based on the largest benefit that is more than 50 percent likely to be realized. At adoption, companies must adjust their financial statements to reflect only those tax positions that are more-likely-than-not to be sustained as of the adoption date.

KAYNE ANDERSON MLP INVESTMENT COMPANY
NOTES TO FINANCIAL STATEMENTS (UNAUDITED) (CONTINUED)

The adoption of the interpretation did not have a material effect on the Company's net asset value. 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, 2008, 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.

K. Derivative Financial Instruments The Company uses derivative financial instruments (principally interest rate swap contracts) to manage interest rate risk. The Company has established policies and procedures for risk assessment and the approval, reporting and monitoring of derivative financial instrument activities. The Company does not hold or issue derivative financial instruments for speculative purposes. All derivative financial instruments 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.

L. 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. In September 2006, the Financial Accounting Standards Board (FASB) issued Statement on Financial Accounting Standards (SFAS) No. 157, Fair Value Measurements. This standard establishes a single authoritative definition of fair value, sets out a framework for measuring fair value and requires additional disclosures about fair value measurements. SFAS No. 157 applies to fair value measurements already required or permitted by existing standards. SFAS No. 157 is effective for financial statements issued for fiscal years beginning after November 15, 2007 and interim periods within those fiscal years. The changes to current generally accepted accounting principles from the application of this Statement relate to the definition of fair value, the methods used to measure fair value, and the expanded disclosures about fair value measurements.

As of December 1, 2007, the Company adopted SFAS No. 157. The Company has performed an analysis of all existing investments and derivative instruments to determine the significance and character of all inputs to their fair value determination. Based on this assessment, the adoption of this standard did not have any material effect on the Company's net asset value. However, the adoption of the standard does require the Company to provide additional disclosures about the inputs used to develop the measurements and the effect of certain measurements on changes in net assets for the reportable periods as contained in the Company's periodic filings.

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.

KAYNE ANDERSON MLP INVESTMENT COMPANY
NOTES TO FINANCIAL STATEMENTS (UNAUDITED) (CONTINUED)

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.

The following table presents our assets and liabilities measured at fair value on a recurring basis at May 31, 2008.

	Total	Quoted Prices in Active Markets (Level 1)	Prices with Other Observable Inputs (Level 2)	Unobservable Inputs (Level 3)
<u>Assets at Fair Value</u>				
Long-term investments	\$ 2,020,013	\$ 1,945,548	\$	\$ 74,465
Unrealized appreciation on interest rate swaps	462		462	
Total	\$ 2,020,475	\$ 1,945,548	\$ 462	\$ 74,465
<u>Liabilities at Fair Value</u>				
Unrealized depreciation on interest rate swaps	\$ 3,902		\$ 3,902	

The following table presents our assets and liabilities measured at fair value on a recurring basis using significant unobservable inputs (Level 3) at November 30, 2007 and at May 31, 2008.

<u>Assets at Fair Value Using Unobservable Inputs (Level 3)</u>	Long-Term Investments
Balance November 30, 2007	\$ 195,919
Sales and other transfers out of Level 3	(151,962)
Realized gains/(losses)	
Unrealized gains, net	21,968
Purchases, issuances or settlements	8,540
Balance May 31, 2008	\$ 74,465

The \$21,968 of net unrealized gains, presented in the table above relate to investments that are still held at May 31, 2008, and the Company presents these net unrealized gains on 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, 2007 and at May 31, 2008.

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,

KAYNE ANDERSON MLP INVESTMENT COMPANY
NOTES TO FINANCIAL STATEMENTS (UNAUDITED) (CONTINUED)

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.

5. Agreements and Affiliations

A. 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.

For the six months ended May 31, 2008, 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), minus the sum of the Company's accrued and unpaid dividends on any outstanding common stock and accrued and unpaid dividends 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.

B. 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 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.

Clearwater Natural Resources, LP At May 31, 2008, the Company held 42.5% of the limited partnership interest in 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.

**KAYNE ANDERSON MLP INVESTMENT COMPANY
NOTES TO FINANCIAL STATEMENTS (UNAUDITED) (CONTINUED)**

CNR GP Holdco, LLC At May 31, 2008, 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. This security was purchased on March 5, 2008.

Plains All American, L.P. Robert V. Sinnott is a senior executive of Kayne Anderson Capital Advisors, L.P. (KACALP), the managing member of 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, L.P. under the 1940 Act.

C. Other Affiliates For the six months ended May 31, 2008, KA Associates, Inc., an affiliate of Kayne Anderson, did not earn any brokerage commissions from portfolio transactions executed on behalf of the Company.

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, 2008 are as follows:

Deferred tax assets:	
Organizational costs	\$ (15)
Net operating loss carryforwards	(42,780)
Deferred tax liabilities:	
Net unrealized gains on investment securities and interest rate swap contracts	254,282
Other temporary differences	3,130
Total net deferred tax liability	\$ 214,617

At November 30, 2007, the Company had net operating loss carryforwards of \$115,622. The federal and state net operating loss carryforwards available are subject to limitations on their annual usage. Realization of the deferred tax assets and net operating loss carryforwards is dependent, in part, on generating sufficient taxable income prior to expiration of the loss carryforwards. If not utilized, \$59,149 of the net operating loss carryforward will expire in 2026 and \$56,473 will expire in 2027. There is no valuation allowance recorded on this deferred tax asset as the Company believes it is more likely than not that the asset will be utilized.

At May 31, 2008, the cost basis of investments for federal income tax purposes was \$1,330,277. The cost basis of investments includes a \$106,711 reduction in basis attributable to the Company's portion of the allocated losses from its MLP investments. At May 31, 2008, gross unrealized appreciation and depreciation of investments for federal income tax purposes were as follows:

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Gross unrealized appreciation of investments	\$ 748,739
Gross unrealized depreciation of investments	(58,696)
Net unrealized appreciation before tax and interest rate swap contracts	690,043
Net unrealized depreciation on interest rate swap contracts	(3,440)
Net unrealized appreciation before tax	686,603
Net unrealized appreciation after tax	\$ 432,560

KAYNE ANDERSON MLP INVESTMENT COMPANY
NOTES TO FINANCIAL STATEMENTS (UNAUDITED) (CONTINUED)

For the six months ended May 31, 2008, the components of net income tax benefit include \$24,669 and \$1,410 of benefit for federal income taxes and state income taxes (net of the federal tax benefit), respectively. Total income taxes are computed by applying the federal statutory income tax rate plus a blended state income tax rate. During the period the Company's combined federal and state income tax rate was 37.0%. Total income taxes have been computed by applying the Company's effective income tax rate of 37.0% to net investment income, realized and unrealized gains on investments before taxes.

The Company adopted FIN 48 as of December 1, 2007, and the adoption of the interpretation did not have a material effect on the Company's net asset value. 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, 2008, 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.

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, 2008, the Company held the following restricted investments:

Investment	Security ⁽¹⁾	Type of Restriction	Number of Units, Principal (\$ (in 000 s))	Acquisition Date	Cost Basis	Fair Value	Fair Value Per Unit	Percent of Net Assets	Percent of Total Assets
Clearwater Natural Resources, L.P.	Common Units	(2)	3,889	(3)	\$ 72,846	\$ 52,500	\$ 13.50	4.3%	2.6%
Clearwater Natural Resources, L.P.	Term Loan	(2)	\$ 7,438	(4)	7,459	7,438	n/a	0.6	0.4
Clearwater Natural Resources, L.P.	Deferred Participation Units	(2)	41	3/5/2008		275	6.73	0.0	0.0
CNR GP Holdco,	LLC Interests	(5)	N/A	3/5/2008	1,081	8,935	8,935	0.7	0.4

LLC Copano Energy, L.L.C.	Class E Units	(6)	157	10/19/07	5,000	5,317	33.79	0.5	0.3
					\$ 86,386	\$ 74,465		6.1%	3.7%

- (1) Restricted security that represents a 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.
- (2) Security of a privately-held MLP.
- (3) The Company purchased common units on August 1, 2005 and October 2, 2006.
- (4) The Company purchased term loans on January 11, 2008, February 28, 2008, and May 5, 2008.
- (5) Security of a private company.
- (6) Unregistered security of a publicly-traded company.

8. Investment Transactions

For the six months ended May 31, 2008, the Company purchased and sold securities in the amount of \$53,968 and \$122,155 (excluding short-term investments, securities sold short, options and interest rate swaps), respectively.

9. Revolving Credit Facility

On April 15, 2008, the Company entered into a new \$200 million unsecured revolving credit facility (New Facility) with Custodial Trust Company (CTC), an affiliate of the administrator, Bear Sterns Funds Management Inc. The New Facility has a 364-day commitment terminating on April 14, 2009 that may be extended for additional non-overlapping 364-day periods if mutually agreed upon by both the Company and CTC. Outstanding loan balances under the New Facility will accrue interest daily at a rate equal to one-month LIBOR plus 1.65%. The Company will

KAYNE ANDERSON MLP INVESTMENT COMPANY
NOTES TO FINANCIAL STATEMENTS (UNAUDITED) (CONTINUED)

pay a fee equal to a rate of 0.50% per annum on any unused amounts of the New Facility. The New Facility contains various covenants of the Company related to other indebtedness, liens and limits on the Company's overall leverage. A full copy of the New Facility can be found on the Company's website, <http://www.kaynefunds.com>. Prior to the New Facility, the Company had an uncommitted secured revolving credit facility with CTC, under which the Company borrowed from CTC an aggregate amount of up to the lesser of \$200,000 or the maximum amount the Company was permitted to borrow under the 1940 Act, subject to certain limitations imposed by CTC. For the six months ended May 31, 2008, the average amount outstanding under the Company's credit facilities was \$47,661 with a weighted average interest rate of 4.71%. As of May 31, 2008, the Company had outstanding borrowings under the New Facility of \$2,000 and the interest rate was 4.05%.

10. Auction Rate Senior Notes

At May 31, 2008, the Company had five series of auction rate senior notes, each with a maturity of 40 years from the date of original issuance, having an aggregate principal amount of \$505,000 (Senior Notes). The Senior Notes were issued in denominations of \$25. The fair value of those notes approximates carrying amount because the interest rate fluctuates with changes in interest rates available in the current market.

Holders of the Senior Notes are entitled to receive cash interest payments at an annual rate that may vary for each rate period. Interest rates for Series A, Series B, Series C, Series E and Series F as of May 31, 2008 were 4.59%, 4.72%, 4.96%, 4.84% and 4.62%, respectively. The weighted average interest rates for Series A, Series B, Series C, Series E and Series F for the six months ended May 31, 2008, were 5.40%, 5.42%, 6.03%, 5.44% and 5.55%, respectively. These rates include the applicable rate based on the latest results of the auction and do not include commissions paid to the auction agent in the amount of 0.25%. The reset rate period for Series A, Series B, Series E and Series F Senior Notes is seven days, while Series C Senior Notes reset every 28 days. Under the 1940 Act, 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 Notes would be less than 300%.

Since February 12, 2008, there have been more Senior Notes offered for sale than there were buyers of those Senior Notes. As a result, the auctions for the Company's five series of Senior Notes, have failed and the interest rates on the Senior Notes have been set at such maximum rates. 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 rate.

At May 31, 2008, the Company was in compliance with all covenants required under the Senior Notes agreements.

See Note 14 Subsequent Events, regarding the redemption of all Senior Notes.

11. Preferred Stock

At May 31, 2008, the Company had issued 3,000 shares of Series D Auction Rate Preferred Stock 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 Auction Rate Preferred Stock has a liquidation value of \$25,000 per share plus any accumulated, but unpaid dividends, whether or not declared.

Holders of Auction Rate Preferred Stock 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, 2008 was 4.84%. The weighted average dividend rate for the six months ended May 31, 2008 was 5.98%. This rate includes the applicable rate based on the latest results of the auction and does not include commissions paid to the auction agent in the amount of 0.25%. 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 preferred stock would be less than 200%.

Since February 14, 2008, there have been more Preferred Stock shares offered for sale than there were buyers of those Preferred Stock shares, and as a result, the auctions of the Company's Series D Auction Rate Preferred Stock have failed. As such, the dividend rate on the Auction Rate Preferred Stock has been set at such maximum

KAYNE ANDERSON MLP INVESTMENT COMPANY
NOTES TO FINANCIAL STATEMENTS (UNAUDITED) (CONTINUED)

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 rate.

The Auction Rate Preferred Stock is redeemable in certain circumstances at the option of the Company. The Auction Rate Preferred Stock is 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 Auction Rate Preferred Stock 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 Auction Rate Preferred Stock or the holders of common stock.

12. 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 May 15, 2008, the Company terminated \$285,000, aggregate notional amount, of interest rate swap contracts with a weighted average fixed interest rate of 4.95% for \$14,039.

As of May 31, 2008, the Company has entered into eight interest rate swap contracts with UBS AG as summarized below.

Termination Date	Notional Amount	Fixed Rate Paid by the Company	Net Unrealized Appreciation/ (Depreciation)
3/24/2010	\$ 25,000	4.65%	\$ (643)
4/8/2010	25,000	4.55	(624)
4/15/2010	35,000	4.45	(802)
6/2/2010	30,000	4.12	(509)
12/6/2010	50,000	3.85	(450)
1/24/2011	50,000	3.20	451
4/1/2011	85,000	3.77	(410)
5/9/2012	25,000	4.37	(453)
Total	\$ 325,000		\$ (3,440)

At May 31, 2008, the weighted average duration of the interest rate swap contracts was 2.5 years and the weighted average fixed rate was 3.97%. For all eight interest rate swap contracts, the Company receives a floating rate, based on one-month LIBOR.

KAYNE ANDERSON MLP INVESTMENT COMPANY
NOTES TO FINANCIAL STATEMENTS (UNAUDITED) (CONCLUDED)

13. Common Stock

The Company has 199,990,000 shares of common stock authorized and 43,648,755 shares outstanding at May 31, 2008. As of that date, KACALP owned 4,000 shares. Transactions in common shares for the six months ended May 31, 2008 were as follows:

Shares outstanding at November 30, 2007	43,225,549
Shares issued through reinvestment of cash distributions	423,206
Shares outstanding at May 31, 2008	43,648,755

14. Subsequent Events

On June 9, 2008, the Company terminated five interest rate swap contracts with aggregate notional amounts of \$140,000 with a weighted average fixed interest rate of 4.42% for \$2,997. At July 28, 2008, the weighted average fixed rate for the remaining three interest rate swap contracts, with aggregate notional value of \$185,000 was 3.64%.

On June 19, 2008, the Company issued \$450 million, aggregate principal amount, of senior unsecured floating and fixed rate notes (collectively, the Senior Unsecured Notes) in a private placement offering to institutional accredited investors. The Senior Unsecured Notes contain various covenants of the Company related to other indebtedness, liens and limits on the Company's overall leverage. The Company used the net proceeds from that offering and borrowings from the Company's revolving credit facility to redeem all \$505 million aggregate principal amount of the Company's four outstanding series of Auction Rate Senior Notes due 2045 (Series A, B, C and E Notes) and one outstanding series of Auction Rate Senior Notes due 2047 (Series F Notes). Upon deposit of the redemption funds on June 19, 2008, the Series A, B, C, E and F Notes were no longer deemed outstanding pursuant to the terms of the Indenture governing the notes.

The table below sets forth the key terms of each series of the Senior Unsecured Notes:

Series	Principal	Fixed/Floating	Rate	Maturity
G	\$ 75,000	Fixed	5.645%	6/19/2011
H	25,000	Floating	3-month LIBOR + 225 bps	6/19/2011
I	60,000	Fixed	5.847%	6/19/2012
J	40,000	Floating	3-month LIBOR + 225 bps	6/19/2012
K	125,000	Fixed	5.991%	6/19/2013
L	125,000	Floating	3-month LIBOR + 230 bps	6/19/2013
Total	\$ 450,000			

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Based on a 3-month LIBOR rate of 2.81% on June 16, 2008, the rates for the initial reset period were 5.063%, 5.063% and 5.113% for the Series H, J and L, respectively.

On July 11, 2008, the Company paid a cash distribution to its common stockholders in the amount of \$0.50 per share, for a total of \$21,824. Of this total, pursuant to the Company's dividend reinvestment plan, \$5,757 was reinvested into the Company, and in connection with that reinvestment, 209,275 shares of common stock were issued.

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.

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>.

RESULTS OF ANNUAL MEETING OF STOCKHOLDERS
(UNAUDITED)

On June 17, 2008, the Company held its annual meeting of stockholders where the following matters were approved by stockholders:

- (i) The election of one Class I Director of the Company, Gerald I. Isenberg, who was elected by the holders of the Company's common stock and preferred stock outstanding as of the record date. On this matter, 36,072,258 shares (common stock and preferred stock) were cast in favor, 0 shares were cast against, and 444,530 shares abstained for the election of Ms. Isenberg. As a result of the vote on this matter, Gerald I. Isenberg was elected to serve as director of the Company for a 3-year term; and
- (ii) The approval of a proposal to authorize the Company to sell shares of its common stock at a price less than net asset value per share. The Company would only sell shares at a price below net asset value if the price before deducting underwriting fees and commissions and offering costs was above the Company's then-current net asset value and if the Company complied with other dilution conditions. The Company believes that such sales of shares of common stock below net asset value would afford the Company greater flexibility to raise capital quickly in order to capitalize on accretive investment opportunities, particularly because the Company generally attempts to remain fully invested and does not intend to maintain cash for purposes of making these investments. On this matter, 18 holders of common stock voted in favor, 3 holders of common stock voted against, and 1 holder of common stock abstained out of 33 total common stock holders. Additionally, 14,085,209 shares (common stock and preferred stock) were cast in favor, 1,572,649 shares were cast against, and 1,950,367 shares abstained. As a result of the vote on this matter, the Company is now authorized to sell shares of its common stock at a price less than net asset value per share for a period expiring on the date of the Company's 2009 annual meeting of stockholders.

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

Administrator

Bear Stearns Funds Management Inc.
383 Madison Avenue
New York, NY 10179

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

Stock Transfer Agent and Registrar

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

Custodian

Custodial Trust Company
101 Carnegie Center
Princeton, NJ 08540

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.

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.

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.

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

By: /S/ KEVIN S. MCCARTHY

Kevin S. McCarthy
Chairman, President and Chief
Executive Officer

Date: August 7, 2008

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.

By: /S/ KEVIN S. MCCARTHY

Kevin S. McCarthy
Chairman, President and Chief
Executive Officer

Date: August 7, 2008

By: /S/ TERRY A. HART

Terry A. Hart
Chief Financial Officer and Treasurer

Date: August 7, 2008