Kayne Anderson MLP Investment CO Form N-Q May 01, 2006

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

FORM N-Q

QUARTERLY SCHEDULE OF PORTFOLIO HOLDINGS OF REGISTERED MANAGEMENT INVESTMENT COMPANY

Investment Company Act file number 811-21593

KAYNE ANDERSON MLP INVESTMENT COMPANY

(Exact name of registrant as specified in charter)

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

90067

California

(Address of principal executive offices)

(Zip code)

David Shladovsky, Esq.

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

(Name and address of agent for service)

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

Date of fiscal year end: November 30th Date of reporting period: February 28, 2006

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Item 1: Schedule of Investments

KAYNE ANDERSON MLP INVESTMENT COMPANY SCHEDULE OF INVESTMENTS FEBRUARY 28, 2006

(amounts in 000 s) (UNAUDITED)

Description Sequence Sequen		No. of Shares/Units	Value
Equity Investments (a) - 142.8% Pipeline MLP (b) - 116.1% Atlas Pipeline Partners, L.P. 365 \$ 15.295 Boardwalk Pipeline Partners, L.P. 354 6.893 Buckeye Partners, L.P. 74 3.266 Copano Energy, L.L.C. 2.222 90.295 Crostex Energy, L.P. 2.619 96.914 DCP Midstream Partners, L.P. 69 1.892 Enbridge Energy Management, L.L.C. (c) 396 18.247 Enbridge Energy Partners, L.P. 1,980 88.524 Energy Transfer Partners, L.P. 4,444 158.756 Enterprise Products Partners, L.P. 38 445 Global Partners L.P. 38 445 Global Partners, L.P. 369 7,764 Hilland Partners, L.P. 48 1,980 Holly Energy Partners, L.P. 220 8,840 Kinder Morgan Management, LLC (c) 2,719 118,908 Magellan Midstream Partners, L.P. 193 8,690 MarkWest Energy Partners, L.P. 193 8,690 Martin Mi	Description		
Pipeline MLP (b) - 116.1% Atlas Pipeline Partners, L.P. 365 \$ 15,295 Boardwalk Pipeline Partners, L.P 374 3,266 Copano Energy, L.P. 74 3,266 Copano Energy, L.L.C. 2,222 90,295 Crosstex Energy, L.P. 2,619 96,914 DCP Midstream Partners, L.P 69 1,892 Enbridge Energy Management, L.L.C. (c) 396 18,247 Enbridge Energy Management, L.P. 1,980 88,524 Energy Transfer Partners, L.P. 1,980 88,524 Energy Transfer Partners, L.P. 3,444 158,756 Enterprise Products Partners L.P. 38 445 Global Partners L.P. 38 445 Global Partners, L.P. 38 445 Global Partners, L.P. 48 1,980 Holly Energy Partners, L.P. 48 1,980 Magellan Midstream Partners, L.P. 3,964 124,822 MarkWest Energy Partners, L.P. 193 8,690 MarkWest Energy Partners, L.P. 193 8,690 <tr< td=""><td>Long-Term Investments -142.8%</td><td></td><td></td></tr<>	Long-Term Investments -142.8%		
Atlas Pipeline Partners, L.P. 365 \$15,295 Boardwalk Pipeline Partners, L.P. 354 6,893 Buckeye Partners, L.P. 74 3,266 Copano Energy, L.L.C. 2,222 90,295 Crosstex Energy, L.P. 2,619 96,914 DCP Midstream Partners, L.P 69 1,892 Enbridge Energy Management, L.L.C. (c) 396 18,247 Enbridge Energy Partners, L.P. 1,980 88,524 Energy Transfer Partners, L.P. 4,444 158,756 Enterprise Products Partners, L.P. 38 445 Global Partners L.P. 38 445 Global Partners, L.P. 369 7,764 Hilland Partners, L.P. 48 1,980 Holly Energy Partners, L.P. 220 8,840 Kinder Morgan Management, LLC (c) 2,719 118,908 Magellan Midstream Partners, L.P. 193 8,690 MarkWest Energy Partners, L.P. 193 8,690 MarkWest Energy Partners, L.P. 180 5,378 Northern Border Partners, L.P. 753 </td <td>Equity Investments (a) - 142.8%</td> <td></td> <td></td>	Equity Investments (a) - 142.8%		
Boardwalk Pipeline Partners, LP 354 6.893 Buckeye Partners, L.P. 74 3.266 Copano Energy, L.L.C. 2,222 90,295 Crosstex Energy, L.P. 2,619 96,914 DCP Midstream Partners, LP 69 1,892 Enbridge Energy Management, L.L.C. (c) 396 18,247 Enbridge Energy Partners, L.P. 1,980 88,524 Energy Transfer Partners, L.P. 4,444 158,756 Enterprise Products Partners L.P. 5,614 136,307 Genesis Energy, L.P. 38 445 Global Partners LP 369 7,764 Hiland Partners, L.P. 48 1,980 Holly Energy Partners, L.P. 48 1,980 Magellan Midstream Partners, L.P. 3,964 124,822 MarkWest Energy Partners, L.P. 193 8,690 MarkWest Energy Partners, L.P. Unregistered (d) 679 29,564 Martin Midstream Partners, L.P. 180 5,378 Northern Border Partners, L.P. 180 5,378 Pacific Energy Partners, L.P.	Pipeline MLP (b) - 116.1%		
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Copano Energy, L.L.C. 2,222 90,295 Crosstex Energy, L.P. 2,619 96,914 DCP Midstream Partners, LP 69 1,892 Enbridge Energy Management, L.L.C. (c) 396 18,247 Enbridge Energy Partners, L.P. 1,980 88,524 Energy Transfer Partners, L.P. 4,444 158,756 Enterprise Products Partners L.P. 38 445 Global Partners LP 369 7,764 Hiland Partners, L.P. 48 1,980 Holly Energy Partners, L.P. 220 8,840 Kinder Morgan Management, LLC (c) 2,719 118,908 Magellan Midstream Partners, L.P. 193 8,690 MarkWest Energy Partners, L.P. 193 8,690 MarkWest Energy Partners, L.P. 193 8,690 MarkWest Energy Partners, L.P. 180 5,378 Northern Border Partners, L.P. 437 13,512 Plains All American Pipeline, L.P. 437 13,512 Plains All American Pipeline, L.P. 550 11,032 Sunoco Logistics Partners L.P.	Boardwalk Pipeline Partners, LP	354	6,893
Crosstex Energy, L.P. 2,619 96,914 DCP Midstream Partners, LP 69 1,892 Enbridge Energy Management, L.L.C. (c) 396 18,247 Enbridge Energy Partners, L.P. 1,980 88,524 Energy Transfer Partners, L.P. 1,980 88,524 Enterprise Products Partners L.P. 5,614 136,307 Genesis Energy, L.P. 38 445 Global Partners L.P 369 7,764 Hiland Partners, L.P. 48 1,980 Holly Energy Partners, L.P. 220 8,840 Kinder Morgan Management, LLC (c) 2,719 118,908 Magellan Midstream Partners, L.P. 3,964 124,822 MarkWest Energy Partners, L.P. 193 8,690 MarkWest Energy Partners, L.P. Unregistered (d) 679 29,564 Martin Midstream Partners L.P. 180 5,378 Northern Border Partners, L.P. 437 13,512 Pacific Energy Partners, L.P. 437 13,512 Plains All American Pipeline, L.P. 1,399 62,689 Regency Ene	Buckeye Partners, L.P.	74	3,266
DCP Midstream Partners, LP 69 1,892 Enbridge Energy Management, L.L.C. (c) 396 18,247 Enbridge Energy Partners, L.P. 1,980 88,524 Energy Transfer Partners, L.P. 4,444 158,756 Enterprise Products Partners L.P. 5,614 136,307 Genesis Energy, L.P. 38 445 Global Partners L.P 369 7,764 Hiland Partners, L.P. 48 1,980 Holly Energy Partners, L.P. 220 8,840 Kinder Morgan Management, LLC (c) 2,719 118,908 Magellan Midstream Partners, L.P. 3,964 124,822 MarkWest Energy Partners, L.P. 193 8,690 MarkWest Energy Partners, L.P. Unregistered (d) 679 29,564 Martin Midstream Partners L.P. 753 36,234 Pacific Energy Partners, L.P. 753 36,234 Pacific Energy Partners, L.P. 37 1,3512 Plains All American Pipeline, L.P. 37 1,582 TC PipeLines, LP 37 1,632 TEPPCO Partners, L.P. <td>Copano Energy, L.L.C.</td> <td>2,222</td> <td>90,295</td>	Copano Energy, L.L.C.	2,222	90,295
Enbridge Energy Management, L.L.C. (c) 396 18,247 Enbridge Energy Partners, L.P. 1,980 88,524 Energy Transfer Partners, L.P. 4,444 158,756 Enterprise Products Partners L.P. 5,614 136,307 Genesis Energy, L.P. 38 445 Global Partners L.P 369 7,764 Hiland Partners, L.P. 220 8,840 Holly Energy Partners, L.P. 220 8,840 Kinder Morgan Management, LLC (c) 2,719 118,908 Magellan Midstream Partners, L.P. 3,964 124,822 MarkWest Energy Partners, L.P. 193 8,690 MarkWest Energy Partners, L.P. Unregistered (d) 679 29,564 Martin Midstream Partners L.P. 180 5,378 Northern Border Partners, L.P. 753 36,234 Pacific Energy Partners, L.P. 437 13,512 Plains All American Pipeline, L.P. 1,399 62,689 Regency Energy Partners L.P. 37 1,582 TC PipeLines, LP 503 18,306 TEPPCO Partner	Crosstex Energy, L.P.	2,619	96,914
Enbridge Energy Partners, L.P. 1,980 88,524 Energy Transfer Partners, L.P. 4,444 158,756 Enterprise Products Partners L.P. 5,614 136,307 Genesis Energy, L.P. 38 445 Global Partners LP 369 7,764 Hiland Partners, L.P. 48 1,980 Holly Energy Partners, L.P. 220 8,840 Kinder Morgan Management, LLC (c) 2,719 118,908 Magellan Midstream Partners, L.P. 3,964 124,822 MarkWest Energy Partners, L.P. 193 8,690 MarkWest Energy Partners, L.P. Unregistered (d) 679 29,564 Martin Midstream Partners L.P. 180 5,378 Northern Border Partners, L.P. 753 36,234 Pacific Energy Partners, L.P. 437 13,512 Plains All American Pipeline, L.P. 1,399 62,689 Regency Energy Partners L.P. 37 1,582 TC PipeLines, L.P 206 7,163 TEPPCO Partners, L.P. 503 18,306 TransMontaigne Partners L.P. 52 1,318 Valero L.P. 639<	DCP Midstream Partners, LP	69	1,892
Enbridge Energy Partners, L.P. 1,980 88,524 Energy Transfer Partners, L.P. 4,444 158,756 Enterprise Products Partners L.P. 5,614 136,307 Genesis Energy, L.P. 38 445 Global Partners LP 369 7,764 Hiland Partners, L.P. 48 1,980 Holly Energy Partners, L.P. 220 8,840 Kinder Morgan Management, LLC (c) 2,719 118,908 Magellan Midstream Partners, L.P. 3,964 124,822 MarkWest Energy Partners, L.P. 193 8,690 MarkWest Energy Partners, L.P. Unregistered (d) 679 29,564 Martin Midstream Partners L.P. 180 5,378 Northern Border Partners, L.P. 753 36,234 Pacific Energy Partners, L.P. 437 13,512 Plains All American Pipeline, L.P. 1,399 62,689 Regency Energy Partners L.P. 37 1,582 Sunoco Logistics Partners L.P. 37 1,582 TC PipeLines, L.P 503 18,306 TEPPCO Partners, L.P. 503 18,306 TransMontaigne Partners L.P.	Enbridge Energy Management, L.L.C. (c)	396	18,247
Enterprise Products Partners L.P. 5,614 136,307 Genesis Energy, L.P. 38 445 Global Partners LP 369 7,764 Hiland Partners, LP 48 1,980 Holly Energy Partners, L.P. 220 8,840 Kinder Morgan Management, LLC (c) 2,719 118,908 Magellan Midstream Partners, L.P. 3,964 124,822 MarkWest Energy Partners, L.P. 193 8,690 MarkWest Energy Partners, L.P. Unregistered (d) 679 29,564 Martin Midstream Partners L.P. 180 5,378 Northern Border Partners, L.P. 753 36,234 Pacific Energy Partners, L.P. 437 13,512 Plains All American Pipeline, L.P. 1,399 62,689 Regency Energy Partners L.P. 37 1,582 Sunoco Logistics Partners L.P. 37 1,582 TC PipeLines, LP 206 7,163 TEPPCO Partners, L.P. 503 18,306 TransMontaigne Partners L.P. 52 1,318 Valero L.P. 639 33,235	Enbridge Energy Partners, L.P.	1,980	88,524
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MarkWest Energy Partners, L.P. 193 8,690 MarkWest Energy Partners, L.P. 0679 29,564 Martin Midstream Partners L.P. 180 5,378 Northern Border Partners, L.P. 753 36,234 Pacific Energy Partners, L.P. 437 13,512 Plains All American Pipeline, L.P. 1,399 62,689 Regency Energy Partners L.P (e) 550 11,032 Sunoco Logistics Partners L.P. 37 1,582 TC PipeLines, L.P 206 7,163 TEPPCO Partners, L.P. 503 18,306 TransMontaigne Partners L.P. 52 1,318 Valero L.P. 639 33,235		•	
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Sunoco Logistics Partners L.P. 37 1,582 TC PipeLines, LP 206 7,163 TEPPCO Partners, L.P. 503 18,306 TransMontaigne Partners L.P. 52 1,318 Valero L.P. 639 33,235	•		· · · · · · · · · · · · · · · · · · ·
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TEPPCO Partners, L.P. 503 18,306 TransMontaigne Partners L.P. 52 1,318 Valero L.P. 639 33,235	-		
TransMontaigne Partners L.P. Valero L.P. 52 1,318 639 33,235	-		
Valero L.P. 639 33,235	·		
1,107,851			
			1,107,851
Propane MLP - 12.7%	Propane MLP - 12.7%		
Ferrellgas Partners, L.P. 1,770 39,584	<u>-</u>	1,770	39,584
Inergy, L.P. 2,969 81,168		·	

4

		120,752
Shipping MLP - 2.2% K-Sea Transportation Partners L.P. (f) Teekay LNG Partners L.P. U.S. Shipping Partners L.P.	109 259 403	3,769 7,871 9,254
		20,894
Coal MLP - 1.8%		
Natural Resource Partners L.P.	171	8,812
Penn Virginia Resource Partners, L.P.	137	7,908
		16,720
MLP Affiliates - 2.9%		
Atlas America, Inc. (g)	32	2,177
Crosstex Energy, Inc.	58	4,603
Energy Transfer Equity, L.P. (e)	249	5,484
Magellan Midstream Holdings, L.P. (e)	293	6,824
MarkWest Hydrocarbon, Inc. (f)	275	6,287
TransMontaigne Inc. (g)	318	2,400
		27,775

KAYNE ANDERSON MLP INVESTMENT COMPANY SCHEDULE OF INVESTMENTS FEBRUARY 28, 2006 (amounts in 000 s) (UNAUDITED)

Description			No. of Shares/Units	Value
Other - 7.1% Arlington Tankers Ltd. Calumet Specialty Products Partners, L.P. (e) Clearwater Natural Resources, LP Unregistered			71 520	\$ 1,625 12,333
(d)(h) DryShips Inc.			2,650 74	53,000 810
				67,768
Total Equity Investments (Cost \$1,171,189)				1,361,760
	Interest Rate	Maturity Date	Principal Amount	
Fixed Income Investment - 0.0% MLP Affiliate - 0.0%				
TransMontaigne Inc. (Cost \$504)	9.125%	06/01/10	\$ 500	514
Total Long-Term Investments (Cost \$1,171,693)				1,362,274
Short-Term Investment - 5.8% Repurchase Agreement - 5.8% Bear, Stearns & Co. Inc. (Agreement dated 2/28/06 to be repurchased at \$55,047), collateralized by \$56,637 in U.S. Government and Agency Securities (Cost \$55,040)	4.500	03/01/06		55,040
Total Investments - 148.6% (Cost \$1,226,733)				1,417,314
T. 1 M.			No. of Units	
Liabilities Securities Sold Short Coal MLP Alliance Resource Partners, L.P.			57	(2,111)
Propane MLP				

AmeriGas Partners, L.P.	2	(65)
Total Securities Sold Short (cash proceeds received \$2,267)		(2,176)
Auction Rate Senior Notes Deferred Taxes Current Taxes Other Liabilities		(320,000) (76,175) (905) (4,744)
Total Liabilities		(404,000)
Unrealized Appreciation on Interest Rate Swap Contracts Other Assets		4,577 11,047
Total Liabilities in Excess of Other Assets Preferred Stock at Redemption Value Not Assets Applicable to Common Stockholders		(388,376) (75,000)
Net Assets Applicable to Common Stockholders		\$ 953,938

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

(b) Includes Limited Liability Companies.

- (c) Distributions are paid in-kind.
- (d) Fair valued securities, restricted from public sale. The Company negotiates certain aspects of the method and timing of its rights to dispose of these investments, including registration

rights and

related costs.

- (e) Security is currently non-income producing; expected to pay distributions within the next 12 months.
- (f) Security or a portion thereof is segregated as collateral on securities sold short.
- (g) Security is non-income producing.
- (h) ClearwaterNaturalResources, LP is a privately-held company.

KAYNE ANDERSON MLP INVESTMENT COMPANY SCHEDULE OF INVESTMENTS FEBRUARY 28, 2006 (amounts in 000 s) (UNAUDITED)

Certain of the Company s investments are restricted as to resale and are valued as determined in accordance with procedures established by the Board of Directors. The table below shows the number of units held, the acquisition dates, aggregate costs, fair value as of February 28, 2006, value per unit of such securities, percent of net assets applicable to common stockholders and percent of total assets which the securities comprise.

							Percent	Percent
]	Number				Value	of	of
		of	Acquisition		Fair	Per	Net	Total
							Assets	
Partnership	Security	Units	Date	Cost	Value	Unit	(1)	Assets
	Common							
	Units							
Clearwater Natural Resources, L.P	. (2)	2,650	08/01/05	\$53,000	\$53,000	\$ 20.00	5.6%	3.7%
	Common							
	Units							
MarkWest Energy Partners, L.P.	(2)	679	11/09/05	30,000	29,564	43.57	3.1	2.1
				\$83,000	\$82,564		8.7%	5.8%

(1) Applicable to common stockholders.

(2) Unregistered security.

At February 28, 2006, the identified cost basis of investments for Federal income tax purposes was \$1,224,014. At February 28, 2006, gross unrealized appreciation and depreciation of investments for Federal income tax purposes were as follows:

Gross unrealized appreciation Gross unrealized depreciation	\$ 197,762 (4,462)
Net unrealized appreciation	\$ 193,300

Securities valuation policies and other investment related disclosures are hereby incorporated by reference to the Company s annual report previously filed with the Securities and Exchange Commission on Form N-CSR on February 8, 2006, with a file number 811-21593. Other information regarding the Company is available in the Company s most recent annual report. This information is also available on the Company s website at http://www.kaynemlp.com; or on the website of the Securities and Exchange Commission, http://www.sec.gov.

Item 2: Controls and Procedures

- (a) As of a date within 90 days from the filing date of this report, the principal executive officer and principal financial officer concluded that the registrant s disclosure controls and procedures (as defined in Rule 30a-3(c) under the Investment Company Act of 1940 (the Act)), were effective based on their evaluation of the disclosure controls and procedures required by Rule 30a-3(b) under the Act and Rules 13a-15(b) or 15d-15(b) under the Securities and Exchange Act of 1934.
- (b) There were no changes in the registrant s internal control over financial reporting (as defined in Rule 30a-3(d) under the Act) that occurred during the registrant s last fiscal quarter that have materially affected, or are reasonably likely to materially affect, the registrant s internal control over financial reporting.

Item 3: Exhibits

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

SIGNATURES

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

KAYNE ANDERSON MLP INVESTMENT COMPANY

/s/ Kevin S. McCarthy

Name: Kevin S. McCarthy Title: Chief Executive Officer

Date: April 28, 2006

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

/s/ Kevin S. McCarthy

Name: Kevin S. McCarthy Title: Chief Executive Officer

Date: April 28, 2006

/s/ Terry A. Hart

Name: Terry A. Hart

Title: Chief Financial Officer

Date: April 28, 2006