

Kayne Anderson MLP Investment CO  
Form N-Q  
April 29, 2009

**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)*

**717 Texas Avenue, Suite 3100,  
Houston, Texas**  
**(Address of principal executive offices)**

**77002**  
**(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:**  
**(713) 493-2020**

**Date of fiscal year end:**  
**November 30, 2009**

**Date of reporting period:**  
**February 28, 2009**



**ITEM 1: SCHEDULE OF INVESTMENTS**

**KAYNE ANDERSON MLP INVESTMENT COMPANY**  
**SCHEDULE OF INVESTMENTS**  
**FEBRUARY 28, 2009**  
**(amounts in 000 s)**  
**(UNAUDITED)**

Description	No. of Shares/Units	Value
<b>Long-Term Investments 139.3%</b>		
<b>Equity Investments(a) 136.7%</b>		
<b>Midstream MLP(b) 94.1%</b>		
Atlas Pipeline Partners, L.P.	627	\$ 3,573
Buckeye Partners, L.P.	84	3,319
Copano Energy, L.L.C.	3,585	50,973
Crosstex Energy, L.P.	3,181	11,007
DCP Midstream Partners, LP	192	2,074
Duncan Energy Partners L.P.	58	943
Eagle Rock Energy Partners, L.P.	249	1,156
El Paso Pipeline Partners, L.P.	277	4,878
Enbridge Energy Partners L.P.	1,337	38,074
Energy Transfer Partners, L.P.	2,476	89,673
Enterprise Products Partners L.P.	3,721	80,294
Exterran Partners, L.P.	755	9,249
Global Partners L.P.	1,472	15,746
Hiland Partners, LP	82	606
Holly Energy Partners, L.P.	131	3,330
Magellan Midstream Partners, L.P.	2,223	70,694
MarkWest Energy Partners, L.P.	2,326	25,028
Martin Midstream Partners L.P.	412	7,674
ONEOK Partners, L.P.	164	6,969
Plains All American Pipeline, L.P.(c)	2,876	110,856
Quicksilver Gas Services LP	39	475
Regency Energy Partners LP	1,989	20,429
Targa Resources Partners LP	471	3,984
TC PipeLines, LP	1,027	26,562
TEPPCO Partners, L.P.	617	14,033
Transmontaigne Partners L.P.	46	786
Western Gas Partners LP	715	10,495
Williams Partners L.P.	497	5,437
Williams Pipeline Partners L.P.(d)	199	3,151
		621,468
<b>Propane MLP 10.5%</b>		

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Inergy, L.P.	3,077	69,305
<b>Shipping MLP 3.0%</b>		
Capital Product Partners L.P.	72	490
K-Sea Transportation Partners L.P.	167	2,784

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Description	No. of Shares/Units	Value
<b>Shipping MLP (Continued)</b>		
Navios Maritime Partners L.P.	210	\$ 1,627
OSG America L.P.	555	3,716
Teekay LNG Partners L.P.	433	7,977
Teekay Offshore Partners L.P.	267	3,187
		19,781
<b>Coal MLP 2.1%</b>		
Alliance Resource Partners, L.P.	111	2,931
Clearwater Natural Resources, LP Unregistered(e)(f)(g)	3,889	3,889
Clearwater Natural Resources, LP Unregistered, Deferred Participation Units(e)(f)(g)(h)	41	
Clearwater Natural Resources, LP Unregistered, Warrants(e)(f)(g)(i)	34	33
Natural Resource Partners L.P.	97	2,018
Penn Virginia Resource Partners, L.P.(d)	413	4,811
		13,682
<b>Upstream MLP(b) 3.7%</b>		
Atlas Energy Resources, LLC	1,308	17,431
BreitBurn Energy Partners L.P.	1,086	6,785
Constellation Energy Partners LLC	276	541
		24,757
<b>MLP Affiliates(b) 14.4%</b>		
Enbridge Energy Management, L.L.C.(j)	531	14,558
Kinder Morgan Management, LLC(d)(j)	1,935	80,710
		95,268
<b>General Partner MLP(b) 8.4%</b>		
Alliance Holdings GP L.P.	63	934
CNR GP Holdco, LLC Unregistered(e)(f)(g)(k)	N/A	
Energy Transfer Equity, L.P.	664	13,029
Enterprise GP Holdings L.P.	1,082	21,171
Hiland Holdings GP, LP	149	413

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Inergy Holdings GP	95	2,637
Magellan Midstream Holdings, L.P.	1,086	17,286
		55,470
<b>Other MLP 0.5%</b>		
Calumet Specialty Products Partners, L.P.	288	3,481
<b>Total Equity Investments (Cost \$1,069,533)</b>		903,212

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**KAYNE ANDERSON MLP INVESTMENT COMPANY**  
**SCHEDULE OF INVESTMENTS**  
**FEBRUARY 28, 2009**  
(amounts in 000 s)  
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Description	Interest Rate	Maturity Date	Principal Amount	Value
<b>Energy Debt Investments 2.6%</b>				
<b>Coal MLP 1.9%</b>				
Clearwater Natural Resources, LP(e)(f)	(l)	12/3/09	\$ 13,601	\$ 12,831
<b>Upstream MLP(b) 0.3%</b>				
Atlas Energy Resources, LLC	10.75%	2/1/18	2,427	1,965
<b>Other 0.4%</b>				
Calumet Lubricants Co., L.P.	(m)	3/15/15	4,412	2,249
Calumet Lubricants Co., L.P.	(n)	3/15/15	588	301
				2,550
<b>Total Energy Debt Investments (Cost \$18,098)</b>				17,346
<b>Total Long-Term Investments (Cost \$1,087,631)</b>				920,558
<b>Short-Term Investment 6.0%</b>				
<b>Repurchase Agreements 5.8%</b>				
J.P. Morgan Securities Inc. (Agreement dated 2/27/09 to be repurchased at \$38,653), collateralized by \$39,763 in U.S.				
Treasury note (Cost \$38,653)	0.18	3/2/09		38,653

**KAYNE ANDERSON MLP INVESTMENT COMPANY**  
**SCHEDULE OF INVESTMENTS**  
**FEBRUARY 28, 2009**  
(amounts in 000 s, except option contracts)  
**(UNAUDITED)**

Description	No. of Contracts	Value
<b>Call Option Contracts Purchased(g) 0.2%</b>		
<b>Midstream MLP 0.2%</b>		
Enterprise Products Partners L.P., call option expiring 6/20/09 @ \$25.00	5,000	\$ 212
Magellan Midstream Partners L.P., call option expiring 4/18/09 @ \$30.00	2,820	832
ONEOK Partners, L.P., call option expiring 4/18/09 @ \$50.00	3,000	83
		1,127
<b>General Partner MLP 0.0%</b>		
Magellan Midstream Holdings L.P., call option expiring 3/21/09 @ \$17.50	2,100	42
<b>Total Call Option Contracts Purchased (Premiums Paid \$3,611)</b>		1,169
<b>Total Short-Term Investments (Cost \$42,264)</b>		39,822
<b>Total Investments 145.3% (Cost \$1,129,895)</b>		960,380
<b>Liabilities</b>		
<b>Option Contracts Written(g)</b>		
<b>Coal MLP</b>		
Penn Virginia Resource Partners, L.P., call option expiring 3/21/09 @ \$15.00	1,620	(8)
<b>Midstream MLP</b>		
Williams Pipeline Partners L.P., call option expiring 3/21/09 @ \$17.50	155	(1)
<b>Total Call Option Contracts Written (Premiums Received \$201)</b>		(9)
<b>Senior Unsecured Notes</b>		(304,000)
<b>Unrealized Depreciation on Interest Rate Swap Contracts</b>		(28)
<b>Other Liabilities</b>		(15,113)
<b>Total Liabilities</b>		(319,150)
<b>Net Deferred Tax Asset</b>		83,957
<b>Unrealized Appreciation on Interest Rate Swap Contracts</b>		154
<b>Other Assets</b>		10,390
<b>Total Liabilities in Excess of Other Assets</b>		(224,649)
<b>Preferred Stock at Redemption Value</b>		(75,000)



**Net Assets Applicable to Common Stockholders**

\$ 660,731

- (a) Unless otherwise noted, equity investments are common units/common shares.
  - (b) Includes Limited Liability Companies.
  - (c) The Company believes that it is an affiliate of Plains All American, L.P.
  - (d) Security or a portion thereof is segregated as collateral on option contracts written or interest rate swap contracts.
  - (e) Fair valued securities, restricted from public sale.
  - (f) Clearwater Natural Resources, LP is a privately-held MLP that the Company believes is a controlled affiliate. On January 7, 2009, Clearwater Natural Resources, LP ( Clearwater ) and Clearwater Natural Resources, LLC (Clearwater s general partner) filed a voluntary petition under Chapter 11 of the U.S. Bankruptcy Code.
  - (g) Security is non-income producing.
  - (h) Holders of Clearwater Natural Resources, LP s deferred participation units are entitled, in certain circumstances, to receive a portion of value realized in a sale or initial public offering by certain of the partnership s common unitholders.
  - (i) Warrants are non-income producing and expire on September 30, 2018.
  - (j) Distributions are paid in-kind.
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- (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.
  - (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 February 28, 2009).
  - (m) Floating rate senior secured first lien loan facility. Security pays interest at a rate of LIBOR + 400 basis points (6.15% as of February 28, 2009).
  - (n) Fixed rate letter of credit facility. Security pays interest at 4.00%.
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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 February 28, 2009, the Company held the following restricted investments:

Investment	Security	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	(1)	3,889	(2)	\$ 72,860	\$ 3,889	\$ 1.00	0.6%	0.4%
Clearwater Natural Resources, L.P.	Term Loan	(1)	\$ 13,601	(3)	13,638	12,831	n/a	1.9	1.2
Clearwater Natural Resources, L.P.	Deferred Participation Units	(1)	41	3/5/2008				0.0	0.0
Clearwater Natural Resources, L.P.	Warrants	(1)	34	9/29/2008		33	0.99	0.0	0.0
CNR GP Holdco, LLC	LLC Interests	(1)	n/a	3/5/2008	1,083		1,513	0.0	0.0
Total of securities valued in accordance with procedures established by the Board of Directors(4)					\$ 87,581	\$ 16,753		2.5%	1.6%
Calumet Lubricants Co., L.P.	Term Loan	(5)	\$ 4,412	2/23/2009	\$ 2,316	\$ 2,249		0.3%	0.2%
Calumet Lubricants Co., L.P.	Letter of Credit Facility	(5)	\$ 588	2/23/2009	309	301		0.1	0.0
Atlas Energy Resources, LLC	Senior Unsecured Notes	(5)	\$ 2,427	1/8/2009	1,836	1,965		0.3	0.2

Total of securities valued by prices provided by market maker or independent pricing services	\$ 4,461	\$ 4,515	0.7%	0.4%
Total of all restricted securities	\$ 92,042	\$ 21,268	3.2%	2.0%

- (1) On January 7, 2009, Clearwater Natural Resources, LP ( Clearwater ) and CNR GP Holdco, LLC (Clearwater s general partner) filed a voluntary petition under Chapter 11 of the U.S. Bankruptcy Code. Both entities have continued operations as a debtor-in-possession. Clearwater s existing lenders are providing debtor-in-possession financing and, as part of the financing agreement with the banks, Clearwater has agreed to pursue a sales process for the company. Financial markets remain volatile and, as a result, it is more difficult for interested parties to finance the purchase of Clearwater than in a more stable environment. Additionally, significant uncertainty exists with respect to pending U.S. environmental legislation and the ultimate impact on coal producers, such as Clearwater. For these reasons no assurances can be made as to the success of such sales process and the proceeds received in such process. Clearwater has an active dialogue with its existing lenders regarding the timing of such sales process.
- (2) The Company purchased common units on August 1, 2005 and October 2, 2006.
- (3) The Company purchased term loans on January 11, 2008; February 28, 2008; May 5, 2008; July 8, 2008; August 6, 2008; and September 29, 2008. As part of an Agreement with Clearwater s existing lenders, the term loan owned by the Company is not currently paying cash interest expense. Such interest is payment in kind , with the principal amount of the term loan increased by such interest.
- (4) Restricted security that represent Level 3 under SFAS No. 157. Security is valued using inputs reflecting the Company s own assumptions.
- (5) Unregistered security of a public company. Restricted security that represent Level 2 under SFAS No. 157. Securities with a fair market value determined by the mean of the bid and ask prices provided by a syndicate bank, principal market maker or an independent pricing service. These securities have limited trading volume and are not listed on a national exchange.

At February 28, 2009, the cost basis of investments for federal income tax purposes was \$989,562. At February 28, 2009, gross unrealized appreciation and depreciation of investments and options for federal income tax purposes were as follows:

Gross unrealized appreciation	\$ 234,599
Gross unrealized depreciation	(263,781)
Net unrealized depreciation..	\$ (29,182)

The identified cost basis for federal tax purposes is estimated based on information available from the Company s portfolio companies. In some cases, this information is very limited. Accordingly, the actual cost basis may prove higher or lower than the estimated cost basis included in this footnote.

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

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

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

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

The following table presents our assets and liabilities measured at fair value on a recurring basis at February 28, 2009.

<b>Assets at Fair Value</b>	<b>Total</b>	<b>Quoted Prices in Active Markets (Level 1)</b>	<b>Prices with Other Observable Inputs (Level 2)</b>	<b>Unobservable Inputs (Level 3)</b>
Investments(1)	\$ 921,727	\$ 899,290	\$ 5,684	\$ 16,753
Unrealized appreciation on interest rate swaps	154		154	
<b>Total assets at fair value</b>	<b>\$ 921,881</b>	<b>\$ 899,290</b>	<b>\$ 5,838</b>	<b>\$ 16,753</b>
 <b><u>Liabilities at Fair Value</u></b>				
Unrealized depreciation on interest rate swaps	\$ 28		\$ 28	
Option contracts written	9		9	
<b>Total liabilities at fair value</b>	<b>\$ 37</b>		<b>\$ 37</b>	

(1) The Company's investments in Level 3 represent its investments in Clearwater Natural Resources, L.P. and CNR GP Holdco, LLC.

The following table presents our assets measured at fair value on a recurring basis using significant unobservable inputs (Level 3) at November 30, 2008 and at February 28, 2009.

<b>Assets at Fair Value Using Unobservable Inputs (Level 3)</b>	<b>Long-Term Investments</b>
Balance November 30, 2008	\$ 32,987
Transfers out of Level 3	
Realized gains/(losses)	
Unrealized losses, net	(16,234)
Purchases, issuances or settlements	
Balance February 28, 2009	\$ 16,753

The \$16,234 of unrealized losses presented in the table above relate to investments that are still held at February 28, 2009.

The Company did not have any liabilities that were measured at fair value on a recurring basis using significant unobservable inputs (Level 3) at November 30, 2008 and at February 28, 2009.

In March 2008, the FASB issued SFAS No. 161, *Disclosures about Derivative Instruments and Hedging Activities*. This standard amends and expands the disclosure requirements of SFAS No. 133, *Accounting for Derivative Instruments and Hedging Activities*, to illustrate how and why an entity uses derivative instruments; how derivative instruments and related hedged items are accounted for under SFAS No. 133; and how derivative instruments and related hedged items affect an entity's financial position, financial performance and cash flows. SFAS No. 161 is effective for financial statements issued

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for fiscal years beginning after November 15, 2008 and interim periods within those fiscal years. As of December 1, 2008, the Company adopted SFAS No. 161.

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

<b>Derivatives Not Accounted for as Hedging Instruments Under SFAS No. 133</b>	<b>Statement of Assets and Liabilities Location</b>	<b>Fair Value as of February 28, 2009</b>
<b>Assets</b>		
Call options	Call option contracts purchased	\$ 1,169
Interest Rate Swap Contracts	Unrealized appreciation on interest rate swap contracts	154
		\$ 1,323
<b>Liabilities</b>		
Call options	Call option contracts written	\$ 9
Interest Rate Swap Contracts	Unrealized depreciation on interest rate swap contracts	28
		\$ 37

The following table sets forth the effect of derivative instruments.

<b>Derivatives Not Accounted for as Hedging Instruments Under SFAS No. 133</b>	<b>Location of Gains/(Losses) on Derivatives Recognized in Income</b>	<b>For the Three Months Ended February 28, 2009 Change in</b>	
		<b>Net Realized Gains/(Losses) on Derivatives Recognized in Income</b>	<b>Unrealized Gains/(Losses) on Derivatives Recognized in Income</b>
Call options	Options	\$ 345	\$ (2,250)
Interest Rate Swap Contracts	Interest rate swap contracts	(13,154)	9,003
		\$ (12,809)	\$ 6,753

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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 6, 2009, 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.kaynefunds.com>; or on the website of the Securities and Exchange Commission, <http://www.sec.gov>.

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**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.

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**SIGNATURES**

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

KAYNE ANDERSON MLP INVESTMENT  
COMPANY

/s/ Kevin S. McCarthy

Name: Kevin S. McCarthy  
Title: Chairman, President and Chief Executive Officer  
Date: April 29, 2009

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: Chairman, President and Chief Executive Officer  
Date: April 29, 2009

/s/ Terry A. Hart

Name: Terry A. Hart  
Title: Chief Financial Officer and Treasurer  
Date: April 29, 2009