Kayne Anderson MLP/Midstream Investment Co
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April 25, 2019

MLP/Midstream Investment Company

KYN Quarterly Report

February 28, 2019

CONTENTS

CAUTIONARY NOTE REGARDING FORWARD-LOOKING STATEMENTS: This report of Kayne Anderson MLP/Midstream Investment Company (the Company) 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 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; master limited partnership (MLP) industry risk; leverage risk; valuation risk; interest rate risk; tax risk; and other risks discussed in the Company s filings with the Securities and Exchange Commission (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/MIDSTREAM INVESTMENT COMPANY

ADOPTION OF AN OPTIONAL DELIVERY METHOD FOR SHAREHOLDER REPORTS

Rule 30e-3 Notice

Beginning on January 1, 2021, as permitted by regulations adopted by the Securities and Exchange Commission, paper copies of Kayne Anderson MLP/Midstream Investment Company s (the Company or KYN) annual and semi-annual shareholder reports will no longer be sent by mail, unless you specifically request paper copies of the reports from the Company or from your financial intermediary, such as a broker-dealer or bank. Instead, the reports will be made available on the Company s website (www.kaynefunds.com), and you will be notified by mail each time a report is posted and provided with a website link to access the report.

If you already elected to receive shareholder reports electronically, you will not be affected by this change and you need not take any action. You may elect to receive shareholder reports and other communications from the Company or your financial intermediary electronically by calling the Company at 1-877-657-3863 or contacting your financial intermediary.

You may elect to receive all future reports in paper free of charge. You can inform the Company or your financial intermediary that you wish to continue receiving paper copies of your shareholder reports by calling the Company at 1-877-657-3863 or contacting your financial intermediary. Your election to receive reports in paper will apply to all funds managed by KA Fund Advisors, LLC or held with your financial intermediary.

KAYNE ANDERSON MLP/MIDSTREAM INVESTMENT COMPANY

LETTER TO STOCKHOLDERS

April 22, 2019

Dear Stockholders:

We are pleased to include a letter to KYN s stockholders in this quarterly report. Historically, we have only included letters in the Company s annual reports, but believe that investors would benefit from more frequent updates from us on a go-forward basis.

Our goal with these quarterly letters is to provide a summary of KYN s performance as well as a brief overview of the key trends impacting the Company s investments. We hope that you find this information helpful, and invite you to visit our recently redesigned website at kaynefunds.com for more information about the Company. We also encourage investors to listen to podcasts posted on our website (they can be found on the Insights link). These podcasts cover a variety of topics, including the Company s performance, key industry trends and our outlook for the midstream sector.

Performance Highlights

KYN performed well during the first quarter of fiscal 2019, generating a 5.1% Net Asset Value Return, which is equal to the change in net asset value per share plus cash distributions paid during the period (assuming reinvestment through our dividend reinvestment program). Net Asset Value Return is the primary measure we use to gauge the Company s performance.

KYN s Net Asset Value Return outperformed the Alerian MLP Index (AMZ) and the Alerian US Midstream Energy Index (AMUS) for the quarter, which generated total returns of 2.4% and 4.6%, respectively. Going forward, we expect to compare KYN s performance to both the AMZ and the AMUS. The biggest difference between these two indices is that the AMUS includes midstream corporations like Williams, Kinder Morgan and ONEOK, while the AMZ does not. The main drivers of KYN s performance during the quarter were as follows:

	Top Five Contributors to Performance			*Bottom Five Contributors to Performance*	
	Name	**Total Return**		**Name**	**Total Return**
1.	Western Midstream Partners, LP	17.7%	1.	Targa Resources Corp.	(7.9)%
2.	Enterprise Products Partners L.P.	7.0%	2.	EQT Midstream Partners, LP	(16.4)%
3.	The Williams Companies, Inc.	6.9%	3.	Antero Midstream Partners LP	(12.7)%
4.	ONEOK, Inc.	6.0%	4.	Shell Midstream Partners, L.P.	(3.1)%
5.	Buckeye Partners, L.P.	9.0%	5.	DCP Midstream, LP	(3.2)%

Given how challenging market conditions were during December, we were pleased to generate a positive Net Asset Value Return for the first quarter. The AMZ declined 9.4% during December re-testing lows not seen since February 2016. The midstream sector has recovered since that time, with the AMZ generating a total return of 17.5% on a calendar year basis (through April 22nd).

Market Update

Fourth quarter financial results for the midstream sector, which were announced in early 2019, were generally in-line with our expectations capping off what was a very solid year of financial results for the industry. Driven by volume growth and new projects being placed into service, many large midstream companies generated record levels of EBITDA and distributable cash flow during 2018. We expect a continuation of this trend in 2019.

Given the volatility in commodity prices over the last few years, it is easy to focus on day-to-day prices swings and lose perspective on the progress made over a longer period of time. Today s midstream sector is very different from the one of five years ago. We believe tremendous progress has been made addressing investors concerns and positioning the sector for future success.

KAYNE ANDERSON MLP/MIDSTREAM INVESTMENT COMPANY

LETTER TO STOCKHOLDERS

The wave of simplification transactions has transformed the industry today it is a mix of companies structured as MLPs and taxable corporations. These simplification transactions have eliminated incentive distribution rights for most of the midstream MLPs and resulted in a better alignment of economic interests between limited partners and the general partner. Additional benefits of these transactions are simplified ownership structures and improved corporate governance. We believe more work needs to be done to enhance corporate governance for many MLPs, but acknowledge things have improved relative to a few years ago. Focusing on financial metrics, companies in the industry have meaningfully reduced leverage levels and improved distribution coverage ratios since early 2016. Another area of improvement worth mentioning is the progress that has been made by the sector on becoming self-financing. The industry has done a very good job of becoming less reliant on the capital markets to finance growth projects instead using internally generated cash flow, asset sales and joint ventures to fund capital expenditures. The net result of these changes is a sector that is on much sounder financial footing and, in our opinion, better positioned to generate attractive returns for investors over the next few years.

We believe the most impactful trend for the energy sector at this time is the push by investors for companies to focus on capital efficiency and shareholder returns. In simple terms, investors are demanding companies in all facets of the energy industry change the way they do business. We echo this sentiment. Thus far, we have seen companies in the upstream sector respond to these demands. The upstream industry is moving away from a growth at all costs mindset something we believe will improve the overall health of the domestic energy sector. Based on our estimates, capital expenditures for upstream companies will decline this year relative to 2018 levels. While this should result in a decline in the growth rate of domestic production, we expect production will continue to grow for many years a positive trend for the midstream industry. Investors in the midstream sector are making similar demands to management teams as their upstream peers: be very disciplined in your spending plans over the next few years. We agree with this message and believe it is imperative that midstream companies focus on returns on capital employed as well as ways they can return free cash flow to shareholders. We expect to provide more commentary on this topic as the year unfolds.

We appreciate your investment in the Company and look forward to providing future updates.

KA Fund Advisors, LLC

KAYNE ANDERSON MLP/MIDSTREAM INVESTMENT COMPANY

MANAGEMENT DISCUSSION

(UNAUDITED)

Company Overview

Kayne Anderson MLP/Midstream Investment Company (KYN) is a non-diversified, closed-end fund that commenced operations in September 2004. Our investment objective is to obtain a high after-tax total return by investing at least 85% of our total assets in energy-related master limited partnerships and their affiliates (MLPs) and in other companies that operate assets used in the gathering, transporting, processing, storing, refining, distributing, mining or marketing of natural gas, natural gas liquids, crude oil, refined petroleum products or coal (collectively with MLPs, Midstream Energy Companies). Throughout this report we will refer to Midstream Companies , which we consider to be companies that own and operate midstream assets and are not treated as partnerships for federal income tax purposes.

As of February 28, 2019, we had total assets of $3.5 billion, net assets applicable to our common stockholders of $2.1 billion (net asset value of $16.75 per share), and 126.3 million shares of common stock outstanding.

Our investments are principally in equity securities issued by MLPs and other Midstream Energy Companies, but we also may invest in debt securities of MLPs and other Midstream Energy Companies. As of February 28, 2019, we held $3.5 billion in equity investments and no debt investments.

Our Top Ten Portfolio Investments

Listed below are our top ten portfolio investments by issuer as of February 28, 2019.

Holding	Category	Amount ($ in millions)	Percent of Long-Term Investments
1. Enterprise Products Partners L.P.	Midstream MLP	$ 467.9	13.4%
2. Energy Transfer LP	Midstream MLP	371.7	10.7
3. ONEOK, Inc.	Midstream Company	306.1	8.8
4. The Williams Companies, Inc.	Midstream Company	296.8	8.5
5. MPLX LP(1)	Midstream MLP	253.1	7.3
6. Western Midstream Partners, LP(2)	Midstream MLP	217.4	6.2
7. Plains All American Pipeline, L.P.(3)	Midstream MLP	192.8	5.5
8. Buckeye Partners, L.P.	Midstream MLP	157.0	4.5
9. Targa Resources Corp.	Midstream Company	154.7	4.4
10. Magellan Midstream Partners, L.P.	Midstream MLP	138.9	4.0
		$ 2,556.4	73.3%

(1) Includes our ownership of MPLX LP common and preferred units.

(2) On February 28, 2019, Western Gas Partners, LP (WES) and Western Gas Equity Partners, LP (WGP) completed their previously announced merger whereby WGP acquired all of the publicly-held common units of WES in a unit-for-unit exchange. Immediately following the merger, WGP changed its name to Western Midstream Partners, LP with its units trading under the ticker symbol WES .

(3) Does not include our ownership of Plains AAP, L.P. (PAGP-AAP), which is an affiliate. On a combined basis, our holdings in Plains All American Pipeline, L.P. and PAGP-AAP were 6.6% of long-term investments as of February 28, 2019.

KAYNE ANDERSON MLP/MIDSTREAM INVESTMENT COMPANY

MANAGEMENT DISCUSSION

(UNAUDITED)

Results of Operations For the Three Months Ended February 28, 2019

Investment Income. Investment income totaled $10.8 million for the quarter. We received $62.1 million of dividends and distributions, of which $45.5 million was treated as return of capital and $5.8 million was treated as distributions in excess of cost basis.

Operating Expenses. Operating expenses totaled $23.2 million, including $11.7 million of net investment management fees, $7.4 million of interest expense, $3.2 million of preferred stock distributions and $0.9 million of other operating expenses. Interest expense includes $0.5 million of non-cash amortization of debt issuance costs. Preferred stock distributions include $0.2 million of non-cash amortization.

Net Investment Loss. Our net investment loss totaled $9.7 million and included a current tax expense of $1.3 million and a deferred tax benefit of $4.0 million.

Net Realized Gains. We had net realized gains from our investments of $52.1 million, consisting of realized gains from long term investments of $67.5 million, a current tax benefit of $7.4 million and a deferred tax expense of $22.8 million.

Net Change in Unrealized Gains. We had a net increase in our unrealized gains of $55.0 million. The net change consisted of a $71.3 million increase in unrealized gains on investments and a deferred tax expense of $16.3 million.

Net Increase in Net Assets Resulting from Operations. We had a net increase in net assets resulting from operations of $97.4 million. This increase was comprised of a net investment loss of $9.7 million, net realized gains of $52.1 million and a net increase in unrealized gains of $55.0 million, as noted above.

Distributions to Common Stockholders

Our distributions are funded generally by net distributable income (NDI) generated from our portfolio investments. NDI is the amount of income received by us from our portfolio investments less operating expenses, subject to certain adjustments as described below. NDI is not a financial measure under the accounting principles generally accepted in the United States of America (GAAP). Refer to the Reconciliation of NDI to GAAP section below for a reconciliation of this measure to our results reported under GAAP.

Income from portfolio investments includes (a) cash dividends and distributions, (b) paid-in-kind dividends received (*i.e.*, stock dividends), (c) interest income from debt securities and commitment fees from private investments in public equity (PIPE investments) and (d) net premiums received from the sale of covered calls.

Operating expenses include (a) investment management fees paid to our investment adviser (KAFA), (b) other expenses (mostly comprised of fees paid to other service providers), (c) interest expense and preferred stock distributions and (d) current and deferred income tax expense/benefit on net investment income/loss.

KAYNE ANDERSON MLP/MIDSTREAM INVESTMENT COMPANY

MANAGEMENT DISCUSSION

(UNAUDITED)

Net Distributable Income (NDI)

(amounts in millions, except for per share amounts)

		Three Months Ended February 28, 2019
Distributions and Other Income from Investments		
Dividends and Distributions	$	62.1
Expenses		
Net Investment Management Fee		(11.7)
Other Expenses		(0.9)
Interest Expense		(7.2)
Preferred Stock Distributions		(3.0)
Income Tax Benefit, net		2.7
Net Distributable Income (NDI)	**$**	**42.0**
Weighted Shares Outstanding		126.3
NDI per Weighted Share Outstanding	**$**	**0.333**
Adjusted NDI per Weighted Share Outstanding(1)	**$**	**0.335**
Distributions per Common Share(2)	**$**	**0.360**

(1) Adjusted NDI includes distributions from SemGroup Corporation attributable to the first quarter of fiscal 2019 ($0.3 million) with an ex-dividend date of March 1st, which was after our quarter end.

(2) Monthly distribution of $0.12 per common share paid, or to be paid, March 29, 2019, April 30, 2019 and May 31, 2019.

Payment of future distributions is subject to Board of Directors approval, as well as meeting the covenants on our debt agreements and terms of our preferred stock. The Company has provided guidance on the expected distribution level for 2019 (monthly distribution rate of $0.12 per common share). The Company plans to reassess its distribution level each December and provide guidance for the following twelve months. In determining this amount, management and the Board of Directors gives a significant amount of consideration to the NDI the portfolio is expected to generate during the twelve month guidance period.

Reconciliation of NDI to GAAP

The difference between distributions and other income from investments in the NDI calculation and total investment income as reported in our Statement of Operations is reconciled as follows:

GAAP recognizes that a significant portion of the cash distributions received from MLPs is characterized as a return of capital and therefore excluded from investment income, whereas the NDI calculation includes the return of capital portion of such distributions.

GAAP recognizes distributions received from MLPs that exceed the cost basis of our securities to be realized gains and are therefore excluded from investment income, whereas the NDI calculation includes these distributions.

NDI includes the value of paid-in-kind dividends and distributions, whereas such amounts are not included as investment income for GAAP purposes, but rather are recorded as unrealized gains upon receipt.

KAYNE ANDERSON MLP/MIDSTREAM INVESTMENT COMPANY

MANAGEMENT DISCUSSION

(UNAUDITED)

NDI includes commitment fees from PIPE investments, whereas such amounts are generally not included in investment income for GAAP purposes, but rather are recorded as a reduction to the cost of the investment.

We may hold debt securities from time to time. Certain of our investments in debt securities may be purchased at a discount or premium to the par value of such security. When making such investments, we consider the security s yield to maturity, which factors in the impact of such discount (or premium). Interest income reported under GAAP includes the non-cash accretion of the discount (or amortization of the premium) based on the effective interest method. When we calculate interest income for purposes of determining NDI, in order to better reflect the yield to maturity, the accretion of the discount (or amortization of the premium) is calculated on a straight-line basis to the earlier of the expected call date or the maturity of the debt security.

We may sell covered call option contracts to generate income or to reduce our ownership of certain securities that we hold. In some cases, we are able to repurchase these call option contracts at a price less than the call premium that we received, thereby generating a profit. The premium we receive from selling call options, less (i) the premium that we pay to repurchase such call option contracts and (ii) the amount by which the market price of an underlying security is above the strike price at the time a new call option is written (if any), is included in NDI. For GAAP purposes, premiums received from call option contracts sold are not included in investment income. See Note 2 Significant Accounting Policies for the GAAP treatment of option contracts.

The treatment of expenses included in NDI also differs from what is reported in the Statement of Operations as follows:

The non-cash amortization or write-offs of capitalized debt issuance costs, premiums on newly issued debt and preferred stock offering costs related to our financings is included in interest expense and distributions on mandatory redeemable preferred stock for GAAP purposes, but is excluded from our calculation of NDI.

For GAAP purposes, offering costs incurred related to the issuance of common stock reduce paid-in capital when stock is issued. Certain costs related to registration statements or shelf offerings may be written off once the registration statement or prospectus usefulness has expired. The non-cash amortization or write-off of these offering costs is included in operating expense for GAAP purposes, but is excluded from our calculation of NDI.

NDI also includes recurring payments (or receipts) on interest rate swap contracts or the amortization of termination payments on interest rate swap contracts entered into in anticipation of an offering of unsecured notes (Notes) or mandatory redeemable preferred stock (MRP Shares). The termination payments on interest rate swap contracts are amortized over the term of the Notes or MRP Shares issued. For GAAP purposes, these amounts are included in the realized gains/losses section of the Statement of Operations.

Liquidity and Capital Resources

At February 28, 2019, we had total leverage outstanding of $1,093 million, which represented 31% of total assets. Our current policy is to utilize leverage in an amount that represents approximately 25%-30% of our total assets. Total leverage was comprised of $716 million of Notes, $60 million outstanding under our unsecured term loan (the Term Loan) and $317 million of MRP Shares. At February 28, 2019, we did not have any borrowings outstanding under our unsecured revolving credit facility (the Credit Facility) and we had $36.4 million of cash and cash equivalents. As of April 22, 2019, we had total leverage outstanding of $1,097 million, which represented 30% of total assets. As of this date, we had $94 million of borrowings outstanding under our Credit Facility, $60 million of borrowings outstanding under our Term Loan and we had $2 million of cash and cash equivalents.

KAYNE ANDERSON MLP/MIDSTREAM INVESTMENT COMPANY

MANAGEMENT DISCUSSION

(UNAUDITED)

On February 8, 2019, we amended and extended our unsecured revolving Credit Facility that was scheduled to mature on February 15, 2019. The Credit Facility has a 364-day term, maturing on February 7, 2020 and a total commitment amount of $300 million. The interest rate on outstanding borrowings under the Credit Facility may vary between LIBOR plus 1.30% and LIBOR plus 1.95%, depending on our asset coverage ratios. We pay a fee of 0.20% per annum on any unused amounts of the Credit Facility. In connection with the renewal and increase in size of the Credit Facility by $150 million, we terminated our existing $150 million unsecured revolving term loan facility that was scheduled to mature on February 18, 2019.

Our $60 million Term Loan matures on August 11, 2021. The interest rate on $30 million of the Term Loan is fixed at a rate of 3.06% and the interest rate on the remaining $30 million is LIBOR plus 1.50%. Amounts repaid under the Term Loan cannot be reborrowed.

At February 28, 2019, we had $716 million of Notes outstanding that mature between 2019 and 2025 and we had $317 million of MRP Shares outstanding that are subject to mandatory redemption between 2020 and 2022. On April 3, 2019, we redeemed the $15 million Series Z Notes (originally scheduled to mature on May 3, 2019) at par, with cash on hand. On April 16, 2019, we repaid the $75 million Series DD Notes (maturity date) with a combination of cash on hand and borrowings under our Credit Facility. We have $30 million of Series II Notes that mature in July 2019. We expect to have sufficient capacity on our upsized credit facility to refinance these borrowings.

At February 28, 2019, our asset coverage ratios under the Investment Company Act of 1940, as amended (the 1940 Act), were 414% for debt and 294% for total leverage (debt plus preferred stock). As of April 22, 2019, our asset coverage ratios were 424% for debt and 302% for total leverage. Our target asset coverage ratio with respect to our debt is 400%. At times we may be above or below this target depending on market conditions as well as certain other factors, including our target total leverage asset coverage ratio of 300% and the basic maintenance amount as stated in our rating agency guidelines.

As of February 28, 2019, our total leverage consisted 97% of fixed rate obligations and 3% of floating rate obligations. At such date, the weighted average interest/dividend rate on our total leverage was 3.60%.

KAYNE ANDERSON MLP/MIDSTREAM INVESTMENT COMPANY

SCHEDULE OF INVESTMENTS

FEBRUARY 28, 2019

(amounts in 000 s)

(UNAUDITED)

Description	No. of Shares/Units	Value
Long-Term Investments 164.4%		
Equity Investments[1] 164.4%		
United States 158.5%		
Midstream MLP[2] 111.1%		
Andeavor Logistics LP	919	$ 32,335
Antero Midstream Partners LP[3]	367	8,858
BP Midstream Partners LP	2,556	41,893
Buckeye Partners, L.P.[4]	4,989	157,039
Cheniere Energy Partners, L.P.	1,552	68,805
CNX Midstream Partners LP	729	11,310
Crestwood Equity Partners LP	1,387	43,999
DCP Midstream, LP	2,577	83,049
Enable Midstream Partners, LP	580	8,625
Energy Transfer LP	25,132	371,695
Enterprise Products Partners L.P.	16,922	467,896
EQT Midstream Partners, LP	695	27,016
Global Partners LP	1,166	22,161
Hess Midstream Partners LP	123	2,808
Magellan Midstream Partners, L.P.	2,282	138,932
MPLX LP	5,096	168,981
MPLX LP Convertible Preferred Units[5][6][7]	2,255	84,126
Noble Midstream Partners LP	205	6,887
Phillips 66 Partners LP	1,058	51,893
Plains All American Pipeline, L.P.[4]	8,261	192,804
Plains GP Holdings, L.P. Plains AAP, L.P.[4][6][8]	1,622	37,864
Shell Midstream Partners, L.P.	4,958	88,649
Sprague Resources LP	413	6,462
Summit Midstream Partners, LP	922	9,753
Western Midstream Partners, LP[9]	6,496	217,357
		2,351,197
Midstream Company 45.0%		
Antero Midstream GP LP[3]	1,170	14,941
EnLink Midstream, LLC[10]	5,621	62,677
Kinder Morgan, Inc.	1,681	32,204
ONEOK, Inc.	4,763	306,097
SemGroup Corporation	625	9,837
Tallgrass Energy, LP	3,307	74,836
Targa Resources Corp.	3,844	154,671
The Williams Companies, Inc.	11,120	296,799
		952,062
Shipping MLP 2.4%		

Capital Product Partners L.P.	Class B Units[5][6][11]	3,636	32,727
GasLog Partners LP		361	7,980
KNOT Offshore Partners LP		540	9,774
			50,481
Total United States (Cost	**$2,777,238)**		3,353,740

See accompanying notes to financial statements.

KAYNE ANDERSON MLP/MIDSTREAM INVESTMENT COMPANY

SCHEDULE OF INVESTMENTS

FEBRUARY 28, 2019

(amounts in 000 s)

(UNAUDITED)

Description	**No. of Shares/Units**	**Value**
Canada 5.9%		
Midstream Companies 5.9%		
Enbridge Inc.	1,362	$ 50,364
Pembina Pipeline Corporation	826	30,265
TransCanada Corporation	1,012	45,252
Total Canada (Cost $121,869)		125,881
Total Long-Term Investments (Cost $2,899,107)		3,479,621
Short-Term Investment Money Market Fund 1.6%		
JPMorgan 100% U.S. Treasury Securities Money Market Fund Capital Shares, 2.28%[12] (Cost $34,420)	34,420	34,420
Total Investments 166.0% (Cost $2,933,527)		3,514,041
Debt		(776,000)
Mandatory Redeemable Preferred Stock at Liquidation Value		(317,000)
Deferred Income Tax Liability		(295,374)
Income Tax Receivable		5,778
Other Liabilities in Excess of Other Assets		(15,390)
Net Assets Applicable to Common Stockholders		$ 2,116,055

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

(2) Includes limited liability companies and affiliates of master limited partnerships.

(3) On March 12, 2019, Antero Midstream GP LP (AMGP) and Antero Midstream Partners LP (AM) completed their previously announced merger whereby AMGP acquired all of the outstanding AM common units. In connection with the transaction, AMGP converted into a corporation and the combined entity was renamed Antero Midstream Corporation with its shares trading under the ticker symbol AM .

(4) The Company believes that it is an affiliate of Buckeye Partners, L.P. (BPL), Plains AAP, L.P. (PAGP-AAP) and Plains All American Pipeline, L.P. (PAA). See Note 5 Agreements and Affiliations.

(5) Fair valued security. See Notes 2 and 3 in Notes to Financial Statements.

(6) The Company s ability to sell this security is subject to certain legal or contractual restrictions. As of February 28, 2019, the aggregate value of restricted securities held by the Company was $154,717 (4.4% of total assets), which included $37,864 of Level 2 securities and $116,853 of Level 3 securities. See Note 7 Restricted Securities.

(7) On May 13, 2016, the Company purchased, in a private placement, Series A Convertible Preferred Units (MPLX Convertible Preferred Units) from MPLX LP (MPLX). The MPLX Convertible Preferred Units are senior to the common units in terms of liquidation preference and priority of distributions and pay a quarterly distribution at the higher of (a) $0.528125 per unit or (b) the distribution that the MPLX Convertible Preferred Units would receive on an as converted basis. Holders of the MPLX Convertible Preferred Units may convert on a one-for-one basis to MPLX common units any time after May 13, 2019.

(8) The Company s ownership of PAGP-AAP is exchangeable on a one-for-one basis into either Plains GP Holdings, L.P. (PAGP) shares or PAA units at the Company s option. The Company values its PAGP-AAP investment on an as exchanged basis based on the higher public market value of either PAGP or PAA. As of February 28, 2019, the Company s PAGP-AAP investment is valued at PAA s closing price. See Notes 3 and 7 in Notes to Financial Statements.

See accompanying notes to financial statements.

KAYNE ANDERSON MLP/MIDSTREAM INVESTMENT COMPANY

SCHEDULE OF INVESTMENTS

FEBRUARY 28, 2019

(amounts in 000 s)

(UNAUDITED)

(9) On February 28, 2019, Western Gas Partners, LP (WES) and Western Gas Equity Partners, LP (WGP) completed their previously announced merger whereby WGP acquired all of the publicly-held common units of WES in a unit-for-unit exchange. Immediately following the merger, WGP changed its name to Western Midstream Partners, LP with its units trading under the ticker symbol WES .

(10) On January 25, 2019, EnLink Midstream, LLC (ENLC) and EnLink Midstream Partners, LP (ENLK) completed their previously announced merger whereby ENLC acquired all common units of ENLK that ENLC did not previously own.

(11) Class B Units are convertible on a one-for-one basis into common units of Capital Product Partners L.P. (CPLP) and are senior to the common units in terms of liquidation preference and priority of distributions (liquidation preference of $9.00 per unit). On March 27, 2019, CPLP and DSS Holdings L.P. (DSS) completed their previously announced combination whereby CPLP spun off its crude and product tanker business into a separate publicly listed company, which merged with DSS. In connection with this transaction, all of the Company s CPLP Class B Units were redeemed for cash at $9.00 per unit.

(12) The rate indicated is the current yield as of February 28, 2019.

See accompanying notes to financial statements.

KAYNE ANDERSON MLP/MIDSTREAM INVESTMENT COMPANY

STATEMENT OF ASSETS AND LIABILITIES

FEBRUARY 28, 2019

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

(UNAUDITED)

ASSETS	
Investments at fair value:	
Non-affiliated (Cost $2,588,081)	$ 3,091,914
Affiliated (Cost $311,026)	387,707
Short-term investments (Cost $34,420)	34,420
Total investments (Cost $2,933,527)	3,514,041
Cash	2,000
Deposits with brokers	254
Receivable for securities sold	1,008
Dividends and distributions receivable	1,318
Income tax receivable	5,778
Deferred credit facility offering costs and other assets	1,378
Total Assets	3,525,777
LIABILITIES	
Payable for securities purchased	4,877
Investment management fee payable	11,730
Accrued directors fees and expenses	172
Accrued expenses and other liabilities	8,185
Deferred income tax liability	295,374
Term loan	60,000
Unamortized term loan issuance costs	(297)
Notes	716,000
Unamortized notes issuance costs	(1,949)
Mandatory redeemable preferred stock, $25.00 liquidation value per share (12,680,000 shares issued and outstanding)	317,000
Unamortized mandatory redeemable preferred stock issuance costs	(1,370)
Total Liabilities	1,409,722
NET ASSETS APPLICABLE TO COMMON STOCKHOLDERS	$ 2,116,055
NET ASSETS APPLICABLE TO COMMON STOCKHOLDERS CONSIST OF	
Common stock, $0.001 par value (126,337,114 shares issued and outstanding, 187,320,000 shares authorized)	$ 126
Paid-in capital	2,182,609
Accumulated net investment loss, net of income taxes, less dividends	(1,978,865)

Accumulated realized gains, net of income taxes		1,343,403
Net unrealized gains, net of income taxes		568,782
NET ASSETS APPLICABLE TO COMMON STOCKHOLDERS	$	2,116,055
NET ASSET VALUE PER COMMON SHARE	$	16.75

See accompanying notes to financial statements.

KAYNE ANDERSON MLP/MIDSTREAM INVESTMENT COMPANY

STATEMENT OF OPERATIONS

FOR THE THREE MONTHS ENDED FEBRUARY 28, 2019

(amounts in 000 s)

(UNAUDITED)

INVESTMENT INCOME	
Income	
Dividends and distributions:	
Non-affiliated investments	$ 55,325
Affiliated investments	6,706
Money market mutual funds	77
Total dividends and distributions (after foreign taxes withheld of $141)	62,108
Return of capital	(45,502)
Distributions in excess of cost basis	(5,774)
Total Investment Income	10,832
Expenses	
Investment management fees before fee waiver	11,782
Administration fees	225
Directors fees and expenses	173
Professional fees	136
Reports to stockholders	90
Insurance	44
Custodian fees	43
Other expenses	152
Total Expenses before fee waiver, interest expense, preferred distributions and taxes	12,645
Investment management fee waiver	(52)
Interest expense including amortization of offering costs	7,403
Distributions on mandatory redeemable preferred stock including amortization of offering costs	3,209
Total Expenses before taxes	23,205
Net Investment Loss Before Taxes	(12,373)
Current income tax expense	(1,288)
Deferred income tax benefit	3,971
Net Investment Loss	(9,690)
REALIZED AND UNREALIZED GAINS (LOSSES)	
Net Realized Gains (Losses)	
Investments non-affiliated	50,004
Investments affiliated	17,486
Current income tax benefit	7,417
Deferred income tax expense	(22,869)
Net Realized Gains	52,038

Net Change in Unrealized Gains (Losses)	
Investments non-affiliated	68,490
Investments affiliated	2,838
Foreign currency translations	7
Deferred income tax expense	(16,333)
Net Change in Unrealized Gains	55,002
Net Realized and Unrealized Gains	107,040
NET INCREASE IN NET ASSETS APPLICABLE TO COMMON STOCKHOLDERS RESULTING FROM OPERATIONS	$ 97,350

See accompanying notes to financial statements.

KAYNE ANDERSON MLP/MIDSTREAM INVESTMENT COMPANY

STATEMENT OF CHANGES IN NET ASSETS APPLICABLE TO COMMON STOCKHOLDERS

(amounts in 000 s, except share amounts)

	For the Three Months Ended February 28, 2019 (Unaudited)	For the Fiscal Year Ended November 30, 2018
OPERATIONS		
Net investment loss, net of tax[1]	$ (9,690)	$ (53,145)
Net realized gains, net of tax	52,038	168,570
Net change in unrealized gains, net of tax	55,002	113,374
Net Increase in Net Assets Resulting from Operations	97,350	228,799
DIVIDENDS AND DISTRIBUTIONS TO COMMON STOCKHOLDERS[1]		
Dividends	(49,251)[2]	(212,192)[3]
Distributions return of capital	[2]	[3]
Dividends and Distributions to Common Stockholders	(49,251)	(212,192)
CAPITAL STOCK TRANSACTIONS		
Issuance of 10,384,958 shares of common stock in connection with the merger of Kayne Anderson Energy Development Company		207,925
Offering expenses associated with the issuance of common stock in merger		(603)[4]
Issuance of 134,160 and 940,916 shares of common stock from reinvestment of dividends and distributions	1,687	16,167
Net Increase in Net Assets Applicable to Common Stockholders from Capital Stock Transactions	1,687	223,489
Total Increase in Net Assets Applicable to Common Stockholders	49,786	240,096
NET ASSETS APPLICABLE TO COMMON STOCKHOLDERS		
Beginning of period	2,066,269	1,826,173
End of period	$ 2,116,055	$ 2,066,269

(1) Distributions on the Company s mandatory redeemable preferred stock (MRP Shares) are treated as an operating expense under GAAP and are included in the calculation of net investment loss. See Note 2 Significant Accounting Policies. Distributions in the amount of $3,019 paid to holders of MRP Shares during the three months ended February 28, 2019 are estimated to be characterized as dividends (eligible to be treated as qualified dividend income). This estimate is based solely on the Company s operating results during the period and does not reflect the expected results during the remainder of the fiscal year. The actual characterization of the MRP Shares distributions made during the period will not be determinable until after the end of the fiscal year when the Company can determine its earnings and profits. Therefore, the characterization may differ substantially from the preliminary estimates. Distributions in the amount of $11,513 paid to holders of MRP Shares for the fiscal year ended November 30, 2018 were characterized as dividends (eligible to be treated as qualified dividend income). This characterization is based on the Company s earnings and profits.

(2) The characterization of the distributions paid to common stockholders for the three months ended February 28, 2019 as either dividends (eligible to be treated as qualified dividend income) or distributions (return of capital) is based solely on the Company s operating results during the period and does not reflect the expected results during the remainder of the fiscal year. The actual characterization of the common stock distributions made during the period will not be determinable until after the end of the fiscal year when the Company can determine its earnings and profits. Therefore, the characterization may differ substantially from the preliminary estimates.

(3) Distributions paid to common stockholders for the fiscal year ended November 30, 2018 were characterized as dividends (eligible to be treated as qualified dividend income). This characterization is based on the Company s earnings and profits.

(4) Represents offering costs incurred in connection with the merger of Kayne Anderson Energy Development Company.

See accompanying notes to financial statements.

KAYNE ANDERSON MLP/MIDSTREAM INVESTMENT COMPANY

STATEMENT OF CASH FLOWS

FOR THE THREE MONTHS ENDED FEBRUARY 28, 2019

(amounts in 000 s)

(UNAUDITED)

CASH FLOWS FROM OPERATING ACTIVITIES	
Net increase in net assets resulting from operations	$ 97,350
Adjustments to reconcile net increase in net assets resulting from operations to net cash provided by operating activities:	
Return of capital distributions	45,502
Distributions in excess of cost basis	5,774
Net realized gains	(67,490)
Net change in unrealized gains (excluding foreign currency trans	