

MPLX LP
Form 424B3
August 29, 2016

Filed Pursuant to Rule 424(b)(3)
Registration No. 333-212079
PROSPECTUS

MPLX LP

Offers To Exchange

All of the outstanding restricted 5.5% Senior Notes Due 2023 Issued on December 22, 2015

For newly issued and registered 5.5% Senior Notes Due 2023

All of the outstanding restricted 4.5% Senior Notes Due 2023 Issued on December 22, 2015

For newly issued and registered 4.5% Senior Notes Due 2023

All of the outstanding restricted 4.875% Senior Notes Due 2024 Issued on December 22, 2015

For newly issued and registered 4.875% Senior Notes Due 2024

All of the outstanding restricted 4.875% Senior Notes Due 2025 Issued on December 22, 2015

For newly issued and registered 4.875% Senior Notes Due 2025

On December 22, 2015, we issued \$709,848,000 aggregate principal amount of 5.5% Senior Notes due 2023, \$988,533,000 aggregate principal amount of 4.5% Senior Notes due 2023, \$1,148,955,000 aggregate principal amount of 4.875% Senior Notes due 2024, and \$1,189,038,000 aggregate principal amount of 4.875% Senior Notes due 2025 in private placements. We refer to these outstanding Senior Notes collectively as the “Original Notes.” We are offering to exchange newly issued and registered senior notes, which we refer to as the “Exchange Notes,” for all of the issued and outstanding Original Notes.

The Exchange Notes will have substantially identical terms to the Original Notes, except that the Exchange Notes will be registered under the Securities Act of 1933, which we refer to as the “Securities Act,” and the transfer restrictions, registration rights and related special interest provisions applicable to the Original Notes will not apply to the Exchange Notes.

Each series of Exchange Notes will be part of the same corresponding series of the Original Notes and will be issued under the same base Indenture. The Exchange Notes will be exchanged for Original Notes of the corresponding series in minimum denominations of \$2,000 and integral multiples of \$1,000 in excess thereof. We will not receive any proceeds from the issuance of Exchange Notes in the Exchange Offers.

The Exchange Offers expire at 5:00 p.m. New York City time on September 27, 2016, unless extended, which we refer to as the “Expiration Date.” You may withdraw tenders of Original Notes at any time prior to the expiration of the Exchange Offers.

We do not intend to list the Exchange Notes on any securities exchange or to seek approval through any automated quotation system.

You should carefully consider the risk factors beginning on page 7 of this prospectus before deciding whether to participate in the Exchange Offers.

Neither the Securities and Exchange Commission, which we refer to as the “SEC,” nor any state securities commission has approved or disapproved of these securities or determined whether this prospectus is truthful or complete. Any representation to the contrary is a criminal offense.

The date of this prospectus is August 29, 2016.

This prospectus may only be used where it is legal to make the Exchange Offers and by a broker-dealer for resales of Exchange Notes acquired in the Exchange Offers where it is legal to do so.

Rather than repeat certain information in this prospectus that we have already included in reports filed with the SEC, this prospectus incorporates important business and financial information about us that is not included in or delivered with this prospectus. We will provide this information to you at no charge upon written or oral request directed to: MPLX LP, 200 East Hardin Street, Findlay Ohio 45840, Attention: Investor Relations, Telephone: (419) 672-6500. In order to receive timely delivery of any requested documents in advance of the Expiration Date, you should make your request no later than September 20, 2016, which is five full business days before you must make a decision regarding the Exchange Offers.

In making a decision regarding the Exchange Offers, you should rely only on the information contained in or incorporated by reference into this prospectus. We have not authorized anyone to provide you with any other information. If you receive any other information, you should not rely on it.

None of MPLX, the exchange agent or any affiliate of any of them makes any recommendation as to whether or not holders of Original Notes should exchange their Original Notes for Exchange Notes in response to the Exchange Offers.

You should not assume that the information contained in this prospectus is accurate as of any date other than the date on the front cover of this prospectus or that the information incorporated by reference into this prospectus is accurate as of any date other than the date of the incorporated document. Neither the delivery of this prospectus nor any exchange made hereunder shall under any circumstances imply that the information herein is correct as of any date subsequent to the date on the cover of this prospectus. Our business, financial condition, results of operations and prospects may have changed since that date.

In this prospectus, except as otherwise indicated, references to “MPLX LP,” “MPLX,” “we,” “us” and “our” refer to MPLX LP and its consolidated subsidiaries. References to “MarkWest” refer to our wholly-owned subsidiary MarkWest Energy Partners, L.P. and its subsidiaries.

Each broker-dealer that receives Exchange Notes for its own account pursuant to the Exchange Offers must acknowledge that it will deliver a prospectus in connection with any resale of Exchange Notes. The letter of transmittal accompanying this prospectus states that by so acknowledging and by delivering a prospectus, a broker-dealer will not be deemed to admit that it is an “underwriter” within the meaning of the Securities Act. This prospectus, as it may be amended or supplemented from time to time, may be used by a broker-dealer in connection with resales of Exchange Notes received in exchange for Original Notes where the Original Notes were acquired by such broker-dealer as a result of market-making activities or other trading activities.

TABLE OF CONTENTS	
DISCLOSURES REGARDING FORWARD-LOOKING STATEMENTS	i
WHERE YOU CAN FIND MORE INFORMATION	iii
INFORMATION WE INCORPORATE BY REFERENCE	iii
SUMMARY	1
RISK FACTORS	7
USE OF PROCEEDS	10
RATIO OF EARNINGS TO FIXED CHARGES	11
DESCRIPTION OF OTHER INDEBTEDNESS	12
THE EXCHANGE OFFERS	14
DESCRIPTION OF THE NOTES	20
CERTAIN U.S. FEDERAL INCOME TAX CONSIDERATIONS	33
CERTAIN ERISA CONSIDERATIONS	33
PLAN OF DISTRIBUTION	35
LEGAL MATTERS	35
EXPERTS	35

DISCLOSURES REGARDING FORWARD-LOOKING STATEMENTS

This prospectus, including the documents incorporated herein by reference, includes forward-looking statements within the meaning of Section 27A of the Securities Act of 1933, which we refer to as the “Securities Act,” and Section 21E of the Securities Exchange Act of 1934, which we refer to as the “Exchange Act.” You can identify our forward-looking statements by words such as “anticipate,” “believe,” “could,” “estimate,” “expect,” “forecast,” “goal,” “intend,” “objective,” “plan,” “potential,” “predict,” “project,” “seek,” “should,” “target,” “will,” “would” or other similar expressions that indicate uncertainty of future events or outcomes. When considering these forward-looking statements, you should keep in mind the risk factors and other cautionary statements contained in this prospectus and the documents we have incorporated by reference.

Forward-looking statements include, but are not limited to, statements that relate to, or statements that are subject to risks, contingencies or uncertainties that relate to:

- future levels of revenues and other income, income from operations, net income attributable to MPLX, earnings per unit, adjusted EBITDA or distributable cash flow;
- anticipated levels of regional, national and worldwide prices of crude oil, natural gas, natural gas liquids, which we refer to as “NGLs,” and refined products;
- anticipated levels of drilling activity, production rates and volumes of throughput of crude oil, natural gas, NGLs, refined products or other hydrocarbon-based products;
- future levels of capital, environmental or maintenance expenditures, general and administrative and other expenses;
- the success or timing of completion of ongoing or anticipated capital or maintenance projects;
- expectations regarding our merger with MarkWest and other acquisitions or divestitures of assets;
- business strategies, growth opportunities and expected investments;
- the effect of restructuring or reorganization of business components;
- the potential effects of judicial or other proceedings on our business, financial condition, results of operations and cash flows;
- the potential effects of changes in tariff rates on our business, financial condition, results of operations and cash flows;
- the adequacy of our capital resources and liquidity, including, but not limited to, availability of sufficient cash flow to pay distributions and execute our business plan;
- our ability to successfully implement our growth strategy, whether through organic growth or acquisitions;
- capital market conditions, including the cost of capital, and our ability to raise adequate capital to execute our business plan and implement our growth strategy; and
- the anticipated effects of actions of third parties such as competitors, or federal, foreign, state or local regulatory authorities, or plaintiffs in litigation.

We have based our forward-looking statements on our current expectations, estimates and projections about our industry and our partnership. We caution that these statements are not guarantees of future performance, and you should not rely unduly on them, as they involve risks, uncertainties, and assumptions that we cannot predict. In addition, we have based many of these forward-looking statements on assumptions about future events that may prove to be inaccurate.

While our management considers these assumptions to be reasonable, they are inherently subject to significant business, economic, competitive, regulatory and other risks, contingencies and uncertainties, most of which are difficult to predict and many of which are beyond our control. Accordingly, our actual results may differ materially from the future performance that

we have expressed or forecast in our forward-looking statements. Differences between actual results and any future performance suggested in our forward-looking statements could result from a variety of factors, including the following:

- changes in general economic, market or business conditions;
- changes in our economic and financial condition;
- risks and uncertainties associated with intangible assets, including any future goodwill or intangible assets impairment charges;
- changes in producer customers' drilling plans or in volumes of throughput of crude oil, natural gas, NGLs, refined products or other hydrocarbon-based products;
- changes in regional, national and worldwide prices of crude oil, natural gas, NGLs and refined products;
- domestic and foreign supplies of crude oil and other feedstock, natural gas, NGLs and refined products such as gasoline, diesel fuel, jet fuel, home heating oil and petrochemicals;
- foreign imports and exports of crude oil, refined products, natural gas and NGLs;
- midstream and refining industry overcapacity or under capacity;
- changes in the cost or availability of third-party vessels, pipelines, railcars and other means of transportation for crude oil, feedstocks, natural gas, NGLs, and refined products;
- the price, availability and acceptance of alternative fuels and alternative-fuel vehicles and laws mandating such fuels or vehicles;
- fluctuations in consumer demand for refined products, natural gas and NGLs including seasonal fluctuations;
- changes in maintenance capital expenditure requirements or changes in costs of planned capital projects;
- political and economic conditions in nations that consume refined products, natural gas and NGLs, including the United States, and in crude oil producing regions, including the Middle East, Africa, Canada and South America;
- actions taken by our competitors and the expansion and retirement of pipeline, processing, fractionation and treating capacity in response to market conditions;
- changes in fuel and utility costs for our facilities;
- failure to realize the benefits projected for capital projects, or cost overruns associated with such projects;
- the ability to successfully implement growth strategies, whether through organic growth or acquisitions;
- accidents or other unscheduled shutdowns affecting our pipelines, processing, fractionation and treating facilities or equipment, or those of our suppliers or customers or facilities upstream or downstream of our facilities;
- unusual weather conditions and natural disasters;
- disruptions due to equipment interruption or failure;
- acts of war, terrorism or civil unrest that could impair our ability to gather, process, fractionate or transport crude oil, natural gas, NGLs or refined products;
- legislative or regulatory action, which may adversely affect our business or operations;
- rulings, judgments or settlements in litigation or other legal, tax or regulatory matters, including unexpected environmental remediation costs, in excess of any reserves or insurance coverage;
- political pressure and influence of environmental groups upon the policies and decisions related to the production, gathering, processing, fractionation, refining, transportation and marketing of natural gas, oil, NGLs or other hydrocarbon-based fuels;
- labor and material shortages;
- the ability and willingness of parties with whom we have material relationships to perform their obligations to us;
- capital market conditions, increases in and availability of equity capital, changes in the availability of unsecured credit and changes affecting the credit markets generally; and
- the other factors described in Item 1A. Risk Factors of our most recent Annual Report on Form 10-K filed with the

SEC, in each case, as these risk factors are amended or supplemented by subsequent Quarterly Reports on Form 10-Q that are incorporated by reference into this prospectus.

We do not undertake any obligation to update the forward-looking statements included or incorporated by reference in this prospectus, unless we are required by applicable securities laws to do so.

WHERE YOU CAN FIND MORE INFORMATION

We are subject to the informational reporting requirements of the Exchange Act. We file annual, quarterly and current reports and other information with the Securities and Exchange Commission, or the SEC. You can read and copy these materials at the SEC's public reference room at 100 F Street, N.E., Washington, D.C. 20549. You can obtain information about the operation of the SEC's public reference room by calling the SEC at 1-800-SEC-0330. The SEC also maintains an Internet site that contains information MPLX has filed electronically with the SEC, which you can access over the Internet at <http://www.sec.gov>. You can also obtain information about MPLX at our website at <http://www.mplx.com>. We do not intend for information contained on our website to be part of this prospectus, other than documents that we file with the SEC that are incorporated by reference in this prospectus.

INFORMATION WE INCORPORATE BY REFERENCE

The SEC allows us to "incorporate by reference" into this prospectus the information in documents we have filed with it, which means that we can disclose important information to you by referring you to those documents. The information we incorporate by reference is considered to be a part of this prospectus, and information that we file later with the SEC will automatically update and supersede this information. Any statement contained in any document incorporated or deemed to be incorporated by reference herein shall be deemed to be modified or superseded for purposes of this prospectus to the extent that a statement contained in or omitted from this prospectus, or in any other subsequently filed document that also is or is deemed to be incorporated by reference herein, modifies or supersedes such statement. Any such statement so modified or superseded shall not be deemed, except as so modified or superseded, to constitute a part of this prospectus.

We incorporate by reference the following documents into this prospectus:

our Annual Report on Form 10-K for the fiscal year ended December 31, 2015 (Part II, Item 6, Part II, Item 7 and Part II, Item 8 have been superseded by recasted information filed by MPLX on a Current Report on Form 8-K on May 2, 2016 and a Current Report on Form 8-K/A on May 20, 2016);

our Quarterly Reports on Form 10-Q for the fiscal quarters ended March 31, 2016 and June 30, 2016; and

our Current Reports on Form 8-K and Form 8-K/A, as applicable, filed on January 4, 2016, January 29, 2016, February 22, 2016; March 4, 2016 (two reports), March 17, 2016, April 6, 2016, April 29, 2016, May 2, 2016 (two reports), May 16, 2016, May 20, 2016, August 1, 2016, August 4, 2016 and August 24, 2016.

Item 8 of MarkWest's Annual Report on Form 10-K for the fiscal year ended December 31, 2014 (SEC File No. 001-31239); and

Part 1, Item 1 of MarkWest's Quarterly Reports on Form 10-Q for the quarterly periods ended March 31, 2015, June 30, 2015 and September 30, 2015 (SEC File No. 001-31239).

We also incorporate by reference any future filings we make with the SEC under Section 13(a), 13(c), 14 or 15(d) of the Exchange Act (excluding information deemed to be furnished and not filed with the SEC) until the termination of this offering. We do not and will not, however, incorporate by reference in this prospectus any documents or portions thereof that are not deemed "filed" with the SEC, including any information furnished pursuant to Item 2.02 or Item 7.01 of our Current Reports on Form 8-K unless, and except to the extent, specified in such current reports.

You may request a copy of these filings, other than an exhibit to these filings unless we have specifically incorporated that exhibit by reference into the filing, at no cost, by writing or telephoning MPLX at the following address:

MPLX LP

200 E. Hardin Street

Findlay, Ohio 45840

Attention: Investor Relations

Telephone: (419) 672-6500

SUMMARY

This summary highlights information contained elsewhere in or incorporated by reference into this prospectus. This summary does not contain all of the information that you should consider in making your investment decision. You should read the following summary together with the entire prospectus, including the more detailed information regarding our company, the Exchange Notes and the consolidated financial statements and the related notes incorporated by reference into this prospectus. You should also carefully consider, among other things, the matters discussed in the section entitled “Risk Factors” in this prospectus before making an investment decision. Some of the statements in this prospectus constitute forward-looking statements. See “Disclosures Regarding Forward-Looking Statements.” Except as otherwise indicated or unless the context otherwise requires, the term “Notes” refers collectively to the Original Notes and the Exchange Notes.

MPLX

MPLX is a diversified, growth-oriented master limited partnership formed in Delaware by Marathon Petroleum Corporation, which we refer to as “MPC,” to own, operate, develop and acquire midstream energy infrastructure assets. We are engaged in the gathering, processing and transportation of natural gas; the gathering, transportation, fractionation, storage and marketing of NGLs; and the gathering, transportation and storage of crude oil and refined petroleum products. Our general partner, MPLX GP LLC, is a Delaware limited liability company that is wholly-owned by MPC. Our business consists of two segments based on the nature of services we offer Logistics and Storage focused on crude oil and refined products and Gathering and Processing focused on natural gas and NGLs. MPLX common units are traded on the New York Stock Exchange, which we refer to as “NYSE,” under the symbol “MPLX.”

All of our operations and assets are located in the United States. Our principal executive offices are located at 200 E. Hardin Street, Findlay, Ohio 45840, and our telephone number at that location is (419) 672-6500.

Acquisition of MarkWest

On December 4, 2015, we completed a merger with MarkWest, which we refer to as the “MarkWest Merger,” whereby MarkWest became our wholly-owned subsidiary. As of the date of this prospectus, MarkWest is one of the largest processors of natural gas in the United States and the largest processor and fractionator in the Marcellus and Utica shale plays. As of June 30, 2016, MarkWest’s assets include gathering and processing infrastructure of more than 5,000 miles of gas and NGL pipelines, 54 gas processing plants, 13 NGL fractionation facilities and two condensate stabilization facilities.

In connection with the MarkWest Merger, we assumed an aggregate principal amount of \$4.1 billion in senior notes issued by MarkWest and MarkWest Energy Finance Corporation consisting of: \$750 million aggregate principal amount of 5.500% senior notes due February 15, 2023; \$1.0 billion aggregate principal amount of 4.500% senior notes due July 15, 2023; \$1.15 billion aggregate principal amount of 4.875% senior notes due December 1, 2024; and \$1.2 billion aggregate principal amount of 4.875% senior notes due June 1, 2025, which we refer to collectively as the “MarkWest senior notes.” On December 22, 2015, we completed offers to exchange any and all outstanding MarkWest senior notes for (1) up to \$4.1 billion aggregate principal amount of new notes issued by MPLX LP having the same maturity and interest rates as the MarkWest senior notes and (2) cash of \$1 for each \$1,000 of principal amount exchanged. Approximately 98.4 percent, or approximately \$4.036 billion, of the MarkWest senior notes were tendered and accepted in the exchange offers, and we issued the Original Notes pursuant to the exchange offer.

Acquisition of Hardin Street Marine LLC

On March 31, 2016, we completed the acquisition of MPC’s inland marine business operated by Hardin Street Marine LLC, which we refer to as “HSM.” The transaction was valued at \$600 million, the consideration for which consisted of a fixed number of common units and general partner units of 22,534,002 and 459,878, respectively. At the closing of the acquisition, the fair value of the common units and general partner units issued was \$669 million and \$14 million,

respectively. The general partner units maintain MPC's two percent general partner interest in us. MPC agreed to waive distributions in the first quarter of 2016 on the common units issued in connection with this acquisition. In addition, MPC did not receive general partner distributions or incentive distribution rights that would otherwise have accrued on such common units with respect to the first quarter 2016 distributions. As of the date of such acquisition, the inland marine business was comprised of 18 tow boats and 205 barges, which transport light products, heavy oils, crude oil, renewable fuels, chemicals and feedstocks in the Midwest and U.S. Gulf Coast regions.

Series A Preferred Offering

On May 13, 2016, we issued in a private placement 30,769,232 newly created Series A Perpetual Convertible Preferred Units representing limited partner interests in us, which we refer to as the "Series A Preferred Units." We received approximately \$984 million in net proceeds after expenses from the issuance and sale of the Series A Preferred Units in the private placement. The Series A Preferred Units rank senior to all other classes or series of limited partner interests of the Partnership with respect to distribution rights and rights upon liquidation and are convertible into common units representing limited partner interests in us under certain circumstances.

The Exchange Offers

We are offering to exchange up to (i) \$709,848,000 aggregate principal amount of newly issued and registered 5.5% Senior Notes due 2023, which we refer to as the “Exchange 5.5% 2023 Senior Notes,” for an equal principal amount of our outstanding 5.5% Senior Notes due 2023, which we refer to as the “Original 2023 5.5% Senior Notes,” (ii) \$988,533,000 aggregate principal amount of newly issued and registered 4.5% Senior Notes due 2023, which we refer to as the “Exchange 4.5% 2023 Senior Notes,” for an equal principal amount of our outstanding 4.5% Senior Notes due 2023, which we refer to as the “Original 4.5% 2023 Senior Notes”; (iii) \$1,148,955,000 aggregate principal amount of newly issued and registered 4.875% Senior Notes due 2024, which we refer to as the “Exchange 4.875% 2024 Senior Notes,” for an equal principal amount of our outstanding 4.875% Senior Notes due 2024, which we refer to as the “Original 4.875% 2024 Senior Notes”; and (iv) \$1,189,038,000 aggregate principal amount of newly issued and registered 4.875% Senior Notes due 2025, which we refer to as the “Exchange 4.875% 2025 Senior Notes,” for an equal principal amount of our outstanding 4.875% Senior Notes due 2025, which we refer to as the “Original 4.875% 2025 Senior Notes.” The terms of each series of Exchange Notes are identical to those of the corresponding series of Original Notes in all material respects, except that the transfer restrictions, registration rights and related special interest provisions applicable to the Original Notes will not apply to the Exchange Notes. Each series of Exchange Notes will be of the same class as the corresponding series of outstanding Original Notes. Holders of Original Notes do not have any appraisal or dissenters’ rights in connection with the Exchange Offers.

The Exchange Offers

Purpose of Exchange Offers

The Exchange Notes are being offered to satisfy our obligations under the registration rights agreement entered into at the time we issued and sold the Original Notes. Subject to limited exceptions, after the Exchange Offers are complete, you will not have any further rights under the registration rights agreement, including any right to require us to register any of the Original Notes that you do not exchange or to pay you the additional interest we agreed to pay to holders of Original Notes if we failed to timely complete the Exchange Offers.

Expiration Date; Withdrawal of Tenders; Return of Original Notes Not Accepted for Exchange

The Exchange Offers will expire at 5:00 p.m., New York City time, on September 27, 2016, or on a later date and time to which we extend it. We refer to such time and date as the Expiration Date. Tenders of Original Notes in the Exchange Offers may be withdrawn at any time prior to the Expiration Date. We will exchange the Exchange Notes for validly tendered Original Notes promptly following the Expiration Date. We refer to such date of exchange as the Exchange Date. Any Original Notes that are not accepted for exchange for any reason will be returned by us, at our expense, to the tendering holder promptly after the expiration or termination of the Exchange Offers.

Procedures for Tendering Original Notes

Each holder of Original Notes wishing to participate in the Exchange Offers must follow procedures of DTC’s Automated Tender Offer Program, or ATOP, subject to the terms and procedures of that program. The ATOP procedures require that the exchange agent receive, prior to the Expiration Date, a computer-generated message known as an “agent’s message” that is transmitted through ATOP and that DTC confirm that:

- DTC has received instructions to exchange your Original Notes; and
- you agree to be bound by the terms of the letter of transmittal.

See “The Exchange Offers—Procedures for Tendering.”

Consequences of Failure to Exchange the Original Notes	You will continue to hold Original Notes, which will remain subject to their existing transfer restrictions, if you do not validly tender your Original Notes or you tender your Original Notes and they are not accepted for exchange. With some limited exceptions, we will have no obligation to register the Original Notes after we consummate the Exchange Offers. See “The Exchange Offers—Terms of the Exchange Offers” and “The Exchange Offers—Consequences of Failure To Exchange.”
Conditions to the Exchange Offers	The Exchange Offers are not conditioned upon any minimum aggregate principal amount of Original Notes of either series being tendered or accepted for exchange. The Exchange Offers are subject to customary conditions, which may be waived by us in our discretion. We currently expect that all of the conditions will be satisfied and that no waivers will be necessary. See “The Exchange Offers—Conditions to the Exchange Offers.”
Exchange Agent	The Bank of New York Mellon Trust Company, N.A.
United States Federal Income Tax Considerations	Your exchange of an Original Note for an Exchange Note of the corresponding series will not constitute a taxable exchange. The exchange will not result in taxable income, gain or loss being recognized by you or by us. Immediately after the exchange, you will have the same adjusted basis and holding period in each Exchange Note received as you had immediately prior to the exchange in the corresponding Original Note surrendered. See “Certain U.S. Federal Income Tax Considerations.”
Risk Factors	You should consider carefully the risk factors beginning on page 7 of this prospectus before deciding whether to participate in the Exchange Offers.

The Exchange Notes

The following is a brief summary of the principal terms of the Exchange Notes. The terms of each series of Exchange Notes are identical in all material respects to those of the corresponding series of Original Notes except that the transfer restrictions, registration rights and related special interest provisions applicable to the Original Notes will not apply to the Exchange Notes. Certain of the terms and conditions described below are subject to important limitations and exceptions. For a more complete description of the terms of the Exchange Notes, see "Description of the Notes."

Issuer	MPLX LP, a Delaware limited partnership
Securities Offered	Up to \$4,036,374,000 aggregate principal amount of Exchange Notes, consisting of up to \$709,848,000 aggregate principal amount of Exchange 5.5% Senior Notes due 2023, \$988,533,000 aggregate principal amount of Exchange 4.5% Senior Notes due 2023, \$1,148,955,000 aggregate principal amount of Exchange 4.875% Senior Notes due 2024, and \$1,189,038,000 aggregate principal amount of Exchange 4.875% Senior Notes due 2025. The Exchange Notes offered hereby will be of the same class as the Original Notes.
Maturity Dates	The Exchange 5.5% 2023 Senior Notes will mature on February 15, 2023. The Exchange 4.5% 2023 Senior Notes will mature on July 15, 2023. The Exchange 4.875% 2024 Senior Notes will mature on December 1, 2024. The Exchange 4.875% 2025 Senior Notes will mature on June 1, 2025.
Interest Payment Dates	We will pay interest on the Exchange 5.5% 2023 Senior Notes on February 15 and August 15 of each year, commencing February 15, 2017. We will pay interest on the Exchange 4.5% 2023 Senior Notes on January 15 and July 15 of each year, commencing on January 15, 2017. We will pay interest on the Exchange 4.875% 2024 Senior Notes on June 1 and December 1 of each year, commencing on December 1, 2016. We will pay interest on the Exchange 4.875% 2025 Senior Notes on June 1 and December 1 of each year, commencing on December 1, 2016.
Interest Rates	The Exchange 4.5% 2023 Senior Notes will bear interest at 4.5% per year. The Exchange 5.5% 2023 Senior Notes will bear interest at 5.5% per year. The Exchange 4.875% 2024 Senior Notes will bear interest at 4.875% per year. The Exchange 4.875% 2025 Senior Notes will bear interest at 4.875% per year.
Optional Redemption	We may redeem the Exchange Notes of any series, in whole or in part, at any time and from time to time at the applicable redemption price described herein under the caption "Description of the Notes—Optional Redemption."
Change of Control Offer	If MPLX experiences a "change of control" (as defined in "Description of the Notes—Change of Control Offer"), it may be required to offer to purchase the Exchange Notes from holders. See "Description of the Notes— Change of Control Offer."
Certain Covenants	The Indentures (as defined herein) governing the Exchange Notes contain covenants that, among other things, limit our ability and the ability of our subsidiaries to create or permit to exist mortgages and other liens and enter into sale and leaseback transactions with respect to principal properties. See "Description of the Notes—Certain Covenants."

Ranking	The Exchange Notes will be our senior unsecured obligations, will rank equally with all our other senior unsecured debt, including all other unsubordinated notes issued under the Indentures, from time to time outstanding, and will be structurally subordinated to the secured and unsecured debt of our subsidiaries, including senior notes issued by MarkWest that remain outstanding. The Exchange Notes will be exclusively our obligations, and not the obligations of any of our subsidiaries. Our rights and the rights of any holder of the Exchange Notes (or other of our creditors) to participate in the assets of any subsidiary upon that subsidiary's liquidation or recapitalization will be subject to the prior claims of the subsidiary's creditors, except to the extent that we may be a creditor with recognized claims against the subsidiary. See "Description of the Notes—Ranking."
Form and Denomination	The Exchange Notes of each series will be issued in fully registered form in denominations of \$2,000 and in integral multiples of \$1,000 in excess thereof.
DTC Eligibility	The Exchange Notes of each series will be represented by global certificates deposited with, or on behalf of, DTC or its nominee. See "Description of the Notes—Book-Entry; Delivery and Form."
Same Day Settlement	Beneficial interests in the Exchange Notes will trade in DTC's same-day funds settlement system until maturity. Therefore, secondary market trading activity in such interests will be settled in immediately available funds.
No Listing of the Exchange Notes	We do not intend to apply for a listing of the Exchange Notes on any securities exchange or an automated dealer quotation system. Accordingly, there can be no assurance as to the development or liquidity of any market for the Exchange Notes.
Governing Law	The Exchange Notes and the related Indentures will be governed by the laws of the State of New York.
Use of Proceeds	We will not receive any cash proceeds from the issuance of the Exchange Notes. See "Use of Proceeds."
Trustee, Registrar and Paying Agent	The Bank of New York Mellon Trust Company, N.A.
Risk Factors	See "Risk Factors" and other information in this prospectus for a discussion of factors that should be carefully considered by holders of Original Notes before tendering their Original Notes in the Exchange Offers in exchange for the Exchange Notes.

RISK FACTORS

The terms of the Exchange Notes are identical in all material respects to those of the corresponding series of Original Notes, except that the transfer restrictions, registration rights and related special interest provisions applicable to the Original Notes will not apply to the Exchange Notes. Before making a decision regarding the Exchange Offers, you should carefully consider the risks described below and all of the information contained or incorporated by reference into this prospectus, including the information in Part I, Item 1A, “Risk Factors,” in our most recent Annual Report on Form 10-K, in each case as these risk factors are amended or supplemented by subsequent Quarterly Reports on Form 10-Q that are incorporated by reference in this prospectus, before making an investment decision. The risks and uncertainties we have described are not the only ones we face. Additional risks and uncertainties that are not yet identified may also materially harm our business, operating results and financial condition and could result in a complete loss of your investment. See “Disclosures Regarding Forward-Looking Statements” in this prospectus.

Risks Related to the Exchange Offer

If you fail to exchange your Original Notes, they will continue to be restricted securities and will likely become less liquid.

Original Notes that you do not tender, or we do not accept, will, following the Exchange Offers, continue to be restricted securities, and you may not offer to sell them except pursuant to an exemption from, or in a transaction not subject to, the Securities Act and applicable state securities laws. We will issue Exchange Notes in exchange for Original Notes of the corresponding series pursuant to the Exchange Offers only following the satisfaction of the procedures and conditions set forth in “The Exchange Offers—Procedures for Tendering” and “The Exchange Offers—Conditions to the Exchange Offers.” These procedures and conditions include timely receipt by the exchange agent of a confirmation of book-entry transfer of the Original Notes being tendered and an agent’s message from DTC. Because we anticipate that all or substantially all holders of Original Notes will elect to exchange their Original Notes in these Exchange Offers, we expect that the market for any Original Notes remaining after the completion of the Exchange Offers will be substantially limited. Any Original Notes tendered and exchanged in the Exchange Offers will reduce the aggregate principal amount of the Original Notes of the applicable series outstanding. If you do not tender your Original Notes following the Exchange Offers, you generally will not have any further registration rights, and your Original Notes will continue to be subject to certain transfer restrictions. Accordingly, the liquidity of the market for the Original Notes of each series is likely to be adversely affected.

You must follow the appropriate procedures to tender your Original Notes or they will not be exchanged.

The Exchange Notes will be issued in exchange for the Original Notes only after timely receipt by the exchange agent of the Original Notes or a book-entry confirmation related thereto, a properly completed and executed letter of transmittal or an agent’s message and all other required documentation. If you want to tender your Original Notes in exchange for Exchange Notes, you should allow sufficient time to ensure timely delivery. Neither we nor the exchange agent are under any duty to give you notification of defects or irregularities with respect to tenders of Original Notes for exchange. Original Notes that are not tendered or are tendered but not accepted will, following the Exchange Offers, continue to be subject to the existing transfer restrictions. In addition, if you tender the Original Notes in the Exchange Offers to participate in a distribution of the Exchange Notes, you will be required to comply with the registration and prospectus delivery requirements of the Securities Act in connection with any resale transaction. For additional information, please refer to the sections entitled “The Exchange Offer” and “Plan of Distribution” later in this prospectus.

The Exchange Offers may not be consummated.

The Exchange Offers are subject to customary conditions set forth in “The Exchange Offers—Conditions to the Exchange Offers” later in this prospectus. These conditions are for our sole benefit and may be asserted by us with respect to all or any portion of the Exchange Offers regardless of the circumstances, including any action or inaction by us, giving rise to the condition or may be waived by us in whole or in part at any time or from time to time in our sole discretion. We reserve the right, notwithstanding the satisfaction of these conditions, to terminate or amend the Exchange Offers. In addition, we will not accept for exchange any Original Notes tendered, and no Exchange Notes will be issued in exchange for any Original Notes, if at such time, any stop order has been issued or is threatened with respect to the registration statement of which this prospectus forms a part, or with respect to the qualification of the Indenture, under

which the Original Notes were issued under the Trust Indenture Act of 1939, as amended, which we refer to as the “Trust Indenture Act.”

Risks Relating to the Exchange Notes

Our existing and future debt may limit cash flow available to invest in the ongoing needs of our business and could prevent us from fulfilling our obligations under our outstanding debt, as well as the Notes.

We have substantial existing debt. As of June 30, 2016, our total debt was \$4.859 billion. We also have the capacity under our credit facility, and we will have the capacity under the Indentures, to incur substantial additional debt. Our level of debt could have important consequences. For example, it could:

- make it more difficult for us to make payments on our debt;
- require us to dedicate a substantial portion of our cash flow from operations to the payment of debt service, reducing the availability of our cash flow to fund working capital, capital expenditures, acquisitions, distributions and other general partnership purposes;
- increase our vulnerability to adverse economic or industry conditions;
- limit our ability to obtain additional financing to enable us to react to changes in our business; or
- place us at a competitive disadvantage compared to businesses in our industry that have less debt.

Additionally, any failure to meet required payments on our debt, or failure to comply with any covenants in the instruments governing our debt, could result in an event of default under the terms of those instruments. In the event of such default, the holders of such debt could elect to declare all the amounts outstanding under such instruments to be due and payable.

Changes in our credit ratings may adversely affect the value of the Notes.

The ratings assigned to the notes could be lowered, suspended or withdrawn entirely by the rating agencies if, in each rating agency's judgment, circumstances warrant. Actual or anticipated changes or downgrades in our credit ratings, including any announcement that our ratings are under review for a downgrade, could affect the market value of the Notes.

The Indentures do not restrict the amount of additional debt that we and our subsidiaries may incur and the credit facility permits us and our subsidiaries to incur substantial additional unsecured debt.

The Indentures do not place any limitation on the amount of unsecured debt that we may incur and the credit facility permits us and our subsidiaries to incur substantial additional unsecured debt. We also have in the past incurred debt payable to an affiliate of MPC through an intercompany loan agreement, and may do so in the future under that arrangement or pursuant to other arrangements. Our incurrence of additional debt, and the incurrence of additional debt by any of our subsidiaries, may have important consequences for you as a holder of the Notes, including making it more difficult for us to satisfy our obligations with respect to the Notes, a loss in the market value of your notes and a risk that the credit rating of the notes is lowered or withdrawn.

MPLX is a holding company and depends on dividends and other distributions from its subsidiaries.

MPLX is a holding company with limited direct operations. Its principal assets are the equity interests that it holds in its subsidiaries. As a result, MPLX depends on dividends and other distributions from its subsidiaries, including MarkWest, to generate the funds necessary to meet its financial obligations, including the payment of principal and interest on its outstanding indebtedness. Its subsidiaries are legally distinct from MPLX and have no obligation to pay amounts due on its indebtedness or to make funds available for such payment. In addition, MPLX's subsidiaries will be permitted under the terms of the Indentures governing the Notes to incur additional indebtedness that may restrict or prohibit the making of distributions, the payment of dividends or the making of loans by such subsidiaries to MPLX. In addition, to the extent that any of our subsidiaries, including MarkWest, has indebtedness, the Notes will be structurally subordinated to such indebtedness. We cannot assure you that the agreements governing the current and future indebtedness of MPLX's subsidiaries will permit MPLX's subsidiaries to provide it with sufficient dividends, distributions or loans to fund payments on the notes when due.

Neither MPLX nor any of its subsidiaries has any property that has been determined to be a principal property under the Indentures.

The Indentures include covenants that, among other things, limit our ability and the ability of our subsidiaries to create or permit to exist mortgages and other liens and enter into sale and leaseback transactions with respect to principal properties. However, as of the date of this prospectus, neither MPLX nor any of its subsidiaries has any property that our general partner has determined to be a principal property under the Indenture.

An increase in market interest rates could result in a decrease in the value of the Notes.

In general, as market interest rates rise, notes bearing interest at a fixed rate decline in value because the premium, if any, over market interest rates will decline. Consequently, if you purchase the Notes and market interest rates increase, the market values of the Exchange Notes may decline. We cannot predict the future level of market interest rates.

Active trading markets for the Exchange Notes may not develop.

The Exchange Notes are a new issue of securities with no established trading market. We do not intend to apply for listing of the Exchange Notes on any securities exchange or any automated quotation system. Accordingly, there can be no assurance that a trading market for the Exchange Notes of any series will ever develop or will be maintained. If a trading market does not develop or is not maintained, you may find it difficult or impossible to resell the Exchange Notes. Further, there can be no assurance as to the liquidity of any market that may develop for the Exchange Notes, your ability to sell such notes or the price at which you will be able to sell the Exchange Notes. Future trading prices of the notes will depend on many factors, including prevailing interest rates, our financial condition and results of operations, the then-current ratings assigned to the Exchange Notes and the markets for similar securities. Any trading market that develops would be affected by many factors independent of and in addition to the foregoing, including:

- the time remaining to the maturity of the Exchange Notes;
- the outstanding amount of the Exchange Notes;
- the terms related to optional redemption of the Exchange Notes; and
- the level, direction and volatility of market interest rates generally.

In addition, if you do participate in the Exchange Offers for the purpose of participating in the distribution of the Exchange Notes, you must comply with the registration and prospectus delivery requirements of the Securities Act for any resale transaction. Each broker-dealer who holds Original Notes for its own account due to market-making or other trading activities and who receives Exchange Notes for its own account must acknowledge that it will deliver a prospectus in connection with any resale of the Exchange Notes.

We may choose to redeem any series of Notes prior to maturity.

We may redeem some or all of the Notes of any series at any time. See "Description of the Notes—Optional Redemption." If prevailing interest rates are lower at the time of redemption, you may not be able to reinvest the redemption proceeds in a comparable security at an interest rate as high as the interest rate of the Notes being redeemed.

We may not be able to repurchase all of the Notes upon a change of control triggering event, which would result in a default under the Notes.

We will be required to offer to repurchase the Notes upon the occurrence of a "Change of Control Triggering Event" as provided in the Indenture. However, we may not have sufficient funds to repurchase the Notes in cash at such time. In addition, our ability to repurchase the Notes for cash may be limited by law or the terms of other agreements relating to our debt outstanding at the time. The failure to make such repurchase would result in a default under the Notes.

USE OF PROCEEDS

The Exchange Offers are intended to satisfy our obligations under the registration rights agreement. We will not receive any cash proceeds from the issuance of the Exchange Notes. In consideration for issuing the Exchange Notes as contemplated in this prospectus, we will receive, in exchange, an equal principal amount of the corresponding series of Original Notes. The Original Notes surrendered in exchange for the Exchange Notes will be retired and cannot be reissued.

RATIO OF EARNINGS TO FIXED CHARGES

Our ratio of earnings to fixed charges for each of the last five fiscal years is set forth below.

	Six Months Ended	Fiscal Years Ended				
	June 30, 2016	2015	2014	2013	2012	2011
Ratio of earnings to fixed charges	1.7x	6.0x	22.9x	31.4x	35.2x	55.3x

The term "earnings" is the amount resulting from adding the following items to the extent applicable:

pre-tax income from continuing operations before adjustment for income or loss from equity investees;

fixed charges;

amortization of capitalized interest;

distributed income of equity investees; and

pre-tax losses of equity investees for which charges arising from guarantees are included in fixed charges;

and subtracting from the total the following:

interest capitalized; and

- the non-controlling interest in pre-tax income of subsidiaries that have not incurred fixed charges;

For this purpose, "fixed charges" consists of:

interest expense and amortization of discounts, premiums and capitalized expenses on indebtedness;

interest capitalized;

an estimate of the portion of annual rental expense on operating leases that represents interest attributable to rentals; and

preference security dividend requirements.

The ratios presented above are based on information contained in our Annual Report on Form 10-K for the year ended December 31, 2015 as recast to reflect the acquisition of Hardin Street Marine LLC ("HSM"), and as further described in our Form 8-K filed on May 2, 2016 and amended on May 20, 2016. HSM owns and operates towboats (i.e., towing vessels), barges, and third-party chartered equipment for the transportation of crude oil, feedstocks, refined products and other hydrocarbon-based products to and from refineries and terminals owned by MPC. We acquired HSM from a wholly-owned subsidiary of MPC on March 31, 2016.

DESCRIPTION OF OTHER INDEBTEDNESS

Bank Revolving Credit Facility and Term Loan

MPLX entered into a Credit Agreement, dated as of November 20, 2014, providing for a \$1 billion unsecured revolving credit facility, or revolving credit facility, and a \$250 million term loan facility, or term loan facility, which we refer to collectively as the "credit facility." The revolving credit facility includes letter of credit issuing capacity of up to \$250 million and swingline loan capacity of up to \$100 million. The revolving credit facility may be increased by up to an additional \$500 million, subject to certain customary conditions, including the consent of the lenders whose commitments would increase.

MPLX amended the credit facility effective December 4, 2015 in connection with the closing of the MarkWest Merger to, among other things, increase the aggregate available revolving borrowing capacity from \$1 billion to \$2 billion and to extend the term of the revolving credit facility, which now expires December 4, 2020 and may be extended up to two additional one-year periods subject to the consent of the lenders holding a majority of the revolving credit facility commitments, provided that the commitments held by any non-consenting lenders will terminate on the original maturity date.

The term loan facility was drawn in full on November 20, 2014 and matures on November 20, 2019. The maturity date for the term loan facility may be extended up to two additional one-year periods subject to the consent of the lenders holding a majority of the outstanding term loan exposure, provided that the term loan borrowings held by any non-consenting lenders will continue to be due and payable on the original maturity date.

We pay interest on outstanding borrowings under the credit facility based upon either the Adjusted LIBO Rate (as defined in the credit facility) or the Alternate Base Rate (as defined in the credit facility), at our election, plus, in each case, a specified margin. In addition, we pay various fees and expenses in connection with the credit facility, including administrative agent fees, commitment fees on the unused portion of the revolving credit facility and fees with respect to issued and outstanding letters of credit. The margins above the applicable benchmark interest rates and commitment fees fluctuate based on the credit ratings in effect from time to time on our long-term debt.

The credit facility includes certain representations and warranties, affirmative and restrictive covenants and events of default that we consider to be usual and customary for an agreement of this type, including a financial covenant that requires us to maintain a ratio of Consolidated Total Debt as of the end of each fiscal quarter to Consolidated EBITDA for the prior four fiscal quarters of no greater than 5.0 to 1.0 (or 5.5 to 1.0 for up to two fiscal quarters following certain acquisitions). Consolidated EBITDA is subject to adjustments for certain acquisitions completed and capital projects undertaken during the relevant period. Other covenants, among other things, restrict us and our restricted subsidiaries from incurring debt, creating liens on their assets and entering into transactions with affiliates. As of June 30, 2016, there were no outstanding borrowings and \$8 million of letters of credit outstanding under the revolving credit facility and \$250 million was outstanding under the term loan facility.

MPC Revolving Credit Facility

On December 4, 2015, the Partnership entered into a loan agreement with MPC Investment LLC, a wholly-owned subsidiary of MPC which we refer to as "MPC Investment." Under the terms of the agreement, MPC Investment will make a loan or loans to the Partnership on a revolving basis as requested by the Partnership and as agreed to by MPC Investment, in an amount or amounts that do not result in the aggregate principal amount of all loans outstanding exceeding \$500 million at any one time. The entire unpaid principal amount of the loan, together with all accrued and unpaid interest and other amounts (if any), shall become due and payable on December 4, 2020. MPC Investment may demand payment of all or any portion of the outstanding principal amount of the loan, together with all accrued and unpaid interest and other amounts (if any), at any time prior to December 4, 2020. Borrowings under the loan will bear interest at LIBOR plus 1.50 percent. As of June 30, 2016, there were no outstanding borrowings under this facility.

4.0% Senior Notes due 2025

On February 12, 2015, we issued \$500 million in aggregate principal amount of 4.0% senior notes due 2025, which we refer to as the "4.0% 2025 Senior Notes." The 4.0% 2025 Senior Notes were issued under the Indenture, dated as of February 12, 2015, between us and the trustee, which is the base Indenture that governs the Original Notes and will govern the Exchange Notes. The 4.0% 2025 Senior Notes are our direct, unsecured unsubordinated obligations and are not guaranteed by any of our subsidiaries. The 4.0% 2025 Senior Notes mature on February 15, 2025 and bear interest

at a rate

12

of 4.0% per annum payable on February 15th and August 15th of each year for so long as the 4.0% 2025 Senior Notes are outstanding.

MarkWest Senior Notes

As of June 30, 2016, MarkWest had outstanding (i) approximately \$40 million aggregate principal amount of 5.5% senior notes due 2023, (ii) approximately \$11 million aggregate principal amount of 4.5% senior notes due 2023, (iii) approximately \$1 million aggregate principal amount of 4.875% senior notes due 2024 and (iv) approximately \$11 million aggregate principal amount of 4.875% senior notes due 2025. The outstanding MarkWest senior notes are unsecured unsubordinated indebtedness of MarkWest, and as such, are structurally prior to all of MPLX's unsecured unsubordinated debt, including the Original Notes and after their issuance in the Exchange Offers, the Exchange Notes.

THE EXCHANGE OFFERS

Purpose of the Exchange Offers

In connection with the offer and sale of the Original Notes, we entered into a registration rights agreement with the initial purchasers of the Original Notes. We are making the Exchange Offers to satisfy our obligations under the registration rights agreement.

Terms of the Exchange Offers

We are offering to exchange, upon the terms and subject to the conditions set forth in this prospectus and in the accompanying letter of transmittal, Exchange Notes for an equal principal amount of Original Notes. The terms of each series of Exchange Notes are substantially identical in all material respects to those of the corresponding series of Original Notes, except that the transfer restrictions, registration rights and related special interest provisions applicable to the Original Notes will not apply to the Exchange Notes. Each series of Exchange Notes will be of the same class as the corresponding series of Original Notes. Each series of Exchange Notes will be entitled to the benefits of the Indenture under which the Original Notes were issued. See “Description of the Notes.” The Exchange Offers are not conditioned upon any minimum aggregate principal amount of Original Notes of any series being tendered or accepted for exchange. As of the date of this prospectus, \$709,848,000 aggregate principal amount of Original 5.5% 2023 Senior Notes, \$988,533,000 aggregate principal amount of Original 4.5% 2023 Senior Notes, \$1,148,955,000 aggregate principal amount of Original 4.875% 2024 Senior Notes, and \$1,189,038,000 aggregate principal amount of Original 4.875% 2025 Senior Notes, were outstanding. Original Notes tendered in the Exchange Offers must be in minimum denominations of \$2,000 and integral multiples of \$1,000 in excess thereof.

Based on certain interpretive letters issued by the staff of the SEC to third parties in unrelated transactions, holders of Original Notes, except any holder who is an “affiliate” of ours within the meaning of Rule 405 under the Securities Act, who exchange their Original Notes for Exchange Notes pursuant to the Exchange Offers generally may offer the Exchange Notes for resale, resell the Exchange Notes and otherwise transfer the Exchange Notes without compliance with the registration and prospectus delivery provisions of the Securities Act, provided that the Exchange Notes are acquired in the ordinary course of the holders’ business and such holders are not participating in, and have no arrangement or understanding with any person to participate in, a distribution of the Exchange Notes.

Each broker-dealer that receives Exchange Notes for its own account in exchange for Original Notes, where the Original Notes were acquired by the broker-dealer as a result of market-making activities or other trading activities, must acknowledge that it will deliver a prospectus in connection with any resale of the Exchange Notes as described in “Plan of Distribution.” In addition, to comply with the securities laws of individual jurisdictions, if applicable, the Exchange Notes may not be offered or sold unless they have been registered or qualified for sale in the jurisdiction or an exemption from registration or qualification is available and complied with. We have agreed, pursuant to the registration rights agreement, to file with the SEC a registration statement (of which this prospectus forms a part) with respect to the Exchange Notes. If you do not exchange Original Notes for Exchange Notes pursuant to the Exchange Offers, your Original Notes will continue to be subject to restrictions on transfer.

If any holder of the Original Notes is an affiliate of ours, is engaged in or intends to engage in or has any arrangement or understanding with any person to participate in the distribution of the Exchange Notes to be acquired in the Exchange Offers, the holder would not be able to rely on the applicable interpretations of the SEC and would be required to comply with the registration requirements of the Securities Act, except for resales made pursuant to an exemption from, or in a transaction not subject to, the registration requirement of the Securities Act and applicable state securities laws.

Expiration Date; Extensions; Termination; Amendments

The Exchange Offers expire on the Expiration Date, which is 5:00 p.m., New York City time, on September 27, 2016 unless we, in our sole discretion, extend the period during which the Exchange Offers are open. We reserve the right to extend the Exchange Offers at any time and from time to time prior to the Expiration Date by giving written notice to The Bank of New York Mellon, the exchange agent, and by public announcement communicated by no later than 5:00 p.m., New York City time, on the next business day following the previously scheduled Expiration Date, unless otherwise required by applicable law or regulation, by making a release to PR Newswire or other wire service. During any extension of the Exchange Offers, all Original Notes previously tendered will remain subject to the Exchange

Offers and may be accepted for exchange by us.

14

The Exchange Date will promptly follow the Expiration Date. We expressly reserve the right to: extend the Exchange Offers, delay acceptance of Original Notes due to an extension of the Exchange Offers or terminate the Exchange Offers and not permit acceptance of Original Notes not previously accepted if any of the conditions set forth under “—Conditions to the Exchange Offers” shall have occurred and shall not have been waived by us; and

amend the terms of the Exchange Offers in any manner, whether before or after any tender of the Original Notes. If any termination or material amendment occurs, we will notify the exchange agent in writing and will either issue a press release or give written notice to the holders of the Original Notes as promptly as practicable. Additionally, in the event of a material amendment or change in the Exchange Offers, which would include any waiver of a material condition hereof, we will extend the offer period, if necessary, so that at least five business days remain in the Exchange Offers following notice of the material amendment or change, as applicable. Unless we terminate the Exchange Offers prior to 5:00 p.m., New York City time, on the Expiration Date, we will exchange the Exchange Notes for the tendered Original Notes promptly after the Expiration Date, and will issue to the exchange agent Exchange Notes for Original Notes validly tendered, not withdrawn and accepted for exchange. Original Notes not accepted for exchange for any reason will be returned without expense to the tendering holder promptly after expiration or termination of the Exchange Offers. See “—Acceptance of Original Notes and Delivery of Exchange Notes.” This prospectus and the accompanying letter of transmittal and other relevant materials will be mailed by us to record holders of Original Notes and will be furnished to brokers, banks and similar persons whose names, or the names of whose nominees, appear on the lists of holders for subsequent transmittal to beneficial owners of Original Notes.

Procedures for Tendering

To participate in the Exchange Offers, you must properly tender your Original Notes to the exchange agent as described below. We will only issue the Exchange Notes in exchange for the Original Notes that you timely and properly tender. Therefore, you should allow sufficient time to ensure timely delivery of the Original Notes, and you should follow carefully the instructions on how to tender your Original Notes. It is your responsibility to properly tender your Original Notes. No letter of transmittal or other document should be sent to us. Beneficial owners may request their respective brokers, dealers, commercial banks, trust companies or nominees to effect the above transactions for them.

If you have any questions or need help in exchanging your Original Notes, please contact the exchange agent at the address or telephone numbers set forth below.

All of the Original Notes were issued in book-entry form, and all of the Original Notes are currently represented by global certificates registered in the name of Cede & Co., the nominee of DTC. You may tender your Original Notes using ATOP. The exchange agent will make a request to establish an account with respect to the Original Notes at DTC for purposes of the Exchange Offers within two business days after this prospectus is mailed to holders, and any financial institution that is a participant in DTC may make book-entry delivery of Original Notes by causing DTC to transfer the Original Notes into the exchange agent’s account at DTC in accordance with DTC’s procedures for transfer. In connection with the transfer, DTC will send an “agent’s message” to the exchange agent. The agent’s message will state that DTC has received instructions from the participant to tender the Original Notes and that the participant agrees to be bound by the terms of the letter of transmittal.

By using the ATOP procedures to exchange the Original Notes, you will not be required to deliver a letter of transmittal to the exchange agent. However, you will be bound by its terms just as if you had signed it. The tender of Original Notes by you pursuant to the procedures set forth in this prospectus will constitute an agreement between you and us in accordance with the terms and subject to the conditions set forth in this prospectus and in the letter of transmittal.

All questions as to the validity, form, eligibility, including time of receipt, and acceptance for exchange of any tender of Original Notes will be determined by us and will be final and binding. We reserve the absolute right to reject any or all tenders not in proper form or the acceptances for exchange of which may, upon advice of our counsel, be unlawful. We also reserve the right to waive any defect, irregularities or conditions of tender as to particular Original Notes. Our interpretation of the terms and conditions of the Exchange Offers, including the instructions in the letter of transmittal, will be final and binding on all parties. Unless waived, all defects or irregularities in connection with tenders of the

Original Notes must be cured within such time as we shall determine. Although we intend to notify holders of defects or irregularities with respect to tenders of the Original Notes, neither we, the exchange agent nor any other person will incur any liability for failure to give

such notification. Tenders of the Original Notes will not be deemed made until such defects or irregularities have been cured or waived. Any Original Notes received by the exchange agent that are not properly tendered and as to which the defects or irregularities have not been cured or waived will be returned to the tendering holder as soon as practicable after the Expiration Date of the Exchange Offers.

In all cases, we will issue the Exchange Notes for the Original Notes that we have accepted for exchange under the Exchange Offers only after the exchange agent receives, prior to the Expiration Date, a book-entry confirmation of such number of the Original Notes into the exchange agent's account at DTC and a properly transmitted agent's message.

If we do not accept any tendered Original Notes for exchange or if the Original Notes are submitted for a greater principal amount than the holder desires to exchange, the unaccepted or non-exchanged Original Notes will be returned without expense to their tendering holder. Such non-exchanged Original Notes will be credited to an account maintained with DTC. These actions will occur as promptly as practicable after the expiration or termination of the Exchange Offers.

Each broker-dealer that receives the Exchange Notes for its own account in exchange for the Original Notes, where those Original Notes were acquired by such broker-dealer as a result of market-making activities or other trading activities, must acknowledge that it will deliver a prospectus in connection with any resale of those Exchange Notes. See "Plan of Distribution."

Terms and Conditions Contained in the Letter of Transmittal

The accompanying letter of transmittal contains, among other things, the following terms and conditions, which are part of the Exchange Offers.

The transferring party tendering Original Notes for exchange will be deemed to have exchanged, assigned and transferred the Original Notes to us and irrevocably constituted and appointed the exchange agent as the transferor's agent and attorney-in-fact to cause the Original Notes to be assigned, transferred and exchanged.

The transferor will be required to represent and warrant that it has full power and authority to tender, exchange, assign and transfer the Original Notes and to acquire Exchange Notes issuable upon the exchange of the tendered Original Notes and that, when the same are accepted for exchange, we will acquire good and unencumbered title to the tendered Original Notes, free and clear of all liens, restrictions (other than restrictions on transfer), charges and encumbrances and that the tendered Original Notes are not and will not be subject to any adverse claim. The transferor will be required to also agree that it will, upon request, execute and deliver any additional documents deemed by the exchange agent or us to be necessary or desirable to complete the exchange, assignment and transfer of tendered Original Notes. The transferor will be required to agree that acceptance of any tendered Original Notes by us and the issuance of Exchange Notes in exchange for tendered Original Notes will constitute performance in full by us of our obligations under the registration rights agreement and that we will have no further obligations or liabilities under the registration rights agreement, except in certain limited circumstances. All authority conferred by the transferor will survive the death, bankruptcy or incapacity of the transferor and every obligation of the transferor will be binding upon the heirs, legal representatives, successors, assigns, executors, administrators and trustees in bankruptcy of the transferor.

Upon agreement to the terms of the letter of transmittal pursuant to an agent's message, a holder, or beneficial holder of the Original Notes on behalf of which the holder has tendered, will, subject to that holder's ability to withdraw its tender, and subject to the terms and conditions of the Exchange Offers generally, thereby certify that:

- it is not an affiliate of ours or our subsidiaries or, if the transferor is an affiliate of ours or our subsidiaries, it will comply with the registration and prospectus delivery requirements of the Securities Act to the extent applicable;
- the Exchange Notes are being acquired in the ordinary course of business of the person receiving the Exchange Notes, whether or not the person is the registered holder;
- the transferor has not entered into, engaged in, does not intend to engage in, and has no arrangement or understanding with any other person to engage in a distribution of the Exchange Notes issued to the transferor; and
- the transferor is not a broker-dealer who tendered MarkWest senior notes acquired directly from MarkWest or its subsidiaries for its own account in exchange for the Original Notes.

Each broker-dealer that receives Exchange Notes for its own account in exchange for Original Notes where such Original Notes were acquired by such broker-dealer as a result of market-making activities or other trading activities must

acknowledge that it will deliver a prospectus in connection with any resale of such Exchange Notes. See “Plan of Distribution.”

Withdrawal Rights

Original Notes tendered pursuant to the Exchange Offers may be withdrawn at any time prior to the Expiration Date. For a withdrawal to be effective, a written letter, telegram, telex or facsimile transmission notice of withdrawal must be received by the institution specified in the accompanying letter of transmittal at the address set forth therein not later than 5:00 p.m., New York City time, on the Expiration Date. Any notice of withdrawal must specify the name of such holder, the principal amount of Original Notes delivered for exchange, a statement that such holder is withdrawing such holder’s election to have such Original Notes exchanged and number of the account at DTC to be credited with withdrawn Original Notes and otherwise comply with the ATOP procedures. The exchange agent will return properly withdrawn Original Notes promptly following receipt of notice of withdrawal. Properly withdrawn Original Notes may be retendered by following the procedures described under “—Procedures for Tendering” above at any time on or prior to 5:00 p.m., New York City time, on the Expiration Date. All questions as to the validity of notices of withdrawals, including time of receipt, will be determined by us, and will be final and binding on all parties.

Acceptance of Original Notes and Delivery of Exchange Notes

Upon the terms and subject to the conditions of the Exchange Offers, the acceptance for exchange of Original Notes validly tendered and not withdrawn and the issuance of the Exchange Notes will be made on the Exchange Date. For purposes of the Exchange Offers, we will be deemed to have accepted for exchange validly tendered Original Notes when and if we have given written notice to the exchange agent. The Original Notes surrendered in exchange for the Exchange Notes will be retired and cannot be reissued.

The exchange agent will act as agent for the tendering holders of each series of Original Notes for the purposes of receiving corresponding series of Exchange Notes from us and causing the Original Notes to be assigned, transferred and exchanged. Original Notes tendered by book-entry transfer into the exchange agent’s account at DTC pursuant to the procedures described above will be credited to an account maintained by the holder with DTC for the Original Notes, promptly after withdrawal, rejection of tender or termination of the Exchange Offers.

Conditions to the Exchange Offers

Without regard to other terms of the Exchange Offers, we will not be required to exchange any Exchange Notes for any Original Notes and may terminate the Exchange Offers before the acceptance of any Original Notes for exchange and before the expiration of the Exchange Offers, if:

any action or proceeding is instituted or threatened in any court or by or before any governmental agency with respect to the Exchange Offers that, in our reasonable judgment, might materially impair our ability to proceed with the Exchange Offers;

the Staff of the SEC proposes, adopts or enacts any law, statute, rule or regulation or issues any interpretation of any existing law, statute, rule or regulation that, in our reasonable judgment, might materially impair our ability to proceed with the Exchange Offers; or

- any governmental approval or approval by holders of the Original Notes has not been obtained if we, in our reasonable judgment, deem this approval necessary for the consummation of the Exchange Offers.

If, in our reasonable judgment, we determine that any of these conditions are not satisfied, we may:

- refuse to accept any Original Notes and return all tendered Original Notes to the tendering holders, or, in the case of

- Original Notes tendered by book-entry transfer, credit those Original Notes to an account maintained with DTC;

- extend the Exchange Offers and retain all Original Notes tendered before the expiration of the Exchange Offers,

- subject, however, to the rights of holders who tendered the Original Notes to withdraw their Original Notes; or

- waive unsatisfied conditions with respect to the Exchange Offers and accept all properly tendered Original Notes that have not been withdrawn.

If the waiver constitutes a material change to the Exchange Offers, we will promptly disclose the waiver by means of a prospectus supplement that will be distributed to the registered holders of the Original Notes, and we will extend the

Exchange Offers for a period of up to ten business days, depending on the significance of the waiver and the manner of disclosure of the registered holders of the Original Notes, if the Exchange Offers would otherwise expire during this period.

In addition, we will not accept for exchange any Original Notes tendered, and no Exchange Notes will be issued in exchange for any Original Notes, if at such time, any stop order has been issued or is threatened with respect to the registration statement of which this prospectus forms a part, or with respect to the qualification of the Indenture, under which the Original Notes were issued under the Trust Indenture Act of 1939, as amended, which we refer to as the Trust Indenture Act.

Exchange Agent

The Bank of New York Mellon has been appointed as the exchange agent for the Exchange Offers. Questions relating to the procedure for tendering, as well as requests for additional copies of this prospectus or the accompanying letter of transmittal, should be directed to the exchange agent addressed as follows:

By Registered Certified or Regular Mail or Overnight Courier or Hand Delivery:

The Bank of New York Mellon, as Exchange Agent

c/o BNY Mellon

Issuer & Loan Services / CSD – Reorg

111 Sanders Creek Parkway

East Syracuse, NY 13057

Attn: Allissa Overton

By Facsimile Transmission (eligible institutions only):

(732) 667-9408

For Information or Confirmation by Telephone:

(315) 414-3362

Originals of all documents sent by facsimile should be promptly sent to the exchange agent by mail, by hand or by overnight delivery service.

Solicitation of Tenders; Expenses

We have not retained any dealer-manager or similar agent in connection with the Exchange Offers and we will not make any payments to brokers, dealers or others for soliciting acceptances of the Exchange Offers. We will, however, pay the exchange agent reasonable and customary fees for its services and will reimburse it for actual and reasonable out-of-pocket expenses. The expenses to be incurred in connection with the Exchange Offers, including the fees and expenses of the exchange agent and printing, accounting and legal fees, will be paid by us.

No person has been authorized to give any information or to make any representations in connection with the Exchange Offers other than those contained in this prospectus. If given or made, the information or representations should not be relied upon as having been authorized by us. Neither the delivery of this prospectus nor any exchange made in the Exchange Offers will, under any circumstances, create any implication that there has been no change in our affairs since the date of this prospectus or any earlier date as of which information is given in this prospectus.

The Exchange Offers are not being made to, nor will tenders be accepted from or on behalf of, holders of Original Notes in any jurisdiction in which the making of the Exchange Offers or the acceptance would not be in compliance with the laws of the jurisdiction. However, we may, at our discretion, take any action as we may deem necessary to make the Exchange Offers in any jurisdiction.

Appraisal Rights

You will not have appraisal or dissenters' rights in connection with the Exchange Offers.

Transfer Taxes

If you tender your Original Notes, you will not be obligated to pay any transfer taxes in connection with the Exchange Offers.

Income Tax Considerations

We advise you to consult your own tax advisers as to your particular circumstances and the effects of any state, local or foreign tax laws to which you may be subject.

The discussion in this prospectus is based upon the provisions of the Internal Revenue Code of 1986, as amended, or the Code, and regulations, rulings and judicial decisions thereunder, in each case as in effect on the date of this prospectus, all of which are subject to change.

The exchange of an Original Note for an Exchange Note will not constitute a taxable exchange. The exchange will not result in taxable income, gain or loss being recognized by you or by us. Immediately after the exchange, you will have the same adjusted basis and holding period in each Exchange Note received as you had immediately prior to the exchange in the corresponding Original Note surrendered. See "Certain U.S. Federal Income Tax Considerations" for more information.

Consequences of Failure to Exchange

As a consequence of the offer or sale of the Original Notes pursuant to an exemption from, or in a transaction not subject to, the registration requirements of the Securities Act and applicable state securities laws, holders of Original Notes who do not exchange Original Notes for Exchange Notes in the Exchange Offers will continue to be subject to the restrictions on transfer of the Original Notes. In general, the Original Notes may not be offered or sold unless such offers and sales are registered under the Securities Act, or exempt from, or not subject to, the registration requirements of the Securities Act and applicable state securities laws.

Upon completion of the Exchange Offers, due to the restrictions on transfer of the Original Notes and the absence of similar restrictions applicable to the Exchange Notes, it is highly likely that the market, if any, for Original Notes will be relatively less liquid than the market for Exchange Notes. Consequently, holders of Original Notes who do not participate in the Exchange Offers could experience significant diminution in the value of their Original Notes compared to the value of the Exchange Notes.

DESCRIPTION OF THE NOTES

The Original Notes were, and the Exchange Notes will be, issued under the Indenture, dated as of February 12, 2015, as previously supplemented, which we refer to as the "Indenture," entered into between MPLX, as issuer, and The Bank of New York Mellon Trust Company, N.A., as the trustee, which we refer to as the "Trustee." The terms of the Original Notes and the Exchange Notes include those stated in the Indenture and the form of Notes, as well as those made part of the Indenture by reference to the Trust Indenture Act. Each series of Exchange Notes, when issued, will be part of the same series of corresponding Original Notes under the Indenture. References to "the Notes" include the Original Notes and the Exchange Notes. The Original Notes constitute, and the Exchange Notes will constitute, senior debt securities issued under the Indenture.

Because this section is a summary, it does not describe every aspect of the Indenture or the Notes. This summary is subject to and qualified in its entirety by reference to all of the provisions of the Indenture, including definitions of certain terms used in the Indenture, and the Notes. You should read the Indenture and the form of Notes because they contain additional information and they, and not this description, define your rights as a holder of the Notes.

Additionally, copies of the Indenture and forms of the Notes are available without charge upon request to us at the address provided under "Where You Can Find More Information." For purposes of this section, references to "MPLX," "MPLX LP," "we," "us" or "our" include only MPLX LP and not any of its subsidiaries.

General

We will initially issue up to \$709,848,000 aggregate principal amount of the Exchange 5.5% 2023 Senior Notes, up to \$988,533,000 aggregate principal amount of the Exchange 4.5% 2023 Senior Notes, up to \$1,148,955,000 aggregate principal amount of the Exchange 4.875% 2024 Senior Notes and up to \$1,189,038,000 aggregate principal amount of the Exchange 4.875% 2025 Senior Notes.

The Exchange 5.5% 2023 Senior Notes will mature on February 15, 2023. The Exchange 4.5% 2023 Senior Notes will mature on July 15, 2023. The Exchange 4.875% 2024 Senior Notes will mature on December 1, 2024. The Exchange 4.875% 2025 Senior Notes will mature on June 1, 2025.

The Exchange 5.5% 2023 Senior Notes will accrue interest at a rate per annum equal to 5.5% payable semi-annually in arrears on February 15 and August 15 of each year commencing on February 15, 2017, to the persons in whose names the notes are registered at the close of business on February 1 and August 1, respectively, preceding the interest payment date. Interest on the Exchange 5.5% 2023 Senior Notes will be paid on the basis of a 360-day year consisting of twelve 30-day months.

The Exchange 4.5% 2023 Senior Notes will accrue interest at a rate per annum equal to 4.5% payable semi-annually in arrears on January 15 and July 15 of each year commencing on January 15, 2017, to the persons in whose names the notes are registered at the close of business on January 1 and July 1, respectively, preceding the interest payment date. Interest on the Exchange 4.5% 2023 Senior Notes will be paid on the basis of a 360-day year consisting of twelve 30-day months.

The Exchange 4.875% 2024 Senior Notes will accrue interest at a rate per annum equal to 4.875% payable semi-annually in arrears on June 1 and December 1 of each year commencing on December 1, 2016, to the persons in whose names the notes are registered at the close of business on May 15 and November 15, respectively, preceding the interest payment date. Interest on the Exchange 4.875% 2024 Senior Notes will be paid on the basis of a 360-day year consisting of twelve 30-day months.

The Exchange 4.875% 2025 Senior Notes will accrue interest at a rate per annum equal to 4.875% payable semi-annually in arrears on June 1 and December 1 of each year commencing on December 1, 2016, to the persons in whose names the notes are registered at the close of business on May 15 and November 15, respectively, preceding the interest payment date. Interest on the Exchange 4.875% 2025 Senior Notes will be paid on the basis of a 360-day year consisting of twelve 30-day months.

Interest on each series of Exchange Notes will accrue from the last interest payment date on which interest was paid or duly provided for with respect to the applicable series of Original Notes, or, if no interest has been paid or duly provided for, from the date of their original issuance.

If any interest payment date, stated maturity date or redemption date falls on a day that is not a business day, the payment will be made on the next business day and no interest will accrue for the period from and after such interest

payment date, stated maturity date or redemption date.

20

The Exchange Notes will be issued in fully registered form only in denominations of \$2,000 and integral multiples of \$1,000 in excess thereof.

We may, without the consent of the holders, increase the principal amount of any series of Exchange Notes in the future, on the same terms and conditions, other than the public offering price, original interest accrual date and initial interest payment date, and with the same CUSIP number as such series of Exchange Notes. We will not issue any such additional notes of any series unless the additional notes are fungible with the series of Exchange Notes being offered for exchange hereby for U.S. federal income tax purposes. The Exchange Notes and any additional new notes of any series subsequently issued under the Indenture will be treated as a single series or class for all purposes under the Indenture, including, without limitation, waivers, amendments and redemptions.

The Indenture does not limit the amount of unsecured debt that we or any of our subsidiaries may issue. We may issue additional debt securities under the Indenture from time to time in one or more series, each in an amount authorized prior to issuance. Other than the restrictions contained in the Indentures on liens and sale/leaseback transactions described below under "—Certain Covenants," the Indentures does not contain any covenants or other provisions designed to protect holders of the debt securities in the event that we participate in a highly leveraged transaction. In addition, the Indenture does not limit our ability to guarantee any indebtedness of our subsidiaries or any other person.

Optional Redemption

5.5% 2023 Senior Notes

On and after August 15, 2017, we may redeem all or, from time to time, a part of the 5.5% 2023 Senior Notes at the following redemption prices (expressed as a percentage of principal amount), plus accrued and unpaid interest on the 5.5% 2023 Senior Notes, if any, to the applicable redemption date (subject to the right of holders of record on the relevant record date to receive interest due on an interest payment date that is on or prior to the redemption date), if redeemed during the 12-month period beginning on August 15 of the years indicated below:

Year	Percentage
2017	102.750%
2018	101.833%
2019	100.917%
2020 and thereafter	100.000%

In addition, before August 15, 2017, we may, from time to time, redeem all or a part of the 5.5% 2023 Senior Notes at a redemption price equal to:

- (x) 100% of the aggregate principal amount of the 5.5% 2023 Senior Notes to be redeemed, plus accrued and unpaid interest, if any, to the applicable redemption date (subject to the right of holders of record on the relevant record date to receive interest due on an interest payment date that is on or prior to the redemption date), plus
- (y) the Make Whole Amount.

4.5% 2023 Senior Notes

The 4.5% 2023 Senior Notes will be redeemable in whole at any time or in part from time to time, at our option, at a redemption price equal to:

- (x) if the redemption date is prior to April 15, 2023 (the date three months prior to the stated maturity of the 4.5% 2023 Senior Notes), the greater of (i) 100% of the principal amount of the 4.5% 2023 Senior Notes or (ii) the sum of the present values of the remaining scheduled payments of principal and interest thereon from the redemption date to July 15, 2023 (exclusive of any accrued interest) discounted to the redemption date on a semiannual basis (assuming a 360-day year consisting of twelve 30-day months) at the Treasury Rate plus 50 basis points; or
- (y) if the redemption date is on or after April 15, 2023 (the date three months prior to the stated maturity of the 4.5% 2023 Senior Notes), 100% of the principal amount of the 4.5% 2023 Senior Notes, plus, in each case, any interest accrued but not paid to the date of redemption (subject to the right of holders of record on the relevant record date to receive interest due on an interest payment date that is on or prior to the redemption date).

4.875% 2024 Senior Notes

The 4.875% 2024 Senior Notes will be redeemable in whole at any time or in part from time to time, at our option, at a redemption price equal to:

- (x) if the redemption date is prior to September 1, 2024 (the date three months prior to the stated maturity of the 4.875% 2024 Senior Notes), the greater of (i) 100% of the principal amount of the 4.875% 2024 Senior Notes or (ii) the sum of the present values of the remaining scheduled payments of principal and interest thereon from the redemption date to December 1, 2024 (exclusive of any accrued interest) discounted to the redemption date on a semiannual basis (assuming a 360- day year consisting of twelve 30-day months) at the Treasury Rate plus 50 basis points; or
- (y) if the redemption date is on or after September 1, 2024 (the date three months prior to the stated maturity of the 4.875% 2024 Senior Notes), 100% of the principal amount of the 4.875% 2024 Senior Notes, plus, in each case, any interest accrued but not paid to the date of redemption (subject to the right of holders of record on the relevant record date to receive interest due on an interest payment date that is on or prior to the redemption date).

4.875% 2025 Senior Notes

The 4.875% 2025 Senior Notes will be redeemable in whole at any time or in part from time to time, at our option, at a redemption price equal to:

- (x) if the redemption date is prior to March 1, 2025 (the date three months prior to the stated maturity of the 4.875% 2025 Senior Notes), the greater of (i) 100% of the principal amount of the 4.875% 2025 Senior Notes or (ii) the sum of the present values of the remaining scheduled payments of principal and interest thereon from the redemption date to March 1, 2025 (exclusive of any accrued interest) discounted to the redemption date on a semiannual basis (assuming a 360- day year consisting of twelve 30-day months) at the Treasury Rate plus 50 basis points; or
- (y) if the redemption date is on or after March 1, 2025 (the date three months prior to the stated maturity of the 4.875% 2025 Senior Notes), 100% of the principal amount of notes, plus, in each case, any interest accrued but not paid to the date of redemption (subject to the right of holders of record on the relevant record date to receive interest due on an interest payment date that is on or prior to the redemption date).

For purposes of the foregoing discussion of optional redemption, the following definitions are applicable:

“Business Day” means any Monday, Tuesday, Wednesday, Thursday or Friday that is not a day on which banking institutions in New York, New York or any “Place of Payment,” which the Indenture defines to mean the place or places, if any, in addition to or instead of the Corporate Trust Office of the Trustee, where the principal of, and premium, if any, and interest on debt securities of the series will be payable, are authorized or obligated by law, regulation or executive order to close.

“Comparable Treasury Issue” means the United States Treasury security selected by an Independent Investment Banker as having a maturity comparable to the remaining term, which we refer to as the “Remaining Life,” of the Notes to be redeemed that would be utilized, at the time of selection and in accordance with customary financial practice, in pricing new issues of corporate debt securities of comparable maturity to the remaining term of such Notes.

“Comparable Treasury Price” means, with respect to any redemption date, (1) the average, as determined by us, of the Reference Treasury Dealer Quotations for such redemption date, after excluding the highest and lowest Reference Treasury Dealer Quotations, or (2) if we obtain fewer than five such Reference Treasury Dealer Quotations, the average of all such quotations.

“Independent Investment Banker” means one of the Reference Treasury Dealers that we appoint to act as the Independent Investment Banker from time to time.

“Make Whole Amount” means, with respect to any 5.5% 2023 Senior Note, at any redemption date, the excess, if any, of (1) an amount equal to the present value of (a) the redemption price of such 5.5% 2023 Senior Note at August 15, 2017 plus (b) the remaining scheduled interest payments on the 5.5% 2023 Senior Notes to be redeemed to August 15, 2017 (other than interest accrued to the redemption date), computed using a discount rate equal to the Treasury Rate plus 50 basis points, over (2) the aggregate principal amount of the 5.5% 2023 Senior Notes to be redeemed.

“Reference Treasury Dealer” means each of Barclays Capital Inc., BNP Paribas Securities Corp., Goldman, Sachs & Co. and two additional dealers in U.S. Government securities selected by us, each of which we refer to as a “Primary Treasury Dealer,” and their respective successors that we specify from time to time; provided, however, that if any of them ceases to be a Primary Treasury Dealer, we will substitute therefor another Primary Treasury Dealer.

“Reference Treasury Dealer Quotations” means, with respect to each Reference Treasury Dealer and any redemption date, the average, as determined by us, of the bid and asked prices for the Comparable Treasury Issue (expressed in each case as a percentage of its principal amount) quoted in writing to us by such Reference Treasury Dealer at 5:00 p.m., New York City time, on the third Business Day preceding such redemption date.

“Treasury Rate” means, with respect to any 5.5% 2023 Senior Note, at the time of computation, the yield to maturity of United States Treasury Securities with a constant maturity (as compiled and published in the most recent Federal Reserve Statistical Release H.15 (519) which has become publicly available at least two Business Days prior to the redemption date or, if such Statistical Release is no longer published, any publicly available source of similar market data) most nearly equal to the period from the redemption date to August 15, 2017; provided, however, that if such period is not equal to the constant maturity of a United States Treasury Security for which a weekly average yield is given, the Treasury Rate shall be obtained by linear interpolation (calculated to the nearest one-twelfth of a year) from the weekly average yields of United States Treasury Securities for which such yields are given, except that if the period from the redemption date to August 15, 2017 is less than one year, the weekly average yield on actually traded United States Treasury Securities adjusted to a constant maturity of one year shall be used. MPLX will (a) calculate the Treasury Rate on the third Business Day preceding the redemption date and (b) prior to such redemption date file with the Trustee an officer's certificate setting forth the Make Whole Amount and the Treasury Rate and showing the calculation of each in reasonable detail. Any weekly average yields calculated by interpolation shall be rounded to the nearest 1/100th of 1%, with any figure of 1/200th of 1% or above being rounded upward.

“Treasury Rate” means, with respect to any 4.5% 2023 Senior Note, any 4.875% 2024 Senior Note or any 4.875% 2025 Senior Note, with respect to any redemption date, the rate per annum equal to the semiannual equivalent yield to maturity (computed by MPLX as of the second Business Day immediately preceding such redemption date) of the Comparable Treasury Issue, assuming a price for the Comparable Treasury Issue (expressed as a percentage of its principal amount) equal to the Comparable Treasury Price for such redemption date.

Notice of redemption will be mailed at least 30 but not more than 60 days before the redemption date to each holder of record of the Notes to be redeemed at its registered address. However, such notice may be given more than 60 days before the redemption date if the notice is given in connection with a satisfaction and discharge. The notice of redemption for any series of the Notes will state, among other things, the amount of Notes of such series to be redeemed, the redemption date, the redemption price and the place or places that payment will be made upon presentation and surrender of the Notes to be redeemed. Unless we default in the payment of the redemption price, interest will cease to accrue on any Notes of that series that have been called for redemption at the redemption date. If fewer than all of the Notes of any series are to be redeemed at any time, the Trustee will select the particular Notes of that series or portions thereof for redemption from the outstanding Notes of that series not previously called on a pro rata basis, by lot or by such method as the Trustee deems fair and appropriate.

Change of Control Offer

If a Change of Control occurs, each holder of Notes will have the right to require us to repurchase all or any part (equal to \$2,000 or an integral multiple of \$1,000 in excess thereof) of that holder's Notes pursuant to the offer described herein, which we refer to as a “Change of Control Offer.” In a Change of Control Offer, we would offer a payment, which we refer to as a “Change of Control Payment” in cash equal to 101% of the aggregate principal amount of Notes repurchased plus accrued and unpaid interest thereon, if any, to, but excluding, the date of purchase, or the “Change of Control Payment Date,” subject to the rights of any holder in whose name an Exchange Note is registered on a record date occurring prior to the Change of Control Payment Date to receive interest due on an interest payment date that is on or prior to such Change of Control Payment Date. Within 30 days following any Change of Control, we will mail a notice to each holder describing the transaction or transactions that constitute the Change of Control and offering to repurchase the Notes on the Change of Control Payment Date specified in such notice, pursuant to the procedures required by the Indenture and described in such notice. We will comply with the requirements of Rule

14e-1 under the Exchange Act and any other securities laws and regulations thereunder to the extent such laws and regulations are applicable in connection with the repurchase of the Notes as a result of a Change of Control. To the extent that the provisions of any securities laws or regulations conflict with the Change of Control provisions of the Indenture, we will comply with the applicable securities laws and regulations and will

not be deemed to have breached their obligations under the Change of Control provisions of the Indenture by virtue of such compliance.

On or before any Change of Control Payment Date, we will, to the extent lawful, accept for payment all Notes or portions thereof validly tendered pursuant to the Change of Control Offer. Promptly after such acceptance, on the Change of Control Payment Date, we will:

(1) deposit with the paying agent an amount equal to the Change of Control Payment in respect of all Notes or portions thereof so tendered and not validly withdrawn; and

(2) deliver or cause to be delivered to the Trustee, by book-entry in the case of global notes, the Notes so accepted together with an officer's certificate stating the aggregate principal amount of Notes or portions thereof being purchased by us.

On any Change of Control Payment Date, the paying agent will mail to each holder of Notes accepted for payment the Change of Control Payment for such notes (or, if all the notes are then in global form, make such payment through the facilities of DTC), and the Trustee will promptly authenticate and mail (or cause to be transferred by book entry) to each holder a new Note equal in principal amount to any unpurchased portion of the Notes surrendered, if any; provided that each such new Note will be in a principal amount of \$2,000 or an integral multiple of \$1,000 in excess thereof. MPLX will publicly announce the results of the Change of Control Offer on or as soon as practicable after the Change of Control Payment Date.

The provisions described above that require us to make a Change of Control Offer following a Change of Control will be applicable regardless of whether or not any other provisions of the Indentures are applicable. Except as described above with respect to a Change of Control, the Indentures will not contain provisions that permit the holder of the Notes to require that we repurchase or redeem the Notes in the event of a takeover, recapitalization or similar transaction.

We will not be required to make a Change of Control Offer upon a Change of Control if (1) a third party makes the Change of Control Offer in the manner, at the times and otherwise in compliance with the requirements set forth in the Indentures applicable to a Change of Control Offer made by us and purchases all the Notes validly tendered and not validly withdrawn under the Change of Control Offer, (2) notice of redemption of all outstanding Notes has been given pursuant to the Indentures as described above under the caption “— Optional Redemption,” unless and until there is a default in payment of the applicable redemption price or (3) in connection with or in contemplation of any Change of Control, we have made an offer to purchase, or an “Alternate Offer,” any and all Notes validly tendered at a cash price equal to or higher than the Change of Control Payment and have purchased all Notes properly tendered in accordance with the terms of such Alternate Offer.

A Change of Control Offer may be made in advance of a Change of Control, and conditioned upon the occurrence of the Change of Control, if a definitive agreement is in place for the Change of Control at the time of making the Change of Control Offer.

Our ability to pay cash to the holders upon a repurchase may be limited by our then existing financial resources. We cannot assure you that sufficient funds will be available when necessary to make any required repurchases.

The definition of Change of Control includes a phrase relating to the sale, lease, transfer, conveyance or other disposition of “all or substantially all” of the properties or assets of MPLX and its subsidiaries taken as a whole. Although there is a limited body of case law interpreting the phrase “substantially all,” there is no precise established definition of the phrase under applicable law. Accordingly, the ability of a holder of the Notes to require us to repurchase such Notes as a result of a sale, lease, transfer, conveyance or other disposition of less than all of the properties or assets of MPLX and its subsidiaries taken as a whole to another person or group may be uncertain. In the event that holders of not less than 90% of the aggregate principal amount of the outstanding Notes of any series accept a Change of Control Offer or an Alternate Offer and we or a third party making the Change of Control Offer as provided above purchases all of the Notes of that series held by such holders, we will have the right, upon not less than 30 nor more than 60 days' notice, given not more than 30 days following the purchase pursuant to the Change of Control Offer or Alternate Offer described above, as the case may be, to redeem all of the Notes of that series that remain outstanding following such purchase at a redemption price equal to the Change of Control Payment plus, to the extent not included in the Change of Control Payment, accrued and unpaid interest on the Notes that remain

outstanding, to the date of redemption (subject to the right of holders of record on the relevant record date to receive interest due on an interest payment date that is on or prior to the redemption date).

For purposes of the foregoing discussion of the Change of Control Offer, the following definitions are applicable: “Beneficial Owner” has the meaning assigned to such term in Rule 13d-3 and Rule 13d-5 under the Exchange Act, except that in calculating the beneficial ownership of any particular “person” (as that term is used in Section 13(d)(3) of the Exchange Act), such “person” will be deemed to have beneficial ownership of all securities that such “person” has the right to acquire by conversion or exercise of other securities, whether such right is currently exercisable or is exercisable only upon the occurrence of a subsequent condition. The terms “Beneficially Owns” and “Beneficially Owned” have correlative meanings. For purposes of this definition, a Person shall be deemed not to Beneficially Own securities that are the subject of a stock purchase agreement, merger agreement, amalgamation agreement, arrangement agreement or similar agreement until consummation of the transactions or, as applicable, series of related transactions contemplated thereby.

“Change of Control” means the occurrence of any of the following:

(1) the direct or indirect lease, sale, transfer, conveyance or other disposition (other than by way of merger or consolidation), in one or a series of related transactions, of all or substantially all of the properties or assets of MPLX and its subsidiaries taken as a whole, to any “person” (as that term is used in Section 13(d)(3) of the Exchange Act), excluding MPC or any of its affiliates, which disposition is followed by a Rating Decline within 90 days thereafter;

(2) the adoption of a plan relating to our liquidation or dissolution or the removal of our general partner by our limited partners; or

(3) the consummation of any transaction (including, without limitation, any merger or consolidation) the result of which is that any “person” (as that term is used in Section 13(d)(3) of the Exchange Act), excluding MPC or any of its affiliates, becomes the Beneficial Owner, directly or indirectly, of more than 50% of the Voting Stock of our general partner, measured by voting power rather than number of shares, units or the like, which occurrence is followed by a Rating Decline within 90 days thereafter.

Notwithstanding the preceding, a conversion of MPLX from a limited partnership to a corporation, limited liability company or other form of entity or an exchange of all of the outstanding limited partnership interests for capital stock in a corporation, for member interests in a limited liability company or for equity interests in such other form of entity shall not constitute a Change of Control, so long as following such conversion or exchange MPC or any of its affiliates Beneficially Owns, directly or indirectly, in the aggregate more than 50% of the Voting Stock of MPLX’s general partner, or continues to Beneficially Own a sufficient percentage of Voting Stock of such entity to elect a majority of its directors, managers, trustees or other persons serving in a similar capacity for such entity.

“Investment Grade” means, with respect to Moody’s, a rating of at least Baa3, and with respect to S&P, a rating of at least BBB-.

“Moody’s” means Moody’s Investors Service, Inc. or any successor to the rating agency business thereof.

“Rating Decline” means, with respect to the Notes, that such Notes become rated below Investment Grade by both S&P and Moody’s.

“S&P” means Standard & Poor’s Ratings Services, a division of The McGraw-Hill Companies, Inc., or any successor to the rating agency business thereof.

“Voting Stock” of any person as of any date means the equity interests of such person pursuant to which the holders thereof have the general voting power under ordinary circumstances to elect at least a majority of the board of directors, managers, general partners or trustees of such person (regardless of whether, at the time, equity interests of any other class or classes shall have, or might have, voting power by reason of the occurrence of any contingency) or, with respect to a partnership (whether general or limited), any general partner interest in such partnership.

Open Market Purchases

MPLX or any of its affiliates may at any time and from time to time purchase the Notes in the open market or otherwise.

Sinking Fund

There is no provision for a sinking fund for the Notes.

Ranking

The Notes will be unsecured and unsubordinated obligations of MPLX and will rank equally with all other existing and future unsecured and unsubordinated indebtedness of MPLX, but will be effectively junior to MPLX's secured indebtedness. The Notes will not be the obligations of any of MPLX's subsidiaries and will be effectively subordinated to all indebtedness and other obligations of such subsidiaries.

MPLX is a holding company and derives substantially all of its operating income from, and holds substantially all of its assets through, its subsidiaries. As a result, it depends on distributions of cash flow and earnings from its subsidiaries in order to meet its payment obligations under the Notes and its other debt obligations. These subsidiaries are separate and distinct legal entities and will have no obligation to pay any amounts due on such debt securities, including the Notes, or to provide MPLX with funds for its payment obligations, whether by dividends, distributions, loans or otherwise. As a result, the Notes will be structurally subordinated to the liabilities of MPLX's subsidiaries, including trade payables. In addition, provisions of applicable law, such as those limiting the legal sources of dividends, could limit the ability of such subsidiaries to make payments or other distributions to MPLX and such subsidiaries could agree to contractual restrictions on their ability to make distributions.

As of June 30, 2016, our consolidated subsidiaries had approximately \$72 million of indebtedness (including capital lease obligations) outstanding. Our consolidated indebtedness, as of June 30, 2016, was \$4.859 billion.

Guarantees

None of our subsidiaries will guarantee our obligations respecting the Notes.

Certain Covenants

Creation of Certain Liens

If MPLX LP, or any subsidiary of MPLX LP, mortgages or encumbers as security for money borrowed any pipeline, terminal or other logistics or storage property or asset employed in the transportation, distribution, storage, terminalling, processing or marketing of crude oil, natural gas, condensate or refined products that (1) is located in the United States and (2) is determined to be a principal property by the Board of Directors in its discretion, MPLX will, or will cause such subsidiary to, secure the Notes and all other debt securities issued under the Indenture equally and ratably with all obligations secured by the mortgage then being given. This covenant will not apply in the case of any mortgage:

- existing on the date of the Indenture;
- incurred in connection with the acquisition or construction of any property;
- previously existing on acquired property or existing on the property of any entity when it becomes a subsidiary of MPLX;
- in favor of the United States, any state, or any agency, department, political subdivision or other instrumentality of either, to secure payments to MPLX or any of its subsidiaries under the provisions of any contract or statute;
- in favor of the United States, any state, or any agency, department, political subdivision or other instrumentality of either, to secure borrowings for the purchase or construction of the property mortgaged;
- to secure the cost of the repair, construction, improvement or alteration of all or part of a principal property;
- on various facilities, equipment and personal property located at or on a principal property;
- arising in connection with the sale of accounts receivable; or
- that is a renewal of or substitution for any mortgage permitted under any of the provisions described in the preceding clauses.

In addition, we may, and may permit our subsidiaries to, grant mortgages or incur liens on property covered by the restriction described above as long as the net book value of the property so encumbered, together with all property subject to the restriction on sale and leaseback transactions described below, does not, at the time such mortgage or lien is granted,

exceed 15% of our "Consolidated Net Tangible Assets," which the Indenture defines to mean the aggregate value of all assets of MPLX and its subsidiaries after deducting:

- all current liabilities, excluding all short-term indebtedness and the current portion of long-term indebtedness;
 - all investments in unconsolidated subsidiaries and all investments accounted for on the equity basis; and
 - all goodwill, patents and trademarks, unamortized debt discount and other similar intangibles;
- all as determined in conformity with generally accepted accounting principles and calculated on a basis consistent with our most recent audited consolidated financial statements.

The Indenture defines "Board of Directors" as the Board of Directors of our general partner or any authorized committee thereof or any directors and/or officers of our general partner to whom such Board of Directors or such committee shall have duly delegated its authority to act under the Indenture. If we change MPLX's form of entity to other than a limited partnership, the references to the Board of Directors shall mean the Board of Directors (or other comparable governing body) of MPLX.

Limitations on Certain Sale and Leaseback Transactions

MPLX and its subsidiaries are generally prohibited from selling and leasing back the principal properties described above under "—Creation of Certain Liens." However, this covenant will not apply if:

- the lease is an intercompany lease between MPLX and one of its subsidiaries or between any of MPLX's subsidiaries;
- the lease is for a temporary period by the end of which it is intended that the use of the leased property will be discontinued;

MPLX or one of its subsidiaries could mortgage the property without equally and ratably securing the Notes and other series of debt securities issued under the Indentures under the covenant described above under the caption "—Creation of Certain Liens"; or

MPLX promptly informs the Trustee of the sale, the net proceeds of the sale are at least equal to the fair value of the property and within 180 days of the sale the net proceeds are applied to the retirement or in-substance defeasance of our funded debt (subject to reduction, under circumstances the Indenture specifies).

As of the date of this prospectus, neither MPLX nor any subsidiary of MPLX has any property that the Board of Directors has determined to be a principal property.

Merger, Consolidation and Sale of Assets

The Indenture provides that MPLX may not consolidate or amalgamate with or merge with or into any other person, or sell, convey, transfer, lease or otherwise dispose of all or substantially all its assets to any person, whether in a single transaction or a series of related transactions unless:

MPLX is the surviving person in the case of a merger or the resulting, surviving or transferee person, if other than MPLX, is a partnership, limited liability company or corporation organized under the laws of the United States or any state thereof or the District of Columbia that expressly assumes the obligations of MPLX under the Indenture and the Notes and the other debt securities issued under the Indenture;

- immediately after giving effect to such transaction or series of transactions, no default or event of default under the Indenture would occur or be continuing; and

MPLX shall have delivered to the Trustee an officer's certificate and an opinion of counsel, each stating that such transaction complies with the Indenture.

In the case of any consolidation, amalgamation or merger in which MPLX is not the continuing entity, or disposition of all or substantially all of the assets of MPLX, the successor will succeed to and be substituted for MPLX with the same effect as if it had been an original party to the Indenture, and, except in the case of a lease of all or substantially all of MPLX's assets, the predecessor entity will be relieved of any further obligation under the Indenture and the Notes.

Events of Default

The Indenture defines an event of default with respect to the Notes issued thereunder as being:

- (1) failure to pay interest on such Notes when due and payable, continuing for 30 days;
- (2) failure to pay the principal of or premium, if any, on such Notes when due and payable;
- (3) MPLX's failure to observe or perform any other covenants or agreements in the Indenture or in the Notes (not specifically dealt with elsewhere in the definition of "event of default"), continuing for a period of 60 days after written notice to MPLX of that failure as provided in the Indenture; or
- (4) specified events of bankruptcy, insolvency or reorganization of MPLX.

An event of default under any one series of Notes would not necessarily be an event of default under any other series of Notes.

MPLX is required annually to deliver to the Trustee a certificate stating that a review of its activities and the activities of its subsidiaries has been made and to the best of each signer's knowledge, MPLX has performed and fulfilled every covenant contained in the Indenture and is not in default in the performance or observance of any of the terms, provisions and conditions of the Indenture.

In case an event of default (other than an event of default involving an event of bankruptcy, insolvency or reorganization of MPLX) shall occur and be continuing with respect to any series of Notes, the Trustee or the holders of not less than 25% in aggregate principal amount of that series of Notes then outstanding may declare the principal of, premium, if any, and interest on such series of Notes to be due and payable immediately. If an event of default relating to any event of bankruptcy, insolvency or reorganization of MPLX occurs, the principal of, premium, if any, and interest on all the Notes then outstanding will become immediately due and payable without any declaration or other act on the part of the Trustee or any holder. The holders of a majority in aggregate principal amount of any series of Notes may in some cases rescind this accelerated payment requirement in relation to that series of Notes. Depending on the terms of our other indebtedness, an event of default may give rise to cross defaults on our other indebtedness.

Holders of not less than a majority in aggregate principal amount of each series of the Notes then outstanding may waive any past default or event of default with respect to that series, except a default or event of default:

- in the payment of principal of, and premium, if any, or interest on, such Notes; or
 - in respect of a provision that cannot be amended without the consent of each holder of such Notes affected thereby.
- Any default that is so waived will cease to exist and any event of default arising from that default will be deemed to be cured for every purpose under the Indenture, but no such waiver will extend to any subsequent or other default or impair any right arising from a subsequent or other default.

No holder of Notes of any series may institute any action or proceeding under the Indenture or for the appointment of a receiver or a Trustee, or for any other remedy unless:

- the holder has given prior written notice to the Trustee of a continuing event of default with respect to the Notes of that series;
- the holders of at least 25% in aggregate principal amount of the outstanding Notes of that series have made a written request to the Trustee to institute an action or proceedings with respect to the event of default;
- the holders making the request have offered the Trustee indemnity or security satisfactory to the Trustee against costs, expenses and liabilities to be incurred in compliance with the request;
- the Trustee for 60 days after its receipt of the notice, request and offer of indemnity or security has failed to institute any such action or proceeding; and
- during that 60-day period, the holders of a majority in aggregate principal amount of the Notes of that series do not give the Trustee a direction inconsistent with the request.

Holders of the Notes, however, are entitled at any time to bring a lawsuit for the payment of principal of, and premium, if any, and interest on their Notes on or after its due date. It is intended that rights provided for holders of the Notes under the Indenture are for the equal and ratable benefit of all holders of the Notes of the same series.

Modification and Waiver

MPLX and the Trustee may modify the Indenture, including any supplement thereto, without the consent of any holders of any series of the Notes outstanding thereunder with respect to specific matters, including:

- to evidence the succession of another person to MPLX;
- to surrender any right or power conferred on MPLX by the Indenture, add covenants for the protection of the holders of such Notes or to add additional defaults or events of default;
- to cure any ambiguity or omission or to correct or supplement any provision of the Indenture that may be defective or inconsistent with any other provision in the Indenture, to transfer or pledge any property to the Trustee or to make any other provisions in regard to matters or questions arising under the Indenture as shall not adversely affect the interests of the holders of such Notes;
- to secure any or all of such Notes;
- to make any change that does not adversely affect the rights under the Indenture of any holder of such Notes; and
- to evidence the appointment of a successor trustee.

MPLX and the Trustee may otherwise modify the Indenture, including any supplement thereto, with the written consent of the holders of not less than a majority in aggregate principal amount of the Notes affected. However, without the consent of the holder of each outstanding Note affected, no modification may:

- reduce the percentage of such Notes required to consent to an amendment;
- reduce the rate of or extend the time for payment of interest on such Notes or reduce the principal of or extend the maturity of such Notes;
- reduce the premium payable upon redemption or change the time such Notes are redeemable;
- change the currency in which such Notes are payable;
- impair the right of any holder of such Notes to receive payment of premium, if any, principal of and interest on such Notes;
- release any security in respect of such Notes other than in accordance with the Indenture; or
- modify the provisions relating to the right of holders of the Notes to direct the Trustee, waive a default or consent to amendments.

Except in limited circumstances, MPLX may set any day as a record date for the purpose of determining the holders of outstanding Notes entitled to give or take any direction, notice, consent, waiver or other action under the Indenture. In limited circumstances, the Trustee may set a record date. To be effective, the action must be taken by holders of the requisite principal amount of such Notes computed as of the record date.

Defeasance

The Indenture provides that, upon satisfaction of the requirements described below, we may terminate all of our obligations under any or all series of the Notes outstanding thereunder and the Indenture, known as legal defeasance, other than our obligation:

- to maintain a registrar and paying agents and hold monies for payment in trust;
- to register the transfer or exchange of such Notes; and

to replace mutilated, destroyed, lost or stolen Notes.

In addition, we may terminate our obligation to comply with certain restrictive covenants under any series of the Notes or the Indenture, including the restrictions contained in the Indenture on liens and sale/leaseback transactions described above under “—Certain Covenants,” known as covenant defeasance.

We may exercise our legal defeasance option even if we have previously exercised our covenant defeasance option. If we exercise our legal defeasance option, payment of such Notes may not be accelerated because of the occurrence of any events of default. If we exercise our covenant defeasance option, payment of such Notes may not be accelerated because of the occurrence of certain specified events of default.

To exercise either defeasance option as to any series of the Notes, we must irrevocably deposit in trust with the Trustee money and/or obligations backed by the full faith and credit of the United States that will provide money in an amount sufficient without reinvestment, in the written opinion of a nationally recognized firm of independent public accountants, to pay the principal of, premium, if any, and each installment of interest on such Notes.

We may only establish this trust if, among other things:

- no event of default with respect to such Notes shall have occurred or be continuing for at least 91 days after such deposit;

- in the case of legal defeasance, we have delivered to the Trustee an opinion of counsel to the effect that we have received from, or there has been published by, the Internal Revenue Service a ruling or there has been a change in law, which in the opinion of our counsel, provides that holders of such Notes will not recognize gain or loss for federal income tax purposes as a result of such deposit, defeasance and discharge and will be subject to federal income tax on the same amount, in the same manner and at the same times as would have been the case if such deposit, defeasance and discharge had not occurred;

- in the case of covenant defeasance, we have delivered to the Trustee an opinion of counsel to the effect that the holders of such Notes will not recognize gain or loss for federal income tax purposes as a result of such deposit, defeasance and discharge and will be subject to federal income tax on the same amount, in the same manner and at the same times as would have been the case if such deposit, defeasance and discharge had not occurred; and

- we satisfy other conditions precedent described in the Indenture.

Governing Law

New York law governs the Indenture and the Notes.

The Trustee

The Bank of New York Mellon Trust Company, N.A. will be the trustee under the Indenture. The Bank of New York Mellon Trust Company, N.A. and its affiliates perform certain commercial banking services for some of our affiliates for which they receive customary fees. If an event of default occurs and is continuing under the Indenture, the Trustee must use the degree of care and skill of a prudent person in the conduct of his own affairs.

Subject to the provisions of the Indentures, the Trustee will become obligated to exercise any of its powers under the Indentures at the request of any of the holders of any Notes only after those holders have offered the Trustee indemnity satisfactory to it. The Indenture limits the right of the Trustee, if it is one of our creditors, to obtain payment of claims or to realize on certain property received for any such claim, as security or otherwise. The Trustee may engage in other transactions with us. If, after the occurrence of a default under the Indenture, it acquires any conflicting interest within the meaning of the Trust Indenture Act, however, it must eliminate that conflict or resign within 90 days after ascertaining that it has a conflicting interest, unless the default has been cured, waived or otherwise eliminated within the 90-day period.

Book-Entry; Delivery and Form

Except as set forth below, the Notes have been or will be issued in registered global form in minimum denominations of \$2,000 and multiples of \$1,000 in excess of that amount. The Notes will initially be represented by one or more fully registered global notes, which we refer to collectively as the “global notes.” Each such global note will be deposited upon issuance with the Trustee as custodian for The Depository Trust Company, the “DTC,” in New York, New York, and registered in the name of DTC or its nominee, in each case for credit to an account of a direct or indirect participant in DTC as described below. Transfers of beneficial interests in the global notes will be subject to the applicable rules and procedures of DTC and its direct or indirect participants (including, if applicable, those of Euroclear and Clearstream), which may change from time to time.

The following are summaries of certain rules and operating procedures of DTC that affect the payment of principal and interest and the transfers of interests in the global notes. The Notes will be issued only in the form of definitive global securities that will be deposited with, or on behalf of, DTC and registered in the name of Cede & Co., as nominee of DTC. Unless and until they are exchanged in whole or in part for notes in definitive form under the limited circumstances described below, a global note may not be transferred except as a whole (1) by DTC to a nominee, (2) by a nominee of DTC to DTC or another nominee of DTC or (3) by DTC or any such nominee to a successor of DTC or a nominee of such successor. Accountholders in the Euroclear or Clearstream Banking clearance systems may hold beneficial interests in the notes through the accounts that each of these systems maintain as participants in DTC.

Ownership of beneficial interests in the global notes will be limited to persons that have accounts with DTC for such global notes, who we refer to as participants, or persons that may hold interests through participants. Upon the issuance of the global notes, DTC will credit, on its book-entry registration and transfer system, the participants' accounts with the respective principal amounts of the Notes represented by such global notes beneficially owned by such participants.

Ownership of beneficial interests in the global notes will be shown on, and the transfer of such ownership interests will be effected only through, records maintained by DTC (with respect to interests of participants). Beneficial owners will not receive written confirmation from DTC of their purchase. Beneficial owners are, however, expected to receive written confirmations providing details of the transaction, as well as periodic statements of their holdings, from the participant through which the beneficial owner entered into the transaction. Transfers of ownership interests in the global notes are to be accomplished by entries made on the books of participants acting on behalf of beneficial owners. Beneficial owners will not receive certificates representing their ownership interest in the global notes, except in the event that use of the book-entry system for the global notes is discontinued. The laws of some states may require that certain purchasers of securities take physical delivery of such securities in definitive form. Such laws may limit or impair the ability to own, transfer or pledge beneficial interests in the global notes.

So long as DTC or its nominee is the registered owner of the global notes, DTC or its nominee, as the case may be, will be considered the sole owner or holder of the Notes represented by such global notes for all purposes under the Indenture. Except as set forth below, owners of beneficial interests in the global notes will not be entitled to have notes represented by such global notes registered in their names, will not receive or be entitled to receive physical delivery of such Notes in certificated form and will not be considered the registered owners or holders thereof under the Indenture. Accordingly, each person owning a beneficial interest in the global notes must rely on the procedures of DTC and, if such person is not a participant, on the procedures of the participant through which such person owns its interest, to exercise any rights of a holder under the Indenture.

We understand that under existing industry practices, if we request any action of holders or if an owner of a beneficial interest in any of the global notes desires to give or take any action that a holder is entitled to give or take under the Indenture, DTC would authorize the participants holding the relevant beneficial interests to give or take such action, and such participants would authorize beneficial owners owning through such participants to give or to take such action or would otherwise act upon the instructions of beneficial owners holding through them.

Conveyance of notices and other communications by DTC to direct participants, by direct participants to indirect participants, and by direct participants and indirect participants to beneficial owners will be governed by arrangements among them, subject to any statutory or regulatory requirements as may be in effect from time to time. Beneficial

owners may wish to take certain steps to augment the transmission to them of notices of significant events with respect to the global notes, such as redemptions, tenders, defaults, and proposed amendments to the note documents. Beneficial owners may ascertain that the nominee holding the global notes for their benefit has agreed to obtain and transmit notices to beneficial owners or beneficial owners may provide their names and addresses to the registrar and request that copies of notices be provided directly to them.

Principal and interest payments on interests represented by the global notes will be made to DTC or its nominee, as the case may be, as the registered owner of such global notes. None of MPLX, the Trustee any other agent of MPLX or agent of the Trustee will have any responsibility or liability for any facet of the records relating to or payments made on account of beneficial ownership of interests. We expect that DTC, upon receipt of any payment of principal or interest in respect of the global notes, will immediately credit participants' accounts with payments in amounts proportionate to their respective beneficial interests in such global notes as shown on the records of DTC. We also expect that payments by participants to owners of beneficial interests in the global notes held through such participants will be governed by standing customer instructions and customary practice, as is now the case with securities held for the accounts of customers in bearer form or registered in "street name," and will be the responsibility of such participants.

If DTC is at any time unwilling or unable to continue as depository for the global notes of any series, and we fail to appoint a successor depository registered as a clearing agency under the Exchange Act within 90 days, we will issue Notes of that series in definitive form in exchange for the global notes. Any Notes issued in definitive form in exchange for such global notes will be registered in such name or names, and will be issued in denominations of \$2,000 and integral multiples of \$1,000 in excess thereof as DTC shall instruct the Trustee. It is expected that such instructions will be based upon directions received by DTC from participants with respect to ownership of beneficial interests in the global notes.

DTC has advised us that DTC is a limited purpose trust company organized under the Banking Law of the State of New York, a "banking organization" within the meaning of the New York Banking Law, a member of the Federal Reserve System, a "clearing corporation" within the meaning of the New York Uniform Commercial Code and a "clearing agency" registered pursuant to the provisions of Section 17A of the Exchange Act. DTC was created to hold the securities of its participants and to facilitate the clearance and settlement of transactions among its participants in such securities through electronic bookentry changes in accounts of the participants, thereby eliminating the need for physical movement of securities certificates. DTC's participants include securities brokers and dealers, banks, trust companies, clearing corporations and certain other organizations, some of which (and/or their representatives) directly or indirectly own DTC. Access to the DTC book-entry system is also available to others, such as banks, brokers and dealers and trust companies that clear through or maintain a custodial relationship with a participant, either directly or indirectly.

Same-Day Settlement and Payment

All payments of principal and interest on the Notes will be made by MPLX in immediately available funds. The Notes will trade in DTC's Same-Day Funds Settlement System until maturity, and secondary market trading activity in the notes will therefore be required by DTC to settle in immediately available funds.

CERTAIN U.S. FEDERAL INCOME TAX CONSIDERATIONS

The following is a summary of certain U.S. federal income tax considerations relating to the exchange of unregistered Original Notes for registered Exchange Notes pursuant to the Exchange Offers, but does not purport to be a complete analysis of all the potential tax considerations relating to the Exchange Offers. This summary is based upon the provisions of the Code, Treasury Regulations promulgated thereunder, administrative rulings and pronouncements and judicial decisions, all as in effect on the date of this prospectus and all of which are subject to change, possibly with retroactive effect, or different interpretations. We have not sought and will not seek any rulings from the Internal Revenue Service, or the IRS, with respect to the statements made in this summary, and there can be no assurance that the IRS will not take a position contrary to these statements or that a contrary position taken by the IRS would not be sustained by a court. This discussion does not address all of the U.S. federal income tax consequences that may be relevant to a holder in light of such holder's particular circumstances or to holders subject to special rules, such as banks and certain other financial institutions, partnerships and other pass-through entities, regulated investment companies, real estate investment trusts, U.S. expatriates, insurance companies, dealers in securities or currencies, traders in securities, U.S. holders whose functional currency is not the U.S. dollar, holders subject to alternative minimum tax, tax-exempt organizations, tax deferred or other retirement accounts and persons holding the Exchange Notes as part of a "straddle," "hedge," "conversion transaction" or other integrated transaction. This discussion also does not address the tax considerations arising under the laws of any foreign, state or local jurisdiction, or the effects of any other U.S. federal tax laws, including the gift and estate tax and the Medicare tax.

The exchange of an Original Note for an Exchange Note pursuant to the Exchange Offers (described under "Exchange Offers") will not constitute a taxable exchange for U.S. federal income tax purposes. Consequently, you will not recognize any taxable gain or loss upon the receipt of an Exchange Note pursuant to the Exchange Offers, your holding period for an Exchange Note will include the holding period of the Original Note exchanged therefor, your adjusted tax basis in an Exchange Note will be the same as the adjusted tax basis in the Original Note immediately before such exchange, and all of the U.S. federal income tax considerations associated with owning an Original Note will continue to apply to the Exchange Note received in exchange therefor.

INVESTORS SHOULD CONSULT THEIR OWN TAX ADVISORS REGARDING THE U.S. FEDERAL, STATE AND LOCAL AND FOREIGN INCOME AND OTHER TAX CONSIDERATIONS RELATING TO THE EXCHANGE OFFERS IN LIGHT OF THEIR PARTICULAR CIRCUMSTANCES.

CERTAIN ERISA CONSIDERATIONS

The following summary regarding certain aspects of the Employee Retirement Income Security Act of 1974, as amended, or "ERISA," and the Code is based on ERISA and the Code, judicial decisions and United States Department of Labor and IRS regulations and rulings that are in existence on the date of this prospectus. This summary is general in nature and does not address every issue pertaining to ERISA or the Code that may be applicable to us, the Exchange Notes or a particular investor. Accordingly, each prospective investor should consult with his, her or its own counsel in order to understand the issues relating to ERISA and the Code that affect or may affect the investor with respect to this investment.

ERISA and the Code impose certain requirements on employee benefit plans that are subject to Title I of ERISA and plans subject to Section 4975 of the Code (each such employee benefit plan or plan, a "Plan"), on entities whose underlying assets include plan assets by reason of a Plan's investment in such entities and on those persons who are "fiduciaries" as defined in Section 3(21) of ERISA and Section 4975 of the Code with respect to Plans. In considering an investment of the assets of a Plan subject to Part 4 of Subtitle B of Title I of ERISA in the Exchange Notes, a fiduciary must, among other things, discharge its duties solely in the interest of the participants of such Plan and their beneficiaries and for the exclusive purpose of providing benefits to such participants and beneficiaries and defraying reasonable expenses of administering the Plan. A fiduciary must act prudently and must diversify the investments of a Plan subject to Part 4 of Subtitle B of Title I of ERISA so as to minimize the risk of large losses, as well as discharge its duties in accordance with the documents and instruments governing such Plan. In addition, ERISA generally requires fiduciaries to hold all assets of a Plan subject to Part 4 of Subtitle B of Title I of ERISA in trust and to maintain the indicia of ownership of such assets within the jurisdiction of the district courts of the United States. A

fiduciary of a Plan subject to Part 4 of Subtitle B of Title I of ERISA should consider whether an investment in the Exchange Notes satisfies these requirements.

An investor who is considering acquiring the Exchange Notes with the assets of a Plan must consider whether the acquisition and holding of the Exchange Notes will constitute or result in a non-exempt prohibited transaction.

Section 406(a) of ERISA and Sections 4975(c)(1)(A), (B), (C) and (D) of the Code prohibit certain transactions that involve a Plan and a "party in interest" as defined in Section 3(14) of ERISA or a "disqualified person" as defined in Section 4975(e)(2)

of the Code with respect to such Plan. Examples of such prohibited transactions include, but are not limited to, sales or exchanges of property (such as the Exchange Notes) or extensions of credit between a Plan and a party in interest or disqualified person. Section 406(b) of ERISA and Sections 4975(c)(1)(E) and (F) of the Code generally prohibit a fiduciary with respect to a Plan from dealing with the assets of the Plan for its own benefit (for example when a fiduciary of a Plan uses its position to cause the Plan to make investments in connection with which the fiduciary (or a party related to the fiduciary) receives a fee or other consideration).

ERISA and the Code contain certain exemptions from the prohibited transactions described above, and the Department of Labor has issued several exemptions, although certain exemptions do not provide relief from the prohibitions on self-dealing contained in Section 406(b) of ERISA and Sections 4975(c)(1)(E) and (F) of the Code. Exemptions include Section 408(b)(17) of ERISA and Section 4975(d)(20) of the Code pertaining to certain transactions with non-fiduciary service providers; Department of Labor Prohibited Transaction Class Exemption ("PTCE") 95-60, applicable to transactions involving insurance company general accounts; PTCE 90-1, regarding investments by insurance company pooled separate accounts; PTCE 91-38, regarding investments by bank collective investment funds; PTCE 84-14, regarding investments effected by a qualified professional asset manager; and PTCE 96-23, regarding investments effected by an in-house asset manager. There can be no assurance that any of these exemptions will be available with respect to the acquisition of the Exchange Notes. Under Section 4975 of the Code, excise taxes are imposed on disqualified persons who participate in non-exempt prohibited transactions (other than a fiduciary acting only as such) and such transactions may have to be rescinded.

As a general rule, a governmental plan, as defined in Section 3(32) of ERISA (each, a "Governmental Plan"), a church plan, as defined in Section 3(33) of ERISA, that has not made an election under Section 410(d) of the Code (each, a "Church Plan") and a plan maintained outside the United States primarily for the benefit of persons substantially all of whom are nonresident aliens (each, a "non-U.S. Plan") are not subject to Title I of ERISA or Section 4975 of the Code. Accordingly, assets of such plans may be invested without regard to the fiduciary and prohibited transaction considerations described above. Although a Governmental Plan, a Church Plan or a non-U.S. Plan is not subject to Title I of ERISA or Section 4975 of the Code, it may be subject to other United States federal, state or local laws or non-U.S. laws that regulate its investments (a "Similar Law"). A fiduciary of a Government Plan, a Church Plan or a non-U.S. Plan should consider whether investing in the Exchange Notes satisfies the requirements, if any, under any applicable Similar Law.

The Exchange Notes may be acquired by a Plan, a Governmental Plan, a Church Plan, a non-U.S. Plan or an entity whose underlying assets include the assets of a Plan, but only if the acquisition will not result in a non-exempt prohibited transaction under ERISA or Section 4975 of the Code or a violation of Similar Law. Therefore, any investor in the Exchange Notes will be deemed to represent and warrant to us and the Trustee that (1)(a) it is not (i) a Plan, (ii) a Governmental Plan, (iii) a Church Plan, (iv) a non-U.S. Plan or (v) an entity whose underlying assets include the assets of a Plan, (b) it is a Plan or an entity whose underlying assets include the assets of a Plan and the acquisition and holding of the Exchange Notes will not result in a non-exempt prohibited transaction under Section 406 of ERISA or Section 4975 of the Code, or (c) it is a Governmental Plan, a Church Plan, a non-U.S. Plan or an entity whose underlying assets include the assets of a Governmental Plan, a Church Plan or a non-U.S. Plan that is not subject to (i) ERISA, (ii) Section 4975 of the Code or (iii) any Similar Law that prohibits or imposes excise or penalty taxes on the acquisition or holding of the Exchange Notes; and (2) it will notify us and the Trustee immediately if, at any time, it is no longer able to make the representations contained in clause (1) above. Any purported transfer of the Exchange Notes to a transferee that does not comply with the foregoing requirements shall be null and void ab initio.

This offer is not a representation by us that an acquisition of the Exchange Notes meets any or all legal requirements applicable to investments by Plans, Governmental Plans, Church Plans, non-U.S. Plans or entities whose underlying assets include the assets of a Plan or that such an investment is appropriate for any particular Plan, Governmental Plan, Church Plan, non-U.S. Plan or entity whose underlying assets include the assets of a Plan.

PLAN OF DISTRIBUTION

Any broker-dealer that holds Original Notes that were acquired for its own account as a result of market-making activities or other trading activities (other than Original Notes acquired directly from us) and that will be a beneficial owner (as defined in Rule 13d-3 under the Securities Act) of Exchange Notes to be received by such broker-dealer in the Exchange Offers, may exchange such Original Notes pursuant to the Exchange Offers. Any such broker-dealer, however, may be deemed to be an “underwriter” within the meaning of the Securities Act and must, therefore, deliver a prospectus meeting the requirements of the Securities Act in connection with any resales of Exchange Notes received by such broker-dealer in the Exchange Offers. Such prospectus delivery requirement may be satisfied by the delivery by such broker-dealer of this prospectus.

We will not receive any proceeds from any sale of Exchange Notes by broker-dealers. Exchange Notes received by broker-dealers for their own account in the Exchange Offers may be sold from time to time in one or more transactions in the over-the-counter market, in negotiated transactions, through the writing of options on the Exchange Notes or a combination of such methods of resale, at market prices prevailing at the time of resale, at prices related to such prevailing market prices or negotiated prices. Any of these resales may be made directly to purchasers or to or through brokers or dealers who may receive compensation in the form of commissions or concessions from these broker-dealers and/or the purchasers of Exchange Notes. Any broker-dealer that resells Exchange Notes that were received by it for its own account in the Exchange Offers and any broker-dealer that participates in a distribution of the Exchange Notes may be deemed to be an “underwriter” within the meaning of the Securities Act and any profit on any such resale of Exchange Notes and any commission or concessions received by any such person may be deemed to be underwriting compensation under the Securities Act. The accompanying letter of transmittal states that, by acknowledging that it will deliver and by delivering a prospectus, a broker-dealer will not be deemed to admit that it is an “underwriter” within the meaning of the Securities Act.

We have agreed to pay all expenses incident to the Exchange Offers, other than commissions or concessions of any brokers or dealers, and will indemnify the holders of the Original Notes, including any broker-dealers, against certain liabilities incurred in connection with the Exchange Offers, including liabilities under the Securities Act.

LEGAL MATTERS

Certain legal matters with respect to the Exchange Offers will be passed upon for us by Jones Day.

EXPERTS

The consolidated financial statements and management’s assessment of the effectiveness of internal control over financial reporting (which is included in Management’s Report on Internal Control over Financial Reporting) incorporated in this prospectus by reference to MPLX LP’s current report on Form 8-K/A filed on May 20, 2016, have been so incorporated in reliance on the report, which contain explanatory paragraphs on the effectiveness of internal control over financial reporting due to the exclusion of MarkWest Energy Partners, L.P. and Hardin Street Marine LLC from the assessment of internal control over financial reporting as the businesses were acquired on December 4, 2015, and March 31, 2016 respectively, of PricewaterhouseCoopers LLP, an independent registered public accounting firm, given on the authority of said firm as experts in auditing and accounting.

The audited historical financial statements of Hardin Street Marine LLC included in Exhibit 99.1 of MPLX LP’s Current Report on Form 8-K/A filed on May 2, 2016 have been so incorporated in reliance on the report of PricewaterhouseCoopers LLP, an independent registered public accounting firm, given on the authority of said firm as experts in auditing and accounting.

The consolidated financial statements, incorporated in this prospectus by reference from the MarkWest Energy Partners, L.P.’s Annual Report on Form 10-K for the year ended December 31, 2014, have been audited by Deloitte & Touche LLP, an independent registered public accounting firm, as stated in their report, which is incorporated herein by reference. Such consolidated financial statements have been so incorporated in reliance upon the report of such firm given upon their authority as experts in accounting and auditing.

MPLX LP

Offers to Exchange

All of the outstanding restricted 5.5% Senior Notes Due 2023 issued on December 22, 2015
For newly issued and registered 5.5% Senior Notes Due 2023

All of the outstanding restricted 4.5% Senior Notes Due 2023 issued on December 22, 2015
For newly issued and registered 4.5% Senior Notes Due 2023

All of the outstanding restricted 4.875% Senior Notes Due 2024 issued on December 22, 2015
For newly issued and registered 4.875% Senior Notes Due 2024

All of the outstanding restricted 4.875% Senior Notes Due 2025 issued on December 22, 2015
For newly issued and registered 4.875% Senior Notes Due 2025

PROSPECTUS