UNITED STATES SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

Form 10-K

(Mark One)

ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934 For the fiscal year ended December 31, 2021

OR

□ TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

Commission file number 1-14569

PLAINS ALL AMERICAN PIPELINE, L.P. (Exact name of registrant as specified in its charter)

(State or other jurisdiction of incorporation or organization)

333 Clay Street, Suite 1600, Houston, Texas (Address of principal executive offices)

Delaware

76-0582150

(I.R.S. Employer Identification No.) 77002

(Zip Code)

Registrant's telephone number, including area code: (713) 646-4100

Securities registered pursuant to Section 12(b) of the Act:

Title of Each Class Trading Symbol(s)		Name of Each Exchange on Which Registered	
Common Units	PAA	Nasdaq	

Securities registered pursuant to Section 12(g) of the Act: None

Indicate by check mark if the registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act. Yes 🗵 No 🗆

Indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or Section 15(d) of the Act. Yes 🗆 No 🗵

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. Yes 🗵 No 🗆

Indicate by check mark whether the registrant has submitted electronically every Interactive Data File required to be submitted pursuant to Rule 405 of Regulation S-T during the preceding 12 months (or for such shorter period that the registrant was required to submit such files). Yes 🛛 No 🗆

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, a smaller reporting company, or an emerging growth company. See the definitions of "large accelerated filer," "accelerated filer," "smaller reporting company" and "emerging growth company" in Rule 12b-2 of the Exchange Act.

Large accelerated filer 🗹	Accelerated filer \Box
Non-accelerated filer \Box	Smaller reporting company \Box
	Emerging growth company \Box

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act.

Indicate by check mark whether the registrant has filed a report on and attestation to its management's assessment of the effectiveness of its internal control over financial reporting under Section 404(b) of the Sarbanes-Oxley Act (15 U.S.C. 7262(b)) by the registered public accounting firm that prepared or issued its audit report.

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act). Yes 🗆 No 🗵

The aggregate market value of the approximately 467.6 million Common Units held by non-affiliates of the registrant (treating all executive officers and directors of the registrant and holders of 10% or more of the Common Units outstanding, for this purpose, as if they are affiliates of the registrant) on June 30, 2021 was approximately \$5.3 billion, based on a closing price of \$11.36 per Common Unit as reported on the Nasdaq Global Select Market on such date.

As of February 22, 2022, there were 705,043,477 Common Units outstanding.

DOCUMENTS INCORPORATED BY REFERENCE

Portions of the registrant's definitive Proxy Statement to be filed pursuant to Regulation 14A pertaining to the 2022 Annual Meeting of Unitholders are incorporated by reference into Part III hereof. The registrant intends to file such Proxy Statement no later than 120 days after the end of the fiscal year covered by this Form 10-K.

PLAINS ALL AMERICAN PIPELINE, L.P. AND SUBSIDIARIES FORM 10-K—2021 ANNUAL REPORT Table of Contents

		Page
	<u>PART I</u>	5
Items 1 and 2.	Business and Properties	5
Item 1A.	Risk Factors	42
<u>Item 1B.</u>	Unresolved Staff Comments	69
<u>Item 3.</u>	Legal Proceedings	69
<u>Item 4.</u>	Mine Safety Disclosures	69
	<u>PART II</u>	70
Item 5.	Market for Registrant's Common Units, Related Unitholder Matters and Issuer Purchases of Equity Securities	70
<u>Item 6.</u>	Reserved	72
<u>Item 7.</u>	Management's Discussion and Analysis of Financial Condition and Results of Operations	72
<u>Item 7A.</u>	Quantitative and Qualitative Disclosures About Market Risk	100
<u>Item 8.</u>	Financial Statements and Supplementary Data	101
<u>Item 9.</u>	Changes in and Disagreements With Accountants on Accounting and Financial Disclosure	101
Item 9A.	Controls and Procedures	101
Item 9B.	Other Information	102
	PART III	103
<u>Item 10.</u>	Directors and Executive Officers of Our General Partner and Corporate Governance	103
<u>Item 11.</u>	Executive Compensation	103
<u>Item 12.</u>	Security Ownership of Certain Beneficial Owners and Management and Related Unitholder Matters	103
<u>Item 13.</u>	Certain Relationships and Related Transactions, and Director Independence	104
<u>Item 14.</u>	Principal Accountant Fees and Services	104
	PART IV	105
<u>Item 15.</u>	Exhibits and Financial Statement Schedules	105
<u>Item 16.</u>	Form 10-K Summary	110

FORWARD-LOOKING STATEMENTS

All statements included in this report, other than statements of historical fact, are forward-looking statements, including but not limited to statements incorporating the words "anticipate," "believe," "estimate," "expect," "plan," "intend" and "forecast," as well as similar expressions and statements regarding our business strategy, plans and objectives for future operations. The absence of such words, expressions or statements, however, does not mean that the statements are not forward-looking. Any such forward-looking statements reflect our current views with respect to future events, based on what we believe to be reasonable assumptions. Certain factors could cause actual results or outcomes to differ materially from the results or outcomes anticipated in the forwardlooking statements. The most important of these factors include, but are not limited to:

- declines in global crude oil demand and crude oil prices (whether due to the COVID-19 pandemic, future pandemics or other factors) that correspondingly lead to a significant reduction
 of North American crude oil and natural gas liquids ("NGL") production (whether due to reduced producer cash flow to fund drilling activities or the inability of producers to access
 capital, or both, the unavailability of pipeline and/or storage capacity, the shutting-in of production by producers, government-mandated pro-ration orders, or other factors), which in turn
 could result in significant declines in the actual or expected volume of crude oil and NGL shipped, processed, purchased, stored, fractionated and/or gathered at or through the use of our
 assets and/or the reduction of commercial opportunities that might otherwise be available to us;
- the effects of competition and capacity overbuild in areas where we operate, including downward pressure on rates and margins, contract renewal risk and the risk of loss of business to
 other midstream operators who are willing or under pressure to aggressively reduce transportation rates in order to capture or preserve customers;
- negative societal sentiment regarding the hydrocarbon energy industry and the continued development and consumption of hydrocarbons, which could influence consumer preferences
 and governmental or regulatory actions that adversely impact our business;
- unanticipated changes in crude oil and NGL market structure, grade differentials and volatility (or lack thereof);
- general economic, market or business conditions in the United States and elsewhere (including the potential for a recession or significant slowdown in economic activity levels, the risk
 of persistently high inflation and continued supply chain issues, the impact of coronavirus variants on demand and growth, and the timing, pace and extent of economic recovery) that
 impact (i) demand for crude oil, drilling and production activities and therefore the demand for the midstream services we provide, and (ii) commercial opportunities available to us;
- the impact of current and future laws, rulings, governmental regulations, executive orders, trade policies, accounting standards and statements, and related interpretations, including
 legislation, executive orders or regulatory initiatives that arise out of pandemic related concerns, that prohibit, restrict or regulate hydraulic fracturing or that prohibit the development of
 oil and gas resources and the related infrastructure on lands dedicated to or served by our pipelines;
- · environmental liabilities, litigation or other events that are not covered by an indemnity, insurance or existing reserves;
- · loss of key personnel and inability to attract and retain new talent;
- fluctuations in refinery capacity in areas supplied by our mainlines and other factors affecting demand for various grades of crude oil and NGL and resulting changes in pricing conditions or transportation throughput requirements;
- · the availability of, and our ability to consummate, divestitures, joint ventures, acquisitions or other strategic opportunities;
- the successful operation of joint ventures and joint operating arrangements we enter into from time to time, whether relating to assets operated by us or by third parties, and the successful integration and future performance of acquired assets or businesses;
- · maintenance of our credit rating and ability to receive open credit from our suppliers and trade counterparties;
- the occurrence of a natural disaster, catastrophe, terrorist attack (including eco-terrorist attacks) or other event that materially impacts our operations, including cyber or other attacks on our electronic and computer systems;
- · weather interference with business operations or project construction, including the impact of extreme weather events or conditions;

- significant under-utilization of our assets and facilities;
- the refusal or inability of our customers or counterparties to perform their obligations under their contracts with us (including commercial contracts, asset sale agreements and other agreements), whether justified or not and whether due to financial constraints (such as reduced creditworthiness, liquidity issues or insolvency), market constraints, legal constraints (including governmental orders or guidance), the exercise of contractual or common law rights that allegedly excuse their performance (such as force majeure or similar claims) or other factors;
- our inability to perform our obligations under our contracts, whether due to non-performance by third parties, including our customers or counterparties, market constraints, third-party constraints, supply chain issues, legal constraints (including governmental orders or guidance), or other factors or events;
- · the incurrence of costs and expenses related to unexpected or unplanned capital expenditures, third-party claims or other factors;
- disruptions to futures markets for crude oil, NGL and other petroleum products, which may impair our ability to execute our commercial or hedging strategies;
- · failure to implement or capitalize, or delays in implementing or capitalizing, on investment capital projects, whether due to permitting delays, permitting withdrawals or other factors;
- shortages or cost increases of supplies, materials or labor;
- tightened capital markets or other factors that increase our cost of capital or limit our ability to obtain debt or equity financing on satisfactory terms to fund additional acquisitions, investment capital projects, working capital requirements and the repayment or refinancing of indebtedness;
- the amplification of other risks caused by volatile financial markets, capital constraints, liquidity concerns and inflation;
- · the use or availability of third-party assets upon which our operations depend and over which we have little or no control;
- · the currency exchange rate of the Canadian dollar to the United States dollar;
- inability to recognize current revenue attributable to deficiency payments received from customers who fail to ship or move more than minimum contracted volumes until the related credits expire or are used;
- increased costs, or lack of availability, of insurance;
- the effectiveness of our risk management activities;
- fluctuations in the debt and equity markets, including the price of our units at the time of vesting under our long-term incentive plans;
- risks related to the development and operation of our assets; and
- other factors and uncertainties inherent in the transportation, storage, terminalling and marketing of crude oil, as well as in the processing, transportation, fractionation, storage and marketing of NGL.

Other factors described herein, as well as factors that are unknown or unpredictable, could also have a material adverse effect on future results. Please read Item 1A. "Risk Factors." Except as required by applicable securities laws, we do not intend to update these forward-looking statements and information.

Items 1 and 2. Business and Properties

General

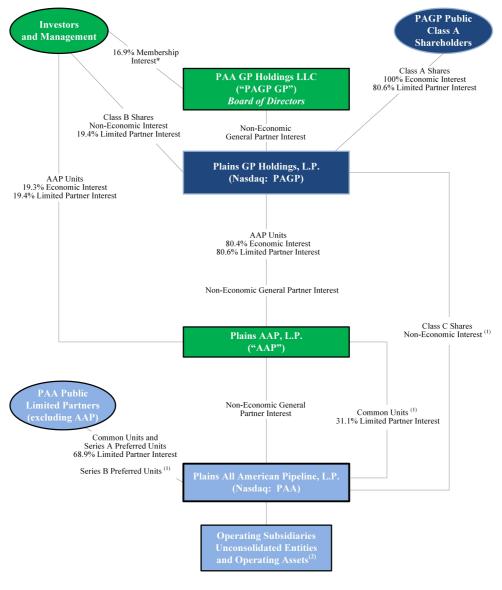
Plains All American Pipeline, L.P. is a publicly traded Delaware limited partnership. Our common units are listed on the Nasdaq Global Select Market ("Nasdaq") under the ticker symbol "PAA." Our business model integrates large-scale supply aggregation capabilities with the ownership and operation of critical midstream infrastructure systems that connect major producing regions to key demand centers and export terminals. As one of the largest midstream service providers in North America, we own an extensive network of pipeline transportation, terminalling, storage and gathering assets in key crude oil and natural gas liquids ("NGL") producing basins (including the Permian Basin) and transportation corridors and at major market hubs in the United States and Canada. Our assets and the services we provide are primarily focused on crude oil and NGL.

Our business is based on the fundamental thesis that hydrocarbons are essential to the security and advancement of human quality of life and will continue to play a major long-term role in the world economy. We further believe that midstream energy infrastructure provides a critical link between energy supply and demand, and is fundamental to the maintenance and advancement of our modern-day standard of living. Acknowledging the need for multiple forms of energy to meet growing world-wide demand, we believe absolute hydrocarbon demand will increase over time, driven by global population growth and a desire to improve quality of life in lesser developed countries throughout the world. Furthermore, we believe existing energy infrastructure will play a critical role in supporting energing energy and energy transition initiatives. As a result, we believe that midstream energy infrastructure will remain critical and valuable.

Our operations are conducted directly and indirectly through our primary operating subsidiaries, which comprise 100% of the assets and operations affiliated with Plains and its subsidiaries. As used in this Form 10-K and unless the context indicates otherwise, the terms "Partnership," "Plains," "PAA," "we," "us," "our," "our," "ours" and similar terms refer to Plains All American Pipeline, L.P. and its subsidiaries.

Organizational Structure

The diagram below shows our organizational structure as of December 31, 2021 in a summarized format:



 \ast The remaining 83.1% membership interest in PAGP GP is owned by PAGP.

- (1) Each Class C share represents a non-economic limited partner interest in PAGP. The number of Class C shares that we own is equal to the number of outstanding common units and Series A Preferred units ("Common Unit Equivalents") that are entitled to vote, pro rata with the holders of PAGP Class A and Class B shares, for the election of eligible PAGP GP directors. The Class C shares function as a "pass-through" voting mechanism through which we vote at the direction of and as proxy for our common unitholders and Series A preferred unitholders in such director elections. Common units held by AAP and Series B preferred units are not entitled to vote in the election of directors.
- (2) The Partnership holds (i) direct and indirect ownership interests in consolidated operating subsidiaries including, but not limited to, Plains Marketing, L.P., Plains Pipeline, L.P., Plains Midstream Canada ULC ("PMCULC"), Plains Oryx Permian Basin LLC (the "Permian JV") and Red River Pipeline Company LLC ("Red River") and (ii) indirect equity interests in unconsolidated entities including, but not limited to, BridgeTex Pipeline Company, LLC, Cactus II Pipeline LLC, Capline Pipeline Company LLC, Diamond Pipeline LLC, Eagle Ford Pipeline LLC, Eagle Ford Terminals Corpus Christi LLC, Saddlehorn Pipeline Company, LLC, White Cliffs Pipeline, L.L.C. and Wink to Webster Pipeline LLC.

Business Strategy

Our principal business strategy is to provide competitive and efficient midstream infrastructure and logistics services to producers, refiners and other customers. We strive to address regional supply and demand imbalances for crude oil and NGL in the United States and Canada by combining the strategic location and capabilities of our transportation, terminalling, storage, processing and fractionation assets with our commercial expertise. We intend to execute our strategy by:

- Focusing on operational excellence, continuous improvement and running a safe, reliable, environmentally and socially responsible operation;
- Using our well positioned network of midstream infrastructure in conjunction with our commercial capabilities to provide our customers with market access, flexibility and value chain solutions, capture market opportunities, address physical market imbalances, mitigate risks and generate sustainable cash flow and margin;
- · Optimizing our asset portfolio and operations (including for emerging energy opportunities) to maximize returns on invested capital; and
- Pursuing a balanced, long-term financial strategy that is focused on maintaining an investment grade credit profile and enhancing financial flexibility by making disciplined capital
 allocation decisions.

We believe successful execution of this strategy will enable us to generate sustainable earnings and cash flow, and will position us to reduce leverage and maintain an investment grade credit profile while increasing returns to equity holders over time.

Competitive Strengths

We believe that the following competitive strengths position us to successfully execute our principal business strategy:

- We own a strategically located, geographically diverse and interconnected large-scale asset base that provides operational flexibility and commercial optionality. The majority of our primary transportation assets are in crude oil service, are located in well-established crude oil producing regions (with our largest asset presence in the Permian Basin) and other transportation corridors and are connected, directly or indirectly, with our terminals and facilities assets. The majority of our terminals and facilities assets are located at major trading locations and premium markets that serve as gateways to major North American refinery and distribution markets and key export terminals where we have strong business relationships. In addition, our pipeline, rail, truck and storage assets provide our customers and us with significant flexibility and optionality to satisfy demand and balance markets, and participate in emerging energy opportunities.
- Our full-service integrated model and long-term focus attracts broad, diverse and high-quality customer base that supports sustainable fee-based cash flow generation. Our strategically located and interconnected asset base enables us to provide our customers with a wide variety of services, including supply aggregation, quality segregation, flow assurance and market access. We focus on building long-term relationships and alignment of interests with our customers. We believe this approach has helped us build a high-quality portfolio of customers and contracts (including long-term, third-party transportation contracts and acreage dedication contracts) that provide long-term volume support for our assets and, in turn, support long-term fee-based cash flow generation from our assets.
- We possess specialized crude oil and NGL market knowledge. We believe our business relationships with participants in various phases of the crude oil and NGL distribution chain, from producers to refiners, as well as our own industry expertise (including our knowledge of North American crude oil and NGL flows), provide us with extensive market insight and an understanding of the North American physical crude oil and NGL markets that enables us to provide value chain solutions for our customers.
- Our merchant activities provide us with the opportunity to realize incremental margins. We believe the variety of our merchant activities provides us with a low-risk opportunity to generate incremental margin, the amount of which may vary depending on market conditions (such as differentials and certain competitive factors).
- We have the financial, strategic and technical skills needed to execute strategic transactions that support our business and financial objectives, including joint ventures, joint ownership arrangements, acquisitions and divestitures. Since 2016, we have consummated over 10 joint venture and/or joint ownership arrangements, including the Permian JV formation completed in October 2021, and completed over \$4.5 billion of divestitures of non-core assets and/or strategic sales of partial interests in selected assets. In addition, although acquisitions and capital projects are not the primary focus of our current capital allocation priorities, since the completion of our initial public offering in 1998, we have completed and integrated over 90 acquisitions with an aggregate purchase price of approximately \$13.7 billion and implemented investment capital projects totaling approximately \$16.9 billion.
- We have an experienced management team whose interests are aligned with those of our unitholders. Our executive management team has an average of 30+ years of experience spanning across all sectors of the energy industry, as well as investment banking, and an average of 15 years with us or our predecessors and affiliates. In addition, through their ownership of common units and grants of phantom units, our management team has a vested interest in our continued success.



Financial Strategy

Targeted Credit Profile

We believe that a major factor in our continued success is our ability to maintain significant financial flexibility. An important part of our financial strategy is our commitment to maximizing free cash flow, continuing to reduce leverage and increasing cash returned to our unitholders.

In that regard, we intend to maintain a credit profile that we believe is consistent with investment grade credit ratings. We target a credit profile with the following attributes:

- a leverage multiple averaging between 3.75x to 4.25x, which is calculated as total debt plus 50% of preferred units, divided by Adjusted EBITDA attributable to PAA (See Item 7. "Management's Discussion and Analysis of Financial Condition and Results of Operations—Results of Operations—Non-GAAP Financial Measures" for our definition of Adjusted EBITDA and a reconciliation to Adjusted EBITDA attributable to PAA.);
 - this is roughly equivalent to a long-term debt-to-Adjusted EBITDA attributable to PAA multiple of between 3.0x and 3.5x;
- an average long-term debt-to-total capitalization ratio of approximately 50% or less;
- an average total debt-to-total capitalization ratio of approximately 60% or less; and
- an average Adjusted EBITDA-to-interest coverage multiple of approximately 3.3x or better.

At December 31, 2021, our publicly-traded senior notes comprised approximately 99% of our long-term debt. Additionally, we also routinely incur short-term debt primarily in connection with our merchant activities that involve the simultaneous purchase and forward sale of crude oil and NGL. The crude oil and NGL purchased in these transactions are volumetrically hedged. These borrowings are self-liquidating as they are repaid with sales proceeds. We also incur short-term debt to fund New York Mercantile Exchange ("NYMEX") and Intercontinental Exchange ("ICE") margin requirements. In certain market conditions, these routine short-term debt levels may increase above baseline levels. Similar to our working capital borrowings, these borrowings are self-liquidating. We do not consider the working capital borrowings or margin requirements associated with these activities to be part of our long-term capital structure.

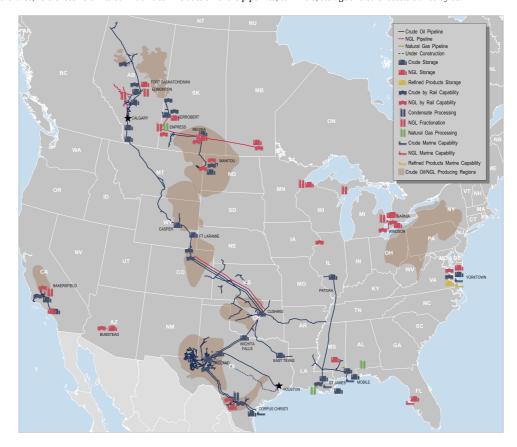
Values and Sustainability

Our Core Values include Safety and Environmental Stewardship, Accountability, Ethics and Integrity and Respect and Fairness. Our Code of Business Conduct sets forth the ways in which these Core Values govern how we conduct ourselves and engage in business relationships. Our approach to sustainability involves integrating prudent environmental, social and governance ("ESG") practices throughout the organization with a focus on transparency and building trust among stakeholders, managing operating and business risks and minimizing environmental and climate-related impacts, and levering our people, assets and systems to maximize long-term value for our stakeholders. The tenets of sustainability align with our values, underpin our business strategy and offer a framework to measure and report our progress. Annual environmental, safety and operational performance targets help us measure progress toward meeting our sustainability of 12021 we established a new Health, Safety, Environmental and Sustainability ("HSES") Board Committee to provide additional oversight and perspectives with respect to HSES and our commitment to environmental and social responsibility is available in the Sustainability section of our website. See "—Available Information" below.

Description of Segments and Associated Assets

Our business activities are conducted through two segments—Crude Oil and Natural Gas Liquids ("NGL"). Prior to the fourth quarter of 2021, our reporting segments were Transportation, Facilities and Supply and Logistics. The change in our segments is reflective of a change in how our Chief Operating Decision Maker ("CODM") (our Chief Executive Officer) views our business and stems primarily from (i) a multi-year transition in the midstream energy industry driven by increased competition that has reduced the stand alone earnings opportunities of our supply and logistics activities such that those activities now primarily support our effort to increase the utilization of our Crude Oil and NGL assets and (ii) internal changes regarding the oversight and reporting of our assets and related results of operations. See Note 20 to our Consolidated Financial Statements for additional information.

We have an extensive network of pipeline transportation, terminalling, storage and gathering assets in key crude oil and NGL producing basins and transportation corridors and at major market hubs in the United States and Canada. The map and descriptions below highlight our more significant assets (including certain assets under construction or development) as of December 31, 2021. Unless the context requires otherwise, references herein to our "facilities" includes all of the pipelines, terminals, storage and other assets owned by us.



Following is a description of the activities and assets for each of our segments.



Crude Oil Segment

Crude Oil Market and Business Overview

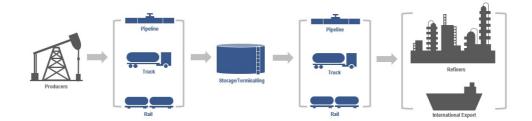
Crude oil is a global commodity that serves as feedstock for many of the world's essential refined products such as transportation fuels (gasoline, diesel, jet fuel) and heating oil, among others. While commodities are typically considered unspecialized, mass-produced and fungible, crude oil is neither unspecialized nor fungible. The crude slate available to North American and world-wide refineries consists of a substantial number of different grades and varieties. Each crude oil grade has distinguishing physical properties. For example, specific gravity (generally referred to as light or heavy), sulfur content (generally referred to as sweet or sour) and metals content, along with other characteristics, collectively result in varying economic attributes of a particular grade or type of crude oil. In many cases, these factors result in the need for such grades to be batched or segregated in the transportation and storage processes, blended to precise specifications or adjusted in value.

The lack of fungibility of the various grades of crude oil creates logistical transportation, terminalling and storage challenges and inefficiencies associated with regional volumetric supply and demand imbalances. These logistical inefficiencies are created as certain qualities of crude oil are indigenous to particular regions or countries. Also, each refinery has a distinct configuration of process units designed to handle particular grades of crude oil. The relative yields and the cost to obtain, transport and process the crude oil, combined with the value of finished goods created, drive a refinery's choice of feedstock.

Our business model integrates large-scale supply aggregation capabilities with the ownership and operation of critical infrastructure systems that connect major producing regions (supply) to key demand centers (refineries) and export terminals. Our assets and our business strategy are designed to serve our producer and refiner customers by addressing regional crude oil supply and demand imbalances that exist in the United States and Canada. The nature and extent of supply and demand imbalances change from time to time as a result of a variety of factors, including global demand for exports; regional production declines and/or increases; refinery expansions, modifications and shut-downs; available transportation and storage capacity; and government mandates and related regulatory factors.

Our Crude Oil segment operations generally consist of gathering and transporting crude oil using pipelines, gathering systems, trucks and at times on barges or railcars, in addition to providing terminalling, storage and other facilities-related services utilizing our integrated assets across the United States and Canada. Our assets serve third parties and are also supported by our merchant activities. Our merchant activities include the purchase of crude oil supply and the movement of this supply on our assets to sales locations, including our terminals, third-party connecting carriers, regional hubs or to refineries. Our merchant activities are subject to our risk-management policies and may include the use of derivative instruments to hedge our exposure. Crude oil sales arrangements are also subject to our credit policies.

The figure below provides an illustrative and simplified overview of the assets and activities associated with our Crude Oil segment:



With respect to the transportation assets in this segment, we primarily generate revenue through a combination of tariffs, pipeline capacity agreements and other transportation fees. With respect to our facilities assets in this segment, we primarily generate revenue through a combination of month-to-month and multi-year agreements and arrangements which include (i) storage, throughput and loading/unloading fees at our crude oil facilities, and (ii) fees from condensate processing services. We also generate significant revenue through our commercial and merchant activities that supply volumes to our transportation and storage assets, although such activities are generally low margin.



Crude Oil Segment Assets Overview

As of December 31, 2021, in this segment we employed a variety of owned or, to a much lesser extent, leased long-term physical transportation and facilities assets throughout the United States and Canada, including approximately:

- 18,300 miles of active crude oil transportation pipelines and gathering systems, and an additional 110 miles of pipelines that support our crude oil storage and terminalling facilities;
- 74 million barrels of commercial crude oil storage capacity at our terminalling and storage locations;
- 38 million barrels of active, above-ground tank capacity used to facilitate pipeline throughput and help maintain product quality segregation;
- four marine facilities in the United States;
- a condensate processing facility located in the Eagle Ford area of South Texas with an aggregate processing capacity of 120,000 barrels per day;
- seven crude oil rail terminals and 2,100 crude oil railcars; and
- 640 trucks and 1,275 trailers.

Additionally, our assets include the linefill associated with our commercial activities, including approximately:

- 15 million barrels of crude oil linefill in pipelines and tanks owned by us; and
- 3 million barrels of crude oil utilized as linefill in pipelines owned by third parties or otherwise required as long-term inventory.

Crude Oil Pipelines

The following table presents active miles and average daily volumes for our crude oil pipelines in the United States and Canada as of December 31, 2021, grouped by geographic location:

Region	Ownership Percentage	Approximate ₍₁ System Miles	2021 Average Net Barrels per Day ⁽²⁾
			(in thousands)
Permian Basin:			
Gathering pipelines ⁽³⁾	40% - 65%	4,895	1,643
Intra-basin pipelines ⁽⁴⁾	50% - 100%	815	1,740
Long-haul pipelines ⁽⁴⁾	16% - 100%	1,620	1,029
		7,330	4,412
South Texas/Eagle Ford	50% - 100%	825	326
Mid-Continent	50% - 100%	2,485	455
Gulf Coast	54% - 100%	1,170	158
Rocky Mountain	21% - 100%	3,370	332
Western	100%	545	236
Canada	100%	2,575	286
Total		18,300	6,205

⁽¹⁾ Includes total mileage of pipelines in which we own less than 100%.

- (2) Represents average daily volumes for the entire year attributable to our interest for pipelines owned by unconsolidated entities or through undivided joint interests. Average daily volumes are calculated as the total volumes (attributable to our interest) for the year divided by the number of days in the year. Volumes reflect tariff movements and thus may be included multiple times as volumes move through our integrated system. Volumes associated with acquisitions represent total volumes for the number of days we actually owned the assets divided by the number of days in the period.
- (3) All of our gathering pipelines in the Permian Basin are owned by the Permian JV, a consolidated entity in which we own a 65% interest. The Permian JV has a 40% interest in an unconsolidated entity that owns one of the gathering pipelines in the Permian Basin.
- ⁽⁴⁾ Includes pipelines operated by a third party.

A significant portion of our crude oil pipeline assets are interconnected and are operated as a contiguous system. The following descriptions are organized by type and geographic location and represent a selection of our most significant assets. Pipeline capacities throughout these descriptions are based on our reasonable estimate of volumes that can be delivered from origin to final destination on our pipeline systems. We report pipeline volumes based on the tariffs charged for individual movements, some of which may only utilize a certain segment of a pipeline system (i.e. two short-haul movements on a pipeline from point A to point B and another from point B to point C would double the pipeline tariff volumes on a particular system versus a single point A to point C movement). As a result, at times, our reported tariff barrel movements may exceed our total capacity.

Our crude oil pipelines are comprised of:

- · gathering pipelines that move crude oil from wellhead or central battery connections to regional market hubs;
- intra-basin pipelines that are used as a hub system allowing for a significant amount of flexibility by creating connections between regional hub locations; and
- long-haul pipelines that move crude oil from (i) regional market hubs to major market hubs such as Cushing, Oklahoma or to export facilities, including our Corpus Christi terminal, or (ii) a refinery or other major market hubs, such as the Houston market.

Gathering Pipelines

Permian Basin. We operate approximately 4,900 miles of gathering pipelines in both the Midland Basin and the Delaware Basin that in aggregate represent approximately 3.7 million barrels per day of pipeline capacity. This gathering capacity includes pipeline capacity that delivers volumes to regional market hubs. Approximately 75% of the capacity of our gathering systems is in the Delaware Basin. All of our gathering pipelines in the Permian Basin are owned by the Permian JV, a consolidated entity in which we own a 65% interest.

South Texas/Eagle Ford. We own and operate various gathering systems in the Eagle Ford that connect into our Eagle Ford joint venture pipeline system that can deliver crude oil into markets in the Corpus Christi area, or to third-party pipelines with access to Houston area refiners.

Mid-Continent. We own and operate gathering pipelines that source crude oil from Western and Central Oklahoma and Southwest Kansas for transportation and delivery into our terminal facilities at Cushing, Oklahoma.

Rocky Mountain. We own and operate pipelines that provide gathering services in the Bakken and the Powder River Basin.

Western. We own and operate a pipeline in the San Joaquin Valley that gathers locally produced crude oil, which is then delivered via our Line 63 pipeline system and/or Line 2000 pipeline for transportation to Los Angeles area refiners.

Canada. We own and operate gathering systems that source crude oil from truck terminals and pipeline-connected facilities to deliver to the Enbridge Mainline system at our Kerrobert and Regina terminals in Saskatchewan.



Intra-basin Pipelines

Permian Basin. Our intra-basin pipeline system in the Permian Basin has a capacity of approximately 3.1 million barrels per day and connects gathering pipelines and truck injection volumes to our owned and operated as well as third-party mainline pipelines that transport crude oil to major market hubs. This interconnected pipeline system is designed to provide shippers flow assurance, flexibility and access to multiple markets. A majority of the intra-basin pipeline system is owned by the Permian JV, a consolidated entity in which we own a 65% interest.

Canada. We own and operate intra-basin pipelines with capacity of approximately 300,000 barrels per day that deliver crude from northern and southern Alberta to the Edmonton, Alberta market hub. These pipelines provide shippers with flexibility to access the Enbridge and TransMountain long-haul pipelines along with the Imperial Oil Refinery. In addition, we have one cross-border pipeline that has the flexibility to move up to 40,000 barrels per day of Canadian crude oil to our Rocky Mountain area long-haul pipelines.

Long-haul Pipelines

Permian Basin. We own interests in multiple long-haul pipeline systems that, on a combined basis, represent approximately 1.7 million barrels per day of currently operational takeaway capacity (net to our ownership interests) out of the Permian Basin to major market hubs in Corpus Christi and Houston, Texas and Cushing, Oklahoma. Below is a description of some of our most significant long-haul pipeline systems within the Permian Basin region.

Permian to Cushing/Mid-Continent

- *Basin Pipeline (Permian to Cushing).* We own an 87% undivided joint interest ("UJI") in and are the operator of Basin Pipeline. Basin Pipeline has three primary origination locations: Jal, New Mexico; Wink, Texas; and Midland, Texas and, in addition to making intra-basin movements, serves as the primary route for transporting crude oil from the Permian Basin to Cushing, Oklahoma. Basin Pipeline also receives crude oil from a facility in southern Oklahoma which aggregates South Central Oklahoma Oil Province (SCOOP) production.
- Sunrise II Pipeline. We operate the Sunrise II Pipeline and, through a UJI arrangement, own an 80% UJI, which equates to 400,000 barrels of the capacity of the pipeline. Our Sunrise II
 Pipeline transports crude oil from Midland and Colorado City to connecting carriers at Wichita Falls.

Permian to Gulf Coast

- BridgeTex Pipeline (Permian to Houston). We own a 20% interest in the legal entity that owns the BridgeTex Pipeline. The pipeline, operated by a subsidiary of Magellan Midstream Partners, L.P., originates at Colorado City, Texas and extends to Houston, Texas. The BridgeTex pipeline has a capacity of 440,000 barrels per day and is capable of receiving supply from both our Basin and Midland South (formerly Sunrise) pipelines.
- Cactus Pipeline (Permian to Corpus Christi). We own and operate the Cactus Pipeline, which has a capacity of 390,000 barrels per day, originates at McCamey, Texas and extends to Gardendale, Texas. The Cactus Pipeline connects to our Eagle Ford joint venture pipeline system at Gardendale for access to the Corpus Christi, Texas market. Movements to Corpus Christi are made on a joint tariff with the Eagle Ford joint venture pipeline.
- Cactus II Pipeline (Permian to Corpus Christi). We own a 65% interest in the legal entity that owns the Cactus II Pipeline ("Cactus II"), which we operate. Cactus II is a Permian mainline system that extends directly to the Corpus Christi market, and has a capacity of 670,000 barrels per day.
- Wink to Webster Pipeline. We own a 16% interest in the legal entity that owns the Wink to Webster Pipeline ("W2W Pipeline"), which in turn owns 100% of certain segments of the W2W Pipeline and a 71% UJI in the segment from Midland, Texas to Webster, Texas. The W2W Pipeline originates in the Permian Basin in West Texas and transports crude oil to multiple destinations in the Houston and Galveston market areas. The pipeline system will provide approximately 1.5 million barrels per day of crude oil capacity (1.1 million barrels per day, net to the UJI interest) and is supported by long-term shipper commitments. Phase one of the pipeline system from Midland, Texas to Webster, Texas is currently in service. Phase two, which increases the pipeline system to 1.5 million barrels per day of capacity, was placed in service in the first quarter of 2022, at which time long-term shipper commitments became effective. The third phase of the project, which includes the segments from Wink,

Texas to Midland, Texas and from Webster, Texas to Baytown, Texas, has been deferred by the partners until the fourth quarter of 2023.

South Texas/Eagle Ford. We own a 50% interest in the legal entity that owns the Eagle Ford Pipeline through a joint venture with a subsidiary of Enterprise. We serve as the operator of the Eagle Ford Pipeline, which has a total capacity of approximately 660,000 barrels per day and connects Permian and Eagle Ford area production to Corpus Christi, Texas refiners and terminals. Additionally, the Eagle Ford Pipeline has connectivity to Houston, Texas via a connection with Enterprise's pipeline at Lyssy, Texas.

Mid-Continent. We own and operate various pipeline systems that extend from our Cushing terminal in Oklahoma to various refineries and/or crude oil hubs. Below is a description of some of our most significant pipeline systems in the Mid-Continent region.

- Diamond Pipeline (Cushing to Memphis). We own a 50% interest in the legal entity that owns the Diamond Pipeline through a joint venture with Valero Energy Corporation ("Valero"). We operate the Diamond Pipeline, which extends from our Cushing Terminal to Valero's refinery in Memphis, Tennessee. The Diamond Pipeline is underpinned by a long-term minimum volume commitment and currently has a total capacity of 200,000 barrels per day.
- Red River Pipeline (Cushing to Longview). We own 67% of the legal entity that owns the Red River Pipeline through a joint venture with Delek Logistics Partners, LP ("Delek"). The Red River Pipeline is an approximately 235,000 barrel per day capacity pipeline that extends from our Cushing Terminal in Oklahoma to Longview, Texas, where it connects with various pipelines. The Red River Pipeline is supported by long-term shipper commitments, and we serve as operator. The Red River JV has an approximate 69% UJI in the pipeline segment from Cushing to Hewitt and owns 100% of the segment of the pipeline extending from Hewitt to Longview.

Gulf Coast. We own an approximate 54% interest in the legal entity that owns the Capline Pipeline. Upon completion of its reversal project in 2021, the Capline Pipeline extends from Patoka, Illinois to various terminals in St. James, Louisiana. The Capline Pipeline is supported by long-term shipper commitments, and a subsidiary of Marathon Petroleum Corporation serves as the operator.

Rocky Mountain. Our pipeline systems in the Rocky Mountain region provide access to our terminal in Cushing, Oklahoma as well as other major market hubs. We own and operate the Bakken North pipeline system that accommodates bidirectional flow and can move crude oil from the Bakken to the Enbridge Mainline system at Regina, Saskatchewan or from the Enbridge Mainline system to our terminal in Trenton, North Dakota. We own a UJI in the Western Corridor pipeline system that extends from the Canadian border to our terminal in Guernsey, Wyoming. This pipeline system receives crude oil from our Rangeland Pipeline in Canada. In addition to these assets, our largest Rocky Mountain area systems include the following joint venture pipelines, both of which connect to our terminal in Cushing, Oklahoma.

- Saddlehorn Pipeline. We own a 30% interest in the legal entity that owns the Saddlehorn Pipeline which, through a UJI arrangement, owns 290,000 barrels per day of capacity in the Saddlehorn Pipeline. The pipeline extends from the Niobrara and Denver-Julesburg ("DJ") Basin to Cushing and is operated by Magellan. The Saddlehorn Pipeline is supported by minimum volume commitments.
- White Cliffs Pipeline. We own an approximate 36% interest in the entity that owns the White Cliffs Pipeline system through a joint venture with three other partners. The White Cliffs
 Pipeline system consists of one crude oil pipeline with approximately 100,000 barrels per day of capacity that extends from the DJ Basin to Cushing, Oklahoma and one NGL pipeline
 with approximately 90,000 barrels per day of capacity that extends from the DJ Basin to a tie-in location with the Southern Hills Pipeline in Oklahoma. The NGL pipeline is supported
 by a long-term capacity lease and long-term throughput agreements. A subsidiary of Energy Transfer LP serves as the operator of the pipelines.

Western. We own and operate the Line 63 and Line 2000 pipelines in California. Line 2000 is a mainline system that has the capacity to transport approximately 110,000 barrels per day from the San Joaquin Valley to refineries and terminal facilities in the Los Angeles area. Line 63 is used as a gathering and distribution system. The pipeline gathers crude oil in the San Joaquin Valley for delivery to Line 2000 and local refiners. In the Los Angeles area, the Line 63 distribution lines are used to move crude oil from Line 2000 to local refiners.

Crude Oil Storage and Terminalling Facilities

Our largest crude oil terminals are located in key market hubs, including Cushing, Oklahoma, St. James, Louisiana, Midland, Texas and Patoka, Illinois, and have connectivity to all major inbound and outbound pipelines and other terminals at these hubs.

We are the largest provider of crude oil terminalling services in Cushing, Oklahoma, which is one of the largest physical trading hubs in the United States and is the delivery point for crude oil futures contracts traded on the NYMEX. Our Cushing Terminal has been designated by the NYMEX as an approved delivery location for crude oil delivered under the NYMEX light sweet crude oil futures contract.

Our Cushing terminal is connected to our long-haul pipelines from the Permian Basin and Rocky Mountain regions, as well as to our Mid-Continent region gathering pipelines. Additionally, the terminal supplies crude oil to all of our joint venture, Mid-Continent region long-haul pipelines.

Our Midland terminal has access to all of the Permian JV gathering pipelines, either through direct connections, or through the Permian JV intra-basin pipelines. Likewise, the terminal is also either directly connected, or connected through the Permian JV intra-basin pipelines to all of our Permian Basin long-haul pipelines.

Our terminals at Corpus Christi, Texas, St. James, Louisiana and Mobile, Alabama all have docks and the capacity to export crude oil. In addition, our St James terminal has a rail unload facility that can move crude from rail cars to pipelines that service local refiners, or to our dock for export.

Our Patoka and St. James terminals are both connected to Capline pipeline, and the terminals will be a receipt and destination facility, respectively.

Our crude oil terminals have significant flexibility and operational capabilities, including large-scale multi-grade handling and segregation capabilities and multiple marine transportation loading and unloading capabilities. The table below presents our commercial crude oil storage capacity by location as of December 31, 2021:

Crude Oil Storage Facilities	Total Capacity (MMBbls)
Cushing	27
St. James	15
Patoka	7
Permian Basin Area	8
Mobile and Ten Mile Corpus Christi ⁽¹⁾ Other ⁽²⁾	5
Corpus Christi ⁽¹⁾	1
Other ⁽²⁾	11
	74

⁽¹⁾ We own 50% of this storage capacity through our investment in Eagle Ford Terminals Corpus Christi LLC.

⁽²⁾ Amount includes approximately 2 million barrels of storage capacity associated with our crude oil rail terminal operations.

Condensate Processing Facility

Our Gardendale condensate processing facility is located in La Salle County, Texas. The facility stabilizes condensate that is primarily sourced from our Eagle Ford area gathering systems. The stabilized condensate is delivered to a third-party pipeline that delivers into Mont Belvieu, Texas. The facility has a total processing capacity of 120,000 barrels per day and usable storage capacity of 160,000 barrels. Throughput at the Gardendale processing facility is supplied by long-term commitments from producers.



Crude Oil Rail Facilities

We own crude oil rail loading facilities located at or near Carr, Colorado; Tampa, Colorado; Manitou, North Dakota; and Kerrobert, Saskatchewan. We own crude oil rail unloading facilities in St. James, Louisiana; Yorktown, Virginia; and Bakersfield, California. Our crude oil rail facilities have aggregate loading and unloading capacity of 264,000 and 350,000 barrels per day, respectively.

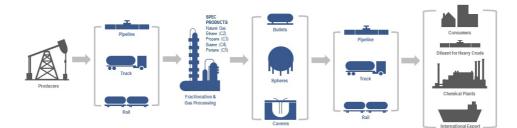
Natural Gas Liquids ("NGL") Segment

NGL Market and Business Overview

NGL primarily includes ethane, propane, normal butane, iso-butane and natural gasoline, and is derived from natural gas production and processing activities, as well as crude oil refining processes. The individual NGL components are used for various purposes including heating, engine and industrial fuels, a component of motor gasoline and as the primary feedstock for petrochemical facilities that produce many everyday consumer products, including a wide range of plastics and synthetic rubber.

Our NGL segment operations involve natural gas processing and NGL fractionation, storage, transportation and terminalling. Our NGL revenues are primarily derived from a combination of (i) providing gathering, fractionation, storage, and/or terminalling services to third-party customers for a fee, and (ii) our merchant activities that support the assets. Our merchant activities include the acquisition of extraction rights from producers and/or shippers of the gas streams that pass through our Empress facility. The extraction rights allow us to process that gas at our Empress facility and extract the higher valued NGL from the gas stream. We then purchase natural gas to replace the thermal content attributable to the NGL that was extracted. We also acquire NGL mix supply and use our assets to store and fractionate it into finished products to sell to third party customers. We may also acquire finished NGL products to be seasonally stored in our storage caverns, which is then resold to thrid-party customers. Often times we will use derivative instruments to hedge the margins related to these merchant activities. Such hedging activity is governed by our risk management policies. NGL sales arrangements are also subject to our credit policies.

The figure below provides an illustrative and simplified overview of the assets and activities associated with our NGL segment:





NGL Segment Assets Overview

We operate a highly integrated network of assets, strategically positioned across Canada and the United States, with a particular focus on serving production from the liquids-rich Western Canadian Sedimentary Basin. As of December 31, 2021, the assets utilized in our NGL segment included the following:

- four natural gas processing plants;
- nine fractionation plants located throughout Canada and the United States with an aggregate useable capacity of approximately 200,100 barrels per day;
- NGL storage facilities with approximately 28 million barrels of capacity;
- approximately 1,620 miles of active NGL transportation pipelines and an additional 55 miles of pipeline that support our NGL storage facilities;
- 16 NGL rail terminals and approximately 3,900 NGL rail cars; and

approximately 220 trailers.

- Additionally, our assets include the linefill associated with our commercial activities, including approximately:
- 2 million barrels of NGL linefill in pipelines and tanks owned by us; and
- 1 million barrels of NGL utilized as linefill in pipelines owned by third parties or otherwise required as long-term inventory.

The tables below present volumes and capacities for our NGL assets and activities as of December 31, 2021 and our natural gas processing and NGL infrastructure and activities are described further below.

Natural Gas Processing Facilities	Ownership Interest	Gas Processing Capacity (Bcf/d) ⁽¹⁾	Average Inlet Volume ⁽²⁾ (Bcf/d)
Empress	66-100%	5.5	2.7
NGL Fractionation Facilities	Ownership Interest	Fractionation Capacity (Bbls/d) ⁽¹⁾	Average Volume ⁽²⁾ (Bbls/d)
Empress	100 %	23,300	22,200
Fort Saskatchewan	21-100%	61,700	41,400
Sarnia	62-84%	75,000	52,500
Other	82-100%	40,100	13,400
	=	200,100	129,500

~

NGL Storage Facilities	Storage Capacity ⁽¹⁾ (MMBbls)
Fort Saskatchewan	11
Sarnia Empress Other	7
Empress	4
Other	6
	28

	Ownership Interest	Approximate ₃ System Miles	Average Volumes ⁽²⁾ (MBbls/d)
NGL Pipelines	21-100%	1,620	179



	Ownership Interest	Number of Rack Spots	Number of Storage Spots
NGL Rail Facilities	75-100%	277	1,527

- ⁽¹⁾ Represents total average annual capacity of the facilities, net to our ownership interest.
- (2) Average daily volumes are calculated as the total volumes for the year, net to our share, divided by the number of days in the year.
- ⁽³⁾ Includes total mileage of pipelines in which we own less than 100%.

Natural Gas Processing and NGL Infrastructure

Our network of liquids infrastructure includes NGL fractionation facilities, underground NGL storage caverns, above ground storage tanks, NGL pipelines, and rail and truck terminals. With these assets, we process, fractionate, store and transport NGL such as ethane, propane, butane and condensate. The unique integrated and geographically diverse nature of our infrastructure provides the opportunity to maximize margins across the NGL value chain for both us and our customers, by enabling the movement of product from liquids rich producing regions to fractionators, refineries, export facilities and high-value market hubs across Canada. The most significant of these assets include the following:

Empress Facility

We own and/or operate four gas processing facilities near Empress, Alberta, with our ownership ranging from 66% to 100%. These facilities, referred to as straddle plants because they "straddle" gas transportation pipelines, process natural gas to extract ethane and NGL mix entrained in the gas stream before returning the gas to the transportation pipelines. We acquire the rights to extract the NGL from producers and/or shippers of the gas streams that pass through our Empress facility and then purchase natural gas to replace the thermal content attributable to the NGL that was extracted. The NGL mix can be fractionated at our Empress facility or transported along the Enbridge pipeline system for fractionation at our Sarnia facility.

Our Empress plants are capable of processing up to 5.5 Bcf of natural gas per day; however, supply available to these plants is typically in the 2.5 to 4.0 Bcf per day range. These plants produce approximately 50,000 to 85,000 barrels per day of ethane, and 30,000 to 50,000 barrels per day of NGL mix. Our Empress fractionation facility is capable of processing and producing up to 23,300 barrels per day of NGL products and is connected to rail loading infrastructure at Empress and our PPTC pipeline system which enables NGL to be transported to storage and loading terminals in Saskatchewan and Manitoba.

Co-Ed Pipeline

Our primary supply system, the Co-Ed NGL pipeline system, has transportation capacity of approximately 70,000 barrels per day and gathers NGL from Southwest and Central Alberta (Cardium, Deep Basin, and Alberta Montney) for delivery to our Fort Saskatchewan, Alberta NGL fractionation facilities.

Fort Saskatchewan Complex

Our Fort Saskatchewan facility is located near Edmonton, Alberta in one of the key North American NGL hubs. The facility is a receipt, storage, fractionation and delivery facility for NGL and is connected to other major NGL plants and pipeline systems in the area. The facility's primary assets include 44,400 barrels per day of fractionation capacity, 12 storage caverns, and truck and rail loading capability. Our Fort Saskatchewan fractionation facility has a design capacity of 88,400 barrels per day and is able to produce up to approximately 44,400 barrels per day of propane, butane and condensate. The remaining throughput capacity is used to produce a propane and butane mix, which is transported via the Enbridge pipeline system to our Sarnia facility for further fractionation.

Within the Fort Saskatchewan area, we also hold an approximately 21% ownership in the Keyera Fort Saskatchewan facility, which includes fractionation capacity of approximately 17,300 barrels per day, net to our interest, and 16 storage caverns.



Sarnia Area

Our Sarnia Area facilities in Southwestern Ontario consist of (i) our Sarnia facility, (ii) our Windsor storage terminal and (iii) our St. Clair, Michigan terminal. The Sarnia facility is a large NGL fractionation and storage facility with rail and truck loading capabilities. The Sarnia Area facilities are served by a network of multiple pipelines connected to various refineries, chemical plants, and other pipeline and railroad systems in the area. This pipeline network also delivers product between our Sarnia facility and our Windsor and St. Clair storage facilities. The Sarnia fractionator receives NGL feedstock primarily from the Enbridge pipeline system and, to a lesser extent, from our rail unloading facility. The fractionation unit is able to produce an average of approximately 100,000 barrels per day of NGL products. Our ownership in the various processing units at the Sarnia fractionator ranges from 62% to 84%.

Impact of Commodity Price Volatility and Dynamic Market Conditions on Our Business Model

Crude oil, NGL and natural gas commodity prices have historically been very volatile. For example, in the last year, the prompt month NYMEX light, sweet futures contract (commonly referred to as "WTI") price ranged from a low of approximately \$48 per barrel to a high of approximately \$85 per barrel. Similarly, there has also been volatility within the propane and butane markets as seen through the North American benchmark price located at Mont Belvieu, Texas, as well as with the basis differentials between Mont Belvieu prices and prices realized at various market hubs in North America.

While our objective is to position the Partnership such that our overall annual cash flow is not materially adversely affected by the absolute level of energy prices, market volatility associated with shifts between demand-driven markets and supply-driven markets or other similar dynamics has in the past, and may in the future create market conditions that are more challenging to our business model. In extended periods of lower crude oil and/or NGL prices, or periods where the supply and demand fundamentals compress regional location differentials, our financial results may be adversely impacted. In such market conditions, product flows on our pipelines or through our facilities may be adversely impacted. Alternatively, in periods where supply exceeds regional demand and/or pipeline egress, product flows on our pipelines or through our facilities may be favorably impacted. In executing our business model, we employ a variety of financial risk management tools and techniques to manage our financial risk, predominantly related to our merchant activities. These are discussed in greater detail in the "—Risk Management" section below.

In addition, relative contribution levels will vary from quarter-to-quarter due to seasonality, particularly with respect to our NGL merchant activities.

Risk Management

In order to hedge margins involving our physical assets and manage risks associated with our various commodity purchase and sale obligations and, in certain circumstances, to realize incremental margin during volatile market conditions, we use derivative instruments. We also use various derivative instruments to manage our exposure to interest rate risk and currency exchange rate risk. In analyzing our risk management activities, we draw a distinction between enterprise-level risks and trading-related risks. Enterprise-level risks are those that underlie our core businesses and may be managed based on management's assessment of the cost or benefit of doing so. Conversely, trading-related risks (the risks involved in trading in the hopes of generating an increased return) are not inherent in our core business; rather, those risks arise as a result of engaging in trading activities. Our policy is to manage the enterprise-level risks inherent in our core businesses by using financial derivatives to protect our ability to generate cash flow and optimize asset profitability, rather than trying to profit from trading activity. Our commodity risk management policies and procedures are designed to monitor NYMEX, ICE and over-the-counter positions, as well as physical volumes, grades, locations, delivery schedules and storage capacity, to help ensure that our hedging activities address our risks. Our interest rate and currency exchange rate risk management policies and procedures are designed to monitor our derivative positions and ensure that those positions are consistent with our objectives and approved strategies. We have a risk management. Our risk management function also approves all new risk management strategies through a formal process. Our approved strategies are intended to mitigate and manage enterprise-level risks that are inherent in our core businesses.

Our policy is generally to structure our purchase and sales contracts so that price fluctuations do not materially affect our operating income, and not to acquire and hold physical inventory or derivatives for the purpose of speculating on outright commodity price changes. Although we seek to maintain a position that is substantially balanced within our merchant activities, we purchase crude oil, NGL and natural gas from thousands of locations and may experience net unbalanced positions for short periods of time as a result of production, transportation and delivery variances as well as logistical issues associated with inclement weather conditions and other uncontrollable events that may occur. When unscheduled physical inventory builds or draws do occur, they are monitored constantly and managed to a balanced position over a reasonable period of time. This activity is monitored independently by our risk management function and must take place within predefined limits and authorizations.

Credit

Our merchant activities in our Crude Oil and NGL segments require significant extensions of credit by our suppliers. In order to assure our ability to perform our obligations under the purchase agreements, various credit arrangements are negotiated with our suppliers. These arrangements include open lines of credit and, to a lesser extent, standby letters of credit issued under our hedged inventory facility or our senior unsecured revolving credit facility. In addition, storing crude oil, NGL or spec products in a contango market, or otherwise, requires us to have credit facilities to finance both the purchase of these products in the prompt month as well as margin requirements that may be required for the derivative instruments used to hedge our price exposure.

When we sell crude oil and NGL, we must determine the amount, if any, of credit to be extended to any given customer. Because our typical sales transactions can involve large volumes of crude oil or NGL, the risk of nonpayment and nonperformance by customers is a major consideration in our business. We believe our sales are made to creditworthy entities or entities with adequate credit support. See Note 3 to our Consolidated Financial Statements for further discussion of our credit review process and risk management procedures.

Customers

ExxonMobil Corporation and its subsidiaries accounted for 15%, 12% and 12% of our revenues for the years ended December 31, 2021, 2020 and 2019, respectively. Marathon Petroleum Corporation and its subsidiaries accounted for 12%, 13% and 12% of our revenues for the years ended December 31, 2021, 2020 and 2019, respectively. BP p.l.c. and its subsidiaries accounted for 10% of our revenues for the year ended December 31, 2021. Phillips 66 Company and its subsidiaries accounted for 11% of our revenues for the year ended December 31, 2021. Phillips 66 Company and its subsidiaries accounted for 11% of our revenues for the year ended December 31, 2021. No other customers accounted for 10% or more of our revenues for the year ended December 31, 2021. The majority of revenues from these customers pertain to our Crude Oil segment merchant activities, and sales to these customers occur at multiple locations. If we were to lose one or more of these customers, there is risk that we would not be able to identify and access a replacement market at a comparable margin. For a discussion of credit and industry concentration risk, see Note 16 to our Consolidated Financial Statements.

Competition

Competition among pipelines is based primarily on transportation charges, access to producing areas and supply regions and demand for crude oil and NGL by end users. Although new pipeline projects represent a source of competition for our business, there are also existing third-party owned pipelines with excess capacity in the vicinity of our operations that expose us to significant competition based on the relatively low operating cost associated with moving an incremental barrel of crude oil or NGL through such unutilized capacity. In areas where additional infrastructure is being built or has been built to accommodate new or increased production or changing product flows, we face competition in providing the required infrastructure solutions as well as the risk that capacity in the area will be overbuilt for the foreseeable future. As a result of multiple pipeline expansions in the Permian Basin and other areas, together with meaningful changes and delays in expected production growth due to COVID-19 impacts, we anticipate competition for uncommitted barrels and contract renewals and extensions will continue to be amplified in the coming years, increasing our contract renewal and customer retention risk and putting downward pressure on tariffs and margins.

In addition, depending upon the specific movement, pipelines, which generally offer the lowest cost of transportation, may also face competition from other forms of transportation, such as truck, rail and barge. Although these alternative forms of transportation are typically higher cost, they can provide access to alternative markets at which a higher price may be realized for the commodity being transported, thereby overcoming the increased transportation cost.

We also face competition with respect to our merchant activities and facilities services. Our competitors include other crude oil and NGL pipeline and terminalling companies, other NGL processing and fractionation companies, the major integrated oil companies and their marketing affiliates, independent gatherers, private equity backed entities, banks that have established a trading platform, brokers and marketers of widely varying sizes, financial resources and experience. Some of these competitors have capital resources greater than ours. In addition, recently constructed pipelines supported by minimum volume commitments and/or acreage dedications could also amplify the level of competition for purchasing wellhead barrels, especially in the Permian Basin and thus impact our margins.

Ongoing Activities Related to Strategic Transactions

We are continuously engaged in the evaluation of potential transactions that support our current business strategy. In the past, such transactions have included the sale of non-core assets, the sale of partial interests in assets to strategic joint venture partners, acquisitions and large investment capital projects. With respect to a potential divestiture or acquisition, we may conduct an auction process or participate in an auction process conducted by a third party or we may negotiate a transaction with one or a limited number of potential buyers (in the case of a divestiture) or sellers (in the case of an acquisition). Such transactions could have a material effect on our financial condition and results of operations.

We typically do not announce a transaction until after we have executed a definitive agreement. In certain cases, in order to protect our business interests or for other reasons, we may defer public announcement of a transaction until closing or a later date. Past experience has demonstrated that discussions and negotiations regarding a potential transaction can advance or terminate in a short period of time. Moreover, the closing of any transaction for which we have entered into a definitive agreement may be subject to customary and other closing conditions, which may not ultimately be satisfied or waived. Accordingly, we can give no assurance that our current or future efforts with respect to any such transactions will be successful, and we can provide no assurance that our financial expectations with respect to such transactions will ultimately be realized. See Item 1A. "Risk Factors—Risks Related to Our Business—Divestitures and acquisitions involve risks that may adversely affect our business."

Joint Venture and Joint Ownership Arrangements

We are party to more than 25 joint venture ("JV") and undivided joint interest ("UJI") arrangements with long-term partners throughout the industry value chain spanning across multiple North American basins. We believe that these capital-efficient arrangements provide strategic alignment with long-term industry partners, adding volume commitments to our systems and improving returns.

In October 2021, we and Oryx Midstream Holdings LLC ("Oryx Midstream") completed the merger, in a cashless, debt-free transaction, of our respective Permian Basin assets, operations and commercial activities into a newly formed joint venture, the Permian JV. The Permian JV includes all of Oryx Midstream's Permian Basin assets and, with the exception of our long-haul pipeline systems and certain of our intra-basin terminal assets, the vast majority of our assets located within the Permian Basin. We own 65% of the Permian JV, operate the combined assets and reflect the entity as a consolidated subsidiary in our consolidated financial statements. See Note 7 to our Consolidated Financial Statements for additional information.

The following table summarizes our significant JVs as of December 31, 2021:

Entity	Type of Operation	JV Ownership Percentage
BridgeTex Pipeline Company, LLC	Crude Oil Pipeline	20%
Cactus II Pipeline LLC	Crude Oil Pipeline ⁽¹⁾	65%
Capline Pipeline Company LLC	Crude Oil Pipeline	54%
Diamond Pipeline LLC	Crude Oil Pipeline ⁽¹⁾	50%
Eagle Ford Pipeline LLC	Crude Oil Pipeline (1)	50%
Eagle Ford Terminals Corpus Christi LLC	Crude Oil Terminal and Dock ⁽¹⁾	50%
Plains Oryx Permian Basin LLC ⁽²⁾⁽³⁾	Crude Oil Pipelines and Related Assets ⁽¹⁾	65%
Red River Pipeline Company LLC ⁽²⁾⁽⁴⁾	Crude Oil Pipeline (1)	67%
Saddlehorn Pipeline Company, LLC ⁽⁴⁾	Crude Oil Pipeline	30%
White Cliffs Pipeline, LLC	Crude Oil Pipeline	36%
Wink to Webster Pipeline LLC ⁽⁴⁾	Crude Oil Pipeline	16%

⁽¹⁾ Assets are operated by Plains.

⁽²⁾ We consolidate the entity based on control, with our partner's interest accounted for as a noncontrolling interest.

⁽³⁾ Entity owns a 40% interest in OMOG JV LLC, an unconsolidated entity that owns a crude oil pipeline.

⁽⁴⁾ Entity owns a UJI in the crude oil pipeline.

The following table summarizes our significant UJIs as of December 31, 2021, excluding UJIs that are indirectly owned by us through JVs (e.g., Wink to Webster, Saddlehorn and Red River JVs):

Asset	Type of Operation	UJI Ownership Percentage
Basin Pipeline (1)	Crude Oil Pipeline	87%
Empress Processing (1)	NGL Facility	66% to 92%
Fort Saskatchewan NGL Storage and Fractionation ⁽²⁾	NGL Facility	21% to 48%
Western Corridor System ⁽²⁾	Crude Oil Pipeline	21% to 58%
Sarnia NGL Storage and Fractionation ⁽²⁾	NGL Facility	62% to 84%
Sunrise II Pipeline ⁽¹⁾	Crude Oil Pipeline	80%

⁽¹⁾ Asset is operated by Plains.

⁽²⁾ Certain of these assets are operated by Plains.



Divestitures

In 2016, we initiated a program to evaluate potential sales of non-core assets and/or sales of partial interests in assets to strategic joint venture partners to optimize our asset portfolio and strengthen our balance sheet and leverage metrics. Through December 31, 2021, we have completed asset sales totaling more than \$4.5 billion.

Acquisitions

Since our initial public offering in 1998, the acquisition of midstream assets and businesses has been an important component of our business strategy. While the pace of our acquisition activity has slowed down in recent years, we continue to selectively analyze and pursue the acquisition of assets and businesses that are strategic and complementary to our existing operations. Over the last five years, we completed several acquisitions for an aggregate of approximately \$2.0 billion. Such amount does not include the Permian JV formed in October 2021. See "Joint Venture and Joint Ownership Arrangements" above for additional information.

Capital Projects

Our extensive asset base and our relationships with long-term industry partners across the value chain provide us with opportunities for organic growth through the construction of additional assets that are complementary to, and expand or extend, our existing asset base. Our 2022 capital plan consists of capital-efficient, highly contracted projects that help address industry needs.

Total investment capital for the year ending December 31, 2022 is projected to be approximately \$330 million, of which approximately half is expected to be associated with the Permian JV. Additionally, maintenance capital for 2022 is projected to be \$220 million. Note that potential variation to current capital costs estimates may result from (i) changes to project design, (ii) final cost of materials and labor and (iii) timing of incurrence of costs due to uncontrollable factors such as receipt of permits or regulatory approvals and weather.

Regulation

Our assets, operations and business activities are subject to extensive legal requirements and regulations under the jurisdiction of numerous federal, state, provincial and local agencies. Many of these agencies are authorized by statute to issue, and have issued, requirements binding on the pipeline industry, related businesses and individual participants. The failure to comply with such legal requirements and regulations can result in substantial fines and penalties, expose us to civil and criminal claims, and cause us to incur significant costs and expenses. See Item 1A. "Risk Factors —Risks Related to Laws and Regulations—Our operations are subject to laws and regulations relating to protection of the environment and wildlife, operational safety, climate change and related matters that may expose us to significant costs and liabilities. The current laws and regulations affecting our business are subject to change and in the future we may be subject to additional laws, executive orders and regulations, which could adversely impact our business." At any given time, there may be proposals, provisional rulings or proceedings in legislation or under governmental agency or court review that could affect our business. The regulatory burden on our assets, operations and activities increases our cost of doing business and, consequently, affects our profitability. We can provide no assurance that the increased costs associated with any new or proposed laws, rules or regulations will not be material. We may at any time also be required to apply significant resources in responding to governmental requests for information and/or enforcement actions.

The following is a summary of certain, but not all, of the laws and regulations affecting our operations.

Health, Safety and Environmental Regulation

General

Our operations involving the storage, treatment, processing and transportation of liquid and gaseous hydrocarbons, including crude oil, are subject to stringent federal, state, provincial and local laws and regulations governing the discharge of materials into the environment or otherwise relating to protection of the environment, including wildlife. As with the industry generally, compliance with these laws and regulations increases our overall cost of doing business, including our capital costs to construct, maintain and upgrade equipment and facilities as regulations are updated or new regulations are invoked. Failure to comply with these laws and regulations could result in the assessment of administrative, civil and criminal penalties, the imposition of investigatory or remedial obligations or the incurrence of capital expenditures, imposition of restrictions, delays or cancellations in the permitting or performance of projects, and the issuance of injunctions or other orders that may subject us to additional operational constraints. Failure to comply with these laws and regulations are gulations are updated or new regulations are updated or new regulations or dot adjusted or new regulations or the incurrence of capital expenditures, imposition of restrictions, delays or cancellations in the permitting or performance of projects, and the issuance of injunctions or other orders that may subject us to additional operational constraints. Failure to comply with these laws and regulations are subject to changes that may result in more stringent requirements, and we cannot provide any assurance that compliance with current and future laws and regulations will not have a material effect on our results of operations or earnings. A discharge of hazardous liquids or other materials into the environment could, to the extent such event is not insured, subject us to substantial expense, including both the cost to comply with applicable laws and regulations and any claims made by third parties. The following is a summar

Pipeline Safety/Integrity Management

A substantial portion of our petroleum pipelines and our storage tank facilities in the United States are subject to regulation by the Department of Transportation's ("DOT") Pipeline and Hazardous Materials Safety Administration ("PHMSA") pursuant to the Hazardous Liquids Pipeline Safety Act of 1979, as amended (the "HLPSA") with respect to crude oil and NGL. The HLPSA imposes safety requirements on the design, installation, testing, construction, operation, replacement and management of pipeline and tank facilities. Federal regulations implementing the HLPSA require pipeline operators to adopt measures designed to reduce the environmental impact of oil discharges from onshore oil pipelines, including the maintenance of comprehensive spill response plans and the performance of extensive spill response training for pipeline personnel. These regulations also require pipeline operators to develop and maintain a written qualification program for individuals performing covered tasks on pipeline facilities. Comparable regulation exists in some states in which we conduct intrastate common carrier or private pipeline operations. Regulation in Canada is under the Canada Energy Regulator ("CER") and provincial agencies.

United States

Pursuant to the authority under the HLPSA, as amended from time to time, PHMSA has promulgated regulations that require transportation pipeline operators to implement integrity management programs, including frequent inspections, correction of identified anomalies and other measures, to ensure pipeline safety in locations where a pipeline leak or rupture could affect higher risk areas, known as high consequence areas ("HCAs"). The HCAs for crude oil and NGL pipelines are based on high population areas, areas unusually sensitive to environmental damage, and commercially navigable waterways. In the United States, our costs associated with the inspection, testing and correction of identified anomalies were approximately \$21 million in 2021. Based on currently available information, our preliminary estimate for 2022 is that we will incur approximately \$30 million in expenditures associated with our required pipeline integrity management program. However, significant additional expenses could be incurred if new or more stringently interpreted pipeline safety requirements are implemented. In addition to required activities, our integrity management program includes several voluntary, multi-year initiatives designed to prevent incidents. Costs incurred in connection with these voluntary initiatives were approximately \$10 million in 2021, and our preliminary estimate for 2022 is that we will incur approximately \$15 million of such costs.

Legislation in the past decade has resulted in more stringent mandates for pipeline safety and has charged PHMSA with developing and adopting regulations that impose increased pipeline safety requirements on pipeline operators. In particular, the HLPSA was amended over the past decade by the Pipeline Safety, Regulatory Certainty, and Job Creation Act of 2011, the Protecting our Infrastructure of Pipelines and Enhancing Safety Act of 2016 and, most recently, the Protecting Our Infrastructure of Pipelines and Enhancing Safety obligations on pipeline operators, with the PIPES Act of 2020 reauthorizing PHMSA programs through fiscal year 2023. The regulatory changes precipitated by these actions have increased our cost to operate. For example, in October 2019, PHMSA published a final rule for hazardous liquid transmission and gathering pipelines that significantly extends and expands the reach of certain of its integrity management requirements, use of in-line inspection tools by 2039 (unless the pipeline cannot be modified to permit such use), increased annual, accident and safety-related conditional reporting requirements, and expanded use of leak detection systems beyond HCAs. Separately, in June 2021, PHMSA issued an Advisory Bulletin advising pipeline and pipeline facility operators of applicable requirements to update their inspection and maintenance plans for the elimination of hazardous leaks and minimization of natural gas released from pipeline facilities. PHMSA, together with state regulators, are expected to commence inspection of operator plans in 2022.

Pursuant to the Oil Spill Response: Environmentally and Ecologically Sensitive Areas Bill ("AB-864"), signed by the Governor of California in 2015, operators of hazardous liquid pipelines located near environmentally and ecologically sensitive areas ("EESA") connected to or located in the coastal zone are now required to use best available technologies ("BAT") to reduce the amount of oil released in an oil spill to protect state waters and wildlife. BAT includes, but is not limited to, installation of leak detection technologies, automatic shutoff systems, or remote controlled sectionalized block valves, or any combination of these technologies based on a risk analysis conducted by the operator. Affected pipeline operators were required by May 1, 2021 to make requests for exemption (for pipelines located outside the Coastal Zone, if the operator could show through spill modeling / risk analysis that a release would not impact the coastal zone portion of an EESA) or deferral (for pipelines already employing BAT) from the provisions of this Article. Additionally, by October 1, 2021 affected operators were required to submit a risk analysis, BAT evaluation, and implementation plan for existing pipelines. Also, by April 1, 2023, affected operators must complete retrofits of existing pipelines with BAT. Compliance with these requirements will impact our pipeline operations in California and add to the cost to operate the pipelines subject to these rules.

The DOT has issued guidelines with respect to securing regulated facilities against terrorist attack. We have instituted security measures and procedures in accordance with such guidelines to enhance the protection of certain of our facilities; however, we cannot provide any assurance that these security measures would fully protect our facilities from an attack.

The DOT has generally adopted American Petroleum Institute Standard ("API") 653 as the standard for the inspection, repair, alteration and reconstruction of steel above ground petroleum storage tanks subject to DOT jurisdiction. API 653 requires regularly scheduled inspection and repair of tanks remaining in service. In the United States, our costs associated with this program were approximately \$15 million in 2021. For 2022, we have budgeted approximately \$38 million in connection with continued API 653 compliance activities and similar new EPA regulations for tanks not regulated by the DOT. Certain storage tanks may be taken out of service if we believe the cost of compliance will exceed the value of the storage tanks or replacement tankage may be constructed.

Canada

In Canada, the CER and provincial agencies regulate the safety and integrity management of pipelines and storage tanks used for hydrocarbon transmission. We have incurred and will continue to incur costs related to such regulatory requirements.

We continue to implement Pipeline, Facility and Cavern Integrity Management Programs to comply with applicable regulatory requirements and assist in our efforts to mitigate risk. Costs incurred for such integrity management activities were approximately \$66 million in 2021. We are increasing our integrity dig and pipeline replacement projects to ensure safe and reliable operations as we seek to expand volumes on certain of our systems. Our preliminary estimate for 2022 is that we will incur approximately \$96 million of costs on such projects.

We cannot predict the potential costs associated with additional, future regulation. Significant additional expenses could be incurred, and additional operational requirements and constraints could be imposed, if new or more stringently interpreted pipeline safety requirements are implemented.

Occupational Safety and Health

United States

In the United States, we are subject to the requirements of the Occupational Safety and Health Act, as amended, and comparable state statutes that regulate the protection of the health and safety of workers. In addition, the U.S. Occupational Safety and Health Administration ("OSHA") hazard communication standard requires that certain information be maintained about hazardous materials used or produced in operations and that this information be provided to employees, state and local government authorities and citizens. Certain of our facilities are subject to OSHA Process Safety Management ("PSM") regulations, which are designed to prevent or minimize the consequences of catastrophic releases of toxic, reactive, flammable or explosive chemicals. These regulations apply to any process which involves a chemical at or above specified thresholds or any process that involves 10,000 pounds or more of a flammable liquid or gas in one location.

Canada

Similar regulatory requirements exist in Canada under the federal and provincial Occupational Health and Safety Acts, Regulations and Codes. The agencies with jurisdiction under these regulations are empowered to enforce them through inspection, audit, incident investigation or investigation of a public or employee complaint. In some jurisdictions, the agencies have been empowered to administer penalties for contraventions without the company first being prosecuted. Additionally, under the Criminal Code of Canada, organizations, corporations and individuals may be prosecuted criminally for violating the duty to protect employee and public safety.

Solid Waste

We generate wastes, including hazardous wastes, which are subject to the requirements of the federal Resource Conservation and Recovery Act, as amended ("RCRA"), and analogous state and provincial laws. Many of the wastes that we generate are not subject to the most stringent requirements of RCRA because our operations generate primarily oil and gas wastes, which currently are excluded from consideration as RCRA hazardous wastes. It is possible, however, that in the future, the exclusion for oil and gas waste under RCRA may be revisited and our wastes may become subject to more rigorous and costly disposal requirements, resulting in additional capital expenditures or operating expenses.

Hazardous Substances

The federal Comprehensive Environmental Response, Compensation and Liability Act, as amended ("CERCLA"), also known as "Superfund," and comparable state laws impose liability, without regard to fault or the legality of the original act, on certain classes of persons that contributed to the release of a "hazardous substance" into the environment. These persons include the owner or operator of the site or sites where the release occurred and companies that disposed of, or arranged for the disposal of, the hazardous substances found at the site. Such persons may be subject to strict, joint and several liability for the costs of cleaning up the hazardous substances that have been released into the environment, for damages to natural resources, and for the costs of certain health studies. It is not uncommon for neighboring landowners and other third parties to file claims for personal injury and property damage allegedly caused by hazardous substances or other pollutants released into the environment. In the course of our ordinary operations, we may generate waste that falls within CERCLA's definition of a "hazardous substance." Canadian federal and provincial laws also impose liabilities for releases of certain substances into the environment.

We are subject to the Environmental Protection Agency's ("EPA") Risk Management Plan ("RMP") regulations at certain facilities. These regulations are intended to work with OSHA's PSM regulations to minimize the offsite consequences of catastrophic releases. The regulations require us to develop and implement a risk management program that includes a five-year accident history, an offsite consequence analysis process, a prevention program and an emergency response program. In 2016, the EPA finalized revisions to the RMP rules, including requirements for the use of third-party compliance audits, root cause analyses for facilities that experience releases, process hazard analyses and enhanced information-sharing provisions. In December 2019, the EPA finalized revisions to the RMP rules, removing requirements related to public disclosure, third-party audits and post-incident root cause analyses, among others. However, several environmental groups and trade unions have challenged the EPA's revised rule and President Biden issued an executive order in January 2021 that, among other things, calls for EPA's revised of the current version of the RMP rule, which included hosting listening sessions and receiving comments on the rule from the public during 2021. OSHA has announced that it is considering similar revisions to the PSM rule, but, to date, has not issued a Notice of Proposed Rulemaking. The potential for further revisions to either the RMP or PSM rule is uncertain at this time.

Environmental Remediation

We currently own or lease, and in the past have owned or leased, properties where potentially hazardous liquids, including hydrocarbons, are or have been handled. These properties may be subject to CERCLA, RCRA and state and Canadian federal and provincial laws and regulations. Under such laws and regulations, we could be required to remove or remediate potentially hazardous liquids or associated wastes (including wastes disposed of or released by prior owners or operators) and to clean up contaminated property (including contaminated groundwater).

We maintain insurance of various types with varying levels of coverage that we consider adequate under the circumstances to cover our operations and properties. The insurance policies are subject to deductibles and retention levels that we consider reasonable and not excessive. Consistent with insurance coverage generally available in the industry, in certain circumstances our insurance policies provide limited coverage for losses or liabilities relating to gradual pollution, with broader coverage for sudden and accidental occurrences.

Assets we have acquired or will acquire in the future may have environmental remediation liabilities for which we are not indemnified. We have in the past experienced and in the future may experience releases of hydrocarbon products into the environment from our pipeline, rail, storage and other facility operations. We may also discover environmental impacts from past releases that were previously unidentified. The costs and liabilities associated with any such releases or environmental impacts could be significant and may not be covered by insurance; accordingly, such costs and liabilities could have a material adverse impact on our results of operations and/or financial position.

Air Emissions

Our United States operations are subject to the United States Clean Air Act ("Clean Air Act"), comparable state laws and associated federal, state and local regulations. Our Canadian operations are also subject to federal and provincial air emission regulations, which are discussed in subsequent sections.

As a result of the changing air emission requirements in both Canada and the United States, we may be required to incur certain capital and operating expenditures in the next several years to install air pollution control equipment and otherwise comply with more stringent federal, state, provincial and regional air emissions control requirements when we attempt to obtain or maintain permits and approvals for sources of air emissions. We can provide no assurance that future air compliance obligations will not have a material adverse effect on our financial condition or results of operations.

Climate Change Initiatives

United States

The EPA has adopted rules for reporting the emission of carbon dioxide, methane and other greenhouse gases ("GHG") from certain sources. Two of our facilities are presently subject to the federal GHG reporting requirements. These include facilities with combustion GHG emissions and potential fugitive emissions above the reporting thresholds. We import sufficient quantities of finished fuel products into the United States to be required to report that activity as well.

In recent years, there has been considerable uncertainty surrounding regulation of methane emissions. In 2020, the Trump Administration revised performance standards for methane established in 2016 to lessen the impact of those standards and remove the transmission and storage segments from the source category for certain regulations. However, shortly after taking office, President Biden issued an executive order calling on the EPA to revisit federal regulations regarding methane and establish new or more stringent standards for existing or new sources in the oil and gas sector, including the transmission and storage segments. The U.S. Congress also passed, and President Biden signed into law, a revocation of the 2020 rulemaking, effectively reinstating the 2016 standards. In response to President Biden's executive order, in November 2021, the EPA issued a proposed rule that, if finalized, would establish standards of performance for methane and volatile organic compound ("VOC") emissions for new sources and existing sources in the crude oil and natural gas source category. This proposed rule would apply to upstream and midstream facilities at oil and natural gas well sites, natural gas gathering and boosting compressor stations, natural gas processing plants, and transmission and storage facilities. Owners or operators of affected emissions by 95% through capture and control systems, zero-emission requirements, operations and maintenance requirements, and so-called green well completion requirements. The EPA plans to issue a supplemental proposal enhancing this proposed rule. EPA anticipates issuing a final rule by the end of 2022.

California has implemented a GHG cap-and-trade program, authorized under Assembly Bill 32 ("AB32"). Since its start in 2014, California's cap-and-trade program has only applied to large industrial facilities with carbon dioxide equivalent emissions over 25,000 metric tons. The California Air Resources Board has published a list of facilities that are subject to this program. At this time, the list only includes one of our facilities, the Lone Star Gas Liquids facility in Shafter, California because it is a significant combustion and propane fractionation source. As a result, compliance instruments for GHG emissions have been purchased since 2013.

Effective January 1, 2015, the AB32 regulations also covered finished fuel providers and importers. California finished fuels providers (refiners and importers) are required to purchase GHG emission credits for finished fuel sold in or imported into California. Plains Marketing was included in this portion of the regulation due to propane imports and completed its first year of compliance in 2016. Effective January 1, 2018, importers of finished fuels responsible for compliance costs associated with GHG has changed from the consignee to the importer on title of the product. Plains Midstream Canada is now included in this change to the rule due to its imports of propane into California and submitted its first compliance report in 2019.

California has also implemented several climate change initiatives via executive order. Executive Order B-30-15 was signed by California's Governor in mid-2015. This Executive Order requires a 40% reduction in GHG emissions from the 1990 baseline level by 2030. Compliance with this reduction requirement may necessitate the lowering of the threshold for industrial facilities required to participate in the GHG cap and trade program. In late 2020, the governor of California issued an executive order setting targets on the limitation or phase-out of the sale of petroleum-fueled passenger, commercial, and off-road vehicles over the next 15 to 25 years. A number of other states are working to implement zero-emission vehicle requirements or targets. Separately, in October 2020, the Governor of California signed another executive order that establishes a state "30x30" goal to conserve at least 30% of California's land and coastal waters by 2030 and directs state agencies to implement other measures to mitigate climate change and strengthen biodiversity. A draft of potential strategies in pursuing this "30x30" state goal was released in late 2021 with public comments to be solicited through early 2022. In May 2021, the Governor of California to gether with the federal government announced that the Department of Interior, Bureau of Ocean Energy Management, and the Department of Defense have reached an agreement with the State of California to lease 399-square miles off California's central coast for offshore wind goals for 2030 and 2045 as well as to develop a strategic plan to develop the industry off California's coast. In July 2021, the Governor of California issued a plan outlining the state's goals to achieve a 100% clean electricity system by 2045 that supports long-term clean energy reliability, which includes objectives for increasing the diversity of the state's energy focus, to include, for example, offshore wind, modernizing the state power grid and incorporating distributed energy resources, increasing long-d

Certain other states where we operate, such as Colorado, have also adopted, or are considering adopting, regulations related to GHG emissions. While it is not possible at this time to predict how federal or state governments may choose to regulate GHG emissions, any new regulatory restrictions on GHG emissions could result in material increased compliance costs, additional operating restrictions, an increase in the cost of feedstock and products produced by our refinery customers, and a reduced demand for petroleum-based fuels.

In December 2015, the Paris Agreement was signed at the 21st annual Conference of Parties to the United Nations Framework Convention on Climate Change ("UNFCCC"). The Paris Agreement, which came into effect in November 2016, requires signatory parties to develop and implement non-binding carbon emission reduction policies through individually-determined reduction goals every five years after 2020, with a goal of limiting the rise in average global temperatures to 2°C or less. The United States is currently a signatory to the Paris Agreement. President Biden announced in April 2021 a new, more rigorous nationally determined contribution ("NDC") emissions reduction level of 50-52% reduction from 2005 levels in economy-wide net GHG emissions by 2030. Moreover, the international community gathered again in Glasgow in November 2021 at the 26th Conference of the Parties ("COP26"), during which multiple announcements were made, including a call for parties to eliminate certain fossil fuel subsidies and pursue further action on non-CO2 GHGs. Relatedly, at COP26, the United States and European Union jointly announced the launch of a Global Methane Pledge, an initiative which over 100 countries joined, committing to a collective goal of reducing global methane emissions by at least 30 percent from 2020 levels by 2030, including "all feasible reductions" in the energy sector. The impacts of these orders, pledges, agreements and any legislation or regulation promulgated to fulfill the United States' commitments under the Paris Agreement, COP26 or other international conventions cannot be predicted at this time.

Governmental, scientific, and public concern over the threat of climate change arising from GHG emissions has resulted in increasing political risks in the United States. For example, President Biden has issued several executive orders calling for more expansive action to address climate change, including suspension of new oil and gas operations on federal lands and waters. The suspension of the federal leasing activities prompted legal action by several states against the Biden Administration, resulting in issuance of a nationwide preliminary injunction by a federal district judge in Louisiana in June 2021, effectively halting implementation of the leasing suspension; however, the federal government is appealing the district court decision. The Biden administration could also pursue the imposition of more restrictive requirements for the establishment of pipeline infrastructure or more restrictive GHG emissions limitations for oil and gas facilities. Litigation risks are also increasing as a number of cities, local governments and other plaintiffs have sought to bring lawsuits against oil and natural gas exploration and production companies in state or federal court, alleging, among other things, that such companies created public nuisances by producing fuels that contributed to global warming effects, such as rising sea levels, and therefore are responsible for roadway and infrastructure damages as a result, or alleging that the companies have been aware of the adverse effects of climate change for some time but defrauded their investors by failing to adequately disclose those impacts.

There is also a risk that financial institutions may be required to adopt policies that have the effect of reducing the funding available to the hydrocarbon energy sector. Institutional lenders who provide financing to fossil-fuel energy companies also have become more attentive to sustainable lending practices that favor "clean" power sources, such as wind and solar, making those sources more attractive, and some of them may elect not to provide funding for fossil fuel energy companies. Many of the largest U.S. banks have made "net zero" carbon emission commitments and have announced that they will be assessing financed emissions across their portfolios and taking steps to quantify and reduce those emissions. At COP26, the Glasgow Financial Alliance for Net Zero ("GFANZ") announced that commitments from over 450 firms across 45 countries had resulted in over \$130 trillion in capital committed to net zero goals. The various sub-alliances of GFANZ generally require participants to set short-term, sector-specific targets to transition their financing, investing, and/or underwriting activities to net zero emissions by 2050. These and other developments in the financial sector could lead to some lenders restricting access to capital for or divesting from certain industries or companies, including the oil and natural gas sector, or requiring that borrowers take additional steps to reduce their GHG emissions. Additionally, there is the possibility that financial institutions may be pressured or required to adopt policies that limit funding for fossil fuel energy companies. In late 2020, the Federal Reserve announced that it has joined the Network for Greening the Financial System ("NGFS"), a consortium of financial regulators focused on addressing climate-related risks in the financial sector. More recently, in November 2021, the Federal Reserve issued a statement in support of the efforts of the NGFS to identify key issues and potential solutions for the climate-related challenges most relevant to central banks and

Finally, to the extent increasing concentrations of GHGs in the Earth's atmosphere may produce climate changes that have significant physical effects, such as increased frequency and severity of storms, droughts, floods and other climatic events, as well as chronic shifts in temperature and precipitation patterns. These climatic developments have the potential to cause physical damage to our assets and thus could have an adverse effect on our operations. Additionally, changing meteorological conditions, particularly temperature, may result in changes to the amount, timing, or location of demand for energy or our customer's production, which could reduce the need for our services. While our consideration of changing climatic conditions and inclusion of safety factors in design is intended to reduce the uncertainties that climate change and other events may potentially introduce, our ability to mitigate the adverse impacts of these events depends in part on the effectiveness of our facilities, particularly those located in coastal or flood prone areas, and our disaster preparedness and response and business continuity planning, which may not have considered or be prepared for every eventuality.

Although it is not possible at this time to predict how legislation or new regulations that may be adopted to address GHG emissions would impact our business, any such future laws and regulations could result in increased compliance costs or additional operating restrictions, and could have a material adverse effect on our business, demand for our services, financial condition, results of operations and cash flows.

Canada

Federal Regulations. Large emitters of GHG have been required to report their emissions under the Canadian Greenhouse Gas Emissions Reporting Program since 2004. Effective January 1, 2018, the Federal Department of Environment and Climate Change lowered the reporting threshold for all facilities from 50 thousand tonnes per year ("kt/y") to 10 kt/y GHG emissions. This has resulted in one additional facility (for a total of four locations) being currently required to prepare annual reports of their emissions. The associated cost with this reporting requirement is not considered to be material.



In December 2015, the UNFCCC ratified the Paris Agreement to accelerate climate change initiatives and to intensify the actions of member nations in the reduction of GHG emissions. This ratification also included requirements that all parties report on their emissions status and agreement for a review every five years after 2020 to assess success among member nations in attaining objectives and targets under this agreement. The Government of Canada has implemented a pan-Canadian approach to pricing carbon pollution requiring all Canadian provinces and territories to have carbon pricing in place by 2018, which is now in effect. The provinces and territories were granted flexibility in deciding how they implement carbon pricing either by placing a direct price on carbon pollution or adopting a cap and trade system. The Provincial programs that fail to meet the Federal government's requirements for their programs are required to adopt the Federal program. The Federal program includes two components: a direct price on carbon pollution (the Federal price on carbon pollution began at CAD\$20 per tonne in 2019 and has risen by CAD\$10 per year, reaching CAD\$50 per tonne beginning in 2022) and an output based pricing system ("OBPS") designed to address competitiveness risk for large emitters.

In regards to the federal pricing on carbon pollution, in December 2021, the federal government published an update to the federal carbon pricing benchmark beyond 2022. Under the updated scheme, the minimum national carbon pollution price has been proposed for 2023 to 2030 with the carbon price set at CAD\$65/tonne in 2023 with a further annual increase of CAD\$15 per year up to \$170/tonne in 2030. Costs for compliance in respect of the cost of carbon will be budgeted annually as part of ordinary operating cost processes.

Canada passed the Canadian Net-Zero Emissions Accountability Act in June 2021 which formally establishes the country's 2050 net zero target. The act requires the setting of legallybinding, five-year emissions reduction targets (2030, 2035, 2040 and 2045). Pursuant to this act, in July 2021, the federal government announced an enhanced NDC emissions reduction level for Canada of 40-45 percent below 2005 levels by 2030. Moreover, in accord with this act, Canada must set the subsequent 2035, 2040 and 2045 targets at least 10 years in advance. The 2030 Emissions Reduction Plan has yet to be published. The deadline for the federal government to establish the plan is March 29, 2022. The impact of this legislation on our Canadian operations will be addressed and budgeted annually as part of ordinary operating costs processes.

In April 2018, the Federal Department of Environment and Climate Change introduced regulations designed to reduce methane emissions by up to 45% by 2025 (from 2012 levels) from oil and natural gas facilities, with certain of those requirements becoming effective in January 2020 and the remainder by 2023. The scope and requirements of the proposed rule are similar to the EPA methane rules described above. Effective June 2017, the Federal Department of Environment and Climate Change introduced the Multi Sector Air Pollutants Regulations which set air pollution emission standards across Canada for several industrial sectors that utilize applicable equipment regulated under this program. The regulations establish specific limits to the amount of nitrogen oxides emitted from gas fueled boilers, heaters and stationary spark-ignition engines above a specified power rating. Based on these regulations, reporting obligations exist that are associated with seven facilities with equipment that meets specifications of the program. The implications of these regulations coming into effect are not believed to be material.

Provincial Regulations

Ontario. In February 2015, the Ontario Ministry of Environment and Climate Change issued a discussion paper that identified carbon pricing as a critical action necessary to reduce emissions of GHGs.

In July 2019, the Ontario government implemented the Emissions Performance Standards ("EPS") regulation as a successor program to the repealed GHG cap and trade program. In September 2020, the Federal government accepted the EPS program as equivalent to the OBPS which allows Ontario to move forward with implementing the EPS. Ontario has specified January 1, 2022 as the start date of the EPS. Our Sarnia facility will be shifting to the EPS from the OBPS program. Costs for compliance with the OBPS or EPS are budgeted annually and are not expected to have a material effect on operations.

In 2018, the Ontario government introduced an updated Sulphur Dioxide ("SO₂") standard which requires the reduction of SO₂ from the current one hour average emission rate of 690 micrograms per cubic meter of air ("µg/m3") to the new one hour standard of 100 µg/m3 by 2023 at industrial facilities. The introduction of this reduction measure requires evaluation of current emissions and may require equipment upgrades at our Sarnia facility. The evaluation process has not been concluded and the impact of the standard is still under review.

Alberta. The Alberta Climate Change and Emissions Management Act (2003) provided a framework for managing GHG emissions with the intent of reducing specified gas emissions to 50% of 1990 levels by December 31, 2020. The Specified Gas Emitters Regulation (2007) ("SGER") was the initial program introduced which imposed GHG emission limits on large emitters and required reduction in GHG emission intensity. In January 2018, the SGER was replaced with the Carbon Competitive Incentive Regulation (2018) ("CCIR") for compliance years 2018 and 2019. In January 2020, Alberta implemented the newly adopted Technology Innovation and Emissions Reduction ("TIER") regulation, which brought in yet another version of a GHG reduction program to replace the GHG program under CCIR. Compliance options under TIER are similar to those under the previous CCIR program such that a GHG fund credit purchase will be required if reduction targets identified under the program are not attained. As was the case under SGER and CCIR, our Fort Saskatchewan and Empress VI facilities are mandatory participants under TIER. For economic reasons, Empress I - V and five of our other Canadian facilities opted in to be part of the TIER program for 2021. Under TIER, Alberta's price on carbon was initially set at \$30/tonne and was subsequently increased to \$50/tonne for 2022 through Alberta Minister of Environment and Park's Ministerial Order 87/2021. The price increase aligns with the carbon pricing established by the federal Greenhouse Gas Pollution Pricing Act.

Assets within the Alberta TIER program are also exempt from the federal fuel charge but other fuel consumption as part of Alberta operations is subject to the federal levies. The federal fuel charge cost increase has been captured as part of the annual budgeting cycle.

In association with the federal methane reduction targets, the Alberta Energy Regulator amended Directive 60 to outline reduction requirements. New reporting measures and requirements for fugitive emission surveys and methane emission reduction came into force in both January 2020 and January 2022. The cost for reporting and completing these requirements has been captured within the annual operational budgets.

Other Canadian Jurisdictions. Nova Scotia and Quebec cap and trade programs cover propane supplied by us to the Nova Scotia and Quebec markets. We are required to purchase GHG emission credits and submit annual compliance reports under each province's respective cap and trade program. Program compliance costs will be passed along to the purchaser. Effective April 1, 2019, the federal carbon pricing program came into effect for provinces that do not have a carbon pricing program in place. This includes Saskatchewan, Manitoba, Ontario and Alberta. Program compliance costs will be passed along to the purchaser.

Water

The U.S. Federal Water Pollution Control Act, as amended, also known as the Clean Water Act ("CWA"), and analogous state and Canadian federal and provincial laws impose restrictions and strict controls regarding the discharge of pollutants into navigable waters of the United States and Canada, as well as state and provincial waters. Federal, state and provincial regulatory agencies can impose administrative, civil and/or criminal penalties for non-compliance with discharge permits or other requirements of the CWA, and can also pursue injunctive relief to enforce compliance with the CWA and analogous laws.

The U.S. Oil Pollution Act of 1990 ("OPA") amended certain provisions of the CWA as they relate to the release of petroleum products into navigable waters. OPA subjects owners of facilities to strict, joint and potentially unlimited liability for containment and removal costs, natural resource damages and certain other consequences of an oil spill. State and Canadian federal and provincial laws also impose requirements relating to the prevention of oil releases and the remediation of areas.



The construction or expansion of pipelines often requires authorizations under the CWA, which authorizations may be subject to challenge. For over 35 years, the U.S. Army Corps of Engineers (the "Corps") has authorized construction, maintenance and repair of pipelines under a streamlined nationwide permit program under the CWA known as Nationwide Permit 12 ("NWP"). The NWP program is supported by strong statutory and regulatory history and was originally approved by Congress in 1977. From time to time, environmental groups have challenged the NWP program; however, to date, federal courts have upheld the validity of the NWP program under the CWA. In April 2020, the federal district court for the District of Montana vacated the Corps' NWP 12 after determining that it failed to comply with consultation requirements under the Endangered Species Act. While the district court's order has subsequently been limited pending appeal, we cannot predict the ultimate outcome of this case and its impacts to the NWP program. In response to the vacatur, in January 2021, the Corps published a reissuance of a restructured NWP 12 for oil and natural gas pipeline activities that separated certain utilities formerly covered under the permit into other NWPs. An October 2021 decision by the District Court for the Northern District of California resulted in a vacatur of a 2020 rule revising the Clean Water Act Section 401 certification process, following which the Corps announced that it had temporarily suspended finalization of certain permitting decisions, including under NWP 12, that rely on a Section 401 certifications, Corps districts resumed making decisions on all permit applications and requests for nationwide permit verifications; as part of that decision making process, districts will coordinate with certifying authorities on water quality certifications that are potentially impacted by the vacatur order. While the full extent and impact of these recent developments is unclear at this time, any disruption in our ability to ob

Also, there continues to be uncertainty on the federal government's applicable jurisdictional reach under the Clean Water Act over waters of the United States, including wetlands, as the EPA and the Corps under the Obama, Trump and Biden Administrations have pursued multiple rulemakings since 2015 in an attempt to determine the scope of such reach. While the EPA and Corps under the Trump Administration issued a final rule in April 2020 narrowing federal jurisdictional reach over waters of the United States, President Biden issued an executive order in January 2021 to further review and assess these regulations consistent with the new administration's policy objectives, following which the EPA and Corps announced plans in June 2021 to initiate a new rulemaking process that would repeal the 2020 rule and restore protections that were in place prior to 2015. Although the EPA and Corps did not seek to vacate the 2020 rule on interim basis, two federal district courts in Arizona and New Mexico have vacated the 2020 rule in decisions announced during the third quarter of 2021. While these district court decisions may be appealed, it is clear that the EPA and Corps intend to adopt a more expansive definition for waters of the United States. As an initial step, the agencies published on December 7, 2021 a proposed rulemaking that would put back into place the pre-2015 definition of "waters of the United States" in effect prior to 2015 rule issued under the Obama Administration and updated to reflect consideration of Supreme Court decisions. The proposed rule, if adopted would serve as an interim approach to "waters of the United States" and provide the agency with time to develop a subsequent rule that builds upon the currently proposed rule based, in part, on additional stakeholder involvement. To the extent that the EPA and the Corps under the Biden Administration issues a final rule that expands the scope of the Clean Water Act's jurisdiction in areas where we or our customers conduct operations, such developments c

Endangered Species

New projects may require approvals and environmental analysis under federal, state and provincial laws, including the National Environmental Policy Act and the Endangered Species Act in the United States and the Species at Risk Act in Canada. The resulting costs and liabilities associated with lengthy regulatory review and approval requirements could materially and negatively affect the viability of such projects.

Other Regulations

Transportation Regulation

Our transportation activities are subject to regulation by multiple governmental agencies. Our historical operating costs reflect the recurring costs resulting from compliance with these regulations. The following is a summary of the types of transportation regulation that may impact our operations.

General Interstate Regulation in the United States. Our interstate common carrier liquids pipeline operations are subject to rate regulation by the U.S. Federal Energy Regulatory Commission ("FERC") under the Interstate Commerce Act ("ICA"). The ICA requires that tariff rates for liquids pipelines, which include both crude oil pipelines and petroleum products pipelines, be just and reasonable and not unduly discriminatory. Failure to comply with the requirements of the ICA could result in the imposition of civil or criminal penalties.

State Regulation in the United States. Our intrastate liquids pipeline transportation activities are subject to various state laws and regulations, as well as orders of state regulatory bodies, including the Railroad Commission of Texas ("TRRC") and the California Public Utility Commission ("CPUC"). The CPUC prohibits certain of our subsidiaries from acting as guarantors of our senior notes and credit facilities.

U.S. Energy Policy Act of 1992 and Subsequent Developments. In October 1992, Congress passed the Energy Policy Act of 1992 ("EPAct"), which, among other things, required the FERC to issue rules to establish a simplified and generally applicable ratemaking methodology for liquids pipelines and to streamline procedures in liquids pipeline proceedings. The FERC responded to this mandate by establishing a formulaic methodology for petroleum pipelines to change their rates within prescribed ceiling levels that are tied to an inflation index. The FERC reviews the formula every five years. Pursuant to a December 2020 Order, commencing July 1, 2021, the annual index adjustment for the five-year period ending June 30, 2026 equals the producer price index for finished goods for the applicable year plus an adjustment factor of 0.78%. Rehearing of the December 2020 Order has been requested, and the requests remain pending before FERC. The Commission received requests for rehearing of its December 2020 order and on January 20, 2022, granted rehearing and modified the oil index. Specifically, FERC granted rehearing of its December 2020 order and ordered that for the five-year period commencing July 1, 2021 and ending June 30, 2026, common carriers charging indexed rates will be permitted to adjust their indexed ceilings annually by Producer Price Index minus 0.21%. FERC directed oil pipelines to recompute their ceiling levels for the five-year period ending June 30, 2022 based on the new index level. Where an oil pipeline's filed rates exceed its ceiling levels, FERC ordered such oil pipelines to reduce the rate to bring it into compliance with the recomputed ceiling level to be effective March 1, 2022. We have filed to adjust our FERC-regulated rates where applicable. The January 20, 2022 FERC order adjusting the current five-year index is currently under appeal to the U.S.Court of Appeals for the Fifth Circuit. Pipelines may raise their rates to the rate ceiling level generated by application of the annual index adjustment factor each year; however, a shipper may challenge such increase if the increase in the pipeline's rates is substantially in excess of the actual cost increases incurred by the pipeline during the relevant year. If the FERC's annual index adjustment reduces the ceiling level such that it is lower than a pipeline's filed rate, the pipeline must reduce its rate to conform with the lower ceiling. Indexing is the default methodology to change liquids pipeline rates. The FERC, however, retained cost-of-service ratemaking, market-based rates and settlement rates as alternatives to the indexing approach that may be used in certain specified circumstances. Because the indexing methodology for the next five-year indexing period is tied in part to an inflation index and is not based on our specific costs, the indexing methodology could hamper our ability to recover cost increases

Under the EPAct, liquids pipeline rates in effect for the 365-day period ending on the date of enactment of EPAct are deemed to be just and reasonable under the ICA if such rates had not been subject to complaint, protest or investigation during such 365-day period. Generally, complaints against such "grandfathered" rates may only be pursued if the complainant can show that a substantial change has occurred since the enactment of EPAct in either the economic circumstances of the liquids pipeline or in the nature of the services provided that were a basis for the rate. EPAct places no such limit on challenges to a provision of a liquids pipeline tariff rate or rules as unduly discriminatory or preferential.

Pipeline Rate Regulation in the United States. The FERC historically has not investigated rates of liquids pipelines on its own initiative when those rates have not been the subject of a protest or complaint by a shipper. The majority of our pipeline profits in the United States are based on rates that are either grandfathered in part or set by agreement with one or more shippers. These rates remain regulated by FERC and are subject to challenge or review and modification by FERC under the ICA, which requires that tariff rates for liquids pipelines, which include both crude oil pipelines and petroleum products pipelines, be just and reasonable and not unduly discriminatory. See Item 1A. "Risk Factors—Risks Related to Laws and Regulations—Our assets are subject to federal, state and provincial regulation. Rate regulation or a successful challenge to the rates we charge on our U.S. and Canadian pipeline systems may reduce the amount of cash we generate." for additional discussion on how our rates could be impacted by this policy change.

Canadian Regulation. Our Canadian pipeline assets are subject to regulation by the CER and by provincial authorities. With respect to a pipeline over which it has jurisdiction, the relevant regulatory authority has the power, upon application by a third party, to determine the rates we are allowed to charge for transportation on, and set other terms of access to, such pipeline. In such circumstances, if the relevant regulatory authority determines that the applicable terms and conditions of service are not just and reasonable, the regulatory authority can impose conditions it considers appropriate.

Trucking Regulation

United States

We operate a fleet of trucks to transport crude oil and oilfield materials as a private, contract and common carrier. We are licensed to perform both intrastate and interstate motor carrier services. As a motor carrier, we are subject to certain safety regulations issued by the Federal Motor Carrier Safety Association of the DOT. The trucking regulations cover, among other things: (i) driver operations, (ii) log book maintenance, (iii) truck manifest preparations, (iv) safety placard placement on the trucks and trailer vehicles, (v) drug and alcohol testing and (vi) operation and equipment safety. We are also subject to OSHA with respect to our U.S. trucking operations.

Canada

Our trucking assets in Canada are subject to regulation by both federal and provincial transportation agencies in the provinces in which they are operated. These regulatory agencies do not set freight rates, but do establish and administer rules and regulations relating to other matters including equipment, facility inspection, reporting and safety. We are licensed to operate both intra- and inter-provincially under the direction of the National Safety Code ("NSC") that is administered by Transport Canada. Our for-hire service is primarily the transportation of crude oil, condensates and NGL. We are required under the NSC to, among other things, monitor: (i) driver operations, (ii) log book maintenance, (iii) truck manifest preparations, (iv) safety placard placement on the trucks and trailers, (v) operation and equipment safety and (vi) many other aspects of trucking operations. We are also subject to Occupational Health and Safety regulations with respect to our Canadian trucking operations.

Railcar Regulation

We own and operate a number of railcar loading and unloading facilities in the United States and Canada. In connection with these rail terminals, we own and lease a significant number of railcars. Our railcar operations are subject to the regulatory jurisdiction of the Federal Railroad Administration ("FRA") of the DOT, OSHA, as well as other federal and state regulatory agencies and Canadian regulatory agencies for operations in Canada.

Railcar accidents involving trains carrying crude oil from North Dakota's Bakken shale formation have led to increased regulatory scrutiny. PHMSA issued a safety advisory warning that Bakken crude may be more flammable than other grades of crude oil and reinforcing the requirement to properly test, characterize, classify, and, where appropriate, sufficiently degasify hazardous materials prior to and during transportation. PHMSA also initiated "Operation Classification," a compliance initiative involving unannounced inspections and testing of crude oil samples to verify that offerors of the materials have properly classified, described and labeled the hazardous materials before transportation. In late 2015, Congress passed the Fixing America's Surface Transportation ("FAST") Act which was subsequently signed by the President. This legislation clarified the parameters around the timeline and requirements for railcars hauling crude oil in the United States. We believe our railcar fleet is in compliance in all material respects with current standards for crude oil moved by rail.

In late 2014, the North Dakota Industrial Commission adopted new standards to improve the safety of Bakken crude oil for transport. The new standard, Commission Order 25417, was effective April 1, 2015, and requires operators/producers to condition Bakken crude oil to certain vapor pressure limits. Under the order, all Bakken crude oil produced in North Dakota will be conditioned with no exceptions. The order requires operators/producers to separate light hydrocarbons from all Bakken crude oil to be transported and prohibits the blending of light hydrocarbons back into oil supplies prior to shipment. We are not directly responsible for the conditioning or stabilization of Bakken crude oil; however, under the order, it is our responsibility to notify the State of North Dakota upon discovering that Bakken crude oil received at our rail facility exceeds the permitted vapor pressure limits.

Indigenous Protections

Part of our operations cross land that has historically been apportioned to various Native American/First Nations tribes ("Indigenous Peoples"), who may exercise significant jurisdiction and sovereignty over their lands. Indigenous Peoples may also have certain treaty rights and rights to consultation on projects that may affect such lands. Our operations may be impacted to the extent these tribal governments are found to have and choose to act upon such jurisdiction over lands where we operate. For example, in 2020, the Supreme Court ruled in *McGirt v. Oklahoma* that the Muscogee (Creek) Nation reservation in Eastern Oklahoma has not been disestablished (i.e., officially unrecognized). Prior to the court's ruling, the prevailing view was that all reservations within Oklahoma had been disestablished prior to statehood in 1907. Although the court's ruling indicates that it is limited to criminal law as applied within the Muscogee (Creek) Nation reservations for civil law within the Muscogee (Creek) Nation reservations that may similarly be found to not have been disestablished. Later in 2020, state courts in Oklahoma, applying the analysis in *McGirt*, ruled that the Cherokee, Chickasaw, Seminole, and Choctaw reservations likewise had not been disestablished.

On October 1, 2020, the EPA granted approval to the State of Oklahoma under Section 10211(a) of the Safe, Accountable, Flexible, Efficient Transportation Equity Act of 2005 (the "SAFETE Act") to administer all of the State's existing EPA-approved regulatory programs to Indian Country within the State except: Indian allotments to which Indian titles have not been extinguished; lands that are held in trust by the United States on behalf of any Indian or Tribe; lands that are owned in fee by any Tribe where tile was acquired through a treaty with the United States to which such Tribe is a party and that have never been allotted to any citizen or member of such Tribe. The approval extends the State's authority for existing EPA-approved regulatory programs to all lands within the State to which the State applied such programs prior to the U.S. Supreme Court's ruling regarding the Muscogee (Creek) Nation reservation. However, several Tribes have expressed dissatisfaction with the consultation process performed in relation to this approval, and it is possible that EPA's approval under the SAFETE Act could be challenged. Additionally, the SAFETE Act provides that any Tribe in Oklahoma may seek "Treatment as a State" by the EPA, and it is possible that one or more of the Tribes in Oklahoma may seek such an approval from EPA. At this time, we cannot predict how these jurisdictional issues may ultimately be resolved.

Transportation Security Administration Security Directives

In 2021, in response to the Colonial Pipeline cybersecurity incident, The United States Department of Homeland Security's Transportation Security Administration ("TSA") issued two comprehensive security directives with various cyber security and reporting requirements for critical infrastructure pipeline owners and/or operators. Compliance with these security directives may have a significant impact on our operations and results of operations.

Cross Border Regulation

As a result of our cross border activities, including transportation and importation of crude oil and NGL between the United States and Canada, we are subject to a variety of legal requirements pertaining to such activities including presidential permit requirements, export/import license requirements, tariffs, Canadian and U.S. customs and taxes, and requirements relating to toxic substances. U.S. legal requirements relating to these activities include regulations adopted pursuant to the Short Supply Controls of the Export Administration Act ("EAA"), the North American Free Trade Agreement ("NAFTA") replacement, the United States-Mexico-Canada Agreement ("USMCA") (July 1, 2020) and the Toxic Substances Control Act ("TSCA"), as well as presidential permit requirements of the U.S. Department of State. In addition, the importation of natural gas from and to the United States and Canada is subject to regulation by U.S. Customs and Border Protection, U.S. Department of Energy and the CER. Violations of these licensing, tariff and tax reporting requirements or failure to provide certifications relating to toxic substances could result in the imposition of significant administrative, civil and criminal penalties. Furthermore, the failure to comply with U.S. federal, state and local tax requirements, as well as Canadian federal and provincial tax requirements, could lead to the imposition of additional taxes, interest and penalties.

Market Anti-Manipulation Regulation

In November 2009, the Federal Trade Commission ("FTC") issued regulations pursuant to the Energy Independence and Security Act of 2007, intended to prohibit market manipulation in the petroleum industry. Violators of the regulations face civil penalties of up to approximately \$1.3 million per violation per day, subject to the FTC's annual inflation adjustment. In July 2010, Congress passed the Dodd-Frank Act, which incorporated an expansion of the authority of the Commodity Futures Trading Commission ("CFTC") to prohibit market manipulation in the markets regulated by the CFTC. This authority, with respect to crude oil swaps and futures contracts, is similar to the anti-manipulation authority granted to the FTC with respect to crude oil purchases and sales. In July 2011, the CFTC issued final rules to implement their new anti-manipulation authority. The rules subject violators to a civil penalty of up to the greater of approximately \$1.23 million, subject to the CFTC's annual inflation adjustment, or triple the monetary gain to the person for each violation.

Operational Hazards and Insurance

Pipelines, terminals, trucks or other facilities or equipment may experience damage as a result of an accident, natural disaster, terrorist attack, cyber event or other event. These hazards can cause personal injury and loss of life, severe damage to and destruction of property and equipment, pollution or environmental damage and suspension of operations. Consistent with insurance coverage generally available in the industry, in certain circumstances our insurance policies provide limited coverage for losses or liabilities relating to gradual pollution, with broader coverage for sudden and accidental occurrences. We maintain various types and varying levels of insurance coverage to cover our operations and properties, and we self-insure certain risks, including gradual pollution, cybersecurity and named windstorms. However, such insurance does not cover every potential risk that might occur, associated with operating pipelines, terminals and other facilities and equipment, including the potential loss of significant revenues and cash flows.

The occurrence of a significant event not fully insured, indemnified or reserved against, or the failure of a party to meet its indemnification obligations, could materially and adversely affect our operations and financial condition. We believe that we maintain adequate insurance coverage, although insurance will not cover many types of interruptions that might occur, will not cover amounts up to applicable deductibles and will not cover all risks associated with certain of our assets and operations. With respect to our insurance coverage, our policies are subject to deductibles and retention levels that we consider reasonable and not excessive. Additionally, no assurance can be given that we will be able to maintain adequate insurance in the future at rates we consider reasonable. As a result, we may elect to self-insure or utilize higher deductibles in certain other insurance programs. In addition, although we believe that we have established adequate reserves and liquidity to the extent such risks are not insured, costs incurred in excess of these reserves may be higher or we may not receive insurance proceeds in a timely manner, which may potentially have a material adverse effect on our financial conditions, results of operations or cash flows.

Title to Properties and Rights-of-Way

Our real property holdings generally consist of: (i) parcels of land that we own in fee, (ii) surface leases and underground storage leases and (iii) easements, rights-of-way, permits, crossing agreements or licenses from landowners or governmental authorities permitting the use of certain lands for our operations. In all material respects, we believe we have satisfactory title or the right to use the sites upon which our significant facilities are located, subject to (a) customary liens, restrictions or encumbrances and (b) challenges that we do not regard as material relative to our overall operations. Some of our real property rights may be subject to termination under agreements that provide for one or more of: periodic payments, term periods, renewal rights, abandonment of use, continuous operation requirements, revocation by the licensor or grantor and possible relocation obligations.

Human Capital

General

Our primary human capital management objective is to attract, retain and develop a high quality workforce that will enable us to maintain and enhance a culture that is consistent with our core values of safety and environmental stewardship; ethics and integrity; accountability; and respect and fairness. To support this objective, we seek to attract, reward and support employees through competitive pay, benefits and other programs; develop employees and encourage internal talent mobility to prepare employees for critical roles and leadership positions for the future; facilitate the development of a workplace culture that is diverse, engaging and inclusive; and promote efficiency and a high performance culture by investing in technology and systems and providing tools and resources that enable employees at work.



As a limited partnership, we do not directly have officers and employees. Our operations and activities are managed by Plains All American GP LLC ("GP LLC"), which employs our management and operational personnel (other than our Canadian personnel, who are employed by our subsidiary, PMCULC). As of December 31, 2021, GP LLC and PMCULC employed approximately 4,100 people in North America, of which approximately 2,900 were employed in the U.S. and approximately 1,200 were employed in Canada. Approximately 69% of our workforce (approximately 2,800 employees) are field employees, which includes approximately 525 employees in our trucking division. Our employees are located in 23 states in the U.S. and in 5 provinces in Canada. Approximately 185 employees are covered by six separate collective bargaining agreements, one of which is currently being negotiated, while the remaining five are open for renegotiation in 2023 and 2024.

Health and Safety

Our people are our most valuable asset. We prioritize the health and safety of our employees and we are committed to protecting our employees and conducting our operations in a safe, reliable and responsible manner. We support our commitment to health and safety through extensive education and training and investment in necessary equipment, systems, processes and other resources, and we have a number of safety programs and campaigns that are shared across our operations, such as "Good Catch-Close Call" communications, periodic and situation specific safety stand-downs, lessons learned sharing and stop work authorization for all employees. We also have a number of programs that are focused on employee wellness, including an employee assistance program that provides free mental and behavioral support for employees. In addition, in order to incentivize performance in the areas of safety and environmental responsibility, our performance-based annual bonus program includes a safety component that is based on year-over-year reductions in our recordable injury rate, and an environmental responsibility component that is tied to year-over-year reductions in the number of federally reportable releases we experience. Although we failed to achieve our targeted reductions in these two areas in 2021, since 2017, for each of these metrics, we have achieved cumulative three-year reductions of more than 50%. In addition, in 2021 we established a new HSES Board Committee to provide additional oversight and perspectives with respect to HSES and ESG matters.

Diversity and Inclusion

We are committed to providing a professional work environment where all employees are treated with respect and dignity and provided with equal opportunities. To that end, we strive to develop a culture of inclusion and diversity in our workforce and aspire to employ a workforce that reflects the diversity of the communities where we operate. As of December 31, 2021, approximately 21% of our overall workforce was female (45% exclusive of field employees), and minorities represented approximately 31% of our U.S. workforce (37% exclusive of field employees).

To support diversity and inclusion efforts at Plains and across the broader industry, we created and sponsor an employee resource group called Cultivating Connections. This group is dedicated to encouraging diversity, inclusion and advancement of women in the industry through networking, mentoring, sharing experiences and ideas, training, and furthering the development of leadership skills. Through Cultivating Connections, an employee mentorship program was also established to encourage professional growth through the development of core competencies.

Training and Leadership Development

We are committed to the continued development of our people. We provide a multitude of training programs covering topics such as field operations, health and safety, regulatory compliance, technical training, management and leadership skills, and professional development. We also operate a number of internal programs at all levels of the workforce that are designed to identify and develop future leaders of the organization. The Board receives reports from senior management on a regular basis regarding the status of succession plans with respect to executive leadership of the company.

Benefits

Our compensation and benefits programs are designed to attract, retain and motivate our employees and to reward them for their services and success. In addition to providing competitive salaries and other compensation opportunities, we offer comprehensive and competitive benefits to our eligible employees including, depending on location, health (medical, dental and vision) insurance, prescription drug benefits, flexible spending accounts, parental leave, disability coverage, mental and behavioral health resources, paid time off, retirement savings plan, education reimbursement program, a disaster relief fund, life insurance and accidental death and dismemberment insurance.

Summary of Tax Considerations

The following is a brief summary of certain material tax considerations of owning and disposing of common units, however, the tax consequences of ownership of common units are complex and depend in part on the owner's individual tax circumstances. This summary is based on the provisions of the Internal Revenue Code of 1986, as amended (the "Code"), U.S. Treasury regulations, administrative rulings and judicial decisions, all as in effect on the date hereof, and all of which are subject to change, possibly with retroactive effect. We have not sought any ruling from the Internal Revenue Service, or the IRS, with respect to the statements made and the conclusions reached in the following summary, and there can be no assurance that the IRS or a court will agree with such statements and conclusions. This summary does not address all aspects of U.S. federal income taxation or the tax considerations arising under the laws of any non-U.S., state, or local jurisdiction, or under U.S. federal estate and gift tax laws. It is the responsibility of each unitholder, either individually or through a tax advisor, to investigate the legal and tax consequences of the unitholder's investment in us under applicable U.S. federal, state and local law. Further, it is the responsibility of each unitholder to file all U.S. federal, state and local tax returns that may be required of the unitholder. Also see Item 1A. "Risk Factors—Tax Risks to Unitholders" and "Risk Factors—Tax Risks to Common Unitholders."

Partnership Status; Cash Distributions

We are treated for U.S. federal income tax purposes as a partnership based upon our meeting the "Qualifying Income Exception" imposed by Section 7704 of the Code, which we must meet each year. The owners of our common units are considered partners in the Partnership so long as they do not loan their common units to others to cover short sales or otherwise dispose of those units. Accordingly, subject to the Bipartisan Budget Act audit rules, we generally are not liable for U.S. federal income taxes, and a common unitholder is required to report on the unitholder's federal income tax return the unitholder's share of our income, gains, losses and deductions. In general, cash distributions to a common unitholder are taxable only if, and to the extent that, they exceed the tax basis in the common units held. In certain cases, we are subject to, or have paid Canadian income and withholding taxes, including with respect to intercompany interest payments and dividend payments. Unitholders may be eligible for foreign tax credits with respect to allocable Canadian withholding and income taxes paid.

Partnership Allocations

In general, our income and loss is allocated to the general partner and the unitholders for each taxable year in accordance with their respective percentage interests in the Partnership, as determined annually and prorated on a monthly basis and subsequently apportioned among the general partner and the unitholders of record as of the opening of the first business day of the month to which they relate, even though unitholders may dispose of their units during the month in question. A unitholder who disposes of common units prior to the record date set for a cash distribution for that quarter will be allocated items of our income, gain, loss and deduction attributable to the month of disposition (and any other month during the quarter to which such cash distribution relates and the holder held common units on the first day of such month) but will not be entitled to receive a cash distribution for that period. In determining a unitholder's U.S. federal income tax liability, the unitholder is required to take into account the unitholder's share of income generated by us for each taxable year of the Partnership ending with or within the unitholder's taxable year, even if cash distributions are not made to the unitholder. As a consequence, a unitholder's share of our taxable income (and possibly the income tax payable by the unitholder with respect to such income) may exceed the cash actually distributed to the unitholder by us.

Basis of Common Units

A unitholder's initial tax basis for a common unit is generally the amount paid for the common unit and the unitholder's share of our nonrecourse liabilities (or liabilities for which no partner bears the economic risk of loss). A unitholder's basis is generally increased by the unitholder's share of our income and by any increases in the unitholder's share of our nonrecourse liabilities. That basis will be decreased, but not below zero, by the unitholder's share of our losses, the amount of all distributions made to the unitholder (including deemed distributions due to a decrease in the unitholder's share of our nonrecourse liabilities) and the amount of any excess business interest allocated to the unitholder. The IRS has ruled that a partner who acquires interests in a partnership in separate transactions must combine those interests and maintain a single adjusted tax basis for all of those interests.

Limitations on Deductibility of Partnership Losses

The deduction by a unitholder of that unitholder's allocable share of our losses will be limited to the amount of that unitholder's tax basis in his or her common units and, in the case of an individual unitholder or a corporate unitholder who is subject to the "at risk" rules (generally, certain closely-held corporations), to the amount for which the unitholder is considered to be "at risk" with respect to our activities, if that is less than the unitholder's tax basis. A unitholder must recapture losses deducted in previous years to the extent that distributions cause the unitholder's at risk amount to be less than zero at the end of any taxable year. Losses disallowed to a unitholder or recaptured as a result of these limitations will carry forward and will be allowable as a deduction to the extent that his at-risk amount is subsequently increased, provided such losses do not exceed such unitholder's tax basis in his common units. Upon the taxable disposition of a common unit, any gain recognized by a unitholder can be offset by losses that were previously suspended by the at risk limitation but may not be offset by losses suspended by the basis limitation. Any loss previously suspended by the at risk limitation in excess of that gain could no longer be used.

In addition to the basis and at-risk limitations described above, a passive activity loss limitation generally limits the deductibility of losses incurred by individuals, estates, trusts, some closely-held corporations and personal service corporations from "passive activities" (generally, trade or business activities in which the taxpayer does not materially participate). The passive loss limitations are applied separately with respect to each publicly traded partnership. Consequently, any passive losses we generate will be available to offset only passive income generated by us, and will not be available to offset income from other passive activities or investments, including investments in other publicly traded partnerships or salary, active business or other income. Passive losses that exceed a unitholder's share of passive income we generate may be deducted in full when the unitholder disposes of all of its units in a fully taxable transaction with an unrelated party. The passive activity loss rules are generally applied after other applicable limitations on deductions, including the at risk and basis limitations.

For taxpayers other than corporations in taxable years beginning after December 31, 2020, and before January 1, 2026, an "excess business loss" limitation further limits the deductibility of losses by such taxpayers. An excess business loss is the excess (if any) of a taxpayer's aggregate deductions for the taxable year that are attributable to the trades or businesses of such taxpayer (determined without regard to the excess business loss limitation) over the aggregate gross income or gain of such taxpayer for the taxable year that is attributable to such trades or businesses plus a threshold amount. The threshold amount is equal to \$250,000, or \$500,000 for taxpayers filing a joint return, in each case, increased by the applicable inflation adjustment. Disallowed excess business losses are treated as a net operating loss carryover to the following tax year. Any losses we generate that are allocated to a unitholder and not otherwise limited by the basis, at risk, or passive loss limitation of such unitholder's aggregate trade or business income equal to the applicable threshold amount. Thus, except to the extent of the threshold amount of non-trade or business income equal to the applicable threshold amount. Thus, except to the extent of the threshold amount, our losses that are not otherwise limited and non-trade or business income (such as salaries, fees, interest, dividends and capital gains). This excess business loss limitation.

Limitations on Interest Deductions

In general, we are entitled to a deduction for interest paid or accrued on indebtedness properly allocable to our trade or business during our taxable year. However, our deduction for this "business interest" is limited to the sum of our business interest income and 30% of our "adjusted taxable income." For the purposes of this limitation, our adjusted taxable income is computed without regard to any business interest or business interest income, and in the case of taxable years beginning before January 1, 2022, any deduction allowable for depreciation, amortization, or depletion to the extent such depreciation, amortization, or depletion is not capitalized into cost of goods sold with respect to inventory. This limitation is first applied at the partnership level and any deduction for business interest is taken into account in determining our non-separately stated taxable income or loss. Then, in applying this business interest limitation at the partner level, the adjusted taxable income of each of our unitholders is determined without regard to such unitholder's distributive share of any of our items of income, gain, deduction, or loss and is increased by such unitholder's distributive share of our excess taxable income, which is generally equal to the excess of 30% of our adjusted taxable income over the amount of our deduction for business interest for a taxable year.

To the extent our deduction for business interest is not limited, we will allocate the full amount of our deduction for business interest among our unitholders in accordance with their percentage interests in us. To the extent our deduction for business interest is limited, the amount of any disallowed deduction for business interest will also be allocated to each unitholder in accordance with their percentage interest in us, but such amount of "excess business interest" will not be currently deductible. Subject to certain limitations and adjustments to a unitholder's basis in its common units, this excess business interest may be carried forward and deducted by a unitholder in a future taxable year. Further, a unitholder's basis in his or her common units will generally be increased by the amount of any excess business interest upon a disposition of such common units.

Section 754 Election

We have made the election provided for by Section 754 of the Code, which will generally result in a unitholder being allocated income and deductions calculated by reference to the portion of the unitholder's purchase price attributable to each asset of the Partnership.

Disposition of Common Units

A unitholder who sells common units will recognize gain or loss equal to the difference between the amount realized and the adjusted tax basis of those common units (taking into account any basis adjustments attributable to previously disallowed interest deductions). A unitholder may not be able to trace basis to particular common units for this purpose. Thus, distributions of cash from us to a unitholder in excess of the income allocated to the unitholder will, in effect, become taxable income if the unitholder sells the common units at a price greater than the unitholder's adjusted tax basis even if the price is less than the unitholder's original cost. Moreover, a portion of the amount realized (whether or not representing gain) will be taxed as ordinary income due to potential recapture items, including depreciation recapture. In addition, because the amount realized includes a unitholder's share of our nonrecourse liabilities, a unitholder may incur a tax liability in excess of the amount of cash the unitholder receives from the sale.

State, Local and Other Tax Considerations

In addition to federal income taxes, unitholders will likely be subject to other taxes, including state and local income taxes, unincorporated business taxes, and estate, inheritance or intangible taxes that are imposed by the various jurisdictions in which a unitholder resides or in which we conduct business or own property. We own property and conduct business in most states in the United States as well as several provinces in Canada. A unitholder may also be required to file state income tax returns and to pay taxes in various states, even if they do not live in those jurisdictions. As our entire Canadian source income passes through Canadian taxable entities, our unitholders do not have a separate Canadian tax filing obligation as it relates to this income. Unitholders who are not resident in the United States may have additional tax reporting and payment requirements.

A unitholder may be subject to interest and penalties for failure to comply with such requirements. In certain states, tax losses may not produce a tax benefit in the year incurred (if, for example, we have no income from sources within that state) and also may not be available to offset income in subsequent taxable years. Some states may require us, or we may elect, to withhold a percentage of income from amounts to be distributed to a unitholder who is not a resident of the state. Withholding, the amount of which may be more or less than a particular unitholder's income tax liability owed to a particular state, may not relieve the unitholder from the obligation to file an income tax return in that state. Amounts withheld may be treated as if distributed to unitholders for purposes of determining the amounts distributed by us.

Ownership of Common Units by Tax-Exempt Organizations and Certain Other Investors

An investment in common units by tax-exempt organizations (including Individual Retirement Accounts ("IRAs") and other retirement plans) and non-U.S. persons raises issues unique to such persons. Virtually all of our income allocated to a unitholder that is a tax-exempt organization is unrelated business taxable income and, thus, is taxable to such a unitholder. A unitholder who is a nonresident alien, non-U.S. corporation or other non-U.S. person is regarded as being engaged in a trade or business in the United States as a result of ownership of a common unit and, thus, is required to file federal income tax returns and to pay tax on the unitholder's share of our taxable income and on gain realized from the sale or disposition of common units to the extent the gain is effectively connected with a U.S. trade or business of the non-U.S. unitholder.

Moreover, under Section 1446(f) of the Code, the transferee of an interest in a partnership that is engaged in a U.S. trade or business is generally required to withhold 10% of the amount realized by the transferor unless the transferor certifies that it is not a foreign person. While the determination of a partner's "amount realized" generally includes any decrease of a partner's share of the partnership's liabilities, the Treasury regulations provide that the "amount realized" on a transfer of an



interest in a publicly traded partnership, such as our common units, will generally be the amount of gross proceeds paid to the broker effecting the applicable transfer on behalf of the transferor, and thus will be determined without regard to any decrease in that partner's share of a publicly traded partnership's liabilities. The Treasury regulations provide that withholding on a transfer of an interest in a publicly traded partnership will not be imposed on a transfer that occurs prior to January 1, 2022, and administrative guidance from the IRS further provides that the applicability date under the Section 1446(f) withholding obligations has been deferred until January 1, 2023. For a transfer of interests in a publicly traded partnership that is effected through a broker on or after January 1, 2023, the obligation to withhold is imposed on the transferor's broker. Prospective foreign unitholders should consult their tax advisors regarding the impact of these rules on an investment in our common units.

Audit Procedures

Publicly-traded partnerships are treated as entities separate from their owners for purposes of federal income tax audits, judicial review of administrative adjustments by the IRS and tax settlement proceedings. The tax treatment of partnership items of income, gain, loss and deduction are determined in a partnership proceeding rather than in separate proceedings for each of the partners. Pursuant to the Bipartisan Budget Act of 2015, for taxable years beginning after December 31, 2017, if the IRS makes audit adjustments to our income tax returns, it may assess and collect any taxes (including any applicable penalties and interest) resulting from such audit adjustment directly from us, unless we elect to have our general partner, unitholders and former unitholders take any audit adjustment into account in accordance with their interests in us during the taxable year under audit. Similarly, for such taxable years, if the IRS makes audit adjustments to income tax returns filed by an entity in which we are a member or partner, it may assess and collect any taxes (including penalties and interest) resulting from such entity.

Available Information

We make available, free of charge on our Internet website at www.plains.com, our annual reports on Form 10-K, quarterly reports on Form 10-Q, current reports on Form 8-K, and amendments to those reports filed or furnished pursuant to Section 13(a) or 15(d) of the Securities Exchange Act of 1934 as soon as reasonably practicable after we electronically file the material with, or furnish it to, the Securities and Exchange Commission ("SEC"). The SEC maintains an Internet site that contains reports, proxy and information statements, and other information regarding issuers that file electronically with the SEC at http://www.sec.gov. Our website includes a significant amount of information about us, including financial and other information that could be deemed material to investors. Investors and others are encouraged to review the information posted on our website. The information posted on our website is not incorporated by reference into this Annual Report on Form 10-K or any of our other filings with the SEC.

Item 1A. Risk Factors

References to the "PAGP Entities" include PAGP GP, PAGP, Plains All American GP LLC, AAP and PAA GP LLC. References to our "general partner," as the context requires, include any or all of the PAGP Entities. References to the "Plains Entities" include us, our subsidiaries and the PAGP Entities.

Summary of Risk Factors

Risks Related to Our Business

Our business, results of operations, financial condition, cash flows and unit price can be adversely affected by many factors including but not limited to:

- the volume of crude oil, natural gas and NGL shipped, processed, purchased, stored, fractionated and/or gathered at or through the use of our facilities, which can be negatively impacted by a
 variety of factors outside of our control;
- competition in our industry, including recontracting and other risks associated with the general capacity overbuild of midstream energy infrastructure in some of the areas where we operate;
- pandemics, epidemics or other public health emergencies, such as the COVID-19 pandemic;
- · changes in supply and demand for the products we handle, which can be caused by a variety of factors outside of our control;
- natural disasters, catastrophes, terrorist attacks (including eco-terrorist attacks), process safety failures, equipment failures or other events, including pipeline or facility accidents and cyber or other attacks on our electronic and computer systems, could interrupt our operations, hinder our ability to fulfil our contractual obligations and/or result in severe personal injury, property damage and environmental damage;
- cybersecurity attacks, data breaches and other disruptions affecting us, or our service providers, could materially and adversely affect our business, operations, reputation and financial results;
- societal and political pressures from various groups, including opposition to the development or operation of our pipelines and facilities;
- · increased scrutiny from institutional investors with respect to the perceived social and environmental cost of our industry and our governance structure;
- the overall forward market for crude oil and NGL, and certain market structures, the absence of pricing volatility and other market factors;
- an inability to fully implement or realize expected returns or other anticipated benefits associated with joint venture and joint ownership arrangements, divestitures, acquisitions and other projects;
- loss of our investment grade credit rating or the ability to receive open credit;
- the credit risk of our customers and other counterparties we transact with in the ordinary course of business activities;
- tightened capital markets or other factors that increase our cost of capital or otherwise limit our access to capital;
- the insufficiency of, or non-compliance with, our risk policies;
- · our insurance coverage may not fully cover our losses and we may in the future encounter increased costs related to, and lack of availability of, insurance;
- our current or future debt levels, or inability to borrow additional funds or capitalize on business opportunities;
- changes in currency exchange rates;
- difficulties recruiting and retaining our workforce;
- an impairment of long-term assets;
- significant under-utilization of certain assets due to fixed costs incurred to obtain the right to use such assets;
- many of our assets have been in service for many years and require significant expenditures to maintain them. As a result, our maintenance or repair costs may increase in the future;
- we do not own all of the land on which our pipelines and facilities are located, which could result in disruptions to our operations; and
- failure to obtain materials or commodities in the quantity and the quality we need, and at commercially acceptable prices, whether due to supply disruptions, inflation, tariffs, quotas or other factors.



Risks Related to Laws and Regulations

Our business may be adversely impacted by existing or new laws, executive orders and regulations relating to protection of the environment and wildlife, operational safety, pandemics, cross-border import/export and tax matters, financial and hedging activities, climate change and related matters.

Risks Inherent in an Investment in Us

Our partnership structure carries inherent risks, including but not limited to:

- · cost reimbursements due to our general partner may be substantial and will reduce our cash available for distribution to unitholders;
- cash distributions are not guaranteed and may fluctuate with our performance and the establishment of financial reserves;
- our preferred units have rights, preferences and privileges that are not held by, and are preferential to the rights of, holders of our common units;
- unitholders may not be able to remove our general partner even if they wish to do so;
- we may issue additional common units without unitholder approval, which would dilute a unitholder's existing ownership interests; and
- conflicts of interest could arise among our general partner and us or the unitholders.

Risks Related to an Investment in Our Debt Securities

Holders of our debt securities are subject to risks including but not limited to:

- the right to receive payments on our outstanding debt securities is unsecured and will be effectively subordinated to our existing and future secured indebtedness and will be structurally subordinated as to any existing and future indebtedness and other obligations of our subsidiaries, other than subsidiaries that may guarantee our debt securities in the future; and
 we do not have the same flexibility as other types of organizations to accumulate cash, which may limit cash available to service our debt securities or to repay them at maturity.
- Tax Risks to Common Unitholders and Series B Preferred Unitholders

Our Common Units or Series B Preferred Units are subject to tax risks, which may adversely impact the value of or market for our units and may reduce our cash available for distribution or debt service, including but not limited to:

- our status as a partnership for U.S. federal income tax purposes and not being subject to a material amount of entity-level taxation;
- · potential legislative, judicial or administrative changes or differing interpretations, possibly applied on a retroactive basis;
- potential audit adjustments to our income tax returns for tax years beginning after December 31, 2017, by the IRS or state tax authorities;
- · IRS or Canada Revenue Agency ("CRA") contests to the federal income tax positions or inter-country allocations we take;
- our unitholders may be required to pay taxes on their share of our income even if they do not receive any cash distributions from us;
- tax-exempt entities and non-U.S. unitholders face unique tax issues from owning our units;
- taxable gain or loss on the disposition of our common units could be more or less than expected;
- unitholders may be subject to limitation on their ability to deduct interest expense incurred by us;
- our unitholders will likely be subject to state, local and non-U.S. taxes and return filing requirements in states and jurisdictions where they do not live as a result of investing in our units; and
- the tax treatment of income attributable to distributions on our Series B Preferred Units as guaranteed payments for the use of capital creates a different tax treatment for the holders of our Series B Preferred Units than the holders of our common units and such income is not eligible for the 20% deduction for qualified publicly traded partnership income.



Risks Related to Our Business

Our profitability depends on the volume of crude oil, natural gas and NGL shipped, processed, purchased, stored, fractionated and/or gathered at or through the use of our facilities, which can be negatively impacted by a variety of factors outside of our control.

Drilling activity, crude oil production and benchmark crude oil prices can fluctuate significantly over time. For example, in early 2020, the onset of the COVID-19 pandemic resulted in a swift and material decline in global crude oil demand and crude oil prices, which led to a significant reduction of domestic crude oil, NGL and natural gas production. This had an adverse effect on the demand for the midstream services we offer and the commercial opportunities that are available to us. Future declines in demand, whether due to the continued pandemic or other factors, may have an adverse impact on our financial performance.

Crude oil prices may also decline due to actions of domestic or foreign oil producers—they may take actions that create an over-supply of crude oil, and decrease benchmark crude oil prices. If producers reduce drilling activity in response to future declines in such prices, reduced capital market access, increased capital raising costs for producers or adverse governmental or regulatory action including, for example, federal, state or local laws or regulations that restrict drilling activities for environmental, seismic or other reasons, it could adversely impact current or future production levels. In turn, such developments could lead to reduced throughput on our pipelines and at our other facilities, which, depending on the level of production declines, could have a material adverse effect on our business.

Also, except with respect to some of our recently constructed long haul pipeline assets, third-party shippers generally do not have long-term contractual commitments to ship crude oil on our pipelines. A decision by a shipper to substantially reduce or cease to ship volumes of crude oil on our pipelines could cause a significant decline in our revenues.

To maintain the volumes of crude oil we purchase in connection with our operations, we must continue to contract for new supplies of crude oil to offset volumes lost because of reduced drilling activity by producers, natural declines in crude oil production from depleting wells or volumes lost to competitors. If production declines, competitors with under-utilized assets could impair our ability to secure additional supplies of crude oil.

Our profitability can be negatively affected by a variety of factors stemming from competition in our industry, including risks associated with the general capacity overbuild of midstream energy infrastructure in some of the areas where we operate.

We face competition in all aspects of our business and can give no assurances that we will be able to compete effectively against our competitors. In general, competition comes from a wide variety of participants in a wide variety of contexts, including new entrants and existing participants and in connection with day-to-day business, investment capital projects, acquisitions and joint venture activities. Some of our competitors have capital resources many times greater than ours or control greater supplies of crude oil, natural gas or NGL. In addition, other competitors with significant excess capacity and high financial leverage may be motivated to reduce transportation rates to levels approaching variable operating costs, without regard to whether they are generating an acceptable return on their investment. These competitive risks make it more difficult for us to attract new customers and expose us to increased contract renewal and customer retention risk with respect to our existing customers.

A significant driver of competition in some of the markets where we operate (including, for example, the Eagle Ford, Permian Basin, and Rockies/Bakken areas) stems from the rapid development of new midstream energy infrastructure capacity that was driven by the combination of (i) significant increases in oil and gas production and development in the applicable production areas, both actual and anticipated, (ii) relatively low barriers to entry and (iii) generally widespread access to relatively low cost capital. While this environment presented opportunities for us, many of the areas where we operate have become overbuilt, resulting in an excess of midstream energy infrastructure capacity. In addition, as an established participant in some markets, we also face competition from aggressive new entrants to the market who are willing to provide services at a lower rate of return in order to establish relationships and gain a foothold in the market. In addition, our crude oil and NGL merchant activities utilize many of our pipelines and facilities. Competition that impacts our merchant activities could result in a reduction in the use of our transportation and facilities assets. All of these competitive effects put downward pressure on our throughput and margins and, together with other adverse competitive effects, could have a significant adverse impact on our financial position, cash flows and ability to pay or increase distributions to our unitholders.

With respect to our crude oil activities, our competitors include other crude oil pipelines, the major integrated oil companies, their marketing affiliates, refiners, private equity-backed entities, and independent gatherers, brokers and marketers of widely varying sizes, financial resources and experience. We compete against these companies on the basis of many factors, including geographic proximity to production areas, market access, rates, terms of service, connection costs and other factors.

With regard to our NGL operations, we compete with large oil, natural gas and natural gas liquids companies that may, relative to us, have greater financial resources and access to supplies of natural gas and NGL. The principal elements of competition are rates, processing fees, geographic proximity to the natural gas or NGL mix, available processing and fractionation capacity, transportation alternatives and their associated costs, and access to end-user markets.

Our business, results of operations, financial condition, cash flows and unit price can be adversely affected by pandemics, epidemics or other public health emergencies, such as the COVID-19 pandemic.

Our business, results of operations, financial condition, cash flows and unit price can be adversely affected by pandemics, epidemics or other public health emergencies. The current COVID-19 pandemic caused widespread economic disruption, and resulted in material reductions in demand for crude oil, NGL and other petroleum products, which in turn resulted in significant declines in the volume of crude oil and NGL shipped, processed, purchased, stored, fractionated and/or gathered at or through the use of many of our assets. Future developments in the COVID-19 pandemic or future pandemics, epidemics or other public health emergencies may have similar or greater economic impacts.

Since the onset of the COVID-19 pandemic, many of our support functions have operated remotely for extended periods of time, which presents technical and communication challenges, including increased vulnerability to cybersecurity breaches, risk management oversights or delays in, or disruptions to, communications. In addition, pandemic-related restrictions may adversely impact our ability to operate and maintain our assets, and may adversely impact the supply chain to source goods and services required for our operating activities.

The long-term impacts of the COVID-19 pandemic remain highly uncertain and depend on a wide variety of factors that are outside of our control, including the development, deployment and effectiveness of vaccines domestically and worldwide; treatments and testing protocols; mutations of the virus resulting in increased transmissibility or severity of the disease or reduced effectiveness of vaccines or treatments; the capacity of our healthcare systems and public health infrastructure to manage current and future outbreaks; and various political and economic considerations. It is unknown how new developments in the pandemic will impact future consumption of petroleum products. As a result, we are unable to predict how market conditions will impact future levels of drilling and production activities in the United States and Canada.

Changes in supply and demand for the products we handle, which can be caused by a variety of factors outside of our control, can negatively affect our operating results.

Supply and demand for crude oil and other hydrocarbon products we handle is dependent upon a variety of factors, including price, current and future economic conditions, fuel conservation measures, alternative fuel adoption, governmental regulation, including climate change regulations, and technological advances in fuel economy and energy generation and storage technologies. For example, legislative, regulatory or executive actions intended to reduce emissions of greenhouse gases could increase the cost of consuming crude oil and other hydrocarbon products or accelerate the adoption of alternative energy technologies, thereby causing a reduction in the demand for such products. Given that crude oil and petroleum products are global commodities, demand can also be significantly influenced by global market conditions, particularly in key consumption markets such as the United States and China, domestic and foreign political conditions and governmental or regulatory actions (including restrictions on the import or export of crude oil or petroleum products). Demand also depends on the ability and willingness of shippers having access to our transportation assets to satisfy their demand by deliveries through those assets. Decreases in demand for the products we handle, whether at a global level or in areas our assets serve, can negatively affect our operating results.

The supply of crude oil depends on a variety of global political and economic factors, including the reliance of foreign governments on petroleum revenues. Excess global supply of crude oil may negatively impact our operating results by decreasing the price of crude oil and making production and transportation less profitable in areas we service.

Fluctuations in demand for crude oil, such as those caused by refinery downtime or shutdowns, can have a negative effect on our operating results. Specifically, reduced demand in an area serviced by our transportation systems will negatively affect the throughput on such systems. Although the negative impact may be mitigated or overcome by our ability to capture differentials created by demand fluctuations, this ability is dependent on the availability of certain grades of crude oil at specific locations, and thus is largely unpredictable.

Fluctuations in demand for NGL products, whether because of general or industry specific economic conditions, new government regulations, global competition, reduced demand by consumers for products made with NGL products, increased competition from petroleum-based feedstocks due to pricing differences, mild winter weather for some NGL products, particularly propane, or other reasons, could result in a decline in the volume of NGL products we handle or a reduction of the fees we charge for our services. Also, increased supply of NGL products could reduce the value of NGL we handle and reduce the margins realized by us.

NGL and products produced from NGL also compete with products from global markets. Any reduced demand or increased supply for ethane, propane, normal butane, iso-butane or natural gasoline in the markets we access for any of the reasons stated above could adversely affect demand for the services we provide as well as NGL prices, which could negatively impact our operating results.

Natural disasters, catastrophes, terrorist attacks (including eco-terrorist attacks), process safety failures, equipment failures or other events, including pipeline or facility accidents and cyber or other attacks on our electronic and computer systems, could interrupt our operations, hinder our ability to fulfil our contractual obligations and/or result in severe personal injury, property damage and environmental damage, which could have a material adverse effect on our financial position, results of operations and cash flows.

Some of our operations involve risks of personal injury, property damage and environmental damage that could curtail our operations and otherwise materially adversely affect our cash flow. Virtually all of our operations are exposed to potential natural disasters or other natural events, including hurricanes, tornadoes, storms, floods, earthquakes, shifting soil and/or landslides. The location of some of our assets and our customers' assets in the U.S. Gulf Coast region makes them particularly vulnerable to hurricane or tropical storm risk. Our facilities and operations are also vulnerable to accidents caused by process safety failures, equipment failures, or human error. In addition, the U.S. government has previously issued warnings that energy assets, specifically the nation's pipeline infrastructure, may be future targets of terrorist organizations. Terrorists may target our physical facilities and hackers may attack our electronic and computer systems.

If one or more of our pipelines or other facilities, including electronic and computer systems, or any facilities or businesses that deliver products, supplies or services to us or that we rely on in order to operate our business, are damaged by severe weather or any other disaster, accident, catastrophe, terrorist attack or event, our operations could be significantly interrupted. In addition, our merchant activities include purchasing crude oil and NGL that is carried on railcars, tankers or barges. Such cargos are at risk of being damaged or lost because of events such as derailment, marine disaster, inclement weather, mechanical failures, grounding or collision, fire, explosion, environmental accidents, piracy, terrorism and political instability. These incidents or interruptions. Any such event that interrupts the revenues generated by our operations, hinders our ability to fulfil our contractual obligations or which causes us to make significant expenditures not covered by insurance, could reduce our profitability, cash flows and cash available for paying distributions to our partners and, accordingly, adversely affect our financial condition and the market price of our securities.

We may also suffer damage (including reputational damage) as a result of a disaster, accident, catastrophe, terrorist attack or other such event. The occurrence of such an event, or a series of such events, especially if one or more of them occurs in a highly populated or sensitive area, could negatively impact public perception of our operations and/or make it more difficult for us to obtain the approvals, permits, licenses or real property interests we need in order to operate our assets or complete planned growth projects or other transactions.

Cybersecurity attacks, data breaches and other disruptions affecting us, or our service providers, could materially and adversely affect our business, operations, reputation and financial results.

We are reliant on the continuous and uninterrupted operation of our various technology systems. User access to our sites and information technology systems are critical elements of our operations, as is cloud security and protection against cyber security incidents. In the ordinary course of our business, we collect and store sensitive data in our data centers and on our networks, including intellectual property, proprietary business information, critical operating information and data, information regarding our customers, suppliers, royalty owners and business partners, and personally identifiable information of our employees. We also engage third parties, such as service providers and vendors, who provide a broad array of software, technologies, tools and other products, services and functions that enable us to conduct, monitor and/or protect our business, operations systems and data assets. The secure processing, maintenance and transmission of this information is critical to our operations and business strategy. Despite our security measures, the information technology and infrastructure we rely on may be vulnerable to attacks by hackers or breached due to employee error, malfeasance or other loss of information could result in legal claims or proceedings, liability under laws that protect the privacy of personal information, regulatory penalties for divulging shipper information, disruption of our operations, damage to our reputation, and loss of confidence in our services, which could adversely affect our business.

The information technology infrastructure we use is critical to the efficient operation of our business and essential to our ability to perform day-to-day operations. Risks to our information technology systems include: unauthorized or inadvertent extraction of business sensitive, confidential or personal information; denial of access extortion; corruption of information; or disruption of business processes. Breaches of our information technology infrastructure or physical facilities, or other disruptions, could result in damage to our assets, safety incidents, damage to the environment, remediation costs, liability, regulatory enforcement, violation of privacy or securities laws and regulations, the loss of contracts or the inability to fulfil our contractual obligations, any of which could have a material adverse effect on our operations, financial position and results of operations. In addition, we may be required to invest significant additional resources to enhance our information security laws or regulations.

We self-insure and thus do not carry insurance specifically for cybersecurity events; however, certain of our insurance policies may allow for coverage of associated damages resulting from such events. If we were to incur a significant liability for which we were not fully insured, or if we incurred costs in excess of reserves established for uninsured or self-insured risks, it could have a material adverse effect on our financial position, results of operations and cash flows.

We may face opposition from various groups to the development or operation of our pipelines and facilities and our business may be subject to societal and political pressures.

We may face opposition to the development or operation of our pipelines and facilities from environmental groups, landowners, tribal groups, local groups and other advocates. Such opposition could take many forms, including organized protests, attempts to block or sabotage our operations, intervention in regulatory or administrative proceedings involving our assets, or lawsuits or other actions designed to prevent, disrupt or delay the development or operation of our assets and business. For example, repairing our pipelines often involves securing consent from individual landowners to access their property; one or more landowners may resist our efforts to make needed repairs, which could lead to an interruption in the operation of the affected pipeline or other facility for a period of time that is significantly longer than would have otherwise been the case. In addition, acts of sabotage or co-terrorism could cause significant damage or injury to people, property or the environment or lead to extended interruptions of our operations. Any such event that interrupts the revenues generated by our operations, or which causes us to make significant expenditures not covered by insurance, could reduce our cash available for paying distributions to our partners and, accordingly, adversely affect our financial condition and the market price of our securities.

Our business plans are based upon the assumption that societal sentiment and applicable laws and regulations will continue to allow and enable the future development, transportation and use of hydrocarbon-based fuels. Policy decisions relating to the production, refining, transportation and marketing of hydrocarbon-based fuels are subject to political pressures, the negative portrayal of the industry in which we operate by the media and others, and the influence and protests of environmental and other special interest groups. Such negative sentiment regarding the hydrocarbon energy industry could influence consumer preferences and government or regulatory actions, which could, in turn, have an adverse impact on our business.

Recently, activists concerned about the potential effects of climate change have directed their attention towards sources of funding for hydrocarbon energy companies, which has resulted in certain financial institutions, funds and other sources of capital restricting or eliminating their investment in energy-related activities. Ultimately, this could make it more difficult to secure funding for exploration and production activities or energy infrastructure related projects and ongoing operations, and consequently could both indirectly affect demand for our services and directly affect our ability to fund construction or other capital projects and our ongoing operations.

We are subject to increased scrutiny from institutional investors with respect to the perceived social and environmental cost of our industry and our governance structure, which may adversely impact our ability to raise capital from such investors.

In recent years, certain institutional investors, including public pension funds, have placed increased importance on the implications and social cost of ESG matters. ESG factors are playing an increasingly important role in the investment decisions made by institutional investors, and companies involved in certain industries or with certain governance structures, such as master limited partnerships, are receiving increased scrutiny.

Investors' increased focus and activism related to ESG and similar matters could constrain our ability to raise capital. Any material limitations on our ability to access capital as a result of such scrutiny could limit our ability to

obtain future financing on favorable terms, or at all, or could result in increased financing costs in the future. Similarly, such activism could negatively impact our unit price, limiting our ability to raise capital through equity issuances or debt financing, or could negatively affect our ability to engage in, expand or pursue our business activities, and could also prevent us from engaging in certain transactions that might otherwise be considered beneficial to us.

Our crude oil and NGL merchant activities are influenced by the overall forward market for crude oil and NGL, and certain market structures, the absence of pricing volatility and other market factors may adversely impact our results.

The profitability of our crude oil and NGL merchant activities are dependent on a variety of factors affecting the markets for crude oil and NGL, including regional and international supply and demand imbalances, takeaway availability and constraints, transportation costs and the overall forward market for crude oil and NGL products. Periods when differentials are wide or when there is volatility in the forward market structure are generally more favorable for our merchant activities. During periods where midstream infrastructure is over-built and/or there is a lack of volatility in the pricing structure, our results may be negatively impacted. Depending on the overall duration of these transition periods, how we have allocated our assets to particular strategies and the time length of our crude oil purchase and sale contracts and storage agreements, these periods may have either an adverse or beneficial effect on the profitability of our merchant activities. In the past, the results of such activities have varied significantly based on market conditions and these activities may continue to experience highly variable results as a result of future changes to the markets for crude oil and NGL.

Joint ventures, joint ownership arrangements and other projects pose unique challenges and we may not be able to fully implement or realize synergies, expected returns or other anticipated benefits associated with such projects.

We are involved in many strategic joint ventures and other joint ownership arrangements. We may not always be in complete alignment with our joint venture or joint owner counterparties; we may have differing strategic or commercial objectives and may be outvoted by our joint venture partners or we may disagree on governance matters with respect to the joint venture entity or the jointly owned assets. When we enter into joint ventures or joint ownership arrangements we may be subject to the risk that our counterparties do not fund their obligations. In some joint ventures and joint ownership arrangements we may not be responsible for construction or operation of such projects and will rely on our joint venture or joint owner counterparties for such services. Joint ventures and joint ownership arrangements may also require us to expend additional internal resources that could otherwise be directed to other projects. If we are unable to successfully execute and manage our existing and proposed joint venture and joint owner projects, it could adversely impact our financial and operating results.

We are undertaking, or are participating with various counterparties in, a number of projects that involve the expansion, modification, divestiture or combination of existing assets or the construction of new midstream energy infrastructure assets. Many of these projects involve numerous regulatory, environmental, commercial, economic, weather-related, political and legal uncertainties that are beyond our control, including the following:

• We may be unable to realize our forecasted commercial, operational or administrative synergies in connection with our joint ventures and joint ownership arrangements, including the Plains Oryx Permian Basin LLC joint venture;



- Joint ventures and other joint ownership arrangements may demand substantial internal resources and may divert resources and attention from other areas of our business;
- · We may construct pipelines, facilities or other assets in anticipation of market demand that dissipates or market growth that never materializes;
- Despite the fact that we will expend significant amounts of capital during the construction phase of growth or expansion projects, revenues associated with these organic growth projects will not materialize until the projects have been completed and placed into commercial service, and the amount of revenue generated from these projects could be significantly lower than anticipated for a variety of reasons;
- As these projects are undertaken, required approvals, permits and licenses may not be obtained, may be delayed, may be obtained with conditions that materially alter the expected return
 associated with the underlying projects or may be granted and then subsequently withdrawn;
- We may face opposition to our planned projects from environmental groups, landowners, local groups and other advocates, including lawsuits or other actions designed to disrupt or delay our planned projects;
- We may not be able to obtain, or we may be significantly delayed in obtaining, all of the rights of way or other real property interests we need to complete such projects, or the costs we incur in order to obtain such rights of way or other interests may be greater than we anticipated;
- Due to unavailability or costs of materials, supplies, power, labor or equipment, including increased costs associated with any import duties or requirements to source certain supplies or materials from U.S. suppliers or manufacturers, the cost of completing these projects could turn out to be significantly higher than we budgeted and the time it takes to complete construction of these projects and place them into commercial service could be significantly longer than planned; and
- The completion or success of our projects may depend on the completion or success of third-party facilities over which we have no control.

As a result of these uncertainties, the anticipated benefits associated with our joint ventures and joint ownership arrangements may not be achieved or could be delayed. In turn, this could negatively impact our cash flow and our ability to make or increase cash distributions to our partners.

Loss of our investment grade credit rating or the ability to receive open credit could negatively affect our borrowing costs, ability to purchase crude oil, NGL and natural gas supplies or to capitalize on market opportunities.

Our business is dependent on our ability to maintain an attractive credit rating and continue to receive open credit from our suppliers and trade counterparties. Our senior unsecured debt is currently rated as "investment grade" by Standard & Poor's, Moody's Investors Service and Fitch Ratings Inc. A downgrade by such agencies to a level below investment grade could increase our borrowing costs, reduce our borrowing capacity and cause our counterparties to reduce the amount of open credit we receive from them. This could negatively impact our ability to capitalize on market opportunities. For example, our ability to utilize our crude oil storage capacity for merchant activities to capture contango market opportunities is dependent upon having adequate credit facilities, both in terms of the total amount of credit facilities and the cost of such credit facilities, which enables us to finance the storage of the crude oil from the time we complete the purchase of the crude oil until the time we complete the sale of the crude oil. Accordingly, loss of our investment grade credit ratings could adversely impact our cash flows, our ability to make distributions and the value of our outstanding equity and debt securities.

We are exposed to the credit risk of our customers and other counterparties we transact with in the ordinary course of our business activities.

Risks of nonpayment and nonperformance by customers or other counterparties are a significant consideration in our business, and the economic fallout of the COVID-19 pandemic has had an adverse impact on the creditworthiness of many companies in the energy sector. Although we have credit risk management policies and procedures that are designed to mitigate and limit our exposure in this area, there can be no assurance that we have adequately assessed and managed the creditworthiness of our existing or future counterparties or that there will not be an unanticipated deterioration in their creditworthiness or unexpected instances of nonpayment or nonperformance, all of which could have an adverse impact on our cash flow and our ability to pay or increase our cash distributions to our partners.

We have a number of minimum volume commitment contracts that support our pipelines. In addition, certain of the pipelines in which we own a joint venture interest have minimum volume commitment contracts. Pursuant to such contracts,

shippers are obligated to pay for a minimum volume of transportation service regardless of whether such volume is actually shipped (typically referred to as a deficiency payment), subject to the receipt of credits that typically expire if not used by a certain date. While such contracts provide greater revenue certainty, if the applicable shipper fails to transport the minimum required volume and is required to make a deficiency payment, under applicable accounting rules, the revenue associated with such deficiency payment may not be recognized until the applicable transportation credit has expired or has been used. Deferred revenue associated with non-performance by shippers under minimum volume contracts could be significant and could adversely affect our profitability and earnings.

In addition, in those cases in which we provide division order services for crude oil purchased at the wellhead, we may be responsible for distribution of proceeds to all parties. In other cases, we pay all of or a portion of the production proceeds to an operator who distributes these proceeds to the various interest owners. These arrangements expose us to operator credit risk, and there can be no assurance that we will not experience losses in dealings with such operators and other parties.

Further, to the extent one or more of our major customers experiences financial distress or commences bankruptcy proceedings, contracts with such customers (including contracts that are supported by acreage dedications) may be subject to renegotiation or rejection under applicable provisions of the United States Bankruptcy Code. Any such renegotiation or rejection could have an adverse effect on our revenue and cash flows and our ability to make cash distributions to our unitholders.

We have also undertaken numerous projects that require cooperation with and performance by joint venture co-owners. In addition, in connection with various acquisition, divestiture, joint venture and other transactions, we often receive indemnifications from various parties for certain risks or liabilities. Nonperformance by any of these parties could result in increased costs or other adverse consequences that could decrease our earnings and returns.

We also rely to a significant degree on the banks that lend to us under our revolving credit facility for financial liquidity, and any failure of those banks to perform their obligations to us could significantly impair our liquidity. Furthermore, nonpayment by the counterparties to our interest rate, commodity and/or foreign currency derivatives could expose us to additional interest rate, commodity price and/or foreign currency risk.

Divestitures and acquisitions involve risks that may adversely affect our business.

Our ability to execute our financial strategy is in part dependent on our ability to complete strategic transactions, including acquisitions, divestitures or sales of interests to strategic partners. For example, if we are unable to successfully complete planned divestitures (due to reduced investment in the energy sector, governmental action, litigation, counterparty non-performance or other factors), it may be more difficult for us to achieve our desired leverage levels, increase returns to equity holders or otherwise accomplish our financial goals. In addition, in connection with our divestitures, we may agree to retain responsibility for certain liabilities that relate to our period of ownership, which could adversely impact our future financial performance.

Acquisitions also involve potential risks, including:

- performance from the acquired businesses or assets that is below the forecasts we used in evaluating the acquisition;
- a significant increase in our indebtedness and working capital requirements;
- the inability to timely and effectively integrate the operations of recently acquired businesses or assets;
- the incurrence of substantial unforeseen environmental and other liabilities arising out of the acquired businesses or assets for which we are either not fully insured or indemnified, including liabilities arising from the operation of the acquired businesses or assets prior to our acquisition;
- risks associated with operating in lines of business that are distinct and separate from our historical operations;
- customer or key employee loss from the acquired businesses; and
- the diversion of management's attention from other business concerns.

Any of these factors could adversely affect our ability to achieve anticipated levels of cash flows or other benefits from our acquisitions, pay distributions to our partners or meet our debt service requirements.



Tightened capital markets or other factors that increase our cost of capital or otherwise limit our access to capital could impair our ability to achieve our strategic objectives.

Any limitations on our access to capital or increase in the cost of that capital could significantly impair the implementation of our strategy. Our inability to maintain our targeted credit profile, including maintaining our credit ratings, could adversely affect our cost of capital as well as our ability to execute our strategy. In addition, a variety of factors beyond our control could impact the availability or cost of capital, including domestic or international economic conditions, increases in key benchmark interest rates and/or credit spreads, the adoption of new or amended banking or capital market laws or regulations, the re-pricing of market risks and volatility in capital and financial markets.

Due to these factors, we cannot be certain that funding for our capital needs will be available from bank credit arrangements, capital markets or other sources on acceptable terms. If funding is not available when needed, or is available only on unfavorable terms, we may be unable to implement our development plans, enhance our existing business, complete strategic projects and transactions, take advantage of business opportunities or respond to competitive pressures, any of which could have a material adverse effect on our cash flows and results of operations.

Our risk policies cannot eliminate all risks and the insufficiency of, or non-compliance with our risk policies could result in significant financial losses.

Generally, it is our policy to establish a margin for crude oil or other products we purchase by selling such products for physical delivery to third-party users, or by entering into a future delivery obligation under derivative contracts. Through these transactions, we seek to maintain a position that is substantially balanced between purchases on the one hand, and sales or future delivery obligations on the other hand. Our policy is not to acquire and hold physical inventory or derivative products for the purpose of speculating on commodity price changes. These policies and practices cannot, however, eliminate all risks. For example, any event that disrupts our anticipated physical supply of crude oil or other products could expose us to risk of loss resulting from price changes. We are also exposed to basis risk when crude oil or other peroducts are purchased against one pricing index or benchmark and sold against a different index or benchmark. We may also face disruptions to futures markets for crude oil, NGL and other petroleum products, which may impair our ability to execute our commercial or hedging strategies. Margin requirements due to spikes or crashes in commodity prices may require us to exit hedge strategies at inopportune times. We are also exposed to some risks that are not hedged, including risks on certain of our inventory, such as linefill, which must be maintained in order to transport crude oil on our pipelines. In an effort to maintain a balanced position, specifically authorized personnel can purchase or sell crude oil, refined products and NGL, up to predefined limits and authorizations. Although this activity is monitored independently by our risk management function, it exposes us to commodity price risks within these limits.

In addition, our operations involve the risk of non-compliance with our risk policies. We have taken steps within our organization to implement processes and procedures designed to detect unauthorized trading; however, we can provide no assurance that these steps will detect and prevent all violations of our risk policies and procedures, particularly if deception, collusion or other intentional misconduct is involved.

Our insurance coverage may not fully cover our losses and we may in the future encounter increased costs related to, and lack of availability of, insurance.

While we maintain insurance coverage at levels that we believe to be reasonable and prudent, we can provide no assurance that our current levels of insurance will be sufficient to cover any losses that we have incurred or may incur in the future, whether due to deductibles, coverage challenges or other limitations. In addition, over the last several years, as the scale and scope of our business activities has expanded, the breadth and depth of available insurance markets has contracted. As a result of these factors and other market conditions, as well as the fact that we have experienced several incidents in the past, premiums and deductibles for certain insurance policies have increased substantially. Accordingly, we can give no assurance that we will be able to maintain adequate insurance in the future at rates or on other terms we consider commercially reasonable. In addition, although we believe that we currently maintain adequate insurance may types of interruptions or events that might occur and will not cover all risks associated with our operations. In addition, the proceeds of any such insurance or not fully insurance or a significant event, the consequences of which are either not covered by insurance or not fully insured, or a significant delay in the payment of a major insurance claim, could materially and adversely affect our financial position, results of operations and cash flows.

The terms of our indebtedness may limit our ability to borrow additional funds or capitalize on business opportunities. In addition, our current or future debt levels, or inability to borrow additional funds or capitalize on business opportunities, may limit our future financial and operating flexibility.

As of December 31, 2021, the face value of our consolidated debt outstanding was approximately \$9.3 billion (excluding unamortized discounts and debt issuance costs of approximately \$54 million), consisting of approximately \$8.5 billion face value of long-term debt (including senior notes and finance lease obligations) and approximately \$0.8 billion of short-term borrowings. As of December 31, 2021, we had over \$3 billion of liquidity available, including cash and cash equivalents and available borrowing capacity under our senior unsecured revolving credit facility and our senior secured hedged inventory facility, subject to continued covenant compliance. Lower Adjusted EBITDA could increase our leverage ratios and effectively reduce our ability to incur additional indebtedness.

The amount of our current or future indebtedness could have significant effects on our operations, including, among other things:

- a significant portion of our cash flow will be dedicated to the payment of principal and interest on our indebtedness and may not be available for other purposes, including the payment
 of distributions on our units and capital expenditures;
- credit rating agencies may view our debt level negatively;
- covenants contained in our existing debt arrangements will require us to continue to meet financial tests that may adversely affect our flexibility to plan for and react to changes in our business;
- our ability to obtain additional financing for working capital, capital expenditures, acquisitions and general partnership purposes may be limited;
- we may be at a competitive disadvantage relative to similar companies that have less debt; and
- · we may be more vulnerable to adverse economic and industry conditions as a result of our significant debt level.

Our credit agreements prohibit distributions on, or purchases or redemptions of, units if any default or event of default is continuing. In addition, the agreements contain various covenants limiting our ability to, among other things, incur indebtedness if certain financial ratios are not maintained, grant liens, engage in transactions with affiliates, enter into sale-leaseback transactions, and sell substantially all of our assets or enter into a merger or consolidation. Our credit facilities treat a change of control as an event of default and also requires us to maintain a certain debt coverage ratio. Our senior notes do not restrict distributions to unitholders, but a default under our credit agreements will be treated as a default under the senior notes. Please read Item 7. "Management's Discussion and Analysis of Financial Condition and Results of Operations—Liquidity and Capital Resources—Credit Agreements, Commercial Paper Program and Indentures."

Our ability to access capital markets to raise capital on favorable terms will be affected by our debt level, our operating and financial performance, the amount of our current maturities and debt maturing in the next several years, and by prevailing market conditions. In addition, if the rating agencies were to downgrade our credit ratings, then we could experience an increase in our borrowing costs, face difficulty accessing capital markets or incurring additional indebtedness, be unable to receive open credit from our suppliers and trade counterparties, be unable to benefit from swings in market prices and shifts in market structure during periods of volatility in the crude oil market or suffer a reduction in the market price of our common units. If we are unable to access the capital markets on favorable terms at the time a debt obligation becomes due in the future, we might be forced to refinance some of our debt obligations through more expensive and restrictive bank credit, as opposed to long-term public debt securities or equity securities, or the sale of assets. The price and terms upon which we might receive such extensions or additional bank credit, if at all, could be more onerous than those contained in existing debt agreements. Any such arrangements could, in turn, increase the risk that our leverage may adversely affect our future financial and operating flexibility and thereby impact our ability to execute our capital allocation strategies and priorities.

Increases in interest rates could adversely affect our business and the trading price of our units.

As of December 31, 2021, the face value of our consolidated debt was approximately \$9.3 billion (excluding unamortized discounts and debt issuance costs of approximately \$54 million), substantially all of which was at fixed interest rates. We are exposed to market risk due to the short-term nature of our commercial paper borrowings and the floating interest rates on our credit facilities. Our results of operations, cash flows and financial position could be adversely affected by significant increases in interest rates above current levels. Additionally, increases in interest rates could adversely affect our merchant activities by increasing interest costs associated with the storage of hedged crude oil and NGL inventory. Further, the trading price of our common units may be sensitive to changes in interest rates and any rise in interest rates could adversely impact such trading price.

Changes in currency exchange rates could adversely affect our operating results.

Because we are a U.S. dollar reporting company and also conduct operations in Canada, we are exposed to currency fluctuations and exchange rate risks that may adversely affect the U.S. dollar value of our earnings, cash flow and partners' capital under applicable accounting rules. For example, as the U.S. dollar appreciates against the Canadian dollar, the U.S. dollar value of our Canadian dollar denominated earnings is reduced for U.S. reporting purposes.

Our business requires the retention and recruitment of a skilled workforce, and difficulties recruiting and retaining our workforce could result in a failure to implement our business plans.

Our operations and management require the retention and recruitment of a skilled workforce, including engineers, technical personnel and other professionals. We and our affiliates compete with other companies both within and outside the energy industry for this skilled workforce, and other employers may be able to offer potential employees higher salaries, more attractive benefits or work arrangements or opportunities to work in industries with greater perceived status or growth potential. The COVID-19 pandemic and associated restrictions may also place additional demands on our employees, which may in turn make it more challenging to retain or recruit talented labor. If we are unable to (i) retain current employees; and/or (ii) recruit new employees of comparable knowledge and experience, our business could be negatively impacted. In addition, we could experience increased costs to retain current employees and recruit new employees.

An impairment of long-term assets could reduce our earnings.

At December 31, 2021, we had approximately \$14.9 billion of net property and equipment, \$907 million of linefill, \$3.8 billion of investments accounted for under the equity method of accounting and approximately \$2.0 billion of net intangible assets capitalized on our balance sheet. GAAP requires an assessment for impairment in certain circumstances, including when there is an indication that the carrying value of property and equipment may not be recoverable. If we were to determine that any of our property and equipment, linefill, intangibles or equity method investments was impaired, we could be required to take an immediate charge to earnings, which could adversely impact our operating results, with a corresponding reduction of partners' capital and increase in balance sheet leverage as measured by debt-to-total capitalization. See Item 7. "Management's Discussion and Analysis of Financial Condition and Results of Operations—Critical Accounting Policies and Estimates" for additional discussion of our accounting policies and use of estimates associated with impairments. During the year ended December 31, 2021, we recognized non-cash impairment charges of approximately \$695 million related to the write-down of (i) certain pipeline and other long-lived assets and (ii) certain assets upon classification as held for sale. See Note 6 and Note 7 to our Consolidated Financial Statements for additional information regarding these impairments.

We are dependent on the use or availability of third-party assets for certain of our operations.

Certain of our business activities require the use or availability of third-party assets over which we may have little or no control. If at any time the availability of these assets is limited or denied, and if access to alternative assets cannot be arranged, it could have an adverse effect on our business, results of operations and cash flow.

Significant under-utilization of certain assets could significantly reduce our profitability due to fixed costs incurred to obtain the right to use such assets.

From time to time in connection with our business, we may lease or otherwise secure the right to use certain assets (such as railcars, trucks, barges, ships, pipeline capacity, storage capacity and other similar assets) with the expectation that the revenues we generate through the use of such assets will be greater than the fixed costs we incur pursuant to the applicable leases or other arrangements. However, when such assets are not utilized or are under-utilized, our profitability could be negatively impacted because the revenues we earn are either non-existent or reduced, but we remain obligated to continue paying any applicable fixed charges, in addition to the potential of incurring other costs attributable to the non-utilization of such assets (such as maintenance, storage or other costs). Significant under-utilization of assets we lease or otherwise secure the right to use in connection with our business could have a significant negative impact on our profitability and cash flows.

Many of our assets have been in service for many years and require significant expenditures to maintain them. As a result, our maintenance or repair costs may increase in the future.

Our pipelines, terminals, storage and processing and fractionation assets are generally long-lived assets, and many of them have been in service for many years. The age and condition of our assets could result in increased maintenance or repair expenditures in the future. Any significant increase in these expenditures could adversely affect our results of operations, financial position or cash flows, as well as our ability to make cash distributions to our unitholders.

We do not own all of the land on which our pipelines and facilities are located, which could result in disruptions to our operations.

We do not own all of the land on which our pipelines and facilities have been constructed, and therefore are potentially subject to more onerous terms and/or increased costs to retain necessary land use if we do not have valid rights-of-way or if such rights-of-way lapse or terminate. In some instances, we obtain the rights to construct and operate our pipelines on land owned by third parties and governmental agencies for a specific period of time. Following a decision issued in May 2017 by the Tenth Circuit Court of Appeals, tribal ownership of even a very small fractional interest in tribal land owned or at one time owned by an individual Indian landowner, bars condemnation of any interest in the allotment. Consequently, the inability to condemn such allotted lands under circumstances where existing pipeline rights-of-way may soon lapse or terminate serves as an additional potential impediment for pipeline operations. Additionally, parts of our operations cross land that has historically been apportioned to various Native American/First Nations tribes, who may exercise significant jurisdiction and sovereignty over their lands. For more information, see our regulatory disclosure entitled "Indigenous Protections." We cannot guarantee that we will always be able to renew existing rights-of-way on favorable terms without experiencing significant delays and costs. Any loss of rights with respect to real property, through our inability to renew right-of-way contracts or otherwise, could have a material adverse effect on our business, results of operations, and financial position.

If we fail to obtain materials or commodities in the quantity and the quality we need, and at commercially acceptable prices, whether due to supply disruptions, inflation, tariffs, quotas or other factors, our results of operations, financial condition and cash flows could be materially and adversely affected.

Our business requires access to steel and other materials to construct and maintain new and existing pipelines and facilities. If we experience a shortage in the supply of these materials or are unable to source sufficient quantities of high quality materials at acceptable prices and in a timely manner, it could materially and adversely affect our ability to construct new infrastructure and maintain our existing assets.

Our business also depends on having access to significant amounts of electricity and other commodities. If we are unable to obtain commodities sufficient to operate and maintain our assets, or only able to do so at commercially unreasonable prices, it could materially and adversely affect our business.

The COVID-19 pandemic has caused or contributed to widespread macroeconomic impacts, including supply chain disruptions and inflation of prices for commodities, materials, products and shipping, which may make it more challenging to obtain sufficient quantities of high quality materials at acceptable prices and in a timely manner. If we are unable to source such materials, it could materially and adversely affect our ability to construct new infrastructure and operate and maintain our existing assets.

In addition, some of the materials used in our business are imported. Existing and future import duties and quotas could materially increase our costs of procuring imported or domestic steel and/or create shortages or difficulties in procuring sufficient quantities of steel meeting our required technical specifications. A material increase in our costs of construction and



maintenance or any significant delays in our ability to complete our infrastructure projects could have a material adverse effect on our financial position, results of operations and cash flows.

Risks Related to Laws and Regulations

Our operations are subject to laws and regulations relating to protection of the environment and wildlife, operational safety, climate change and related matters that may expose us to significant costs and liabilities. The current laws and regulations affecting our business are subject to change and in the future we may be subject to additional laws, executive orders and regulations, which could adversely impact our business.

Our operations involving the storage, treatment, processing, and transportation of liquid hydrocarbons, including crude oil, NGL and refined products, are subject to stringent federal, state, and local laws and regulations governing the discharge of materials into the environment. Our operations are also subject to laws and regulations relating to protection of the environment and wildlife, operational safety, climate change and related matters. Compliance with all of these laws and regulations increases our overall cost of doing business, including our capital costs to construct, maintain and upgrade equipment and facilities. Also, new or additional laws and regulations, new interpretations of existing requirements or changes in our operations could trigger new permitting requirements applicable to our operations, which could result in increased costs or delays of, or denial of rights to conduct, our development programs. The failure to comply with any such laws and regulations could result in the assessment of administrative, civil, and criminal penalties, the imposition of investigatory or remedial obligations or the incurrence of capital expenditures. Any such failure could also result in the imposition of restrictions, delays or cancellations in the permitting or performance of projects, or the issuance of injunctions that may subject us to additional operational requirements and constraints, or claims of damages to property or persons. In addition, criminal violations of certain environmental laws, or in some cases even the allegation of criminal violations, may result in the temporary suspension or outright debarment from participating in government contracts. The laws and regulations applicable to our operations are subject to change and interpretation by the relevant governmental agency, including the possibility that exemptions we currently qualify for may be modified or changed in ways that require us to incur significant additional compliance costs. Our business and operations may also become subject to new or additional laws or regulations. For example, President Biden has made the combat of climate change arising from GHG emissions a priority under his Administration and has issued, and may continue to issue, executive orders or other regulatory initiatives in pursuit of his regulatory agenda that could curtail oil and natural gas production and transportation; potential examples include laws, rules, executive orders or regulations that limit fracturing of oil and natural gas wells, restrictions on flaring and venting during natural gas production on federal properties, limitations or bans on oil and gas leases on federal lands and offshore waters, increased requirements for construction and permitting of pipeline infrastructure and LNG export facilities, and further restrictions on GHG emissions from oil and gas facilities. Any new laws, executive orders or regulations, or changes to or interpretations of existing laws or regulations, adverse to us could have a material adverse effect on our operations, revenues, expenses and profitability.

We have a history of making incremental additions to the miles of pipelines we own, both through acquisitions and investment capital projects. We have also increased our terminal and storage capacity and operate several facilities on or near navigable waters and domestic water supplies. Although we have implemented programs intended to maintain the integrity of our assets (discussed below), as we increase the capacity of our existing assets or acquire additional assets we are at risk for an increase in the number of releases of liquid hydrocarbons into the environment. These releases expose us to potentially substantial expense, including clean-up and remediation costs, fines and penalties, and third-party claims for personal injury or property damage related to past or future releases. Some of these expenses could increase by amounts disproportionately higher than the relative increase in pipeline mileage and the increase in revenues associated therewith. Our refined products terminal assets are also subject to significant compliance costs and liabilities. In addition, because of the increased volatility of refined products and their tendency to migrate farther and faster than crude oil when releases, releases of refined products into the environment can have a more significant impact than crude oil and require significantly higher expenditures to respond and remediate. The incurrence of such expenses not covered by insurance, indemnity or reserves could materially adversely affect our results of operations.

We currently devote substantial resources to comply with DOT-mandated pipeline integrity rules. The DOT regulations include requirements for the establishment of pipeline integrity management programs and for protection of HCAs where a pipeline leak or rupture could produce significant adverse consequences. Pipeline safety regulations are revised frequently. For example, Congress, through the PIPES Act of 2020, directed PHMSA to move forward with several regulatory actions. For more information, please see our regulatory disclosure entitled "Pipeline Safety/Integrity Management." The adoption of new regulations requiring more comprehensive or stringent safety standards could require us to install new or modified safety controls, pursue new capital projects, or conduct maintenance programs on an accelerated basis, all of which could require us to incur increased operational costs that could be significant.



Although we continue to focus on pipeline and facility integrity management as a primary operational emphasis, doing so requires substantial time and resources and cannot eliminate all risk of releases. We have an internal review process pursuant to which we examine various aspects of our pipeline and gathering systems that are not currently subject to the DOT pipeline integrity management mandate. The purpose of this process is to review the surrounding environment, condition and operating history of these pipeline and gathering assets to determine if such assets warrant additional investment or replacement. Accordingly, in addition to potential cost increases related to unanticipated regulatory changes or injunctive remedies resulting from regulatory agency enforcement actions, we may elect (as a result of our own internal initiatives) to spend substantial sums to enhance the integrity of and upgrade our pipeline systems to maintain environmental compliance and, in some cases, we may take pipelines out of service if we believe the cost of upgrades will exceed the value of the pipelines. We cannot provide any assurance as to the ultimate addition, despite our pipeline and facility integrity management efforts, we can provide no assurance that our pipelines and facilities will not experience leaks or releases or that we will be able to fully comply with all of the federal, state and local laws and regulations applicable to the operation of our pipelines or facilities; any such leaks or releases could be material and could have a significant adverse impact on our reputation, financial position, cash flows and ability to pay or increase distributions to our unitholders.

Our assets are subject to federal, state and provincial regulation. Rate regulation or a successful challenge to the rates we charge on our U.S. and Canadian pipeline systems may reduce the amount of cash we generate.

Our U.S. interstate common carrier liquids pipelines are subject to regulation by various federal regulatory agencies, including the FERC under the ICA. The ICA requires that tariff rates and terms and conditions of service for liquids pipelines be just and reasonable and not unduly discriminatory. We are also subject to the Pipeline Safety Regulations of the DOT. Our intrastate pipeline transportation activities are subject to various state laws and regulations as well as orders of state regulatory bodies.

For our U.S. interstate common carrier liquids pipelines subject to FERC regulation under the ICA, shippers may protest our pipeline tariff filings or file complaints against our existing rates or complaints alleging that we are engaging in discriminatory behavior. The FERC can also investigate on its own initiative. Under certain circumstances, the FERC could limit our ability to set rates based on our costs, or could order us to reduce our rates and could require the payment of reparations to complaining shippers for up to two years prior to the complaint.

In addition, we routinely monitor the public filings and proceedings of other parties with the FERC and other regulatory agencies in an effort to identify issues that could potentially impact our business. Under certain circumstances we may choose to intervene in such third-party proceedings in order to express our support for, or our opposition to, various issues raised by the parties to such proceedings. For example, if we believe that a petition filed with, or order issued by, the FERC is improper, overbroad or otherwise flawed, we may attempt to intervene in such proceedings for the purpose of protesting such petition or order and requesting appropriate action such as a clarification, rehearing or other remedy. Despite such efforts, we can provide no assurance that the FERC and other agencies that regulate our business will not issue future orders or declarations that increase our costs or otherwise adversely affect our operations.

Our Canadian pipelines are subject to regulation by the CER and by provincial authorities. Under the Canadian Energy Regulator Act, the CER could investigate the tariff rates or the terms and conditions of service relating to a jurisdictional pipeline on its own initiative upon the filing of a toll or tariff application, or upon the filing of a written complaint. If the CER found the rates or terms of service relating to such pipeline to be unjust or unreasonable or unjustly discriminatory, the CER could require us to change our rates, provide access to other shippers, or change our terms of service. A provincial authority could, on the application of a shipper or other interested party, investigate the tariff rates or our terms and conditions of service relating to our provincially-regulated proprietary pipelines. If it found our rates or terms of service to be contrary to statutory requirements, it could impose conditions it considers appropriate. A provincial authority could declare a pipeline to be a common carrier pipeline, and require us to change our rates, provide access to other shippers, or otherwise alter our terms of service. Any reduction in our tariff rates would result in lower revenue and cash flows.

Some of our operations cross the U.S./Canada border and are subject to cross-border regulation.

Our cross border activities subject us to regulatory matters, including import and export licenses, tariffs, Canadian and U.S. customs and tax issues and toxic substance certifications. Such regulations include the Short Supply Controls of the EAA, the NAFTA and the TSCA. Violations of these licensing, tariff and tax reporting requirements could result in the imposition of significant administrative, civil and criminal penalties. Furthermore, Presidential Permits that allow cross-border movements of crude oil may be revoked or terminated at any time.

Our purchases and sales of crude oil, natural gas and NGL, and hedging activities, expose us to potential regulatory risks.

The FTC, the FERC and the CFTC hold statutory authority to monitor certain segments of the physical and futures energy commodities markets. These agencies have imposed broad regulations prohibiting fraud and manipulation of such markets. With regard to our physical purchases and sales of crude oil, natural gas or NGL and any related hedging activities that we undertake, we are required to observe the market-related regulations enforced by these agencies, which hold substantial enforcement authority. Our purchases and sales may also be subject to certain reporting and other requirements. Additionally, to the extent that we enter into transportation contracts with pipelines that are subject to FERC regulation, we are subject to FERC requirements related to the use of such capacity. Any failure on our part to comply with the regulations and policies of the FERC, the FTC or the CFTC could result in the imposition of civil and criminal penalties. Failure to comply with such regulations, as interpreted and enforced, could have a material adverse effect on our business, results of operations, financial condition and our ability to make cash distributions to our unitholders.

The enactment and implementation of derivatives legislation could have an adverse impact on our ability to use derivative instruments to reduce the effect of commodity price, interest rate and other risks associated with our business and increase the working capital requirement to conduct these hedging activities.

The Dodd-Frank Wall Street Reform and Consumer Protection Act (the "Dodd-Frank Act"), enacted on July 21, 2010, established federal oversight and regulation of derivative markets and entities, such as us, that participate in those markets. The Dodd-Frank Act requires the CFTC and the SEC to promulgate rules and regulations implementing the Dodd-Frank Act. Although the CFTC has finalized certain regulations, others remain to be finalized or implemented and it is not possible at this time to predict when this will be accomplished.

In January 2020, the CFTC proposed new rules that would place limits on positions in certain core futures and equivalent swaps contracts for, or linked to, certain physical commodities, subject to exceptions for certain bona fide hedging transactions. As these new position limit rules are not yet final, the impact of those provisions on us is uncertain at this time.

The CFTC has designated certain interest rate swaps and credit default swaps for mandatory clearing, and the associated rules require us, in connection with covered derivative activities, to comply with clearing and trade-execution requirements or take steps to qualify for an exemption from such requirements. We do not utilize credit default swaps and we qualify for, and expect to continue to qualify for, the end-user exception from the mandatory clearing requirements for swaps entered into to hedge our interest rate risks. Should the CFTC designate commodity derivatives for mandatory clearing, we would expect to qualify for an end-user exception from the mandatory clearing requirements for swaps entered into to hedge our commodity price risk. However, the majority of our financial derivative transactions used for hedging commodity price risks are currently executed and cleared over exchanges that require the posting of margin or letters of credit based on initial and variation margin requirements. Pursuant to the Dodd Frank Act, however, the CFTC or federal banking regulators may require the posting of collateral with respect to uncleared interest rate and commodity derivative transactions.

Certain banking regulators and the CFTC have adopted final rules establishing minimum margin requirements for uncleared swaps. Although we qualify for the end-user exception from margin requirements for swaps entered into to hedge commercial risks, if any of our swaps do not qualify for the commercial end-user exception, or if we are otherwise required to post additional cash margin or collateral it could reduce our ability to execute hedges necessary to reduce commodity price exposures and protect cash flows. Posting of additional cash margin or collateral could affect our liquidity (defined as unrestricted cash on hand plus available capacity under our credit facilities) and reduce our ability to use cash for capital expenditures or other partnership purposes.

Even if we ourselves are not required to post additional cash margin or collateral for our derivative contracts, the banks and other derivatives dealers who are our contractual counterparties will be required to comply with other new requirements under the Dodd-Frank Act and related rules. The costs of such compliance may be passed on to customers such as ourselves, thus decreasing the benefits to us of hedging transactions or reducing our profitability. In addition, implementation of the Dodd-Frank Act and related rules and regulations could reduce the overall liquidity and depth of the markets for financial and

other derivatives we utilize in connection with our business, which could expose us to additional risks or limit the opportunities we are able to capture by limiting the extent to which we are able to execute our hedging strategies.

Finally, the Dodd-Frank Act was intended, in part, to reduce the volatility of oil and gas prices, which some legislators attributed to speculative trading in derivatives and commodity instruments related to oil and gas. Our financial results could be adversely affected if a consequence of the Dodd-Frank Act and implementing regulations is lower commodity prices.

The full impact of the Dodd-Frank Act and related regulatory requirements upon our business will not be known until the regulations are implemented and the market for derivatives contracts has adjusted. The Dodd-Frank Act and any new regulations could significantly increase the cost of derivative contracts, materially alter the terms of derivative contracts, reduce the availability of derivatives to protect against risks we encounter, reduce our ability to monetize or restructure our existing derivative contracts. If we reduce our use of derivatives as a result of the Dodd-Frank Act and regulations implementing the Dodd-Frank Act, our results of operations may become more volatile and our cash flows may be less predictable. Any of these consequences could have a material adverse effect on us, our financial condition and our results of operations.

Legislation, executive orders and regulatory initiatives relating to hydraulic fracturing or other hydrocarbon development activities could reduce domestic production of crude oil and natural gas.

Hydraulic fracturing is an important and common practice that is used to stimulate production of hydrocarbons from unconventional geological formations. Recent advances in hydraulic fracturing techniques have resulted in significant increases in crude oil and natural gas production in many basins in the United States and Canada. The process involves the injection of water, sand and chemicals under pressure into the formation to fracture the surrounding rock and stimulate production, and it is typically regulated by state and provincial oil and gas commissions. We do not perform hydraulic fracturing, but many of the producers using our pipelines do. Hydraulic fracturing has been subject to increased scrutiny and there have been a variety of legislative and regulatory proposals to prohibit, restrict, or more closely regulate various forms of hydraulic fracturing; for example, the Governor of California issued an order in April 2021 directing the Department of Conservation's Geologic Energy Management Division to initiate regulatory action to end the issuance of new permits for hydraulic fracturing by January 2021. Moreover, President Biden issued an executive order in January 2021 suspending new oil and gas operations on federal lands and waters. The suspension of the federal leasing activities prompted legal action by several states against the Biden Administration, resulting in issuance of a nationwide preliminary injunction by a federal district judge in Louisiana in June 2021, effectively halting implementation of the leasing suspension but the federal government is appealing the district court decision. These actions, as well as any other legislation, executive orders or regulatory initiatives that curtail hydraulic fracturing or otherwise limit producers' ability to drill or complete wells could reduce the production of crude oil and natural gas in the United States or Canada, and could thereby reduce demand for our transportation, terminalling and storage services as well as our merchant activities.

Our and our customers' operations are subject to various risks arising out of the threat of climate change, energy conservation measures, or initiatives that stimulate demand for alternative forms of energy that could result in increased costs, limits on the areas in which oil and natural gas production may occur and reduced demand for our services.

Our and our customers' operations are subject to a number of risks arising out of the threat of climate change, energy conservation measures, or initiatives that stimulate demand for alternative forms of energy that could result in increased operating costs, limits on the areas in which oil and natural gas production may occur, and reduced demand for the crude oil and natural gas. Risks arising out of the threat of climate change, fuel conservation measures, governmental requirements for renewable energy resources, increasing consumer demand for alternative forms of energy, and technological advances in fuel economy and energy generation devices may create new competitive conditions that result in reduced demand for the crude oil and natural gas our customers produce and, in turn, the services we provide. The potential impact of changing demand for crude oil and natural gas services and products may have a material adverse effect on our business, financial condition, results of operations and cash flows. See Item 1. Business, "Regulation—Health, Safety and Environmental Regulation—Climate Change Initiatives" for further discussion relating to risks arising out of the threat of climate change and emission of GHGs, climate change activism, energy conservation measures or initiatives that stimulate demand for alternative forms of energy, and physical effects of climate change. One or more of these developments could have an adverse effect on our business, financial condition and results of operations.

Risks Inherent in an Investment in Us

Cost reimbursements due to our general partner may be substantial and will reduce our cash available for distribution to unitholders.

Prior to making any distribution on our common units, we will reimburse our general partner and its affiliates, including officers and directors of the general partner, for all expenses incurred on our behalf. In addition, we are required to pay all direct and indirect expenses of the Plains Entities, other than income taxes of any of the PAGP Entities. The reimbursement of expenses and the payment of fees and expenses could adversely affect our ability to make distributions. The general partner has sole discretion to determine the amount of these expenses. In addition, our general partner and its affiliates may provide us with services for which we will be charged reasonable fees as determined by the general partner.

Cash distributions are not guaranteed and may fluctuate with our performance and the establishment of financial reserves.

Because distributions on our common units are dependent on the amount of cash we generate, distributions may fluctuate based on our performance. The actual amount of cash that is available to be distributed each quarter will depend on numerous factors, some of which are beyond our control and the control of the general partner. Cash distributions are dependent primarily on cash flow, levels of financial reserves and working capital borrowings, and not solely on profitability, which is affected by non-cash items. Our levels of financial reserves are established by our general partner and include reserves for the proper conduct of our business (including future capital expenditures and anticipated credit needs), compliance with law or contractual obligations and funding of future distributions to our Series A and Series B preferred unitholders. Therefore, cash distributions might be made during periods when we record losses and might not be made during periods when we record profits.

Our preferred units have rights, preferences and privileges that are not held by, and are preferential to the rights of, holders of our common units.

Our Series A preferred units and Series B preferred units (together, our "preferred units") rank senior to all of our other classes or series of equity securities with respect to distribution rights and rights upon liquidation. These preferences could adversely affect the market price for our common units, or could make it more difficult for us to sell our common units in the future.

In addition, distributions on the preferred units accrue and are cumulative, at the rate of 8% per annum with respect to our Series A preferred units and 6.125% with respect to our Series B preferred units on the original issue price. Our Series A preferred units are convertible into common units by the holders of such units or by us in certain circumstances. Our Series B preferred units are not convertible into common units, but are redeemable by us in certain circumstances. Our obligation to pay distributions on our preferred units, or on the common units issued following the conversion of our Series A preferred units, acquisitions, and other general partnership purposes. Our obligations to the holders of preferred units could also limit our ability to obtain additional financing or increase our borrowing costs, which could have an adverse effect on our financial condition.

Unitholders may not be able to remove our general partner even if they wish to do so.

Our general partner manages and operates the Partnership. If unitholders are dissatisfied with the performance of our general partner, they currently have little practical ability to remove our general partner. Our general partner may not be removed except upon the vote of the holders of at least $66^2/_3\%$ of our outstanding units (including units held by our general partner or its affiliates). Because AAP owns approximately 31% of our outstanding Common Unit Equivalents and the owners of our general partner, along with directors and executive officers and their affiliates, own a significant percentage of our outstanding common units, the removal of our general partner would be difficult without the consent of both our general partner and its affiliates.

In addition, the following provisions of our partnership agreement may discourage a person or group from attempting to remove our general partner or otherwise change our management:

 generally, if a person acquires 20% or more of any class of units then outstanding other than from our general partner or its affiliates, the units owned by such person cannot be voted on any matter, except that such shares constituting up to 19.9% of the total shares outstanding may be voted in the election of PAGP GP directors;

- the PAGP GP Board is composed of three classes of directors, which limits our unitholders' ability to make significant changes to the board in any given year; and
- limitations upon the ability of unitholders to call meetings or to acquire information about our operations, as well as other limitations upon the unitholders' ability to influence the
 manner or direction of management.

As a result of these provisions, the price at which our common units will trade may be lower because of the absence or reduction of a takeover premium in the trading price.

We may issue additional common units without unitholder approval, which would dilute a unitholder's existing ownership interests.

Our general partner may cause us to issue an unlimited number of common units without unitholder approval (subject to applicable Nasdaq rules). We may also issue at any time an unlimited number of equity securities ranking junior or senior to the common units without unitholder approval (subject to applicable Nasdaq rules). The issuance of additional common units or other equity securities of equal or senior rank may have the following effects:

- an existing unitholder's proportionate ownership interest in the Partnership will decrease;
- the amount of cash available for distribution on each unit may decrease;
- the ratio of taxable income to distributions may increase;
- the relative voting strength of each previously outstanding unit may be diminished; and
- the market price of the common units may decline.

In addition, our Series A preferred units are convertible into common units at any time by the holders of such units, or under certain circumstances, at our option. If a substantial portion of the Series A preferred units were converted into common units, common unitholders could experience significant dilution. In addition, if holders of such converted Series A preferred units were to dispose of a substantial portion of these common units in the public market, whether in a single transaction or series of transactions, it could adversely affect the market price for our common units. In addition, these sales, or the possibility that these sales may occur, could make it more difficult for us to sell our common units in the future.

Our general partner has a limited call right that may require unitholders to sell their units at an undesirable time or price.

If at any time our general partner and its affiliates own 80% or more of the common units, the general partner will have the right, but not the obligation, which it may assign to any of its affiliates, to acquire all, but not less than all, of the remaining common units held by unaffiliated persons at a price generally equal to the then current market price of the common units. As a result, unitholders may be required to sell their common units at a time when they may not desire to sell them and/or at a price that is less than the price they would like to receive. They may also incur a tax liability upon a sale of their common units.

Unitholders may not have limited liability if a court finds that unitholder actions constitute control of our business and unitholders may have liability to repay distributions under certain circumstances.

Under Delaware law, a unitholder could be held liable for our obligations to the same extent as a general partner if a court determined that the right of unitholders to remove our general partner or to take other action under our partnership agreement constituted participation in the "control" of our business.

Our general partner generally has unlimited liability for our obligations, such as our debts and environmental liabilities, except for those contractual obligations that are expressly made without recourse to our general partner. Our partnership agreement allows the general partner to incur obligations on our behalf that are expressly non-recourse to the general partner. The general partner has entered into such limited recourse obligations in most instances involving payment liability and intends to do so in the future.

Furthermore, under Section 17-607 of the Delaware Revised Uniform Limited Partnership Act we may not make a distribution to our unitholders if the distribution would cause our liabilities to exceed the fair value of our assets. Liabilities to partners on account of their partnership interests and liabilities that are non-recourse to the partnership are not counted for purposes of determining whether a distribution is permitted. Delaware law provides that for a period of three years from the date of an impermissible distribution, limited partners who received the distribution and who knew at the time of the distribution that it violated Delaware law will be liable to the limited partnership for the distribution amount.



Conflicts of interest could arise among our general partner and us or the unitholders.

These conflicts may include the following:

- under our partnership agreement, we reimburse the general partner for the costs of managing and for operating the partnership;
- the amount of cash expenditures, borrowings and reserves in any quarter may affect available cash to pay quarterly distributions to unitholders;
- the general partner tries to avoid being liable for partnership obligations. The general partner is permitted to protect its assets in this manner by our partnership agreement. Under our
 partnership agreement the general partner would not breach its fiduciary duty by avoiding liability for partnership obligations even if we can obtain more favorable terms without
 limiting the general partner's liability; under our partnership agreement, the general partner may pay its affiliates for any services rendered on terms fair and reasonable to us. The
 general partner may also enter into additional contracts with any of its affiliates on behalf of us. Agreements or contracts between us and our general partner (and its affiliates) are not
 necessarily the result of arms length negotiations; and
- the general partner would not breach our partnership agreement by exercising its call rights to purchase limited partnership interests or by assigning its call rights to one of its affiliates or to us.

The control of our general partner may be transferred to a third party without unitholder consent. A change of control may result in defaults under certain of our debt instruments and the triggering of payment obligations under compensation arrangements.

Our general partner may transfer its general partner interest to a third party in a merger or in a sale of all or substantially all of its assets without the consent of our unitholders. Furthermore, there is no restriction in our partnership agreement on the ability of the ultimate owners of our general partner to directly or indirectly transfer their ownership interest in our general partner to a third party. Any new owner of our general partner would, subject to obtaining any approvals or consents required under the applicable governing documents for the PAGP entities, be able to replace the board of directors and officers with its own choices and to control their decisions and actions.

In addition, a change of control would constitute an event of default under our revolving credit agreements. During the continuance of an event of default under our revolving credit agreements, the administrative agent may terminate any outstanding commitments of the lenders to extend credit to us under our revolving credit facility and/or declare all amounts payable by us under our revolving credit facility immediately due and payable. A change of control also may trigger payment obligations under various compensation arrangements with our officers.

Risks Related to an Investment in Our Debt Securities

The right to receive payments on our outstanding debt securities is unsecured and will be effectively subordinated to our existing and future secured indebtedness and will be structurally subordinated as to any existing and future indebtedness and other obligations of our subsidiaries, other than subsidiaries that may guarantee our debt securities in the future.

Our debt securities are effectively subordinated to claims of our secured creditors and to any existing and future indebtedness and other obligations of our subsidiaries, including trade payables, other than subsidiaries that may guarantee our debt securities in the future. In the event of the insolvency, bankruptcy, liquidation, reorganization, dissolution or winding up of the business of a subsidiary, other than a subsidiary that may guarantee our debt securities in the future, creditors of that subsidiary would generally have the right to be paid in full before any distribution is made to us or the holders of our debt securities.



Our leverage may limit our ability to borrow additional funds, comply with the terms of our indebtedness or capitalize on business opportunities.

Our leverage is significant in relation to our partners' capital. At December 31, 2021, the face value of our total outstanding long-term debt was approximately \$8.5 billion, and the face value of our total outstanding short-term debt was approximately \$0.8 billion. We will be prohibited from making cash distributions during an event of default under any of our indebtedness. Various limitations in our credit facilities and other debt instruments may reduce our ability to incur additional debt, to engage in some transactions and to capitalize on business opportunities. Any subsequent refinancing of our current indebtedness or any new indebtedness could have similar or greater restrictions.

Our leverage could have important consequences to investors in our debt securities. We will require substantial cash flow to meet our principal and interest obligations with respect to our debt securities and our other consolidated indebtedness. Our ability to make scheduled payments, to refinance our obligations with respect to our indebtedness or our ability to obtain additional financing in the future will depend on our financial and operating performance, which, in turn, is subject to prevailing economic conditions and to financial, business and other factors. We believe that we will have sufficient cash flow from operations and available borrowings under our bank credit facilities to service our indebtedness, although the principal amount of our debt securities will likely need to be refinanced at maturity in whole or in part. A significant downturn in the hydrocarbon industry or other development adversely affecting our cash flow could materially impair our ability to service our indebtedness. If our cash flow and capital resources are insufficient to fund our debt service obligations, we may be forced to refinance all or a portion of our debt or sell assets. We can give no assurance that we would be able to refinance our existing indebtedness or sell assets on terms that are commercially reasonable.

Our leverage may adversely affect our ability to fund future working capital, capital expenditures and other general partnership requirements, future acquisition, construction or development activities, or to otherwise fully realize the value of our assets and opportunities because of the need to dedicate a substantial portion of our cash flow from operations to payments on our indebtedness or to comply with any restrictive terms of our indebtedness. Our leverage may also make our results of operations more susceptible to adverse economic and industry conditions by limiting our flexibility in planning for, or reacting to, changes in our business and the industry in which we operate and may place us at a competitive disadvantage as compared to our competitors that have less debt.

The ability to transfer our debt securities may be limited by the absence of an organized trading market.

We do not currently intend to apply for listing of our debt securities on any securities exchange or stock market. The liquidity of any market for our debt securities will depend on the number of holders of those debt securities, the interest of securities dealers in making a market in those debt securities and other factors. Accordingly, we can give no assurance as to the development, continuation or liquidity of any market for the debt securities.

We have a holding company structure in which our subsidiaries conduct our operations and own our operating assets, which may restrict our ability to receive funds from such subsidiaries and make payments on our debt securities.

We are a holding company, and our subsidiaries conduct all of our operations and own all of our operating assets. We have no significant assets other than the ownership interests in our subsidiaries. As a result, our ability to make required payments on our debt securities depends on the performance of our subsidiaries and their ability to distribute funds to us. The ability of our subsidiaries to make distributions to us may be restricted by, among other things, credit facilities and applicable state partnership laws and other laws and regulations. Pursuant to our credit facilities, we may be required to establish cash reserves for the future payment of principal and interest on the amounts outstanding under our credit facilities. If we are unable to obtain the funds necessary to pay the principal amount at maturity of our debt securities, or to repurchase our debt securities upon the occurrence of a change of control, we may be required to adopt one or more alternatives, such as a refinancing of our debt securities. We can give no assurance that we would be able to refinance our debt securities.

We do not have the same flexibility as other types of organizations to accumulate cash, which may limit cash available to service our debt securities or to repay them at maturity.

Unlike a corporation, our partnership agreement requires us to distribute, on a quarterly basis, 100% of our available cash to our unitholders of record. Available cash is generally defined as all of our cash and cash equivalents on hand at the end of each quarter less reserves established in the discretion of our general partner for future requirements. Our available cash also includes cash on hand resulting from borrowings made after the end of the quarter. Our general partner will determine the amount and timing of such distributions and has broad discretion to establish and make additions to our reserves or the reserves



of our operating partnerships in amounts the general partner determines in its reasonable discretion to be necessary or appropriate:

- to provide for the proper conduct of our business and the businesses of our operating partnerships (including reserves for future capital expenditures and for our anticipated future credit needs);
- to comply with applicable law or any loan agreement, security agreement, mortgage, debt instrument or other agreement or obligation;
- to provide funds to make payments on the preferred units; or
- to provide funds for distributions to our common unitholders for any one or more of the next four calendar quarters.

Although our payment obligations to our unitholders are subordinate to our payment obligations to debtholders, the value of our units may decrease in direct correlation with decreases in the amount we distribute per unit. Accordingly, if we experience a liquidity problem in the future, we may not be able to issue equity to recapitalize.

Tax Risks to Unitholders

Our tax treatment depends on our status as a partnership for U.S. federal income tax purposes and not being subject to a material amount of entity-level taxation. If the IRS were to treat us as a corporation for federal income tax purposes, or we become subject to entity-level taxation for state or foreign tax purposes, our cash available for distributions to our unitholders would be substantially reduced.

The anticipated after-tax economic benefit of an investment in our units depends largely on our being treated as a partnership for federal income tax purposes. A publicly traded partnership such as us may be treated as a corporation for federal income tax purposes unless it satisfies a "qualifying income" requirement, as defined in Section 7704 of the Internal Revenue Code of 1986, as amended. Based upon our current operations and current Treasury Regulations, we believe we satisfy the qualifying income requirement. However, no ruling has been or will be requested regarding our treatment as a partnership for U.S. federal income tax purposes. Failing to meet the qualifying income requirement or a change in current law could cause us to be treated as a corporation for U.S. federal income tax purposes or otherwise subject us to taxation as an entity.

If we were treated as a corporation for federal income tax purposes, we would pay federal income tax on our taxable income at the corporate tax rate, and would likely pay state income taxes at varying rates. Distributions to our unitholders would generally be taxed again as corporate distributions, and no income, gains, losses or deductions would flow through to our unitholders. Because a tax would be imposed upon us as a corporation, the cash available for distributions to our unitholders would be substantially reduced. Therefore, treatment of us as a corporation would result in a material reduction in cash flow and after-tax return to our unitholders, likely causing a substantial reduction in the value of our units.

In addition, several states have been evaluating ways to subject partnerships to entity-level taxation through the imposition of state income, franchise and other forms of taxation. For example, we are subject to entity-level tax on the portion of our income apportioned to Texas. Imposition of any similar taxes or additional federal or foreign taxes on us will reduce the cash available for distribution to our unitholders.

The tax treatment of publicly traded partnerships or an investment in our units could be subject to potential legislative, judicial or administrative changes or differing interpretations, possibly applied on a retroactive basis.

The present U.S. federal income tax treatment of publicly traded partnerships, including us, or an investment in our units may be modified by administrative, legislative or judicial changes or differing interpretations at any time. Members of Congress have proposed and considered substantive changes to the existing U.S. federal income tax laws that would affect publicly traded partnerships, including proposals that would eliminate our ability to qualify for partnership tax treatment.

In addition, the Treasury Department has issued, and in the future may issue, regulations interpreting those laws that affect publicly traded partnerships. There can be no assurance that there will not be further changes to U.S. federal income tax laws or the Treasury Department's interpretation of the qualifying income rules in a manner that could impact our ability to qualify as a partnership in the future.

Any modification to the U.S. federal income tax laws and interpretations thereof may or may not be retroactively applied and could make it more difficult or impossible for us to meet the exception for certain publicly traded partnerships to be treated as partnerships for U.S. federal income tax purposes. We are unable to predict whether any changes or other proposals



will ultimately be enacted. Any future legislative changes could negatively impact the value of an investment in our units. You are urged to consult with your own tax advisor with respect to the status of regulatory or administrative developments and proposals and their potential effect on your investment in our units.

Non-U.S. unitholders will be subject to U.S. taxes and withholding with respect to their income and gain from owning our units.

Non-U.S. unitholders are generally taxed and subject to income tax filing requirements by the United States on income effectively connected with a U.S. trade or business ("effectively connected income"). Income allocated to our unitholders and any gain from the sale of our units will generally be considered to be "effectively connected" with a U.S. trade or business. As a result, distributions to a Non-U.S. unitholder will be subject to withholding at the highest applicable effective tax rate and a Non-U.S. unitholder who sells or otherwise disposes of a unit will also be subject to U.S. federal income tax on the gain realized from the sale or disposition of that unit to the extent the gain is effectively connected with a U.S. trade or business of the Non-U.S. unitholder.

Moreover, under Section 1446(f) of the Code, the transferee of an interest in a partnership that is engaged in a U.S. trade or business is generally required to withhold 10% of the amount realized by the transferor unless the transferor certifies that it is not a foreign person. While the determination of a partner's "amount realized" generally includes any decrease of a partner's share of the partnership's liabilities, the Treasury regulations provide that the "amount realized" on a transfer of an interest in a publicly traded partnership will generally be the amount of gross proceeds paid to the broker effecting the applicable transfer on behalf of the transferor, and thus will be determined without regard to any decrease in that partner's share of a publicly traded partnership's liabilities. The Treasury regulations further provide that withholding on a transfer of an interest in a publicly traded partnership will not be imposed on a transfer that occurs prior to January 1, 2022, and administrative guidance from the IRS further provides that the applicability date under the Section 1446(f) withholding obligation has been deferred until January 1, 2023. For a transfer of interest in a publicly traded partnership that is effected through a broker on or after January 1, 2023, the obligation to withhold is imposed on the transferor's broker. Prospective foreign unitholders should consult their tax advisors regarding the impact of these rules on an investment in our units.

Tax Risks to Common Unitholders

If the IRS makes audit adjustments to our income tax returns for tax years beginning after December 31, 2017, it (and some states) may assess and collect any taxes (including any applicable penalties and interest) resulting from such audit adjustments directly from us, in which case our cash available for distribution to our unitholders might be substantially reduced.

Pursuant to the Bipartisan Budget Act of 2015, for tax years beginning after December 31, 2017, if the IRS makes audit adjustments to our income tax returns, it (and some states) may assess and collect any taxes (including any applicable penalties and interest) resulting from such audit adjustments directly from us. To the extent possible under these rules, our general partner may elect to either pay the taxes (including any applicable penalties and interest) directly to the IRS or, if we are eligible, issue a revised information statement to each unitholder and former unitholder with respect to an audited and adjusted return. Although our general partner may elect to have our unitholders and former unitholders take such audit adjustment into account and pay any resulting taxes (including applicable penalties or interest) in accordance with their interests in us during the tax year under audit, there can be no assurance that such election will be practical, permissible or effective in all circumstances. As a result, our current unitholders may bear some or all of the tax liability resulting from such audit adjustment, even if such unitholders did not own units in us during the tax year under audit. If, as a result of any such audit adjustment, we are required to make payments of taxes, penalties and interest, our cash available for distribution to our unitholders might be substantially reduced. These rules are not applicable for tax years beginning on or prior to December 31, 2017.

If the IRS or Canada Revenue Agency ("CRA") contests the federal income tax positions or inter-country allocations we take, the market for our common units may be adversely impacted and the cost of any IRS or CRA contest or incremental taxes paid will reduce our cash available for distribution or debt service.

The IRS has made no determination as to our status as a partnership for federal income tax purposes or as to any other matter affecting us. The IRS or CRA may adopt positions that differ from the positions we take or challenge the inter-country allocations we make. It may be necessary to resort to administrative or court proceedings to sustain some or all of the positions we take. A court may not agree with some or all of the positions we take. Any contest with the IRS or CRA may materially and adversely impact the market for our common units and the price at which they trade. In addition, our costs of any contest with the IRS or CRA and any incremental taxes required to be paid will be borne indirectly by our unitholders and our general

partner because the costs will reduce our cash available for distribution or debt service. See Note 15 for additional information regarding CRA challenge of intercompany transactions.

Our unitholders may be required to pay taxes on their share of our income even if they do not receive any cash distributions from us.

Because our unitholders will be treated as partners to whom we will allocate taxable income that could be different in amount than the cash we distribute, they will be required to pay any federal income taxes and, in some cases, state and local income taxes on their share of our taxable income even if they receive no cash distributions from us. Unitholders may not receive cash distributions from us equal to their share of our taxable income or even equal to the actual tax liability that results from that income.

Taxable gain or loss on the disposition of our common units could be more or less than expected.

If a unitholder sells common units, the unitholder will recognize gain or loss equal to the difference between the amount realized and that unitholder's tax basis in those common units. Because distributions in excess of a unitholder's allocable share of our net taxable income decrease such unitholder's tax basis in its common units, the amount, if any, of such prior excess distributions with respect to the units a unitholder sells will, in effect, become taxable income to a unitholder if it sells such units at a price greater than its tax basis in those units, even if the price such unitholder receives is less than its original cost. In addition, because the amount realized includes a unitholder's share of our nonrecourse liabilities, if a unitholder sells its units, a unitholder may incur a tax liability in excess of the amount of cash received from the sale.

A substantial portion of the amount realized from a unitholder's sale of our units, whether or not representing gain, may be taxed as ordinary income to such unitholder due to potential recapture items, including depreciation recapture. Thus, a unitholder may recognize both ordinary income and capital loss from the sale of units if the amount realized on a sale of such units is less than such unitholder's adjusted basis in the units. Net capital loss may only offset capital gains and, in the case of individuals, up to \$3,000 of ordinary income per year. In the taxable period in which a unitholder sells its units, such unitholder may recognize ordinary income from our allocations of income and gain to such unitholder prior to the sale and from recapture items that generally cannot be offset by any capital loss recognized upon the sale of units.

Unitholders may be subject to limitation on their ability to deduct interest expense incurred by us.

In general, we are entitled to a deduction for interest paid or accrued on indebtedness properly allocable to our trade or business during our taxable year. However, under the Tax Cuts and Jobs Act, for taxable years beginning after December 31, 2017, our deduction for "business interest" is limited to the sum of our business interest income and 30% of our "adjusted taxable income." For the purposes of this limitation, our adjusted taxable income is computed without regard to any business interest expense or business interest income, and in the case of taxable years beginning before January 1, 2022, any deduction allowable for depreciation, amortization, or depletion to the extent such depreciation, amortization, or depletion is not capitalized into cost of goods sold with respect to inventory.

If our "business interest" is subject to limitation under these rules, our unitholders will be limited in their ability to deduct their share of any interest expense that has been allocated to them. As a result, unitholders may be subject to limitation on their ability to deduct interest expense incurred by us.

Tax-exempt entities face unique tax issues from owning our common units that may result in adverse tax consequences to them.

Investment in our common units by tax-exempt entities, such as employee benefit plans and individual retirement accounts (known as IRAs) raises issues unique to them. For example, virtually all of our income allocated to organizations that are exempt from U.S. federal income tax, including IRAs and other retirement plans, will be unrelated business taxable income and will be taxable to them. Tax-exempt entities should consult a tax advisor before investing in our common units.

We treat each purchaser of our common units as having the same tax benefits without regard to the common units actually purchased. The IRS may challenge this treatment, which could adversely affect the value of our common units.

Because we cannot match transferors and transferees of common units, we have adopted certain methods for allocating depreciation and amortization deductions that may not conform to all aspects of existing Treasury Regulations. A successful IRS challenge to the use of these methods could adversely affect the amount of tax benefits available to our unitholders. It also



could affect the timing of these tax benefits or the amount of gain from the sale of common units and could have a negative impact on the value of our common units or result in audit adjustments to our unitholders' tax returns.

Our unitholders will likely be subject to state, local and non-U.S. taxes and return filing requirements in states and jurisdictions where they do not live as a result of investing in our units.

In addition to U.S. federal income taxes, our unitholders will likely be subject to other taxes, including foreign, state and local taxes, unincorporated business taxes and estate, inheritance or intangible taxes that are imposed by the various jurisdictions in which we conduct business or own property now or in the future, even if our unitholders do not live in any of those jurisdictions. Our unitholders will likely be required to file state and local income tax returns and pay state and local income taxes in some or all of these various jurisdictions. Further, our unitholders may be subject to penalties for failure to comply with those requirements. We currently own property and conduct business in multiple states that currently impose a personal income tax on individuals and an income tax on corporations and other entities. It is our unitholders' responsibility to file all U.S. federal, state, local and non-U.S. tax returns, as applicable. Unitholders should consult with their own tax advisors regarding the filing of such tax returns, the payment of such taxes, and the deductibility of any taxes paid.

We have adopted certain valuation methodologies in determining a unitholder's allocations of income, gain, loss and deduction. The IRS may challenge these methodologies or the resulting allocations, which could adversely affect the value of our common units.

In determining the items of income, gain, loss and deduction allocable to our unitholders, we must routinely determine the fair market value of our respective assets. Although we may from time to time consult with professional appraisers regarding valuation matters, we make many fair market value estimates using a methodology based on the market value of our common units as a means to measure the fair market value of our respective assets. The IRS may challenge these valuation methods and the resulting allocations of income, gain, loss and deduction.

A successful IRS challenge to these methods or allocations could adversely affect the amount, character, and timing of taxable income or loss being allocated to our unitholders. It also could affect the amount of gain from our unitholders' sale of common units and could have a negative impact on the value of the common units or result in audit adjustments to our unitholders' tax returns without the benefit of additional deductions.

A unitholder whose common units are the subject of a securities loan (e.g., a loan to a "short seller" to cover a short sale of common units) may be considered to have disposed of those common units. If so, such unitholder would no longer be treated for tax purposes as a partner with respect to those common units during the period of the loan and may recognize gain or loss from the disposition.

Because there are no specific rules governing the federal income tax consequences of loaning a partnership interest, a unitholder whose common units are the subject of a securities loan may be considered to have disposed of the loaned units. In that case, the unitholder may no longer be treated for tax purposes as a partner with respect to those common units during the period of the loan to the short seller and the unitholder may recognize gain or loss from such disposition. Moreover, during the period of the loan, any of our income, gain, loss or deduction with respect to those common units may not be reportable by the unitholder and any cash distributions received by the unitholder as to those common units may be fully taxable as ordinary income. Unitholders desiring to assure their status as partners and avoid the risk of gain recognition from a securities loan are urged to consult a tax advisor to determine whether it is advisable to modify any applicable brokerage account agreements to prohibit their brokers from borrowing their common units.

We generally prorate our items of income, gain, loss and deduction between transferors and transferees of our units each month based upon the ownership of our units on the first day of each month, instead of on the basis of the date a particular unit is transferred. The IRS may challenge this treatment, which could change the allocation of items of income, gain, loss and deduction among our unitholders.

We generally prorate our items of income, gain, loss and deduction between transferors and transferees of our units each month based upon the ownership of our units on the first day of each month (the "Allocation Date"), instead of on the basis of the date a particular unit is transferred. Similarly, we generally allocate certain deductions for (i) depreciation and amortization of capital additions, (ii) gain or loss realized on a sale or other disposition of our assets, and (iii) in the discretion of the general partner, any other extraordinary item of income, gain, loss or deduction based upon ownership on the Allocation Date. Treasury Regulations allow a similar monthly simplifying convention, but such regulations do not specifically authorize all aspects of our proration method. If the IRS were to challenge our proration method, we may be required to change the allocation of items of income, gain, loss and deduction among our unitholders.

Taxable income from our non-U.S. businesses is not eligible for the 20% deduction for qualified publicly traded partnership income.

For taxable years beginning after December 31, 2017 and ending on or before December 31, 2025, an individual unitholder is generally allowed a deduction equal to 20% of our "qualified publicly traded partnership income" that is allocated to such unitholder. For purposes of the deduction, the term qualified publicly traded partnership income includes the net amount of such unitholder's allocable share of our income that is effectively connected to our U.S. trade or business activities. Because our non-U.S. business operations earn income that is not effectively connected with a U.S. trade or business, unitholders may not apply the 20% deduction for qualified publicly traded partnership income to that portion of our income.

Tax Risks to Series B Preferred Unitholders

Treatment of income attributable to distributions on our Series B Preferred Units as guaranteed payments for the use of capital creates a different tax treatment for the holders of our Series B Preferred Units than the holders of our common units and such income is not eligible for the 20% deduction for qualified publicly traded partnership income.

The tax treatment of distributions on our Series B Preferred Units is uncertain. We will treat the holders of Series B Preferred Units as partners for tax purposes and will treat distributions on the Series B Preferred Units as guaranteed payments for the use of capital that will generally be taxable to the holders of Series B Preferred Units as ordinary income. A holder of our Series B Preferred Units could recognize taxable income from the accrual of such income even in the absence of a contemporaneous cash distribution. We anticipate accruing and making semi-annual guaranteed payment distributions on May 15th, 2022 and November 15th, 2022, and thereafter quarterly on February 15th, May 15th, August 15th and November 15th. Because the guaranteed payment for each unit must accrue as income to a holder during the taxable year of the accrual, the guaranteed payment attributable to the period beginning November 15th and ending December 31st for such period. If you are a taxpayer reporting your income using the accrual method, or using a taxable year other than the calendar year, you should consult your tax advisor with respect to the consequences of our guaranteed payment distribution accrual and reporting convention. Otherwise, the holders of Series B Preferred Units are generally not anticipated to share in the partnership's items of income, gain, loss or deduction, except to the extent necessary to (i) achieve parity with the Series A Preferred Units with the benefit of the liquidation preference. The Partnership will not allocate any share of our onrecourse liabilities to the holders of Series B Preferred Units. If the Series B Preferred Units were treated as indebtedness for tax purposes, rather than as guaranteed payments for the use of capital, distributions likely would be treated as payments of interest by us to the holders of Series B Preferred Units.

Although we expect that a substantial portion of the income we earn will be eligible for the 20% deduction for qualified publicly traded partnership income, Treasury Regulations provide that income attributable to a guaranteed payment for the use of capital is not eligible for the 20% deduction for qualified business income. As a result, income attributable to a guaranteed payment for use of capital recognized by holders of our Series B Preferred Units is not eligible for the 20% deduction for qualified business income.

A holder of Series B Preferred Units will be required to recognize gain or loss on a sale of Series B Units equal to the difference between the amount realized by such holder and such holder's tax basis in the Series B Preferred Units. The amount realized generally will equal the sum of the cash and the fair market value of other property such holder receives in exchange for such Series B Preferred Units. Subject to general rules requiring a blended basis among multiple partnership interests, the tax basis of a Series B Preferred Unit will generally be equal to the sum of the cash and the fair market value of other property

paid by the holder to acquire such Series B Preferred Unit. Gain or loss recognized by a holder on the sale or exchange of a Series B Preferred Unit held for more than one year generally will be taxable as long-term capital gain or loss. Because holders of Series B Preferred Units will generally not be allocated a share of our items of depreciation, depletion or amortization, it is not anticipated that such holders would be required to recharacterize any portion of their gain as ordinary income as a result of the recapture rules.

Investment in the Series B Preferred Units by tax-exempt investors, such as employee benefit plans and individual retirement accounts, and non-U.S. persons raises issues unique to them. The treatment of guaranteed payments for the use of capital to tax-exempt investors is not certain and such payments may be treated as unrelated business taxable income for U.S. federal income tax purposes. Although the issue is not free from doubt, we will treat a substantial portion of our distributions to non-U.S. holders of the Series B Preferred Units as "effectively connected income" (which will subject holders to U.S. net income taxation and possibly the branch profits tax) that is subject to withholding taxes imposed at the highest effective tax rate applicable to such non-U.S. holders. If the amount of withholding exceeds the amount of U.S. federal income tax actually due, non-U.S. holders may be required to file U.S. federal income tax returns in order to seek a refund of such excess.

All holders of our Series B Preferred Units are urged to consult a tax advisor with respect to the consequences of owning our Series B Preferred Units.

Item 1B. Unresolved Staff Comments

None.

Item 3. Legal Proceedings

The information required by this item is included in Note 19 to our Consolidated Financial Statements, and is incorporated herein by reference thereto.

Item 4. Mine Safety Disclosures

Not applicable.

PART II

Item 5. Market for Registrant's Common Units, Related Unitholder Matters and Issuer Purchases of Equity Securities

Market Information, Holders and Distributions

Our common units are listed and traded on The Nasdaq Global Select Market under the symbol "PAA." As of February 22, 2022, there were 705,043,477 common units outstanding and approximately 95,000 record holders and beneficial owners (held in street name).

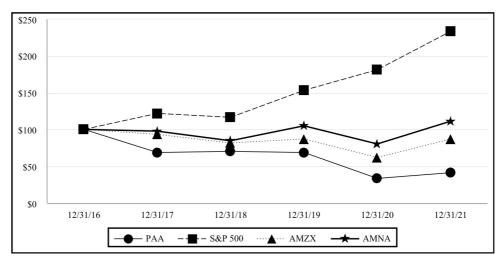
The following table presents cash distributions per common unit pertaining to the quarter presented, which were declared and paid in the following calendar quarter (see the "Cash Distribution Policy" section below for a discussion of our policy regarding distribution payments):

	First Quarter	Second Quarter	Third Quarter	Fourth Quarter		
2021	\$ 0.18	\$ 0.18	\$ 0.18	\$ 0.18		
2020	\$ 0.18	\$ 0.18	\$ 0.18	\$ 0.18		

Our common units are also used as a form of compensation to our employees and PAGP GP directors. See Note 18 to our Consolidated Financial Statements for additional information regarding our equity-indexed compensation plans.

Performance Graph

The following graph compares the total unitholder return performance of our common units with the performance of: (i) the Standard & Poor's 500 Stock Index ("S&P 500"), (ii) the Alerian MLP Index ("AMZX") and (iii) the Alerian Midstream Energy Index ("AMNA"). The AMZX is a composite of the most prominent energy master limited partnerships that provides investors with a comprehensive benchmark for this asset class. The AMNA is a broad-based composite of North American energy infrastructure companies that provides investors with a comprehensive benchmark for this asset class. We have elected to include the AMNA in addition to the AMZX in this year's performance graph because we believe that a comparison of our performance to each of these industry indices is useful to investors. The graph assumes that \$100 was invested in our common units and each comparison index beginning on December 31, 2016 and that all distributions were reinvested on a quarterly basis.



	12/31/2016	12/31/2017	12/31/2018	12/31/2019	12/31/2020	12/31/2021
PAA	\$ 100.00	\$ 68.66	\$ 70.27	\$ 68.67	\$ 33.77	\$ 41.26
S&P 500	\$ 100.00	\$ 121.83	\$ 116.49	\$ 153.17	\$ 181.35	\$ 233.41
AMZX	\$ 100.00	\$ 93.48	\$ 81.87	\$ 87.24	\$ 62.21	\$ 87.20
AMNA	\$ 100.00	\$ 97.59	\$ 84.62	\$ 104.97	\$ 80.45	\$ 111.35

This information shall not be deemed to be "soliciting material" or to be "filed" with the Commission or subject to Regulation 14A or 14C under the Exchange Act, other than as provided in Item 201(e) of Regulation S-K, or to the liabilities of Section 18 of the Exchange Act, and shall not be deemed to be incorporated by reference into any filing under the Securities Act of 1933, as amended, or the Exchange Act, except to the extent that we specifically request that such information be treated as soliciting material or specifically incorporate it by reference into a filing under the Securities Act or the Exchange Act.

Recent Sales of Unregistered Securities

None.

Issuer Purchases of Equity Securities

The following table summarizes our equity repurchase activity during the fourth quarter of 2021:

	Total Number of Common Units Purchased	A	Average Price Paid per Common Unit ⁽¹⁾	Total Number of Common Units Purchased as Part of Publicly Announced Program ⁽²⁾	Approximate Dollar Value of Common Units that may yet be purchased under the Program ⁽²⁾		
November 1, 2021 - November 30, 2021	3,384,873	\$	10.64	3,384,873	\$	296,769,608	
December 1, 2021 - December 31, 2021	2,759,407	\$	9.06	2,759,407	\$	271,824,798	

⁽¹⁾ Average price paid per common unit includes costs associated with the repurchases.

(2) In November 2020, the board of directors of PAA GP Holdings LLC ("PAGP GP") approved a \$500 million common equity repurchase program (the "Program"), which authorizes the repurchase from time to time of up to \$500 million of our common units and/or PAGP Class A shares via open market purchases or negotiated transactions conducted in accordance with applicable regulatory requirements. No time limit has been set for completion of the Program, and the Program may be suspended or discontinued at any time. The Program does not obligate us or PAGP to acquire a particular number of common units or PAGP Class A shares. Any common units or Class A shares that are repurchased will be canceled. No PAGP Class A shares were repurchased during the periods presented. The common units repurchased under the Program during the periods presented were cancelled immediately upon acquisition.

Cash Distribution Policy

In accordance with our partnership agreement, after making distributions to holders of our outstanding preferred units, we distribute the remainder of our available cash to our common unitholders of record within 45 days following the end of each quarter. Available cash is generally defined as, for any quarter ending prior to liquidation, all of our cash and cash equivalents on hand at the end of each quarter less reserves established in the reasonable discretion of our general partner for future requirements to:

- provide for the proper conduct of our business and the business of our operating partnerships (including reserves for future capital expenditures and for our anticipated future credit needs);
- · comply with applicable law or any loan agreement, security agreement, mortgage, debt instrument or other agreement or obligation; or
- provide funds for distributions to our Series A and Series B preferred unitholders or distributions to our common unitholders for any one or more of the next four calendar quarters.

Our available cash also includes cash on hand resulting from borrowings made after the end of the quarter.

Under the terms of the agreements governing our debt, we are prohibited from declaring or paying any distribution to unitholders if a default or event of default (as defined in such agreements) exists. No such default has occurred. See Item 7. "Management's Discussion and Analysis of Financial Condition and Results of Operations—Liquidity and Capital Resources—Credit Agreements, Commercial Paper Program and Indentures."

Under the terms of our partnership agreement, our Series A preferred units and our Series B preferred units rank senior to all classes or series of equity securities in us with respect to distribution rights.

Item 6. Reserved

Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations

Introduction

The following discussion is intended to provide investors with an understanding of our financial condition and results of our operations and should be read in conjunction with our historical Consolidated Financial Statements and accompanying notes.

Our discussion and analysis includes the following:

- Executive Summary
- Results of Operations
- Liquidity and Capital Resources
- Critical Accounting Policies and Estimates
- Recent Accounting Pronouncements

Executive Summary

Company Overview

Our business model integrates large-scale supply aggregation capabilities with the ownership and operation of critical midstream infrastructure systems that connect major producing regions to key demand centers and export terminals. As one of the largest midstream service providers in North America, we own an extensive network of pipeline transportation, terminalling, storage and gathering assets in key crude oil and NGL producing basins (including the Permian Basin) and transportation corridors and at major market hubs in the United States and Canada. Our assets and the services we provide are primarily focused on crude oil and NGL.

Segment Changes

During the fourth quarter of 2021, we reorganized our historical operating segments: Transportation, Facilities and Supply and Logistics into two operating segments: Crude Oil and Natural Gas Liquids ("NGL"). The change in our segments stems primarily from (i) a multi-year transition in the midstream energy industry driven by increased competition that has reduced the stand alone earnings opportunities of our supply and logistics activities such that those activities now primarily support our effort to increase the utilization of our Crude Oil and NGL assets and (ii) internal changes regarding the oversight and reporting of our assets and related results of operations.

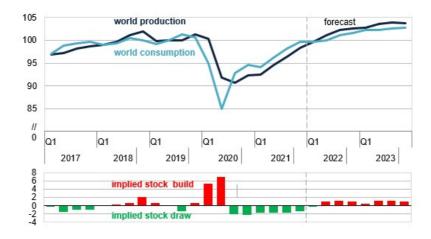
Additionally, during the fourth quarter of 2021, we modified our definition of Segment Adjusted EBITDA to exclude amounts attributable to noncontrolling interests. In connection with the Permian JV formation in October 2021, our CODM determined this modification resulted in amounts that were more meaningful to evaluate segment performance. See Note 7 to our Consolidated Financial Statements for additional information regarding the Permian JV.

All segment data and related disclosures for earlier periods presented herein have been recast to reflect the new segment reporting structure and the modification to our definition of Segment Adjusted EBITDA. See Note 20 to our Consolidated Financial Statements for additional information.



Market Overview and Outlook

Crude oil and other petroleum liquids are supplied by producers around the world, including the Organization of Petroleum Exporting Countries ("OPEC") and North American producers, among others. The chart below depicts the relationship between global supply of crude oil and other petroleum liquids and demand since the beginning of 2017 and the U.S. Energy Information Administration's ("EIA") Short-Term Energy Outlook as of February 2022:



World Liquid Fuels Production and Consumption Balance ⁽¹⁾ (in millions of barrels per day)

Global crude oil demand at the end of 2021 was near pre-COVID levels, with the EIA and other third parties forecasting demand to exceed 2019 levels by late 2022 and continue to grow for the foreseeable future. We believe this demand growth combined with the multi-year backdrop of reduced upstream investment and a continuation of OPEC discipline could further exacerbate many of the supply concerns that emerged in 2021. This includes tight global markets and continued commodity price volatility. As a result, we expect North American energy supply to play a critical long-term role in meeting global demand and the Permian Basin to drive the vast majority of U.S. production growth in the coming years. It is against this macro backdrop that we expect to generate significant positive free cash flow on a multi-year basis, supported by our existing base and integrated business model.

Building on the actions we took in 2020 to ensure that we were well positioned to manage through the pandemic, in 2021 we continued to build momentum and reinforce our long-term positioning. This included further optimizing our asset portfolio including, but not limited to, exceeding our asset sales target, substantially completing our multi-year capital program, and closing a highly strategic joint venture in the Permian Basin through a cashless and debt-free transaction. Additionally, we reduced debt by \$1 billion, meaningfully reduced capital expenditures by \$230 million versus our initial 2021 guidance, and further streamlined our U.S. and Canadian operations and organizational cost structure.

While each of these actions should contribute to a stronger balance sheet and enhanced liquidity and long-term financial flexibility, we can provide no assurance that we will be able to effect certain future actions (such as additional capital reductions, asset sales and expense reductions) and additional actions may be necessary to achieve our balance sheet, liquidity and financial security objectives. See "Risk Factors—Risks Related to Our Business" in Item 1A.

⁽¹⁾ Barrels produced and consumed per quarter.

While some modifications in our operations continue to be necessary to deal with risks associated with the COVID-19 pandemic, we have not experienced any material constraints on our ability to continue our essential business functions and have not incurred any significant additional operating costs as a result of the pandemic. We remain focused on the health and safety of our workforce, and have modified our operations in ways that we believe are prudent and appropriate in order to protect our employees while continuing to operate our assets in an effective, safe and responsible manner.

Many governments have enacted or are contemplating measures to provide aid and economic stimulus in response to the COVID-19 pandemic. These measures include actions by both the United States federal government and the government of Canada. There has been no material direct impact to our financial position, results of operations or cash flows resulting from these measures. However, our Canadian subsidiary participated in a wage subsidy program during 2021 and 2020 for subsidies totaling approximately \$7 million and \$23 million, respectively. The impact of such subsidies and incremental COVID-19 costs is included in the line items "Field operating costs" and "General and administrative expenses". See "—Results of Operations" for further discussion.

Overview of Operating Results

We recognized net income attributable to PAA of \$593 million for the year ended December 31, 2021 compared to a net loss attributable to PAA of \$2.590 billion for the year ended December 31, 2019. The net loss for the 2020 period was primarily driven by the macroeconomic and industry specific challenges discussed above which resulted in goodwill impairment losses and non-cash impairment charges related to the write-down of certain pipeline and other long-lived assets, certain of our investments in unconsolidated entities, and assets upon classification as held for sale totaling approximately \$3.4 billion. In addition, we recognized approximately \$233 million of inventory valuation adjustments due to declines in commodity prices during the first quarter of 2020. The 2021 period includes a net loss on asset sales and asset impairments of \$592 million, a majority of which was related to the write-down of our natural gas storage facilities, which were classified as held for sale in the second quarter and sold in the third quarter.

Results from our reporting segments were lower for the year ended December 31, 2021 compared to the year ended December 31, 2020 primarily due to less favorable crude oil market conditions.

Results from our reporting segments were lower for the year ended December 31, 2020 compared to the year ended December 31, 2019 primarily due to less favorable crude oil differentials and NGL sales margins and lower volumes, partially offset by the favorable impact of contango market conditions.

See the "-Results of Operations" section below for further discussion.

Results of Operations

Consolidated Results

The following table sets forth an overview of our consolidated financial results calculated in accordance with GAAP (in millions, except per unit amounts):

						Variance							
	 Ye	ar En	ded December	31,			2021	-2020	2020-2019				
	 2021		2020	_	2019		\$	%		\$	%		
Product sales revenues	\$ 40,883	\$	22,058	\$	32,272	\$	18,825	85 %	\$	(10,214)	(32)%		
Services revenues	1,195		1,232		1,397		(37)	(3)%		(165)	(12)%		
Purchases and related costs	(38,504)		(20,431)		(29,452)		(18,073)	(88)%		9,021	31 %		
Field operating costs	(1,065)		(1,076)		(1,303)		11	1 %		227	17 %		
General and administrative expenses	(292)		(271)		(297)		(21)	(8)%		26	9 %		
Depreciation and amortization	(774)		(653)		(601)		(121)	(19)%		(52)	(9)%		
Gains/(losses) on asset sales and asset impairments, net	(592)		(719)		(28)		127	18 %		(691)	**		
Goodwill impairment losses	—		(2,515)		—		2,515	100 %		(2,515)	N/A		
Equity earnings in unconsolidated entities	274		355		388		(81)	(23)%		(33)	(9)%		
Gain on/(impairment of) investments in unconsolidated entities, net	2		(182)		271		184	101 %		(453)	(167)%		
Interest expense, net	(425)		(436)		(425)		11	3 %		(11)	(3)%		
Other income, net	19		39		24		(20)	(51)%		15	63 %		
Income tax (expense)/benefit	(73)		19		(66)		(92)	(484)%		85	129 %		
Net income/(loss)	648		(2,580)		2,180		3,228	125 %		(4,760)	(218)%		
Net income attributable to noncontrolling interests	(55)		(10)		(9)		(45)	(450)%		(1)	(11)%		
Net income/(loss) attributable to PAA	\$ 593	\$	(2,590)	\$	2,171	\$	3,183	123 %	\$	(4,761)	(219)%		
		_											
Basic net income/(loss) per common unit	\$ 0.55	\$	(3.83)	\$	2.70	\$	4.38	**	\$	(6.53)	**		
Diluted net income/(loss) per common unit	\$ 0.55	\$	(3.83)	\$	2.65	\$	4.38	**	\$	(6.48)	**		
Basic weighted average common units outstanding	716		728		727		(12)	**		1	**		
Diluted weighted average common units outstanding	716		728		800		(12)	**		(72)	**		

** Indicates that variance as a percentage is not meaningful.

Revenues and Purchases

Fluctuations in our consolidated revenues and purchases and related costs are primarily associated with our merchant activities and generally explained in large part by changes in commodity prices. Our crude oil and NGL merchant activities are not directly affected by the absolute level of prices because the commodities that we buy and sell are generally indexed to the same pricing indices. Both product sales revenues and purchases and related costs will fluctuate with market prices; however, the absolute margins related to those sales and purchases will not necessarily have a corresponding increase or decrease. Additionally, product sales revenues include the impact of gains and losses related to derivative instruments used to manage our exposure to commodity price risk associated with such sales and purchases.



A majority of our sales and purchases are indexed to West Texas Intermediate ("WTI"). The following table presents the range of the NYMEX WTI benchmark price of crude oil over the last three years (in dollars per barrel):

		Ċ	NYMEX WTI Crude Oil Price	
During the Year Ended December 31,	Low		High	Average
2021	\$ 48	\$	85	\$ 68
2020	\$ (38)	\$	63	\$ 39
2019	\$ 46	\$	66	\$ 57

Product sales revenues and purchases increased for the year ended December 31, 2021 compared to the year ended December 31, 2020 primarily due to higher prices and volumes in the 2021 period.

Product sales revenues and purchases decreased for the year ended December 31, 2020 compared to the year ended December 31, 2019 primarily due to lower prices and volumes in the 2020 period.

Revenues from services decreased for the year ended December 31, 2021 compared to the year ended December 31, 2020 primarily due to the sale of assets, partially offset by the recognition of revenues associated with deficiencies under minimum volume commitments in 2020.

Revenues from services decreased for the year ended December 31, 2020 compared to the year ended December 31, 2019 primarily due to lower pipeline volumes, a portion of which were covered by minimum volume commitments for which the associated revenue was deferred to future periods.

See further discussion of our net revenues in the "-Analysis of Operating Segments" section below.

Field Operating Costs

See discussion of field operating costs in the "-Analysis of Operating Segments" section below.

General and Administrative Expenses

The increase in general and administrative expenses for the year the year ended December 31, 2021 compared to the year ended December 31, 2020 was primarily due to (i) transactionrelated costs incurred in connection with the formation of the Permian JV (which impacts our general and administrative expenses but are excluded in the calculation of Adjusted EBITDA and Segment Adjusted EBITDA), (ii) increased information systems costs and (iii) reduced wage subsidies received by our Canadian subsidiary, partially offset by other lower employee-compensation related items during the 2021 period.

The decrease in general and administrative expenses for the year the year ended December 31, 2020 compared to the year ended December 31, 2019 was primarily due to (i) lower equitybased compensation costs on liability-classified awards (which is not excluded in the calculation of Adjusted EBITDA and Segment Adjusted EBITDA), due to a decrease in our common unit price, (ii) decreased travel and entertainment costs, (iii) lower compensation costs including the benefit of wage subsidies received by our Canadian subsidiary and (iv) general cost reductions associated with exiting low margin, high administrative cost businesses. Such items were partially offset by an overall increase in compensation costs related to severance costs associated with our efforts to streamline our organization.

Depreciation and Amortization

Depreciation and amortization expense increased for the year ended December 31, 2021 compared to the year ended December 31, 2020 largely driven by (i) a reduction in the useful lives of certain assets and (ii) additional depreciation expense associated with acquired assets, partially offset by a reduction in depreciation expense associated with assets sold. See Note 6 to our Consolidated Financial Statements for additional information.

Depreciation and amortization expense increased for the year ended December 31, 2020 compared to the year ended December 31, 2019 largely driven by additional depreciation expense associated with acquired assets, the completion of various investment capital projects and a reduction in the useful lives of certain assets, partially offset by a reduction in depreciation expense associated with assets sold.

Gains/Losses on Asset Sales and Asset Impairments, Net

The net losses on asset sales and asset impairments for 2021 primarily included (i) an approximate \$220 million non-cash impairment charge recognized in the third quarter related to the write-down of certain crude oil storage terminal assets as a result of decreased demand for our services due to changing market conditions, (ii) an approximate \$475 million non-cash impairment charge related to the write-down of our Pine Prairie and Southern Pines natural gas storage facilities upon classification as held for sale during the second quarter (these assets were sold in August 2021), and (iii) a gain of \$106 million recognized in the second quarter related to the asset exchange agreement (the "Asset Exchange") involving the sale of our Milk River crude oil pipeline in exchange for additional interests in certain of the Empress gas processing plants.

The net loss on asset sales and asset impairments for the year ended December 31, 2020 included (i) non-cash impairment losses on held and used assets of approximately \$541 million related to the write-down of (a) certain pipeline and other long-lived assets due to the current macroeconomic and geopolitical conditions including the collapse of oil prices driven by both the decrease in demand caused by the COVID-19 pandemic and excess supply, as well as changing market conditions and expected lower crude oil production in certain regions, and (b) idled or underutilized assets for which is it has been determined that it is unlikely that opportunities will exist in the future to recover our investment in these assets and (ii) net losses of approximately \$178 million related to the sale of assets, including non-cash impairments recognized upon classification as assets held for sale.

The net loss on asset sales and asset impairments for the year ended December 31, 2019 was largely driven by a loss on the sale of a storage terminal in North Dakota.

See Note 6 and Note 7 to our Consolidated Financial Statements for additional information regarding these asset sales and asset impairments.

Goodwill Impairment Losses

During the first quarter of 2020, we recognized a goodwill impairment charge of \$2.5 billion, representing the entire balance of goodwill. See Note 8 to our Consolidated Financial Statements for additional information.

Gain on/(Impairment of) Investments in Unconsolidated Entities, Net

During the year ended December 31, 2020, we recognized losses of \$202 million related to the write-down of certain of our investments in unconsolidated entities. Additionally, we recognized a gain of \$21 million related to our sale of a 10% interest in Saddlehorn Pipeline Company, LLC.

During the year ended December 31, 2019, we recognized a non-cash gain of \$269 million related to a fair value adjustment resulting from the accounting for the contribution of our undivided joint interest in the Capline pipeline system for an equity interest in Capline Pipeline Company LLC. See Note 9 to our Consolidated Financial Statements for additional information regarding our unconsolidated entities.

Interest Expense

Interest expense is primarily impacted by:

- our weighted average debt balances;
- the level and maturity of fixed rate debt and interest rates associated therewith;
- market interest rates and our interest rate hedging activities; and
- interest capitalized on capital projects.



The following table summarizes the components impacting the interest expense variance (in millions, except percentages):

		Average LIBOR	Weighted Average Interest Rate ⁽¹⁾
Interest expense for the year ended December 31, 2019	\$ 425	2.2 %	4.4 %
Impact of lower capitalized interest	 10		
Impact of borrowings under credit facilities and commercial paper program	3		
Impact of issuance and retirement of senior notes	(4)		
Other	2		
Interest expense for the year ended December 31, 2020	\$ 436	0.5 %	4.1 %
Impact of issuance and retirement of senior notes	 (13)		
Impact of borrowings under credit facilities and commercial paper program	(4)		
Impact of lower capitalized interest	 6		
Interest expense for the year ended December 31, 2021	\$ 425	0.1 %	4.2 %

(1) Excludes commitment and other fees.

See Note 11 to our Consolidated Financial Statements for additional information regarding our debt and related activities during the periods presented.

Other Income, Net

The following table summarizes the components impacting Other income, net (in millions):

		Year Ende	d December 31,		
2021			2020		2019
\$	14	\$	20	\$	2
	3		13		15
	2		6		7
\$	19	\$	39	\$	24
	2021 \$ \$	2021 \$ 14 3 2	2021 \$ 14 \$ 3 2	2021 2020 \$ 14 \$ 20 3 13 13 2 6 6	\$ 14 \$ 20 \$ 3 14 14 16

⁽¹⁾ See Note 13 to our Consolidated Financial Statements for additional information.

(2) The activity during the years presented was primarily related to the impact from the change in the USD to CAD exchange rate on the portion of our intercompany net investment that is not long-term in nature.

Income Tax (Expense)/Benefit

The net unfavorable income tax variance for the year ended December 31, 2021 compared to the year ended December 31, 2020 was primarily a result of increased income in our Canadian operations.

The net favorable income tax variance for the year ended December 31, 2020 compared to the year ended December 31, 2019 was primarily due to lower taxable earnings from our Canadian operations and lower year-over-year income as impacted by fluctuations in the derivative mark-to-market valuations in our Canadian operations, partially offset by the recognition of a deferred tax benefit of approximately \$60 million during the second quarter of 2019 as a result of the reduction of the provincial tax rate in Alberta, Canada.

Noncontrolling Interests

The increase in amounts attributable to noncontrolling interests for the year ended December 31, 2021 compared to the year ended December 31, 2020 was due to the formation of the Permian JV in October 2021. See Note 7 to our Consolidated Financial Statements for additional information.

Non-GAAP Financial Measures

To supplement our financial information presented in accordance with GAAP, management uses additional measures known as "non-GAAP financial measures" in its evaluation of past performance and prospects for the future and to assess the amount of cash that is available for distributions, debt repayments, common equity repurchases and other general partnership purposes.

The primary additional measures used by management are earnings before interest, taxes, depreciation and amortization (including our proportionate share of depreciation and amortization, including write-downs related to cancelled projects, of unconsolidated entities), gains and losses on asset sales and asset impairments, goodwill impairment losses and gains on and impairments of investments in unconsolidated entities, adjusted for certain selected items impacting comparability ("Adjusted EBITDA"), Adjusted EBITDA attributable to PAA, Implied distributable cash flow ("DCF"), Free Cash Flow and Free Cash Flow after Distributions.

Our definition and calculation of certain non-GAAP financial measures may not be comparable to similarly-titled measures of other companies. Adjusted EBITDA, Adjusted EBITDA attributable to PAA and Implied DCF are reconciled to Net Income/(Loss), and Free Cash Flow and Free Cash Flow after Distributions are reconciled to Net Cash Provided by Operating Activities, the most directly comparable measures as reported in accordance with GAAP, and should be viewed in addition to, and not in lieu of, our Consolidated Financial Statements and accompanying notes. See "—Liquidity and Capital Resources—Liquidity Measures" for additional information regarding Free Cash Flow and Free Cash Flow after Distributions.

Performance Measures

Management believes that the presentation of Adjusted EBITDA, Adjusted EBITDA attributable to PAA and Implied DCF provides useful information to investors regarding our performance and results of operations because these measures, when used to supplement related GAAP financial measures, (i) provide additional information about our core operating performance and ability to fund distributions to our unitholders through cash generated by our operations, (ii) provide investors with the same financial analytical framework upon which management bases financial, operational, compensation and planning/budgeting decisions and (iii) present measures that investors, rating agencies and debt holders have indicated are useful in assessing us and our results of operations. These non-GAAP measures may exclude, for example, (i) charges for obligations that are expected to be settled with the issuance of equity instruments, (ii) gains and losses on derivative instruments that are related to underlying activities in another period (or the reversal of such adjustments from a prior period), gains and losses on derivatives of our core operating results and/or (v) other items that we believe should be excluded in understanding our core operating performance. These measures may further be adjusted to include amounts related to deficiencies associated with minimum volume commitments whereby we have billed the counterparties for their deficiency obligation and such amounts are recognized as deferred revenue in "Other current liabilities" in our Consolidated Financial Statements. Such amounts are presented net of applicable amounts subsequently recognized into revenue. We have defined all such items as "selected items impacting comparability." We do not necessarily consider all of our selected items impacting comparability is material to the evaluation of our operating results and prospects.

Although we present selected items impacting comparability that management considers in evaluating our performance, you should also be aware that the items presented do not represent all items that affect comparability between the periods presented. Variations in our operating results are also caused by changes in volumes, prices, exchange rates, mechanical interruptions, acquisitions, divestitures, investment capital projects and numerous other factors as discussed, as applicable, in "—Analysis of Operating Segments."

The following table sets forth the reconciliation of the non-GAAP financial performance measures Adjusted EBITDA, Adjusted EBITDA attributable to PAA and Implied DCF from Net Income/(Loss) (in millions):

									Vari	Variance						
		Ye	ar Ene	ded December	31,			2021-	2020		2020-2	2019				
	_	2021		2020		2019		\$	%		\$	%				
Net income/(loss)	\$	648	\$	(2,580)	\$	2,180	\$	3,228	125 %	\$	(4,760)	(218)%				
Interest expense, net		425		436		425		(11)	(3)%		11	3 %				
Income tax expense/(benefit)		73		(19)		66		92	484 %		(85)	(129)%				
Depreciation and amortization		774		653		601		121	19 %		52	9 %				
(Gains)/losses on asset sales and asset impairments, net		592		719		28		(127)	(18)%		691	**				
Goodwill impairment losses		_		2,515		_		(2,515)	(100)%		2,515	N/A				
(Gain on)/impairment of investments in unconsolidated entities, net		(2)		182		(271)		(184)	(101)%		453	167 %				
Depreciation and amortization of unconsolidated entities ⁽¹⁾		123		73		62		50	68 %		11	18 %				
Selected Items Impacting Comparability:																
(Gains)/losses from derivative activities and inventory valuation adjustments		(271)		480		160		(751)	**		320	**				
Long-term inventory costing adjustments		(94)		44		(20)		(138)	**		64	**				
Deficiencies under minimum volume commitments, net		(7)		74		(18)		(81)	**		92	**				
Equity-indexed compensation expense		19		19		17		—	**		2	**				
Net (gain)/loss on foreign currency revaluation		(4)		(3)		14		(1)	**		(17)	**				
Line 901 incident		15		_		10		15	**		(10)	**				
Significant transaction-related expenses		16		3		_		13	**		3	**				
Selected Items Impacting Comparability - Segment Adjusted EBITDA ⁽²⁾		(326)		617		163		(943)	**		454	**				
Gains from derivative activities ⁽³⁾		(14)		(20)		(2)		6	**		(18)	**				
Net gain on foreign currency revaluation ⁽⁴⁾		(3)		(13)		(15)		10	**		2	**				
Net gain on early repayment of senior notes ⁽⁵⁾		_		(3)				3	**		(3)	**				
Selected Items Impacting Comparability - Adjusted EBITDA ⁽⁶⁾		(343)		581		146		(924)	**		435	**				
Adjusted EBITDA ⁽⁶⁾	\$	2.290	\$	2,560	\$	3,237	\$	(270)	(11)%	\$	(677)	(21)%				
Adjusted EBITDA attributable to noncontrolling interests ⁽⁷⁾		(94)		(14)		(10)		(80)	**		(4)	(40)%				
Adjusted EBITDA attributable to PAA	\$	2,196	\$	2,546	\$	3,227	\$	(350)	(14)%	\$	(681)	(21)%				
	<u> </u>	_,	-	_,	-		<u> </u>	(000)	(),*	÷	(001)	(==);;;				
Adjusted EBITDA (6)	\$	2,290	\$	2,560	\$	3,237	\$	(270)	(11)%	\$	(677)	(21)%				
Interest expense, net of certain non-cash items ⁽⁸⁾		(401)		(415)		(407)		14	3 %		(8)	(2)%				
Maintenance capital ⁽⁹⁾		(168)		(216)		(287)		48	22 %		71	25 %				
Investment capital of noncontrolling interests ⁽¹⁰⁾		(9)		_		_		(9)	N/A		_	N/A				
Current income tax expense		(50)		(51)		(112)		1	2 %		61	54 %				
Distributions from unconsolidated entities in excess of/(less than) adjusted equity earnings (11)		16		13		(49)		3	**		62	**				
Distributions to noncontrolling interests (12)		(14)		(10)		(6)		(4)	(40)%		(4)	(67)%				
Implied DCF	\$	1,664	\$	1,881	\$	2,376	\$	(217)	(12)%	\$	(495)	(21)%				
Preferred unit cash distributions ⁽¹²⁾		(198)		(198)		(198)					, ,					
Implied DCF Available to Common Unitholders	\$	1,466	\$	1,683	\$	2,178										
Common unit cash distributions ⁽¹²⁾		(517)		(655)		(1,004)										
Implied DCF Excess ⁽¹³⁾	\$	949	\$	1,028	\$	1,174										

** Indicates that variance as a percentage is not meaningful.

- (1) We exclude our proportionate share of the depreciation and amortization expense (including write-downs related to cancelled projects) of unconsolidated entities when reviewing Adjusted EBITDA, similar to our consolidated assets.
- (2) For a more detailed discussion of these selected items impacting comparability, see the footnotes to the Segment Adjusted EBITDA Reconciliation table in Note 20 to our Consolidated Financial Statements.
- (3) The Preferred Distribution Rate Reset Option of our Series A preferred units is accounted for as an embedded derivative and recorded at fair value in our Consolidated Financial Statements. The associated gains and losses are not integral to our results and were thus classified as a selected item impacting comparability. See Note 13 to our Consolidated Financial Statements for additional information regarding the Preferred Distribution Rate Reset Option.
- (4) During the periods presented, there were fluctuations in the value of CAD to USD, resulting in the realization of foreign exchange gains and losses on the settlement of foreign currency transactions as well as the revaluation of monetary assets and liabilities denominated in a foreign currency. The associated gains and losses are not integral to our results and thus were classified as a selected item impacting comparability.
- ⁽⁵⁾ Includes net gains recognized in connection with the repurchase of our outstanding senior notes on the open market. See Note 11 to our Consolidated Financial Statements for additional information.
- (6) Other income/(expense), net per our Consolidated Statements of Operations, adjusted for selected items impacting comparability ("Adjusted other income/(expense), net") is included in Adjusted EBITDA and excluded from Segment Adjusted EBITDA.
- ⁽⁷⁾ Reflects amounts attributable to noncontrolling interests in the Permian JV and Red River Pipeline LLC.
- ⁽⁸⁾ Excludes certain non-cash items impacting interest expense such as amortization of debt issuance costs and terminated interest rate swaps.
- (9) Maintenance capital expenditures are defined as capital expenditures for the replacement and/or refurbishment of partially or fully depreciated assets in order to maintain the operating and/or earnings capacity of our existing assets.
- (10) Investment capital expenditures attributable to noncontrolling interests that reduce Implied DCF available to PAA common unitholders.
- (11) Comprised of cash distributions received from unconsolidated entities less equity earnings in unconsolidated entities (adjusted for our proportionate share of depreciation and amortization, including write-downs related to cancelled projects, and selected items impacting comparability of unconsolidated entities).
- ⁽¹²⁾ Cash distributions paid during the period presented.
- (13) Excess DCF is retained to establish reserves for debt repayment, future distributions, equity repurchases, capital expenditures and other partnership purposes.

Analysis of Operating Segments

We manage our operations through two operating segments: Crude Oil and NGL. Our CODM (our Chief Executive Officer) evaluates segment performance based on a variety of measures including Segment Adjusted EBITDA, segment volumes and maintenance capital investment.

We define Segment Adjusted EBITDA as revenues and equity earnings in unconsolidated entities less (a) purchases and related costs, (b) field operating costs and (c) segment general and administrative expenses, plus (d) our proportionate share of the depreciation and amortization expense (including write-downs related to cancelled projects) of unconsolidated entities, further adjusted for (e) certain selected items including (i) the mark-to-market of derivative instruments that are related to underlying activities in another period (or the reversal of such adjustments from a prior period), gains and losses on derivatives that are related to investing activities (such as the purchase of linefill) and inventory valuation adjustments, as applicable, (ii) long-term inventory costing adjustments, (iii) charges for obligations that are expected to be settled with the issuance of equity instruments, (iv) amounts related to deficiencies associated with minimum volume commitments, net of applicable amounts subsequently recognized into revenue and (v) other items that our CODM believes are integral to understanding our core segment operating performance and (f) to exclude the portion of all preceding items that is attributable to noncontrolling interests ("Adjusted EBITDA attributable to noncontrolling interests"). See Note 20 to our Consolidated Financial Statements for a reconciliation of Segment Adjusted EBITDA to Net income/(loss) attributable to PAA.

In connection with our merchant activities, our Crude Oil and NGL segments may enter into intersegment transactions for the purchase or sale of products, along with services such as the transportation, terminalling or storage of products. Intersegment transactions are conducted at rates similar to those charged to third parties or rates that we believe approximate market. Intersegment activities are eliminated in consolidation and we believe that the estimates with respect to these rates are reasonable. Also, our segment operating and general and administrative expenses reflect direct costs attributable to each segment; however, we also allocate certain operating expenses and general and administrative overhead expenses between segments based on management's assessment of the business activities for the period. The proportional allocations by segment require judgment by management and may be adjusted in the future based on the business activities that exist during each period. We believe that the estimates with respect to these allocations are reasonable.

Revenues and expenses from our Canadian based subsidiaries, which use CAD as their functional currency, are translated at the prevailing average exchange rates for the month.

Crude Oil Segment

Our Crude Oil segment operations generally consist of gathering and transporting crude oil using pipelines, gathering systems, trucks and at times on barges or railcars, in addition to providing terminalling, storage and other facilities-related services utilizing our integrated assets across the United States and Canada. Our assets serve third parties and are also supported by our merchant activities. Our merchant activities include the purchase of crude oil supply and the movement of this supply on our assets to sales locations, including our terminals, third-party connecting carriers, regional hubs or to refineries. Our merchant activities are subject to our risk management policies and may include the use of derivative instruments to hedge our exposure.

Our Crude Oil segment generates revenue through a combination of tariffs, pipeline capacity agreements and other transportation fees, month-to-month and multi-year storage and terminalling agreements and the sale of gathered and bulk-purchased crude oil. Tariffs and other fees on our pipeline systems are typically based on volumes transported and vary by receipt point and delivery point. Fees for our terminalling and storage services are based on capacity leases and throughput volumes. Generally, results from our merchant activities are impacted by (i) increases or decreases in our lease gathering crude oil purchases volumes and (ii) the overall strength, weakness and volatility of market conditions, including regional differentials and time spreads. In addition, the execution of our risk management strategies in conjunction with our assets can provide upside in certain markets. The segment results also include the direct fixed and variable field costs of operating the crude oil assets, as well as an allocation of indirect operating costs.

The following tables set forth our operating results from our Crude Oil segment:

									Vari	ance		
Operating Results ⁽¹⁾		Ye	ar En	ded December	31,			2021	1-2020		2020-2	J19
(in millions, except per barrel data)		2021		2020		2019		\$	%		\$	%
Revenues	\$	40,470	\$	22,199	\$	31,655	\$	18,271	82 %	\$	(9,456)	(30)%
Purchases and related costs		(37,540)		(19,712)		(28,227)		(17,828)	(90)%		8,515	30 %
Field operating costs		(824)		(876)		(1,064)		52	6 %		188	18 %
Segment general and administrative expenses ⁽²⁾		(221)		(205)		(216)		(16)	(8)%		11	5 %
Equity earnings in unconsolidated entities		274		355		388		(81)	(23)%		(33)	(9)%
Adjustments ⁽³⁾ :												
Depreciation and amortization of unconsolidated entities		123		73		62		50	68 %		11	18 %
(Gains)/losses from derivative activities and inventory valuation adjustments		(252)		259		180		(511)	**		79	**
Long-term inventory costing adjustments		(67)		43		(35)		(110)	**		78	**
Deficiencies under minimum volume commitments, net		(7)		74		(18)		(81)	**		92	**
Equity-indexed compensation expense		19		19		17		_	**		2	**
Net (gain)/loss on foreign currency revaluation		(3)		(2)		11		(1)	**		(13)	**
Line 901 incident		15		_		10		15	**		(10)	**
Significant transaction-related expenses		16		3		_		13	**		3	**
Adjusted EBITDA attributable to noncontrolling interests		(94)		(14)		(10)		(80)	**		(4)	**
Segment Adjusted EBITDA	\$	1,909	\$	2,216	\$	2,753	\$	(307)	(14)%	\$	(537)	(20)%
	¢	100	¢	171	¢	240	¢	(71)	(12)0/	¢		(21)0/
Maintenance capital	\$	100	\$	171	\$	248	\$	(71)	(42)%	\$	(77)	(31)%

					Varian	ce	
	Year	Ended December 31,		2021-202	20	2020-203	19
Average Volumes	2021	2020	2019	Volumes	%	Volumes	%
Tariff activities volumes ⁽⁴⁾							
Crude oil pipelines tariff volumes (by region):							
Permian Basin ⁽⁵⁾	4,412	4,427	4,690	(15)	%	(263)	(6)%
South Texas / Eagle Ford ⁽⁵⁾	326	380	446	(54)	(14)%	(66)	(15)%
Mid-Continent ⁽⁵⁾	455	379	498	76	20 %	(119)	(24)%
Gulf Coast	158	134	165	24	18 %	(31)	(19)%
Rocky Mountain ⁽⁵⁾	332	245	293	87	36 %	(48)	(16)%
Western	236	223	198	13	6 %	25	13 %
Canada	286	294	323	(8)	(3)%	(29)	(9)%
Crude oil pipelines tariff activities total volumes	6,205	6,082	6,613	123	2 %	(531)	(8)%
Commercial crude oil storage capacity ⁽⁵⁾⁽⁶⁾	73	79	76	(6)	(8)%	3	4 %
Crude oil lease gathering purchases ^{(4) (7)}	1,330	1,174	1,162	156	13 %	12	1 %

- ** Indicates that variance as a percentage is not meaningful.
- ⁽¹⁾ Revenues and costs and expenses include intersegment amounts.
- (2) Segment general and administrative expenses reflect direct costs attributable to each segment and an allocation of other expenses to the segments. The proportional allocations by segment require judgment by management and are based on the business activities that exist during each period.
- (3) Represents adjustments included in the performance measure utilized by our CODM in the evaluation of segment results. See Note 20 to our Consolidated Financial Statements for additional discussion of such adjustments.
- (4) Average daily volumes in thousands of barrels per day calculated as the total volumes (attributable to our interest for pipelines owned by unconsolidated entities or undivided joint interests) for the year divided by the number of days in the year. Volumes associated with acquisitions represent total volumes for the number of days we actually owned the assets divided by the number of days in the period.
- ⁽⁵⁾ Includes volumes (attributable to our interest) from assets owned by unconsolidated entities.
- (6) Average monthly capacity in millions of barrels per day calculated as total volumes for the year divided by the number of months in the year.
- (7) Of this amount, approximately 1,038 thousand barrels per day ("MBbls/d"), 862 MBbls/d and 767 MBbls/d were purchased in the Permian Basin for the years ended December 31, 2021, 2020 and 2019, respectively.

Segment Adjusted EBITDA

Crude Oil Segment Adjusted EBITDA decreased for the year ended December 31, 2021 compared to the year ended December 31, 2020 primarily due to less favorable crude oil market conditions for our merchant activities in 2021 (largely associated with decreased contango margins and continuing compressed regional basis differentials). In addition, the 2021 period was negatively impacted by asset sales. These impacts were partially offset by lower field operating costs and slightly higher volumes on our pipeline assets.

Crude Oil Segment Adjusted EBITDA decreased for the year ended December 31, 2020 compared to the year ended December 31, 2019 primarily due to overall less favorable crude oil market conditions for our merchant activities during 2020 (compressed regional basis differentials, partially offset by the favorable impact of contango margins) and lower pipeline volumes caused by the impact of the COVID-19 pandemic, partially offset by lower field operating costs.

The various components of Segment Adjusted EBITDA are discussed further below.

Revenues, Net of Purchases and Related Costs ("net revenues") and Equity Earnings in Unconsolidated Entities. The following is a discussion of the significant items impacting net revenues and equity earnings in unconsolidated entities for the comparable 2021, 2020 and 2019 periods.

• COVID-19 Impact. Crude oil production in the U.S. stabilized in 2021 and while it began increasing in the second half of the year, on average, U.S. crude oil production was slightly lower than the 2020 average. In 2020, crude oil production in the U.S. was nearly 1 million barrels per day lower than the 2019 average, as the pandemic significantly reduced demand for crude oil.

These factors resulted in lower pipeline transportation net revenues across the majority of the regions in which we operate in 2020 as compared to 2019 and unfavorable market conditions and lower earnings from our merchant activities during 2020 and 2021 highlighted by less favorable crude oil differentials, particularly the differential between the value of crude oil in the Permian Basin compared to the Gulf Coast market. Those negative conditions were partially offset by the favorable impact of contango market conditions during 2020 and, to a lesser extent, during 2021.

Winter Storm Uri. The extreme winter weather event that occurred in February 2021 ("Winter Storm Uri") resulted in shut-ins that further compounded the impact of the COVID-19 pandemic-related reset to production on our pipeline volumes. The resulting unfavorable impact on our revenues was more than offset by the favorable impact from lower power costs on equity earnings and field operating costs, as discussed further below.



• Equity Earnings in Unconsolidated Entities. Volumes on pipelines owned by unconsolidated entities were also negatively impacted by the COVID-19 pandemic-related production declines and, for the pipelines located in the Permian Basin and South Texas/Eagle Ford regions, the effects of Winter Storm Uri in 2021. The unfavorable impact of the lower volumes on equity earnings was partially offset by lower power costs, including the impact of gains related to hedged power costs resulting from Winter Storm Uri.

In addition, equity earnings for the 2021 period were negatively impacted by (i) the write-off of costs associated with the cancellation of capital projects and (ii) depreciation expense and transition costs associated with phase one of the Wink to Webster pipeline being placed into service during the first quarter of 2021. Such costs are included in the line item "Depreciation and amortization of unconsolidated entities" in the table above as an adjustment to arrive at Segment Adjusted EBITDA.

- Minimum Volume Commitments. A portion of the lower volumes experienced on our pipelines, and pipelines owned by unconsolidated entities, in 2020 were covered by minimum volume commitments, some of which had make-up rights. For contracts that have make-up rights, although payment has been received associated with the volume deficiency, the earnings are not recognized until future periods when either the shortfall is made up or when the shipper's make-up rights expire or it is determined that their ability to utilize the make-up right is remote. Such deficiencies are reflected as an "Adjustment" in the table above as discussed further below under "—Adjustments—Deficiencies under minimum volume commitments, net."
- Asset Sales. Storage and terminalling fees for 2021 compared to 2020 were unfavorably impacted by the sale of (i) our natural gas storage facilities in August 2021 and (ii) our Los Angeles Basin terminals in October 2020.

Field Operating Costs. The decrease in field operating costs for the year ended December 31, 2021 compared to the year ended December 31, 2020 was primarily due to (i) lower power costs, including the impact of gains related to hedged power costs resulting from Winter Storm Uri, (ii) lower compensation costs resulting from lower headcount and the sales of our natural gas storage facilities in August 2021 and Los Angeles Basin terminals in October 2020, (iii) lower long-haul third-party trucking costs and a decrease in company personnel and truck costs as more of our supply was connected to pipelines and taken off trucks and (iv) streamlining efforts which have resulted in decreases in variable costs. These favorable impacts were partially offset by (i) incremental operating costs from the Permian JV and (ii) additional estimated costs associated with the Line 901 incident (which impact field operating costs but are excluded from Segment Adjusted EBITDA and thus are reflected as an "Adjustment" in the table above).

The decrease in field operating costs for the year ended December 31, 2020 compared to the year ended December 31, 2019 was primarily due to (i) a decrease in variable costs due to lower volumes, (ii) a decrease of maintenance and integrity management activities, primarily due to interval changes facilitated through risk-based data application, (iii) reduced activity at our rail terminals, (iv) a decrease in long-haul third-party trucking costs and a decrease in company personnel and truck costs as more of our supply was connected to pipelines and taken off trucks and (v) additional estimated costs recognized in 2019 associated with the Line 901 incident (which impact field operating costs but are excluded from Segment Adjusted EBITDA and thus are reflected as an "Adjustment" in the table above). Such favorable impacts were partially offset by higher property taxes attributable to assets placed in service in 2020 and increased property valuations.

Segment General and Administrative Expenses. See the "---Consolidated Results" section above for a discussion of general and administrative expenses.

Adjustments. The following is a discussion of adjustments included in the calculation of Segment Adjusted EBITDA, the performance measure utilized by our CODM in the evaluation of segment results.

Deficiencies under minimum volume commitments, net. Many industry infrastructure projects developed and completed over the last several years were underpinned by long-term
minimum volume commitment contracts whereby the shipper agreed to either: (i) ship and pay for certain stated volumes or (ii) pay the agreed upon price for a minimum contract
quantity. Some of these agreements include make-up rights if the minimum volume is not met. If a counterparty has a make-up right associated with a deficiency, we bill the counterparty
and defer the revenue attributable to the counterparty's make-up right but record an adjustment to reflect such amount associated with the current period activity in Segment Adjusted
EBITDA. We subsequently recognize the revenue, and record a corresponding reversal of the adjustment, at the earlier of when the deficiency volume is delivered or shipped, when the
make-up right expires or when it is determined that the counterparty's ability to utilize the make-up right is remote. The amount presented as an "Adjustment" in the table above reflects
the net adjustment

for revenues deferred during the period and the reversal of previously deferred revenues that were recognized during the period.

- Impact from Certain Derivative Activities and Inventory Valuation Adjustments. The impact from certain derivative activities on our net revenues includes mark-to-market and other
 gains and losses resulting from certain derivative instruments that are related to underlying activities in another period (or the reversal of mark-to-market gains and losses from a prior
 period), gains and losses on derivatives that are related to investing activities (such as the purchase of linefill) and inventory valuation adjustments, as applicable. See Note 13 to our
 Consolidated Financial Statements for a comprehensive discussion regarding our derivatives and risk management activities. These gains and losses impact our net revenues but are
 excluded from Segment Adjusted EBITDA and thus are reflected as an "Adjustment" in the table above.
- Long-Term Inventory Costing Adjustments. Our net revenues are impacted by changes in the weighted average cost of our crude oil inventory pools that result from price movements
 during the periods. These costing adjustments relate to long-term inventory necessary to meet our minimum inventory requirements in third-party assets and other working inventory that
 is needed for our commercial operations. We consider this inventory necessary to conduct our operations and we intend to carry this inventory for the foreseeable future. These costing
 adjustments impact our net revenues but are excluded from Segment Adjusted EBITDA and thus are reflected as an "Adjustment" in the table above.
- Foreign Exchange Impacts. Our net revenues are impacted by fluctuations in the value of CAD to USD, resulting in the realization of foreign exchange gains and losses on the
 settlement of foreign currency transactions as well as the revaluation of monetary assets and liabilities denominated in a foreign currency within our Canadian operations. These gains
 and losses impact our net revenues but are excluded from Segment Adjusted EBITDA and thus are reflected as an "Adjustment" in the table above.

Maintenance Capital. Maintenance capital consists of capital expenditures for the replacement and/or refurbishment of partially or fully depreciated assets in order to maintain the operating and/or earnings capacity of our existing assets. The decrease in maintenance capital for the year ended December 31, 2021 compared to the year ended December 31, 2020 as well as the comparable period for 2020 and 2019 was due to timing changes, the completion of multi-year reliability improvement programs, application of updated regulatory guidance and lower tractor trailer lease buyouts, among other factors. The decrease for the year ended December 31, 2021 compared to the year ended December 31, 2020 was also due to the sales of our natural gas storage facilities and Los Angeles Basin terminals.

NGL Segment

Our NGL segment operations involve natural gas processing and NGL fractionation, storage, transportation and terminalling. Our NGL revenues are primarily derived from a combination of (i) providing gathering, fractionation, storage, and/or terminalling services to third-party customers for a fee, and (ii) extracting NGL mix supply from the gas stream processed at our Empress straddle plant facility as well as acquiring NGL mix supply, which mix supply is then transported, stored and fractionated into finished products and sold to customers.

Generally, our segment results are impacted by (i) increases or decreases in our NGL sales volumes, (ii) the overall strength, weakness and volatility of market conditions, including the differential between the price of natural gas and the extracted NGL, as well as location differentials and time spreads, and (iii) the effects of competition on our NGL margins. In addition, we utilize various risk management strategies to manage our commodity exposure.

Our NGL operations are sensitive to weather-related demand, particularly during the approximate five-month peak heating season of November through March, and temperature differences from period-to-period may have a significant effect on NGL demand and thus our financial performance as well as the impact of comparative performance between financial reporting periods that bisect the five-month peak heating season.

The following tables set forth our operating results from our NGL segment:

							Variance					
Operating Results (1)	Ye	ear En	ded December	31,		_	2021-	-2020		2020-2019		
(in millions, except per barrel data)	 2021		2020		2019	_	\$	%	_	\$	%	
Revenues	\$ 1,968	\$	1,360	\$	2,439	\$	608	45 %	\$	(1,079)	(44)%	
Purchases and related costs	(1,324)		(988)		(1,650)		(336)	(34)%		662	40 %	
Field operating costs	(241)		(200)		(239)		(41)	(21)%		39	16 %	
Segment general and administrative expenses (2)	(71)		(66)		(81)		(5)	(8)%		15	19 %	
Adjustments ⁽³⁾ :												
(Gains)/losses from derivative activities and inventory valuation												
adjustments	(19)		221		(20)		(240)	**		241	**	
Long-term inventory costing adjustments	(27)		1		15		(28)	**		(14)	**	
Net (gain)/loss on foreign currency revaluation	(1)		(1)		3		—	**		(4)	**	
Segment Adjusted EBITDA	\$ 285	\$	327	\$	467	\$	(42)	(13)%	\$	(140)	(30)%	
	 	-				-						
Maintenance capital	\$ 68	\$	45	\$	39	\$	23	51 %	\$	6	15 %	
	 					• —			_			

					Variar	ice	
	Year	Ended December 31,		2021-202	20	2020-201	9
Average Volumes (in thousands of barrels per day) ⁽⁴⁾	2021	2020	2019	Volumes	%	Volumes	%
NGL fractionation	129	129	144	—	%	(15)	(10)%
NGL pipeline tariff	179	184	192	(5)	(3)%	(8)	(4)%
NGL sales	141	144	207	(3)	(2)%	(63)	(30)%

.. .

** Indicates that variance as a percentage is not meaningful.

⁽¹⁾ Revenues and costs and expenses include intersegment amounts.

(2) Segment general and administrative expenses reflect direct costs attributable to each segment and an allocation of other expenses to the segments. The proportional allocations by segment require judgment by management and are based on the business activities that exist during each period.

(3) Represents adjustments included in the performance measure utilized by our CODM in the evaluation of segment results. See Note 20 to our Consolidated Financial Statements for additional discussion of such adjustments.

(4) Average daily volumes calculated as the total volumes (attributable to our interest for pipelines and facilities in which we have undivided joint interests) for the year divided by the number of days in the year.

Segment Adjusted EBITDA

NGL Segment Adjusted EBITDA decreased for the year ended December 31, 2021 compared to the year ended December 31, 2020 primarily due to (i) higher power costs and (ii) lower wage subsidies received by our Canadian subsidiary in the 2021 period, partially offset by (iii) the favorable impact of higher realized fractionation spreads between the price of natural gas and the extracted NGL ("frac spreads").

NGL Segment Adjusted EBITDA decreased for the year ended December 31, 2020 compared to the year ended December 31, 2019 primarily due to less favorable NGL sales margins as a result of (i) warmer weather during the fourth quarter of 2020, (ii) weaker frac spreads and (iii) lower NGL supply. Such unfavorable impacts were partially offset by the favorable impact of wage subsidies received by our Canadian subsidiary in the 2020 period.

The various components of Segment Adjusted EBITDA are discussed further below:

Net Revenues. The following is a discussion of the significant items impacting net revenues for the comparable 2021, 2020 and 2019 periods.

- Net revenues from our NGL activities, excluding the impact of derivative activities and inventory valuation and long-term inventory costing adjustments, increased slightly for the year ended December 31, 2021 compared to the year ended December 31, 2020 due to higher realized frac spreads, partially offset by the absence of the favorable impact of a deficiency payment in 2020 upon the expiration of a multi-year contract.
- Net revenues from our NGL activities decreased for the year ended December 31, 2020 compared to the year ended December 31, 2019, primarily due to (i) warmer weather during the fourth quarter of 2020, (ii) weaker frac spreads, (iii) less NGL supply as a result of lower border flows through our Empress straddle plants, (iv) the impact of the sale of certain NGL storage terminals in the fourth quarter of 2019 and the second quarter of 2020 and (v) the absence of the favorable impact from certain non-recurring items recorded in the second quarter of 2019, partially offset by (vi) the favorable impact of the receipt of a deficiency payment in 2020 upon the expiration of a multi-year contract.

Field Operating Costs. The increase in field operating costs for the year ended December 31, 2021 compared to December 31, 2020 was primarily due to (i) increased power costs related to increased ownership in our Empress straddle plants as well as higher power prices, (ii) higher compensation costs including lower wage subsidies received by our Canadian subsidiary, and (iii) costs associated with an operational incident at our Fort Saskatchewan facility that occurred in late September 2021.

The decrease in field operating costs for the year ended December 31, 2020 compared to December 31, 2019 was primarily due to (i) lower power costs as a result of favorable natural gas and electricity price movements, (ii) reductions in compensation costs, primarily due to the benefit of wage subsidies received by our Canadian subsidiary, (iii) the divestiture of certain NGL storage terminals, and (iv) lower integrity management and maintenance activities due to interval changes facilitated through risk-based data application. Such favorable impacts were partially offset by lower mark-to-market gains in the 2020 period on fuel hedges (which impacts field operating costs but are excluded from Segment Adjusted EBITDA and thus are reflected as an "Adjustment" in the table above).

Segment General and Administrative Expenses. See the "---Consolidated Results" section above for a discussion of general and administrative expenses.

Adjustments. The following is a discussion of adjustments included in the calculation of Segment Adjusted EBITDA, the performance measure utilized by our CODM in the evaluation of segment results.

- Impact from Certain Derivative Activities and Inventory Valuation Adjustments. The impact from certain derivative activities on our net revenues includes mark-to-market and other gains and losses resulting from certain derivative instruments that are related to underlying activities in another period (or the reversal of mark-to-market gains and losses from a prior period), gains and losses on derivatives that are related to investing activities (such as the purchase of linefill) and inventory valuation adjustments, as applicable. See Note 13 to our Consolidated Financial Statements for a comprehensive discussion regarding our derivatives and risk management activities. These gains and losses impact our net revenues but are excluded from Segment Adjusted EBITDA and thus are reflected as an "Adjustment" in the table above.
- Long-Term Inventory Costing Adjustments. Our net revenues are impacted by changes in the weighted average cost of our NGL inventory pools that result from price movements during
 the periods. These costing adjustments relate to long-term inventory necessary to meet our minimum inventory requirements in third-party assets and other working inventory that is
 needed for our commercial operations. We consider this inventory necessary to conduct our operations and we intend to carry this inventory for the foreseeable future. These costing
 adjustments impact our net revenues but are excluded from Segment Adjusted EBITDA and thus are reflected as an "Adjustment" in the table above.

Maintenance Capital. The increase in maintenance capital spending for the year ended December 31, 2021 compared to the year ended December 31, 2020 was primarily due to (i) repair costs at the Fort Saskatchewan facility, (ii) additional projects related to increased ownership in our Empress straddle plants and (iii) various maintenance capital projects at our Sarnia facility, identified through out of service inspections.

Liquidity and Capital Resources

General

Our primary sources of liquidity are (i) cash flow from operating activities and (ii) borrowings under our credit facilities or commercial paper program. In addition, we may supplement these primary sources of liquidity with proceeds from asset sales, and in the past have utilized funds received from sales of equity and debt securities. Our primary cash requirements include, but are not limited to, (i) ordinary course of business uses, such as the payment of amounts related to the purchase of crude oil, NGL and other products, other expenses and interest payments on outstanding debt, (ii) investment and maintenance capital activities, (iii) acquisitions of assets or businesses, (iv) repayment of principal on our long-term debt and (v) distributions to our unitholders. In addition, we may use cash for repurchases of common equity. We generally expect to fund our short-term cash requirements through cash flow generated from operating activities and/or borrowings under our commercial paper program or credit facilities. In addition, we generally expect to fund our long-term needs, such as those resulting from investment capital activities or acquisitions and refinancing our long-term debt, through a variety of sources (either separately or in combination), which may include the sources mentioned above as funding for short-term needs and/or the issuance of additional equity or debt securities and the sale of assets.

As of December 31, 2021, although we had a working capital deficit of \$95 million, we had over \$3 billion of liquidity available to meet our ongoing operating, investing and financing needs, subject to continued covenant compliance, as noted below (in millions):

	As of December 31, 2021
Availability under senior unsecured revolving credit facility ⁽¹⁾⁽²⁾	\$ 1,296
Availability under senior secured hedged inventory facility ^{(1) (2)}	1,306
Amounts outstanding under commercial paper program	
Subtotal	2,602
Cash and cash equivalents	449
Total	\$ 3,051

(1) Represents availability prior to giving effect to borrowings outstanding under our commercial paper program, which reduce available capacity under the facilities.

(2) Available capacity under our senior unsecured revolving credit facility and senior secured hedged inventory facility was reduced by outstanding letters of credit of \$54 million and \$44 million, respectively.

Usage of our credit facilities, which provide the financial backstop for our commercial paper program, is subject to ongoing compliance with covenants, as discussed further below. Our borrowing capacity and borrowing costs are also impacted by our credit rating. See Item 1A. "Risk Factors—Risks Related to Our Business—Loss of our investment grade credit rating or the ability to receive open credit could negatively affect our borrowing costs, ability to purchase crude oil, NGL and natural gas supplies or to capitalize on market opportunities."

We believe that we have, and will continue to have, the ability to access our commercial paper program and credit facilities, which we use to meet our short-term cash needs. We believe that our financial position remains strong and we have sufficient liquid assets, cash flow from operating activities and borrowing capacity under our credit agreements to meet our financial commitments, debt service obligations, contingencies and anticipated capital expenditures. We are, however, subject to business and operational risks that could adversely affect our cash flow, including extended disruptions in the financial markets and/or energy price volatility resulting from current macroeconomic and geopolitical conditions associated with the COVID-19 pandemic and/or actions by OPEC. A prolonged material decrease in our cash flows would likely produce an adverse effect on our borrowing capacity and cost of borrowing. See Item 1A. "Risk Factors" for further discussion regarding risks that may impact our liquidity and capital resources.

Credit Agreements, Commercial Paper Program and Indentures

We have three primary credit arrangements, which we use to meet our short-term cash needs. These include our \$1.35 billion senior unsecured revolving credit facility maturing in 2026, \$1.35 billion senior secured hedged inventory facility maturing in 2024 and \$2.7 billion unsecured commercial paper program that is backstopped by our revolving credit facility and our hedged inventory facility. The credit agreements for our revolving credit facilities (which impact our ability to access our commercial paper program because they provide the financial backstop that supports our short-term credit ratings) and the indentures governing our senior notes contain cross-default provisions. A default under our credit agreements or indentures would permit the lenders to accelerate the maturity of the outstanding debt. As long as we are in compliance with the provisions in our credit agreements, our ability to make distributions of available cash is not restricted. We were in compliance with the covenants contained in our credit agreements and indentures as of December 31, 2021.

Liquidity Measures

Management uses the non-GAAP financial measures Free Cash Flow and Free Cash Flow after Distributions to assess the amount of cash that is available for distributions, debt repayments, common equity repurchases and other general partnership purposes. Free Cash Flow is defined as Net cash provided by operating activities, less Net cash provided by/(used in) investing activities, which primarily includes acquisition, investment and maintenance capital expenditures, investments in unconsolidated entities and the impact from the purchase and sale of linefill, net of proceeds from the sales of assets and further impacted by distributions to, contributions from and proceeds from the sale of noncontrolling interests. Free Cash Flow is further reduced by cash distributions paid to our preferred and common unitholders to arrive at Free Cash Flow after Distributions.

The following table sets forth the reconciliation of the non-GAAP financial liquidity measures Free Cash Flow and Free Cash Flow after Distributions from Net Cash Provided by Operating Activities (in millions):

		Year E	Ended December 31,	
	 2021		2020	2019
Net cash provided by operating activities	\$ 1,996	\$	1,514	\$ 2,504
Adjustments to reconcile net cash provided by operating activities to free cash flow:				
Net cash provided by/(used in) investing activities	386		(1,093)	(1,765)
Cash contributions from noncontrolling interests	1		12	—
Cash distributions paid to noncontrolling interests ⁽¹⁾	(14)		(10)	(6)
Sale of noncontrolling interest in a subsidiary	—		—	128
Free Cash Flow	\$ 2,369	\$	423	\$ 861
Cash distributions ⁽²⁾	(715)		(853)	(1,202)
Free Cash Flow after Distributions	\$ 1,654	\$	(430)	\$ (341)

⁽¹⁾ Cash distributions paid during the period presented.

⁽²⁾ Cash distributions paid to our preferred and common unitholders during the period presented.

Cash Flow from Operating Activities

The primary drivers of cash flow from operating activities are (i) the collection of amounts related to the sale of crude oil, NGL and other products, the transportation of crude oil and other products for a fee, and the provision of storage and terminalling services for a fee and (ii) the payment of amounts related to the purchase of crude oil, NGL and other products and other expenses, principally field operating costs, general and administrative expenses and interest expense.

Cash flow from operating activities can be materially impacted by the storage of crude oil in periods of a contango market, when the price of crude oil for future deliveries is higher than current prices. In the month we pay for the stored crude oil, we borrow under our credit facilities or commercial paper program (or use cash on hand) to pay for the crude oil, which negatively impacts operating cash flow. Conversely, cash flow from operating activities increases during the period in which we collect the cash from the sale of the stored crude oil. Similarly, the level of NGL and other product inventory stored and held for resale at period end affects our cash flow from operating activities.



In periods when the market is not in contango, we typically sell our crude oil during the same month in which we purchase it and we do not rely on borrowings under our credit facilities or commercial paper program to pay for the crude oil. During such market conditions, our accounts payable and accounts receivable generally move in tandem as we make payments and receive payments for the purchase and sale of crude oil in the same month, which is the month following such activity. In periods during which we build inventory, regardless of market structure, we may rely on our credit facilities or commercial paper program to pay for the inventory. In addition, we use derivative instruments to manage the risks associated with the purchase and sale of our commodities. Therefore, our cash flow from operating activities may be impacted by the margin deposit requirements related to our derivative activities. See Note 13 to our Consolidated Financial Statements for a discussion regarding our derivatives and risk management activities.

Net cash provided by operating activities for the years ended December 31, 2021, 2020 and 2019 was approximately \$2.0 billion, \$1.5 billion and \$2.5 billion, respectively, and primarily resulted from earnings from our operations. Additionally, as discussed further below, changes during these periods in our inventory levels and associated margin balances required as part of our hedging activities impacted our cash flow from operating activities.

During 2021, we decreased the volume of both our crude oil inventory due to fewer storage opportunities in the contango market and our NGL inventory as well as the margin balances required as part of our hedging activities, all of which reduced required funding by short-term debt. The cash inflows associated with these activities were partially offset by higher prices for inventory purchased and stored at the end of the current period compared to the end of 2020.

During 2020, we increased the volume of both our crude oil inventory to be stored during the contango market and our NGL inventory in anticipation of the 2020-2021 heating season as well as the margin balances required as part of our hedging activities, all of which was funded by short-term debt. The cash outflows associated with these activities were partially offset by lower prices for inventory purchased and stored at the end of the current period compared to the end of 2019. Cash provided by operating activities was favorably impacted by cash received for transactions for which the revenue has been deferred pending the completion of future performance obligations. See Note 3 to our Consolidated Financial Statements for additional information.

During 2019, our cash provided by operating activities was positively impacted by the proceeds from the sale of NGL and crude oil inventory that we held and also by the lower weighted average price of NGL inventory compared to prior year amounts.

Investing Activities

Capital Expenditures

In addition to our operating needs, we also use cash for our investment capital projects, maintenance capital activities and acquisition activities. We fund these expenditures with cash generated by operating activities, financing activities and/or proceeds from asset sales. In the near term, we do not plan to issue common equity to fund such expenditures. The following table summarizes our investment, maintenance and acquisition capital expenditures (in millions):

			Year Ended December 31,	
	-	2021	2020	2019
Investment capital ^{(1) (2)}	\$	5 237	\$ 921	\$ 1,340
Maintenance capital ⁽¹⁾		168	216	287
Acquisition capital ⁽³⁾		32	310	50
	\$	5 437	\$ 1,447	\$ 1,677

(1) Capital expenditures made to expand the existing operating and/or earnings capacity of our assets are classified as "Investment capital." Capital expenditures for the replacement and/or refurbishment of partially or fully depreciated assets in order to maintain the operating and/or earnings capacity of our existing assets are classified as "Maintenance capital."

⁽²⁾ Includes contributions to unconsolidated entities, accounted for under the equity method of accounting, related to investment capital projects by such entities.

(3) Acquisition capital for 2021 represents the cash consideration paid as part of the Asset Exchange transaction. See Note 7 to our Consolidated Financial Statements for additional information. Acquisition capital for 2020 primarily includes consideration paid in connection with the acquisition of Felix Midstream LLC, a crude oil gathering system located in the Delaware Basin.

Investment Capital Projects

Our investment capital programs consist of investments in midstream infrastructure projects that build upon our core assets and operations. The majority of this investment capital consists of highly-contracted projects that complement our broader system capabilities and support the long-term needs of the upstream and downstream sectors of the industry value chain. The following table summarizes our investment in capital projects (in millions):

		Year Ended December 31,	
Projects	2021	2020	2019
Permian Basin Takeaway Pipeline Projects ⁽¹⁾	\$ 75	\$ 292	\$ 440
Complementary Permian Basin Projects ⁽²⁾	73	200	503
Long-Haul Pipeline Projects (Non-Permian)	12	195	98
Selected Facilities/Downstream Projects ⁽³⁾	41	115	93
Other Projects	36	119	206
Total	\$ 237	\$ 921	\$ 1,340

(1) Represents pipeline projects with takeaway capacity out of the Permian Basin, including (i) our 16% interest in Wink to Webster Pipeline and (ii) our 65% interest in the Cactus II Pipeline.

⁽²⁾ Includes projects associated with assets included in the Permian JV.

⁽³⁾ Includes projects at our St. James, Cushing and Fort Saskatchewan terminals.

Projected 2022 Capital Expenditures. Total investment capital for the year ending December 31, 2022 is projected to be approximately \$330 million (\$275 million net to our interest). Approximately half of our projected investment capital expenditures are expected to be invested in the Permian JV assets. Additionally, maintenance capital for 2022 is projected to be \$220 million (\$210 million net to our interest). We expect to fund our 2022 investment and maintenance capital expenditures primarily with retained cash flow.

Divestitures

Proceeds from the sale of assets have generally been used to fund our investment capital projects and reduce debt levels. The following table summarizes the proceeds received from divestitures during the last three years (in millions):

	Year Ended December 31,				
	2021		2020	20)19
Proceeds from divestitures ^{(1) (2)}	\$ 87		451	\$	205

⁽¹⁾ Represents proceeds, including working capital adjustments, net of transaction costs.

(2) Amounts for 2020 include proceeds from a multi-year supply agreement related to the sale of certain NGL terminals in April 2020. Amounts for 2019 include proceeds associated with the formation of Red River Pipeline Company LLC in May 2019. See Note 7 and Note 12 to our Consolidated Financial Statements for additional information.



Ongoing Activities Related to Strategic Transactions

We are continuously engaged in the evaluation of potential transactions that support our current business strategy. In the past, such transactions have included the sale of non-core assets, the sale of partial interests in assets to strategic joint venture partners, acquisitions and large investment capital projects. With respect to a potential divestiture or acquisition, we may conduct an auction process or participate in an auction process conducted by a third party or we may negotiate a transaction with one or a limited number of potential buyers (in the case of a divestiture) or sellers (in the case of an acquisition). Such transactions could have a material effect on our financial condition and results of operations.

We typically do not announce a transaction until after we have executed a definitive agreement. In certain cases, in order to protect our business interests or for other reasons, we may defer public announcement of a transaction until closing or a later date. Past experience has demonstrated that discussions and negotiations regarding a potential transaction can advance or terminate in a short period of time. Moreover, the closing of any transaction for which we have entered into a definitive agreement may be subject to customary and other closing conditions, which may not ultimately be satisfied or waived. Accordingly, we can give no assurance that our current or future efforts with respect to any such transactions will be successful, and we can provide no assurance that our financial expectations with respect to such transactions will ultimately be realized. See Item 1A. "Risk Factors—Risks Related to Our Business—Divestitures and acquisitions involve risks that may adversely affect our business."

Financing Activities

Our financing activities primarily relate to funding investment capital projects, acquisitions and refinancing of our debt maturities, as well as short-term working capital (including borrowings for NYMEX and ICE margin deposits) and hedged inventory borrowings related to our NGL business and contango market activities.

Borrowings and Repayments Under Credit Arrangements

During the year ended December 31, 2021, we had net repayments under our credit facilities and commercial paper program of \$712 million. The net repayments resulted primarily from cash flow from operating activities and proceeds from asset sales, which offset borrowings during the period related to funding needs for capital investments, inventory purchases and other general partnership purposes.

During the year ended December 31, 2020, we had net borrowings under our credit facilities and commercial paper program of \$296 million. The net borrowings resulted primarily from borrowings during the period related to funding needs for inventory purchases and general partnership purposes.

During the year ended December 31, 2019, we had net borrowings under our credit facilities and commercial paper program of \$418 million. The net borrowings resulted primarily from borrowings during the period related to funding needs for general partnership purposes.

In connection with the sale of our Pine Prairie and Southern Pines natural gas storage facilities in August 2021, we repaid our two GO Zone term loans totaling \$200 million. See Note 7 for additional information regarding the sale of our natural gas storage facilities.

Senior Notes

Issuances of Senior Notes. We did not issue any senior unsecured notes during 2021. During 2020 and 2019, we issued senior unsecured notes as summarized in the table below (in millions):

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Year	Description	Maturity	I	Face Value		Gross Proceeds ⁽¹⁾	Р	Net roceeds ⁽²⁾
2020	3.80% Senior Notes issued at 99.794% of face value	September 2030	\$	750	\$	748	\$	742 (3)
2019	3.55% Senior Notes issued at 99.801% of face value	December 2029	\$	1,000	\$	998	\$	989 (4)
			-	-,	-		+	

⁽¹⁾ Face value of notes less the applicable premium or discount (before deducting for initial purchaser discounts, commissions and offering expenses).



(2)

- ⁽²⁾ Face value of notes less the applicable premium or discount, initial purchaser discounts, commissions and offering expenses.
- ⁽³⁾ We used the net proceeds from the offering to repay the principal amounts of our 5.00% senior notes due February 2021.
- ⁽⁴⁾ We used the net proceeds from the offering to partially repay the principal amounts of our 2.60% senior notes due December 2019 and 5.75% senior notes due January 2020 and for general partnership purposes.

Repayments of Senior Notes. We did not repay any senior unsecured notes during 2021. During 2020 and 2019, we repaid the following senior unsecured notes in full (in millions):

Year	Description	Repayment Date
2020	\$600 million 5.00% Senior Notes due February 2021	November 2020 ⁽¹⁾
2019	\$500 million 2.60% Senior Notes due December 2019	November 2019 ⁽²⁾
2019	\$500 million 5.75% Senior Notes due January 2020	December 2019 ⁽²⁾

⁽¹⁾ We repaid these senior notes with proceeds from our 3.80% senior notes issued in June 2020 and cash on hand.

We repaid these senior notes with proceeds from our 3.55% senior notes issued in September 2019 and cash on hand.

Additionally, during the year ended December 31, 2020, we repurchased \$17 million of our outstanding senior notes on the open market and recognized a gain of \$3 million on these transactions.

In January 2022, we provided notice of our intention to redeem our 3.65% senior notes due June 2022 early, on March 1, 2022.

Registration Statements

We periodically access the capital markets for both equity and debt financing. We have filed with the SEC a universal shelf registration statement that, subject to effectiveness at the time of use, allows us to issue up to a specified amount of debt or equity securities ("Traditional Shelf"), under which we had approximately \$1.1 billion of unsold securities available at December 31, 2021. We also have access to a universal shelf registration statement ("WKSI Shelf"), which provides us with the ability to offer and sell an unlimited amount of debt and equity securities, subject to market conditions and our capital needs. The offerings of our \$750 million, 3.80% senior notes in June 2020 and \$1.0 billion, 3.55% senior notes in September 2019 were conducted under our WKSI Shelf.

Common Equity Repurchase Program

In November 2020, the board of directors of PAGP GP approved a \$500 million common equity repurchase program (the "Program") to be utilized as an additional method of returning capital to investors. The Program authorizes the repurchase from time to time of up to \$500 million of our common units and/or PAGP Class A shares via open market purchases or negotiated transactions conducted in accordance with applicable regulatory requirements. Ultimately, the amount, timing and pace of potential repurchase activity will be determined by a number of factors, including market conditions, our financial performance and flexibility, actual and expected Free Cash Flow after distributions, the absolute and relative equity prices of our common units and PAGP Class A shares, and the extent to which we are positioned to achieve and maintain our targeted leverage ratio. No time limit has been set for completion of the Program, and the Program may be suspended or discontinued at any time. The Program does not obligate us or PAGP to acquire a particular number of common units or PAGP Class A shares. Any common units or PAGP Class A shares that are repurchased will be canceled.

We repurchased 18.1 million and 6.2 million common units under the Program through open market purchases that settled during the years ended December 31, 2021 and 2020, respectively, for a total purchase price of \$178 million and \$50 million respectively, including commissions and fees. The remaining available capacity under the Program as of December 31, 2021 was \$272 million.



Distributions to Our Unitholders

In accordance with our partnership agreement, after making distributions to holders of our outstanding preferred units, we distribute the remainder of our available cash to our common unitholders of record within 45 days following the end of each quarter. Available cash is generally defined as all of our cash and cash equivalents on hand at the end of each quarter less reserves established in the discretion of our general partner for future requirements. Our levels of financial reserves are established by our general partner and include reserves for the proper conduct of our business (including future capital expenditures and anticipated credit needs), compliance with legal or contractual obligations and funding of future distributions to our Series A and Series B preferred unitholders. Our available cash also includes cash on hand resulting from borrowings made after the end of the quarter. See Item 5. "Market for Registrant's Common Units, Related Unitholder Matters and Issuer Purchases of Equity Securities—Cash Distribution Policy" for additional discussion regarding distributions.

Distributions to our Series A preferred unitholders. Holders of our Series A preferred units are entitled to receive quarterly distributions, subject to customary anti-dilution adjustments, of \$0.525 per unit (\$2.10 per unit annualized). Subject to certain limitations, following January 28, 2021, the holders of our Series A preferred units may make a one-time election to reset the distribution rate. See Note 12 to our Consolidated Financial Statements for additional information.

Distributions to our Series B preferred unitholders. Holders of our Series B preferred units are entitled to receive, when, as and if declared by our general partner out of legally available funds for such purpose, cumulative cash distributions, as applicable. Through and including November 15, 2022, holders are entitled to a distribution equal to \$61.25 per unit per year, payable semiannually in arrears on the 15th day of May and November. See Note 12 to our Consolidated Financial Statements for further discussion of our Series B preferred units, including distribution rates and payment dates after November 15, 2022.

Distributions to our common unitholders. On February 14, 2022, we paid a quarterly distribution of \$0.18 per common unit (\$0.72 per common unit on an annualized basis). The total distribution of \$127 million was paid to common unitholders of record as of January 31, 2022, with respect to the quarter ended December 31, 2021. See Note 12 to our Consolidated Financial Statements for details of distributions paid during the three years ended December 31, 2021.

Distributions to Noncontrolling Interests

Distributions to noncontrolling interests represent amounts paid on interests in consolidated entities that are not owned by us. As of December 31, 2021, noncontrolling interests in our subsidiaries consisted of (i) a 35% interest in the Permian JV and (ii) a 33% interest in Red River Pipeline LLC. See Note 12 to our Consolidated Financial Statements for details of distributions paid to noncontrolling interests in Red River Pipeline LLC during the three years ended December 31, 2021.

The initial distribution from the Permian JV of approximately \$155 million was paid during the first quarter of 2022, with 65% of the distribution paid to us and 35% to noncontrolling interests. Subsequent distributions will be allocated based on a modified sharing arrangement. See Note 7 to our Consolidated Financial Statements for additional information.

Contingencies

For a discussion of contingencies that may impact us, see Note 19 to our Consolidated Financial Statements.

Commitments

See Note 11 to our Consolidated Financial Statements for information regarding our debt obligations and Note 19 for information regarding our leases and other commitments.



Purchase Obligations

In the ordinary course of doing business, we purchase crude oil and NGL from third parties under contracts, the majority of which range in term from thirty-day evergreen to five years, with a limited number of contracts with remaining terms extending up to 14 years. We establish a margin for these purchases by entering into various types of physical and financial sale and exchange transactions through which we seek to maintain a position that is substantially balanced between purchases on the one hand and sales and future delivery obligations on the other. We do not expect to use a significant amount of internal capital to meet these obligations, as the obligations will be funded by corresponding sales to entities that we deem creditworthy or who have provided credit support we consider adequate.

The following table includes our best estimate and the timing of these payments as of December 31, 2021 (in millions):

	2022	2023	2024		2025	2026	2027 and Thereafter	Total
Crude oil, NGL and other purchases ⁽¹⁾	\$ 22,842	\$ 20,165	\$ \$ 19,215		16,022	\$ 15,215	\$ 47,079	\$ 140,538

(1) Amounts are primarily based on estimated volumes and market prices based on average activity during December 2021. The actual physical volume purchased and actual settlement prices will vary from the assumptions used in the table. Uncertainties involved in these estimates include levels of production at the wellhead, weather conditions, changes in market prices and other conditions beyond our control.

Letters of Credit. In connection with our merchant activities, we provide certain suppliers with irrevocable standby letters of credit to secure our obligation for the purchase and transportation of crude oil, NGL and natural gas. Our liabilities with respect to these purchase obligations are recorded in accounts payable on our balance sheet in the month the product is purchased. Generally, these letters of credit are issued for periods of up to seventy days and are terminated upon completion of each transaction. Additionally, we issue letters of credit to support insurance programs, derivative transactions, including hedging-related margin obligations, and construction activities. At December 31, 2021 and 2020, we had outstanding letters of credit of approximately \$98 million and \$129 million, respectively.

Off-Balance Sheet Arrangements

We have no off-balance sheet arrangements as defined by Item 303 of Regulation S-K.

Investments in Unconsolidated Entities

We have invested in entities that are not consolidated in our financial statements. Certain of these entities are borrowers under credit facilities. We are neither a co-borrower nor a guarantor under these credit facilities. We may elect at any time to make additional capital contributions to any of these entities. The following table sets forth selected information regarding these entities as of December 31, 2021 (unaudited, dollars in millions):

Entity	Type of Operation	Our Ownership Interest	Total Entity Assets	Total Cash and Restricted Cash	Total Entity Debt
BridgeTex Pipeline Company, LLC	Crude Oil Pipeline	20%	\$ 832	\$ 31	\$ —
Cactus II Pipeline LLC	Crude Oil Pipeline ⁽¹⁾	65%	\$ 1,129	\$ 45	\$ —
Capline Pipeline Company LLC	Crude Oil Pipeline	54%	\$ 1,238	\$ 9	\$
Diamond Pipeline LLC	Crude Oil Pipeline (1)	50%	\$ 915	\$ 11	\$ —
Eagle Ford Pipeline LLC	Crude Oil Pipeline (1)	50%	\$ 789	\$ 33	\$
Eagle Ford Terminals Corpus Christi LLC	Crude Oil Terminal and Dock ⁽¹⁾	50%	\$ 217	\$ 5	\$ —
OMOG JV LLC	Crude Oil Pipeline (1)	40%	\$ 344	\$ 10	\$ 5
Saddlehorn Pipeline Company, LLC	Crude Oil Pipeline	30%	\$ 639	\$ 31	\$ —
White Cliffs Pipeline, LLC	Crude Oil Pipeline	36%	\$ 463	\$ 10	\$ —
Wink to Webster Pipeline LLC	Crude Oil Pipeline	16%	\$ 2,058	\$ 9	\$ _
Other investments			\$ 764	\$ 39	\$ 2

⁽¹⁾ We serve as operator of the asset.

Critical Accounting Policies and Estimates

The preparation of financial statements in conformity with GAAP and rules and regulations of the SEC requires us to make estimates and assumptions that affect the reported amounts of assets and liabilities, as well as the disclosure of contingent assets and liabilities, at the date of the financial statements. Such estimates and assumptions also affect the reported amounts of revenues and expenses during the reporting period. Although we believe these estimates are reasonable, actual results could differ from these estimates. On a regular basis, we evaluate our assumptions, judgments and estimates. We also discuss our critical accounting policies and estimates with the Audit Committee of the Board of Directors.

We believe that the assumptions, judgments and estimates involved in the accounting for our (i) estimated fair value of assets and liabilities acquired and identification of associated goodwill and intangible assets, (ii) fair value of derivatives, (iii) accruals and contingent liabilities, (iv) property and equipment, depreciation and amortization expense and asset retirement obligations, (v) impairment assessments of property and equipment, investments in unconsolidated entities and intangible assets and (vi) inventory valuations have the greatest potential impact on our Consolidated Financial Statements. These areas are key components of our results of operations and are based on complex rules which require us to make judgments and estimates. Therefore, we consider these to be our critical accounting policies and estimates, which are discussed further as follows. For further information on all of our significant accounting policies, see Note 2 to our Consolidated Financial Statements.

Fair Value of Assets and Liabilities Acquired and Identification of Associated Goodwill and Intangible Assets. In accordance with Financial Accounting Standards Board ("FASB") guidance regarding business combinations, with each acquisition, we allocate the cost of the acquired entity to the assets acquired and liabilities assumed based on their estimated fair values at the date of acquisition. If the initial accounting for the business combination is incomplete when the combination occurs, an estimate will be recorded. We also expense the transaction costs as incurred in connection with each acquisition, except for acquisitions of equity method investments. In addition, we are required to recognize intangible assets separately from goodwill.

Determining the fair value of assets and liabilities acquired, as well as intangible assets that relate to such items as customer relationships, acreage dedications and other contracts, involves professional judgment and is ultimately based on acquisition models and management's assessment of the value of the assets acquired and, to the extent available, third-party assessments.



In October 2021, we and Oryx Midstream completed the formation of the Permian JV. See Note 7 to our Consolidated Financial Statements for discussion of the methods, assumptions and estimates used in the determination of the fair value of the assets and liabilities acquired and identification of associated intangible assets.

Fair Value of Derivatives. The fair value of a derivative at a particular period end does not reflect the end results of a particular transaction, and will most likely not reflect the gain or loss at the conclusion of a transaction. We reflect estimates for these items based on our internal records and information from third parties. We have commodity derivatives, interest rate derivatives and foreign currency derivatives that are accounted for as assets and liabilities at fair value on our Consolidated Balance Sheets. The valuations of our derivatives that are exchange traded are based on market prices on the applicable exchange on the last day of the period. For our derivatives that are not exchange traded, the estimates we use are based on indicative broker quotations or an internal valuation model. Our valuation models utilize market observable inputs such as price, volatility, correlation and other factors and may not be reflective of the price at which they can be settled due to the lack of a liquid market. Less than 1% of total annual revenues are based on estimates derived from internal valuation models.

We also have embedded derivatives that are recorded at fair value on our Consolidated Balance Sheets. These embedded derivatives are valued using models that contain inputs, some of which involve management judgment.

Although the resolution of the uncertainties involved in these estimates has not historically had a material impact on our results of operations or financial condition, we cannot provide assurance that actual amounts will not vary significantly from estimated amounts. See Item 7A. Quantitative and Qualitative Disclosures About Market Risk and Note 13 to our Consolidated Financial Statements for a discussion regarding our derivatives and risk management activities.

Accruals and Contingent Liabilities. We record accruals or liabilities for, among other things, environmental remediation, potential legal claims or settlements and fees for legal services associated with loss contingencies, and bonuses. Accruals are made when our assessment indicates that it is probable that a liability has occurred and the amount of liability can be reasonably estimated. Our estimates are based on all known facts at the time and our assessment of the ultimate outcome. Among the many uncertainties that impact our estimates are the necessary regulatory approvals for, and potential modification of, our environmental remediation plans, the limited amount of data available upon initial assessment of the impact of soil or water contamination, changes in costs associated with environmental remediation services and equipment, the duration of the natural resource damage assessment and the ultimate amount of damages determined, the determination and calculation of fines and penalties, the possibility of existing legal claims giving rise to additional claims and the nature, extent and cost of legal services that will be required in connection with lawsuits, claims and other matters. Our estimates for contingent liability accruals are increased or decreased as additional information is obtained or resolution is achieved. A hypothetical variance of 5% in our aggregate estimate for the accruals and contingent liabilities discussed above would have an impact on earnings of up to approximately \$21 million. Although the resolution of these uncertainties has not historically had a material impact on our results of operations or financial condition, we cannot provide assurance that actual amounts will not vary significantly from estimated amounts.

Property and Equipment, Depreciation and Amortization Expense and Asset Retirement Obligations. We compute depreciation and amortization using the straight-line method based on estimated useful lives. These estimates are based on various factors including condition, manufacturing specifications, technological advances and historical data concerning useful lives of similar assets. Uncertainties that impact these estimates include changes in laws and regulations relating to restoration and abandonment requirements, economic conditions and supply and demand in the area. When assets are put into service, we make estimates with respect to useful lives and salvage values that we believe are reasonable. However, subsequent events could cause us to change our estimates, thus impacting the future calculation of depreciation and amortization.

We record retirement obligations associated with tangible long-lived assets based on estimates related to the costs associated with cleaning, purging and, in some cases, completely removing the assets and returning the land to its original state. In addition, our estimates include a determination of the settlement date or dates for the potential obligation, which may or may not be determinable. Uncertainties that impact these estimates include the costs associated with these activities and the timing of incurring such costs.

See Note 6 and Note 10 to our Consolidated Financial Statements for additional information on our property and equipment and depreciation and amortization expense. See Note 2 to our Consolidated Financial Statements for additional information on our asset retirement obligations.

Impairment Assessments of Property and Equipment, Investments in Unconsolidated Entities and Intangible Assets. We periodically evaluate property and equipment for impairment when events or circumstances indicate that the carrying value of these assets may not be recoverable. Any evaluation is highly dependent on the underlying assumptions of related cash flows. We consider the fair value estimate used to calculate impairment of property and equipment a critical accounting estimate. In determining the existence of an impairment of carrying value, we make a number of subjective assumptions as to:

- whether there is an event or circumstance that may be indicative of an impairment;
- the grouping of assets;
- the intention of "holding", "abandoning" or "selling" an asset;
- the forecast of undiscounted expected future cash flow over the asset's estimated useful life; and
- if an impairment exists, the fair value of the asset or asset group.

In addition, when we evaluate property and equipment and other long-lived assets for recoverability, it may also be necessary to review related depreciation estimates and methods.

Investments in unconsolidated entities accounted for under the equity method of accounting are assessed for impairment when events or circumstances suggest that a decline in value may be other than temporary. Examples of such events or circumstances include continuing operating losses of the entity and/or long-term negative changes in the entity's core business. When it is determined that an indicated impairment is other than temporary, a charge is recognized for the difference between the investment's carrying amount and its estimated fair value. We consider the fair value estimate used to calculate the impairment of investments in unconsolidated entities a critical accounting estimate. In determining the existence of an other-than-temporary impairment of carrying value, we make a number of subjective assumptions as to:

- whether there is an event or circumstance that may be indicative of a decline in value of the investment;
- whether the decline in value is other than temporary; and
- the fair value of the investment.

Intangible assets with indefinite lives are not amortized but are instead periodically assessed for impairment. Intangible assets with finite lives are amortized over their estimated useful life as determined by management. Impairment testing entails estimating future net cash flows relating to the business, based on management's estimate of future revenues, future cash flows and market conditions including pricing, demand, competition, operating costs and other factors. Uncertainties associated with these estimates include changes in production decline rates, production interruptions, fluctuations in refinery capacity or product slates, economic obsolescence factors in the area and potential future sources of cash flow. In addition, changes in our weighted average cost of capital from our estimates could have a significant impact on fair value. We cannot provide assurance that actual amounts will not vary significantly from estimated amounts. Resolutions of these uncertainties have resulted, and in the future may result, in impairments that impact our results of operations and financial condition.

A change in our outlook or use could result in impairments that may be material to our results of operations or financial condition. See "—Executive Summary— Market Overview and Outlook" and Note 6, Note 9 and Note 10 to our Consolidated Financial Statements for additional information.

Inventory Valuations. Inventory, including long-term inventory, primarily consists of crude oil and NGL and is valued at the lower of cost or net realizable value, with cost determined using an average cost method within specific inventory pools. At the end of each reporting period, we assess the carrying value of our inventory and use estimates and judgment when making any adjustments necessary to reduce the carrying value to net realizable value. Among the uncertainties that impact our estimates are the applicable quality and location differentials to include in our net realizable value analysis. Additionally, we estimate the upcoming liquidation timing of the inventory. Changes in assumptions made as to the timing of a sale can materially impact net realizable value. During the years ended December 31, 2020 and 2019, we recorded charges of \$233 million and \$11 million, respectively, related to the valuation adjustment of our crude oil inventory due to declines in prices. See Note 5 to our Consolidated Financial Statements for further discussion regarding inventory.

Recent Accounting Pronouncements

See Note 2 to our Consolidated Financial Statements for information regarding the effect of recent accounting pronouncements on our Consolidated Financial Statements.



Item 7A. Quantitative and Qualitative Disclosures About Market Risk

We are exposed to various market risks, including (i) commodity price risk, (ii) interest rate risk and (iii) currency exchange rate risk. We use various derivative instruments to manage such risks and, in certain circumstances, to realize incremental margin during volatile market conditions. Our risk management policies and procedures are designed to help ensure that our hedging activities address our risks by monitoring our exchange-cleared and over-the-counter positions, as well as physical volumes, grades, locations, delivery schedules and storage capacity. We have a risk management function that has direct responsibility and authority for our risk policies, related controls around commercial activities and certain aspects of corporate risk management. Our risk management function also approves all new risk management strategies through a formal process. The following discussion addresses each category of risk.

Commodity Price Risk

We use derivative instruments to hedge price risk associated with the following commodities:

<u>Crude oil</u>

We utilize crude oil derivatives to hedge commodity price risk inherent in our pipeline and merchant activities. Our objectives for these derivatives include hedging anticipated purchases and sales, stored inventory and basis differentials. We manage these exposures with various instruments including futures, forwards, swaps and options.

<u>Natural gas</u>

We utilize natural gas derivatives to hedge commodity price risk inherent in our merchant activities. Our objectives for these derivatives include hedging anticipated purchases of natural gas. We manage these exposures with various instruments including futures, swaps and options.

<u>NGL and other</u>

We utilize NGL derivatives, primarily propane and butane derivatives, to hedge commodity price risk inherent in our merchant activities. Our objectives for these derivatives include hedging anticipated purchases and sales and stored inventory. We manage these exposures with various instruments including futures, forwards, swaps and options.

See Note 13 to our Consolidated Financial Statements for further discussion regarding our hedging strategies and objectives.

The fair value of our commodity derivatives and the change in fair value as of December 31, 2021 that would be expected from a 10% price increase or decrease is shown in the table below (in millions):

	Fair Value	Effect of 10% Price Increase	Effect of 10% Price Decrease
Crude oil	\$ (15)	\$ (41)	\$ 41
Natural gas	18	\$ 19	\$ (19)
NGL and other	(146)	\$ (78)	\$ 78
Total fair value	\$ (143)		

The fair values presented in the table above reflect the sensitivity of the derivative instruments only and do not include the effect of the underlying hedged commodity. Price-risk sensitivities were calculated by assuming an across-the-board 10% increase or decrease in price regardless of term or historical relationships between the contractual price of the instruments and the underlying commodity price. In the event of an actual 10% change in near-term commodity prices, the fair value of our derivative portfolio would typically change less than that shown in the table as changes in near-term prices are not typically mirrored in delivery months further out.

Interest Rate Risk

Our use of variable rate debt and any forecasted issuances of fixed rate debt expose us to interest rate risk. Therefore, from time to time, we use interest rate derivatives to hedge interest rate risk associated with anticipated interest payments and, in certain cases, outstanding debt instruments. All of our senior notes are fixed rate notes and thus are not subject to interest rate risk. We did not have any variable rate debt outstanding at December 31, 2021. The average interest rate on variable rate debt that was outstanding during the year ended December 31, 2021 was 0.8%, based upon rates in effect during the year. The fair value of our interest rate derivatives was an asset of \$65 million as of December 31, 2021. A 10% increase in the forward LIBOR curve as of December 31, 2021 would have resulted in an increase of \$16 million to the fair value of our interest rate derivatives. A 10% decrease in the forward LIBOR curve as of December 31, 2021 would have resulted in a decrease of \$16 million to the fair value of our interest rate derivatives. See Note 13 to our Consolidated Financial Statements for a discussion of our interest rate risk hedging activities.

Preferred Distribution Rate Reset Option

The Preferred Distribution Rate Reset Option of our Series A preferred units is an embedded derivative that must be bifurcated from the related host contract, our partnership agreement, and recorded at fair value in our Consolidated Balance Sheets. The valuation model utilized for this embedded derivative contains inputs including our common unit price, ten-year United States treasury rates, default probabilities and timing estimates to ultimately calculate the fair value of our Series A preferred units with and without the Preferred Distribution Rate Reset Option. The fair value of this embedded derivative was less than \$1 million as of December 31, 2021. A 10% increase or decrease in the fair value would have an impact of less than \$1 million. See Note 13 to our Consolidated Financial Statements for a discussion of embedded derivatives.

Item 8. Financial Statements and Supplementary Data

See "Index to the Consolidated Financial Statements" on page F-1.

Item 9. Changes In and Disagreements With Accountants on Accounting and Financial Disclosure

None.

Item 9A. Controls and Procedures

Disclosure Controls and Procedures

We maintain written disclosure controls and procedures, which we refer to as our "DCP." Our DCP is designed to ensure that information required to be disclosed by us in reports that we file under the Securities Exchange Act of 1934 (the "Exchange Act") is (i) recorded, processed, summarized and reported within the time periods specified in the SEC's rules and forms, and (ii) accumulated and communicated to management, including our Chief Executive Officer and Chief Financial Officer, to allow for timely decisions regarding required disclosure.

Applicable SEC rules require an evaluation of the effectiveness of our DCP. Management, under the supervision and with the participation of our Chief Executive Officer and Chief Financial Officer, has evaluated the effectiveness of our DCP as of December 31, 2021, the end of the period covered by this report, and, based on such evaluation, our Chief Executive Officer and Chief Financial Officer have concluded that our DCP is effective.

Internal Control over Financial Reporting

Management is responsible for establishing and maintaining adequate internal control over financial reporting. "Internal control over financial reporting" is a process designed by, or under the supervision of, our Chief Executive Officer and our Chief Financial Officer, and effected by our Board of Directors, management and other personnel, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with GAAP. Our management, including our Chief Executive Officer and our Chief Financial Officer, has evaluated the effectiveness of our internal control over financial reporting as of December 31, 2021. See "Management's Report on Internal Control Over Financial Reporting" on page F-2 of our Consolidated Financial Statements.

Our independent registered public accounting firm, PricewaterhouseCoopers LLP, assessed the effectiveness of our internal control over financial reporting, as stated in the firm's report. See "Report of Independent Registered Public Accounting Firm" on page F-3 of our Consolidated Financial Statements.

Changes in Internal Control over Financial Reporting

There have been no changes in our internal control over financial reporting during the fourth quarter of 2021 that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

Certifications

The certifications of our Chief Executive Officer and Chief Financial Officer pursuant to Exchange Act Rules 13a-14(a) and 15d-14(a) are filed with this report as Exhibits 31.1 and 31.2. The certifications of our Chief Executive Officer and Chief Financial Officer pursuant to 18 U.S.C. 1350 are furnished with this report as Exhibits 32.1 and 32.2.

Item 9B. Other Information

There was no information that was required to be disclosed in a report on Form 8-K during the fourth quarter of 2021 that has not previously been reported.

PART III

Item 10. Directors and Executive Officers of Our General Partner and Corporate Governance

The information required by this item will be set forth in the Proxy Statement for our 2022 Annual Meeting, which will be filed with the SEC within 120 days after the end of the fiscal year ended December 31, 2021, and is incorporated herein by reference thereto.

Directors and Executive Officers

As of the date of filing this report, the following individuals were serving as our executive officers and/or directors:

Name	Principal Occupation or Employment
Willie Chiang ⁽¹⁾⁽²⁾	Chairman of the Board and Chief Executive Officer
Harry N. Pefanis ⁽¹⁾⁽²⁾	President
Chris R. Chandler (1)	Executive Vice President and Chief Operating Officer
Al Swanson (1)	Executive Vice President and Chief Financial Officer
Jeremy L. Goebel ⁽¹⁾	Executive Vice President and Chief Commercial Officer
Richard K. McGee ⁽¹⁾	Executive Vice President, General Counsel and Secretary
Chris Herbold ⁽¹⁾	Senior Vice President, Finance and Chief Accounting Officer
Greg L. Armstrong (2)	Senior Advisor to the Chief Executive Officer (former Chairman and Chief Executive Officer)
Victor Burk ⁽²⁾	Managing Director, Alvarez and Marsal
Kevin McCarthy ⁽²⁾	Vice Chairman, Kayne Anderson Capital Advisors, L.P.
Gary R. Petersen (2)	Managing Partner, EnCap Investments L.P.
Alexandra D. Pruner ⁽²⁾	Senior Advisor, Perella Weinberg Partners
John T. Raymond (2)	Managing Partner and Chief Executive Officer, The Energy & Minerals Group
Bobby S. Shackouls (2)	Former Chairman and CEO, Burlington Resources Inc.
Christopher M. Temple ⁽²⁾	President, DelTex Capital LLC
Lawrence M. Ziemba ⁽²⁾	Former Executive Vice President, Refining, Phillips 66

Executive officer (for purposes of Item 401(b) of Regulation S-K)
 Director

A complete list of our officers, including the executive officers listed above, is available on our website at www.plains.com under About Us—Leadership.

Item 11. Executive Compensation

The information required by this item will be set forth in the Proxy Statement for our 2022 Annual Meeting, which will be filed with the SEC within 120 days after the end of the fiscal year ended December 31, 2021, and is incorporated herein by reference thereto.

Item 12. Security Ownership of Certain Beneficial Owners and Management and Related Unitholder Matters

The information required by this item will be set forth in the Proxy Statement for our 2022 Annual Meeting, which will be filed with the SEC within 120 days after the end of the fiscal year ended December 31, 2021, and is incorporated herein by reference thereto.



Item 13. Certain Relationships and Related Transactions, and Director Independence

The information required by this item will be set forth in the Proxy Statement for our 2022 Annual Meeting, which will be filed with the SEC within 120 days after the end of the fiscal year ended December 31, 2021, and is incorporated herein by reference thereto.

Item 14. Principal Accountant Fees and Services

The information required by this item will be set forth in the Proxy Statement for our 2022 Annual Meeting, which will be filed with the SEC within 120 days after the end of the fiscal year ended December 31, 2021, and is incorporated herein by reference thereto.

Item 15. Exhibits and Financial Statement Schedules

(a) (1) Financial Statements

See "Index to the Consolidated Financial Statements" set forth on Page F-1.

(2) Financial Statement Schedules

All schedules are omitted because they are either not applicable or the required information is shown in the Consolidated Financial Statements or notes thereto.

(3) Exhibits

Exhibit No.		Description
2.1*	_	Simplification Agreement dated as of July 11, 2016, by and among PAA GP Holdings LLC, Plains GP Holdings, L.P., Plains All American GP LLC, Plains AAP, L.P., PAA GP LLC and Plains All American Pipeline, L.P. (incorporated by reference to Exhibit 2.1 to our Current Report on Form 8-K filed July 14, 2016).
2.2*		Agreement and Plan of Merger dated as of July 12, 2021 by and among Plains Pipeline, L.P., Plains Marketing, L.P., Oryx Midstream Holdings LLC, Middle Cadence Holdings LLC, POP HoldCo LLC, Oryx Wink Oil Marketing LLC, Oryx Permian Oil Marketing LLC, Plains Oryx Permian Basin LLC, Plains Oryx Permian Basin Marketing LLC and Plains Oryx Permian Basin Pipeline LLC (incorporated by reference to Exhibit 2.1 to our Current Report on Form 8-K filed July 13, 2021).
3.1	—	Seventh Amended and Restated Agreement of Limited Partnership of Plains All American Pipeline, L.P. dated as of October 10, 2017 (incorporated by reference to Exhibit 3.1 to our Current Report on Form 8-K filed October 12, 2017).
3.2	—	Third Amended and Restated Agreement of Limited Partnership of Plains Marketing, L.P. dated as of April 1, 2004 (incorporated by reference to Exhibit 3.2 to our Quarterly Report on Form 10-Q for the quarter ended March 31, 2004).
3.3	—	Amendment No. 1 dated December 31, 2010 to the Third Amended and Restated Agreement of Limited Partnership of Plains Marketing, L.P. (incorporated by reference to Exhibit 3.9 to our Annual Report on Form 10-K for the year ended December 31, 2010).
3.4	—	Amendment No. 2 dated January 1, 2011 to the Third Amended and Restated Agreement of Limited Partnership of Plains Marketing, L.P. (incorporated by reference to Exhibit 3.10 to our Annual Report on Form 10-K for the year ended December 31, 2010).
3.5	—	Amendment No. 3 dated June 30, 2011 to the Third Amended and Restated Agreement of Limited Partnership of Plains Marketing, L.P. (incorporated by reference to Exhibit 3.7 to our Annual Report on Form 10-K for the year ended December 31, 2013).
3.6	_	Amendment No. 4 dated January 1, 2013 to the Third Amended and Restated Agreement of Limited Partnership of Plains Marketing, L.P. (incorporated by reference to Exhibit 3.8 to our Annual Report on Form 10-K for the year ended December 31, 2013).
3.7	—	Amendment No. 5 dated December 1, 2019 to the Third Amended and Restated Agreement of Limited Partnership of Plains Marketing, L.P. (incorporated by reference to Exhibit 3.7 to our Annual Report on Form 10-K for the year ended December 31, 2019.)
3.8	—	Third Amended and Restated Agreement of Limited Partnership of Plains Pipeline, L.P. dated as of April 1, 2004 (incorporated by reference to Exhibit 3.3 to our Quarterly Report on Form 10-Q for the quarter ended March 31, 2004).
3.9	—	Amendment No. 1 dated January 1, 2013 to the Third Amended and Restated Agreement of Limited Partnership of Plains Pipeline, L.P. (incorporated by reference to Exhibit 3.10 to our Annual Report on Form 10-K for the year ended December 31, 2013).

3.10	—	Seventh Amended and Restated Limited Liability Company Agreement of Plains All American GP LLC dated November 15, 2016 (incorporated by reference to Exhibit 3.3 to our Current Report on Form 8-K filed November 21, 2016).
3.11	—	Eighth Amended and Restated Limited Partnership Agreement of Plains AAP, L.P. dated November 15, 2016 (incorporated by reference to Exhibit 3.4 to our Current Report on Form 8-K filed November 21, 2016).
3.12	—	Amendment No. 1 dated September 26, 2018 to the Eighth Amended and Restated Limited Partnership Agreement of Plains AAP, L.P. (incorporated by reference to Exhibit 3.1 to our Current Report on Form 8-K filed October 2, 2018).
3.13	—	Amendment No. 2 dated May 23, 2019 to the Eighth Amended and Restated Limited Partnership Agreement of Plains AAP, L.P. (incorporated by reference to Exhibit 3.1 to our Current Report on Form 8-K filed May 30, 2019).
3.14	—	Certificate of Incorporation of PAA Finance Corp. (<i>ftk/a</i> Pacific Energy Finance Corporation, successor-by-merger to PAA Finance Corp.) (incorporated by reference to Exhibit 3.10 to our Annual Report on Form 10-K for the year ended December 31, 2006).
3.15	—	Bylaws of PAA Finance Corp. (f/k/a Pacific Energy Finance Corporation, successor-by-merger to PAA Finance Corp.) (incorporated by reference to Exhibit 3.11 to our Annual Report on Form 10-K for the year ended December 31, 2006).
3.16	—	Limited Liability Company Agreement of PAA GP LLC dated December 28, 2007 (incorporated by reference to Exhibit 3.3 to our Current Report on Form 8-K filed January 4, 2008).
3.17	—	Certificate of Limited Partnership of Plains GP Holdings, L.P. (incorporated by reference to Exhibit 3.1 to PAGP's Registration Statement on Form S-1 (333-190227) filed July 29, 2013).
3.18	_	Second Amended and Restated Agreement of Limited Partnership of Plains GP Holdings, L.P. dated as of November 15, 2016 (incorporated by reference to Exhibit 3.2 to PAGP's Current Report on Form 8-K filed November 21, 2016).
3.19	_	Amendment No. 1 dated April 6, 2020 to the Second Amended and Restated Agreement of Limited Partnership of Plains GP Holdings, L.P. (incorporated by reference to Exhibit 3.1 to PAGP's Current Report on Form 8-K filed April 9, 2020).
3.20	_	Certificate of Formation of PAA GP Holdings LLC (incorporated by reference to Exhibit 3.3 to PAGP's Registration Statement on Form S-1 (333-190227) filed July 29, 2013).
3.21 †	_	Fourth Amended and Restated Limited Liability Company Agreement of PAA GP Holdings LLC dated effective as of August 19, 2021.
4.1	—	Indenture dated September 25, 2002 among Plains All American Pipeline, L.P., PAA Finance Corp. and Wachovia Bank, National Association, as trustee (incorporated by reference to Exhibit 4.1 to our Quarterly Report on Form 10-Q for the quarter ended September 30, 2002).
4.2	—	Sixth Supplemental Indenture (Series A and Series B 6.70% Senior Notes due 2036) dated May 12, 2006 among Plains All American Pipeline, L.P., PAA Finance Corp., the Subsidiary Guarantors named therein and Wachovia Bank, National Association, as trustee (incorporated by reference to Exhibit 4.1 to our Current Report on Form 8-K filed May 12, 2006).
4.3	—	Tenth Supplemental Indenture (Series A and Series B 6.650% Senior Notes due 2037) dated October 30, 2006 among Plains All American Pipeline, L.P., PAA Finance Corp., the Subsidiary Guarantors named therein and U.S. Bank National Association, as trustee (incorporated by reference to Exhibit 4.2 to our Current Report on Form 8-K filed October 30, 2006).
4.4	—	Twentieth Supplemental Indenture (3.65% Senior Notes due 2022) dated March 22, 2012 among Plains All American Pipeline, L.P., PAA Finance Corp. and U.S. Bank National Association, as trustee (incorporated by reference to Exhibit 4.1 to our Current Report on Form 8-K filed March 26, 2012).
4.5	—	Twenty-First Supplemental Indenture (5.15% Senior Notes due 2042) dated March 22, 2012 among Plains All American Pipeline, L.P., PAA Finance Corp. and U.S. Bank National Association, as trustee (incorporated by reference to Exhibit 4.3 to our Current Report on Form 8-K filed March 26, 2012).

4.6	—	Twenty-Second Supplemental Indenture (2.85% Senior Notes due 2023) dated December 10, 2012, by and among Plains All American Pipeline, L.P., PAA Finance Corp. and U.S. Bank National Association, as trustee (incorporated by reference to Exhibit 4.1 to our Current Report on Form 8-K filed December 12, 2012).
4.7	—	Twenty-Third Supplemental Indenture (4.30% Senior Notes due 2043) dated December 10, 2012, by and among Plains All American Pipeline, L.P., PAA Finance Corp. and U.S. Bank National Association, as trustee (incorporated by reference to Exhibit 4.3 to our Current Report on Form 8-K filed December 12, 2012).
4.8	—	Twenty-Fourth Supplemental Indenture (3.85% Senior Notes due 2023) dated August 15, 2013, by and among Plains All American Pipeline, L.P., PAA Finance Corp. and U.S. Bank National Association, as trustee (incorporated by reference to Exhibit 4.1 to our Current Report on Form 8-K filed August 15, 2013).
4.9	—	Twenty-Fifth Supplemental Indenture (4.70% Senior Notes due 2044) dated April 23, 2014, by and among Plains All American Pipeline, L.P., PAA Finance Corp. and U.S. Bank National Association, as trustee (incorporated by reference to Exhibit 4.1 to our Current Report on Form 8-K filed April 29, 2014).
4.10	—	Twenty-Sixth Supplemental Indenture (3.60% Senior Notes due 2024) dated September 9, 2014. by and among Plains All American Pipeline, L.P., PAA Finance Corp. and U.S. Bank National Association, as trustee (incorporated by reference to Exhibit 4.1 to our Current Report on Form 8-K filed September 11, 2014).
4.11	—	Twenty-Eighth Supplemental Indenture (4.90% Senior Notes due 2045) dated December 9, 2014, by and among Plains All American Pipeline, L.P., PAA Finance Corp. and U.S. Bank National Association, as trustee (incorporated by reference to Exhibit 4.3 to our Current Report on Form 8-K filed December 11, 2014).
4.12	—	Twenty-Ninth Supplemental Indenture (4.65% Senior Notes due 2025) dated August 24, 2015, by and among Plains All American Pipeline, L.P., PAA Finance Corp. and U.S. Bank National Association, as trustee (incorporated by reference to Exhibit 4.1 to our Current Report on Form 8-K filed August 26, 2015).
4.13	—	Thirtieth Supplemental Indenture (4.50% Senior Notes due 2026) dated November 22, 2016, by and among Plains All American Pipeline, L.P. PAA Finance Corp. and U.S. Bank National Association, as trustee (incorporated by reference to Exhibit 4.1 to our Current Report on Form 8-K filed November 29, 2016).
4.14	—	Thirty-First Supplemental Indenture (3,55% Senior Notes due 2029) dated September 16, 2019, by and among Plains All American Pipeline, L.P., PAA Finance Corp. and U.S. Bank National Association, as trustee (incorporated by reference to Exhibit 4.1 to our Current Report on Form 8-K filed September 17, 2019).
4.15	—	Thirty-Second Supplemental Indenture (3.80% Senior Notes due 2030) dated June 11, 2020, by and among Plains All American Pipeline, L.P., PAA Finance Corp. and U.S. Bank National Association, as trustee (incorporated by reference to Exhibit 4.1 to our Current Report on Form 8-K filed June 11, 2020).
4.16	—	Registration Rights Agreement dated September 3, 2009 by and between Plains All American Pipeline, L.P. and Vulcan Gas Storage LLC (incorporated by reference to Exhibit 4.1 to our Registration Statement on Form S-3, File No. 333-162477).
4.17	—	Registration Rights Agreement dated as of January 28, 2016 among Plains All American Pipeline, L.P. and the Purchasers named therein (incorporated by reference to Exhibit 4.1 to our Current Report on Form 8-K filed February 2, 2016).
4.18	—	Registration Rights Agreement by and among Plains All American Pipeline, L.P. and the Holders defined therein, dated November 15, 2016 (incorporated by reference to Exhibit 10.4 to our Current Report on Form 8-K filed November 21, 2016).
4.19 †	_	Description of Our Securities.
10.1	_	Credit Agreement dated as of August 20, 2021, among Plains All American Pipeline, L.P. and Plains Midstream Canada ULC, as Borrowers; certain subsidiaries of Plains All American Pipeline, L.P. from time to time party thereto, as Designated Borrowers; Bank of America, N.A., as Administrative Agent and Swing Line Lender; Bank of America, N.A., Citibank, N.A., JPMorgan Chase Bank, N.A. and Wells Fargo Bank, National Association, as L/C Issuers; and the other Lenders party thereto (incorporated by reference to Exhibit 10.1 to our Current Report on Form 8-K filed August 26, 2021).

10.2	—	Fourth Amended and Restated Credit Agreement dated as of August 20, 2021, among Plains Marketing, L.P. and Plains Midstream Canada ULC, as Borrowers; Plains All American Pipeline, L.P., as guarantor; Bank of America, N.A., as Administrative Agent and Swing Line Lender; Bank of America, N.A., Citibank, N.A., JPMorgan Chase Bank, N.A. and Wells Fargo Bank, National Association, as L/C Issuers; and the other Lenders party thereto (incorporated by reference to Exhibit 10.2 to our Current Report on Form 8-K filed August 26, 2021).
10.3	—	Contribution and Assumption Agreement dated December 28, 2007, by and between Plains AAP, L.P. and PAA GP LLC (incorporated by reference to Exhibit 10.2 to our Current Report on Form 8-K filed January 4, 2008).
10.4	—	Omnibus Agreement by and among PAA GP Holdings LLC, Plains GP Holdings, L.P., Plains All American GP LLC, Plains AAP, L.P., PAA GP LLC, and Plains All American Pipeline, L.P., dated November 15, 2016 (incorporated by reference to Exhibit 10.1 to our Current Report on Form 8-K filed November 21, 2016).
10.5	—	Amended and Restated Administrative Agreement by and among PAA GP Holdings LLC, Plains GP Holdings, L.P., Plains All American GP LLC, Plains AAP, L.P., PAA GP LLC, and Plains All American Pipeline, L.P., dated November 15, 2016 (incorporated by reference to Exhibit 10.2 to our Current Report on Form 8-K filed November 21, 2016).
10.6**	—	Amended and Restated Employment Agreement between Plains All American GP LLC and Greg L. Armstrong dated as of June 30, 2001 (incorporated by reference to Exhibit 10.1 to our Quarterly Report on Form 10-Q for the quarter ended September 30, 2001).
10.7**	—	First Amendment to Amended and Restated Employment Agreement dated December 4, 2008 between Plains All American GP LLC and Greg L. Armstrong (incorporated by reference to Exhibit 10.49 to our Annual Report on Form 10-K for the year ended December 31, 2008).
10.8**	—	Waiver Agreement dated as of December 23, 2010 between Plains All American GP LLC and Greg L. Armstrong (incorporated by reference to Exhibit 10.31 to our Annual Report on Form 10-K for the year ended December 31, 2010).
10.9**	—	Waiver Agreement dated October 21, 2013 to the Amended and Restated Employment Agreement dated June 30, 2001 of Greg L. Armstrong (incorporated by reference to Exhibit 10.2 to our Current Report on Form 8-K filed October 25, 2013).
10.10**	—	Second Amended and Restated Employment Agreement dated effective October 1, 2018 between Plains All American GP LLC and Greg L. Armstrong (incorporated by reference to Exhibit 10.6 to our Quarterly Report on Form 10-Q for the quarter ended September 30, 2018).
10.11**	—	Third Amended and Restated Employment Agreement dated effective January 1, 2020 between Plains All American GP LLC and Greg L. Armstrong (incorporated by reference to Exhibit 10.31 to our Annual Report on Form 10-K for the year ended December 31, 2019.
10.12**†	—	Amendment No. 1 to Third Amended and Restated Employment Agreement dated effective December 31, 2021 between Plains All American GP LLC and Greg L. Armstrong.
10.13**	—	Amended and Restated Employment Agreement between Plains All American GP LLC and Harry N. Pefanis dated as of June 30, 2001 (incorporated by reference to Exhibit 10.2 to our Quarterly Report on Form 10-Q for the quarter ended September 30, 2001).
10.14**	—	First Amendment to Amended and Restated Employment Agreement dated December 4, 2008 between Plains All American GP LLC and Harry N. Pefanis (incorporated by reference to Exhibit 10.50 to our Annual Report on Form 10-K for the year ended December 31, 2008).
10.15**	—	Amendment No. 2 dated August 15, 2019 to Harry Pefanis Amended and Restated Employment Agreement (incorporated by reference to Exhibit 10.1 to our Quarterly Report on Form 10-Q for the quarter ended September 30, 2019).
10.16**	—	Waiver Agreement dated as of December 23, 2010 between Plains All American GP LLC and Harry N. Pefanis (incorporated by reference to Exhibit 10.32 to our Annual Report on Form 10-K for the year ended December 31, 2010).

<u>Table of Contents</u> <u>Index to Financial Statements</u>

10.17**	—	Waiver Agreement dated October 21, 2013 to the Amended and Restated Employment Agreement dated June 30, 2001 of Harry N. Pefanis (incorporated by reference to Exhibit 10.3 to our Current Report on Form 8-K filed October 25, 2013).
10.18**	—	Employment Agreement between Plains All American GP LLC and Willie Chiang dated July 10, 2015 (incorporated by reference to Exhibit 10.53 to our Annual Report on Form 10-K for the year ended December 31, 2015).
10.19**	—	Amended and Restated Employment Agreement dated effective October 1, 2018 between Plains All American GP LLC and Willie Chiang (incorporated by reference to Exhibit 10.7 to our Quarterly Report on Form 10-Q for the guarter ended September 30, 2018).
10.20**	—	First Amendment to Plains AAP, L.P. Class B Restricted Units Agreement dated August 25, 2016 (Willie Chiang) (incorporated by reference to Exhibit 10.8 to our Quarterly Report on Form 10-Q for the quarter ended September 30, 2016).
10.21**	—	Second Amendment dated March 22, 2018 to Plains AAP, L.P. Class B Restricted Units Agreement (Willie Chiang) (incorporated by reference to Exhibit 10.1 to our Quarterly Report on Form 10-Q for the quarter ended March 31, 2018).
10.22**	—	LTIP Grant Letter dated August 16, 2018 (Willie Chiang) incorporated by reference to Exhibit 10.8 to our Quarterly Report on Form 10-Q for the quarter ended September 30, 2018).
10.23**	—	Plains All American 2021 Long-Term Incentive Plan (incorporated by reference to Exhibit A to our Definitive Proxy Statement filed on April 12, 2021).
10.24**	_	Plains All American 2013 Long-Term Incentive Plan (incorporated by reference to Exhibit A to our Definitive Proxy Statement filed on October 3, 2013).
10.25**	—	Plains All American PNG Successor Long-Term Incentive Plan (incorporated by reference to Exhibit 4.4 to our Registration Statement on Form S-8 (333-193139) filed December 31, 2013).
10.26**	_	PAA Natural Gas Storage, L.P. 2010 Long-Term Incentive Plan (incorporated by reference to Exhibit 10.2 to PNG's Current Report on Form 8-K filed May 11, 2010).
10.27**	_	Plains GP Holdings, L.P. Long Term Incentive Plan, (incorporated by reference to Exhibit 10.3 to PAGP's Current Report on Form 8-K filed October 25, 2013).
10.28**	_	Form of Plains AAP, L.P. Class B Restricted Units Agreement (incorporated by reference to Exhibit 10.1 to our Current Report on Form 8-K filed January 4, 2008).
10.29**	—	Form of Amendment to the Plains AAP, L.P. Class B Restricted Units Agreement, dated October 18, 2013 (incorporated by reference to Exhibit 10.4 to our Current Report on Form 8-K filed October 25, 2013).
10.30**	—	Form of Amendment to Plains AAP, L.P. Class B Restricted Units Agreement dated August 25, 2016 (incorporated by reference to Exhibit 10.6 to our Quarterly Report on Form 10-Q for the quarter ended September 30, 2016 filed November 8, 2016).
10.31**	—	Form of First Amendment dated March 22, 2018 to Amended and Restated Plains AAP, L.P. Class B Restricted Units Agreement dated August 25, 2016 (Officers) (incorporated by reference to Exhibit 10.2 to our Quarterly Report on Form 10-Q for the quarter ended March 31, 2018).
10.32**	—	Form of Director LTIP Grant Letter (August 2018) (incorporated by reference to Exhibit 10.66 to our Annual Report on Form 10-K for the year ended December 31, 2018).
10.33**	_	Director LTIP Grant Letter (December 2018) (incorporated by reference to Exhibit 10.67 to our Annual Report on Form 10-K for the year ended December 31, 2018).
10.34**	—	Form of LTIP Grant Letter dated August 15, 2019 (Officers) (incorporated by reference to Exhibit 10.2 to our Quarterly Report on Form 10-Q for the quarter ended September 30, 2019).
10.35**	—	Form of LTIP. Grant Letter dated August 15, 2019 (Directors) (incorporated by reference to exhibit 10.3 to our Quarterly Report on Form 10-Q for the quarter ended September 30, 2019).
10.36**	_	Director LTIP Grant Letter (January 2020) (incorporated by reference to Exhibit 10.72 to our Annual Report on Form 10-K for the year ended December 31, 2019).

109

<u>Table of Contents</u> <u>Index to Financial Statements</u>

10.37**	—	Form of LTIP Grant Letter dated August 13, 2020 (Officers) (incorporated by reference to Exhibit 10.1 to our Quarterly Report on Form 10-Q for the quarter ended September 30, 2020).
10.38**	—	Form of LTIP Grant Letter dated August 13, 2020 (Directors) (incorporated by reference to Exhibit 10.1 to our Quarterly Report on Form 10-Q for the quarter ended September 30, 2020).
10.39**	—	Form of Special Retention LTIP Grant Letter dated November 20, 2019 (incorporated by reference to Exhibit 10.53 to our Annual Report on Form 10-K for the year ended December 31, 2020).
10.40**	—	Form of LTIP Grant Letter dated December 21, 2017 (Goebel) (incorporated by reference to Exhibit 10.54 to our Annual Report on Form 10-K for the year ended December 31, 2020).
10.41**	—	Form of LTIP Grant Letter dated May 1, 2018 (Chandler) (incorporated by reference to Exhibit 10.56 to our Annual Report on Form 10-K for the year ended December 31, 2020).
10.42**	—	Form of LTIP Grant Letter dated August 19, 2021 (Named Executive Officers) (incorporated by reference to Exhibit 10.3 to our Quarterly Report on Form 10-Q for the guarter ended September 30, 2021).
10.43**	—	Form of LTIP Grant Letter dated August 19, 2021 (Directors) (incorporated by reference to Exhibit 10.4 to our Quarterly Report on Form 10-Q for the quarter ended September 30, 2021).
21.1 †	_	List of Subsidiaries of Plains All American Pipeline, L.P.
23.1 †	_	Consent of PricewaterhouseCoopers LLP.
31.1 †	—	Certification of Principal Executive Officer pursuant to Exchange Act Rules 13a-14(a) and 15d-14(a).
31.2 †	_	Certification of Principal Financial Officer pursuant to Exchange Act Rules 13a-14(a) and 15d-14(a).
32.1 ††	—	Certification of Principal Executive Officer pursuant to 18 U.S.C. 1350.
32.2 ††	_	Certification of Principal Financial Officer pursuant to 18 U.S.C. 1350.
101. INS†	—	XBRL Instance Document - the instance document does not appear in the Interactive Data File because its XBRL tags are embedded within the Inline XBRL document.
101.SCH†	_	Inline XBRL Taxonomy Extension Schema Document
101.CAL†	_	Inline XBRL Taxonomy Extension Calculation Linkbase Document
101.DEF†	_	Inline XBRL Taxonomy Extension Definition Linkbase Document
101.LAB†	_	Inline XBRL Taxonomy Extension Label Linkbase Document
101.PRE†	_	Inline XBRL Taxonomy Extension Presentation Linkbase Document
104†	—	Cover Page Interactive Data File (formatted as Inline XBRL and contained in Exhibit 101)

+ Filed herewith.

++ Furnished herewith.

* Certain schedules have been omitted pursuant to Item 601(b)(2) of Regulation S-K. A copy of any omitted schedule will be furnished supplementally to the SEC upon request.

** Management compensatory plan or arrangement.

Item 16. Form 10-K Summary

None.

SIGNATURES

Pursuant to the requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized.

	PLAI	NS ALL AMERICAN PIPELINE, L.P.
	By:	PAA GP LLC, its general partner
	By:	Plains AAP, L.P., its sole member
	By:	PLAINS ALL AMERICAN GP LLC, its general partner
	By:	/s/ Willie Chiang Willie Chiang, Chief Executive Officer of Plains All American GP LLC (Principal Executive Officer)
February 28, 2022		
	By:	/s/ Al Swanson Al Swanson, Executive Vice President and Chief Financial Officer of Plains All American GP LLC (Principal Financial Officer)
February 28, 2022		
	By:	/s/ Chris Herbold Chris Herbold, Senior Vice President, Finance and Chief Accounting Officer of Plains All American GP LLC (Principal Accounting Officer)
February 28, 2022		
	111	

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

Name	Title	Date
/s/ Willie Chiang	Chairman of the Board of PAA GP Holdings LLC and Chief Executive Officer of Plains All American GP LLC	February 28, 2022
Willie Chiang	(Principal Executive Officer)	
/s/ Harry N. Pefanis	Director of PAA GP Holdings LLC and President of Plains All American GP LLC	February 28, 2022
Harry N. Pefanis		
/s/ Al Swanson Al Swanson	Executive Vice President and Chief Financial Officer of Plains All American GP LLC (Principal Financial Officer)	February 28, 2022
/s/ Chris Herbold	Senior Vice President, Finance and Chief Accounting Officer of Plains All American GP LLC (Principal	February 28, 2022
Chris Herbold	Accounting Officer)	
/s/ Greg L. Armstrong Greg L. Armstrong	Director of PAA GP Holdings LLC	February 28, 2022
/s/ Victor Burk Victor Burk	Director of PAA GP Holdings LLC	February 28, 2022
/s/ Kevin McCarthy Kevin McCarthy	Director of PAA GP Holdings LLC	February 28, 2022
/s/ Gary R. Petersen	Director of PAA GP Holdings LLC	February 28, 2022
Gary R. Petersen /s/ Alexandra D. Pruner Alexandra D. Pruner	Director of PAA GP Holdings LLC	February 28, 2022
/s/ John T. Raymond John T. Raymond	Director of PAA GP Holdings LLC	February 28, 2022
/s/ Bobby S. Shackouls Bobby S. Shackouls	Director of PAA GP Holdings LLC	February 28, 2022
/s/ Christopher M. Temple Christopher M. Temple	Director of PAA GP Holdings LLC	February 28, 2022
/s/ Lawrence M. Ziemba Lawrence M. Ziemba	Director of PAA GP Holdings LLC	February 28, 2022

112

Table of Contents Index to Financial Statements

PLAINS ALL AMERICAN PIPELINE, L.P. AND SUBSIDIARIES INDEX TO THE CONSOLIDATED FINANCIAL STATEMENTS

Consolidated Financial Statements Management's Report on Internal Control Over Financial Reporting Report of Independent Registered Public Accounting Firm (PCAOB ID: 238) Consolidated Balance Sheets as of December 31, 2021 and 2020 Consolidated Statements of Operations for the years ended December 31, 2021, 2020 and 2019 Consolidated Statements of Comprehensive Income/(Loss) for the years ended December 31, 2021, 2020 and 2019 Consolidated Statements of Changes in Accumulated Other Comprehensive Income/(Loss) for the years ended December 31, 2021, 2020 and 2019 Consolidated Statements of Cash Flows for the years ended December 31, 2021, 2020 and 2019 Consolidated Statements of Changes in Partners' Capital for the years ended December 31, 2021, 2020 and 2019 Notes to the Consolidated Financial Statements: 1. Organization and Basis of Consolidation and Presentation 2. Summary of Significant Accounting Policies 3. Revenues and Accounts Receivable 4. Net Income/(Loss) Per Common Unit 5. Inventory, Linefill and Base Gas and Long-term Inventory 6. Property and Equipment 7. Acquisitions, Divestitures and Other Transactions 8. Goodwill 9. Investments in Unconsolidated Entities 10. Intangible Assets, Net <u>11. Debt</u> 12. Partners' Capital and Distributions 13. Derivatives and Risk Management Activities 14. Leases 15. Income Taxes 16. Major Customers and Concentration of Credit Risk 17. Related Party Transactions 18. Equity-Indexed Compensation Plans 19. Commitments and Contingencies 20. Segment Information

F-62

Page

MANAGEMENT'S REPORT ON INTERNAL CONTROL OVER FINANCIAL REPORTING

Plains All American Pipeline, L.P.'s management is responsible for establishing and maintaining adequate internal control over financial reporting. Our internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles.

Internal control over financial reporting has inherent limitations. Internal control over financial reporting is a process that involves human diligence and compliance and is subject to lapses in judgment and breakdowns resulting from human failures. Internal control over financial reporting also can be circumvented by collusion or improper management override. Because of such limitations, there is a risk that material misstatements may not be prevented or detected on a timely basis by internal control over financial reporting. However, these inherent limitations are known features of the financial reporting process. Therefore, it is possible to design into the process safeguards to reduce, though not eliminate, this risk.

Management has used the framework set forth in the report entitled "Internal Control—Integrated Framework" (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission ("COSO") to evaluate the effectiveness of the Partnership's internal control over financial reporting. Based on that evaluation, management has concluded that the Partnership's internal control over financial reporting. Based on that evaluation, management has concluded that the Partnership's internal control over financial reporting.

The effectiveness of the Partnership's internal control over financial reporting as of December 31, 2021 has been audited by PricewaterhouseCoopers LLP, an independent registered public accounting firm, as stated in their report which appears on Page F-3.

/s/ Willie Chiang

Willie Chiang Chief Executive Officer of Plains All American GP LLC (Principal Executive Officer)

/s/ Al Swanson Al Swanson

Executive Vice President and Chief Financial Officer of Plains All American GP LLC (Principal Financial Officer)

February 28, 2022

Report of Independent Registered Public Accounting Firm

To the Board of Directors of PAA GP Holdings LLC and Unitholders of Plains All American Pipeline, L.P.

Opinions on the Financial Statements and Internal Control over Financial Reporting

We have audited the accompanying consolidated balance sheets of Plains All American Pipeline, L.P. and its subsidiaries (the "Partnership") as of December 31, 2021 and 2020, and the related consolidated statements of operations, of comprehensive income (loss), of changes in accumulated other comprehensive income/(loss), of changes in partners' capital and of cash flows for each of the three years in the period ended December 31, 2021, including the related notes (collectively referred to as the "consolidated financial statements"). We also have audited the Partnership's internal control over financial reporting as of December 31, 2021, based on criteria established in *Internal Control - Integrated Framework* (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO).

In our opinion, the consolidated financial statements referred to above present fairly, in all material respects, the financial position of the Partnership as of December 31, 2021 and 2020, and the results of its operations and its cash flows for each of the three years in the period ended December 31, 2021 in conformity with accounting principles generally accepted in the United States of America. Also in our opinion, the Partnership maintained, in all material respects, effective internal control over financial reporting as of December 31, 2021, based on criteria established in *Internal Control - Integrated Framework* (2013) issued by the COSO.

Basis for Opinions

The Partnership's management is responsible for these consolidated financial statements, for maintaining effective internal control over financial reporting, and for its assessment of the effectiveness of internal control over financial reporting, included in the accompanying Management's Report on Internal Control over Financial Reporting. Our responsibility is to express opinions on the Partnership's consolidated financial statements and on the Partnership's internal control over financial reporting based on our audits. We are a public accounting firm registered with the Public Company Accounting Oversight Board (United States) (PCAOB) and are required to be independent with respect to the Partnership in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audits in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audits to obtain reasonable assurance about whether the consolidated financial statements are free of material misstatement, whether due to error or fraud, and whether effective internal control over financial reporting was maintained in all material respects.

Our audits of the consolidated financial statements included performing procedures to assess the risks of material misstatement of the consolidated financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the consolidated financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the consolidated financial statements. Our audits of internal control over financial reporting, assessing the risk that a material weakness exists, and testing and evaluating the design and operating effectiveness of internal control based on the assessed risk. Our audits also included performing such other procedures as we considered necessary in the circumstances. We believe that our audits provide a reasonable basis for our opinions.

Definition and Limitations of Internal Control over Financial Reporting

A company's internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles. A company's internal control over financial reporting includes those policies and procedures that (i) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (ii) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures of the company are being made only in accordance with authorizations of management and directors of the company; and (iii) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of the company's assets that could have a material effect on the financial statements.

Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

Critical Audit Matters

The critical audit matter communicated below is a matter arising from the current period audit of the consolidated financial statements that was communicated or required to be communicated to the audit committee and that (i) relates to accounts or disclosures that are material to the consolidated financial statements and (ii) involved our especially challenging, subjective, or complex judgments. The communication of critical audit matters does not alter in any way our opinion on the consolidated financial statements, taken as a whole, and we are not, by communicating the critical audit matter below, providing a separate opinion on the critical audit matter or on the accounts or disclosures to which it relates.

Accounting for the Oryx Midstream Holdings LLC Business Combination

As described in Note 7 to the consolidated financial statements, in October 2021, the Partnership and Oryx Midstream Holdings LLC ("Oryx Midstream"), completed the merger, in a cashless, debtfree transaction, of their respective Permian Basin assets, operations and commercial activities into a newly formed strategic joint venture, Plains Oryx Permian Basin LLC (the "Permian JV"). The Permian JV includes all of Oryx Midstream's Permian Basin assets and, with the exception of the Partnership's long-haul pipeline systems and certain of the intra-basin terminal assets, the vast majority of the Partnership's assets located within the Permian Basin. The Partnership owns 65% of Permian JV, operates the combined assets and reflects Permian JV as a consolidated subsidiary in the consolidated financial statements. The formation of the joint venture was accounted for as a business combination using the acquisition method of accounting. As the majority owner and the controlling entity, the Partnership is considered the acquirer and the transfer of the predecessor business to the joint venture was accounted for at historical cost, while the Oryx Midstream predecessor business was recorded based on the fair value of the assets acquired and liabilities assumed. In accordance with applicable accounting guidance, the fair value of Oryx Midstream's ownership interest in the joint venture following the formation of \$3.256 billion is utilized as the consideration transferred for the purchase price allocation. The fair value of the S3.256 billion consideration is a Level 3 measurement in the fair value hierarchy and was determined by valuing both the enterprise value of Oryx Midstream's Permian Basin business was calculated by weighting the results of (i) a discounted cash flow ("DCF") approach and (ii) a guideline public company method ("GPCM"). The DCF approach utilized a discount rate based on the estimate of the risk that a theoretical market participant would assign to the business. The projection of future crude volumes gat

The principal considerations for our determination that performing procedures relating to the accounting for the Oryx Midstream business combination is a critical audit matter are (i) the significant judgment by management when determining the fair value of the consideration transferred for the Oryx Midstream Permian Basin business and the customer relationships, which in turn led to a high degree of auditor judgment, subjectivity, and effort in performing procedures and evaluating management's significant assumptions related to future crude volumes gathered and transported and the discount rates used in the valuation of the consideration transferred for the Oryx Midstream Permian Basin business and the customer relationships; and (ii) the audit effort involved the use of professionals with specialized skill and knowledge.



Addressing the matter involved performing procedures and evaluating audit evidence in connection with forming our overall opinion on the consolidated financial statements. These procedures included testing the effectiveness of controls relating to acquisition accounting, including controls over management's valuation of the consideration transferred and the customer relationships, and controls over the determination of the significant assumptions. These procedures also included, among others (i) reading the transaction agreement and (ii) testing management's process for determining the fair value of the consideration transferred for the Oryx Midstream Permian Basin business and the customer relationships. Testing management's process included evaluating the appropriateness of the valuation methods, testing the completeness and accuracy of data provided by management, and evaluating the reasonableness of the significant assumptions related to future crude volumes gathered and transported and the discount rates used in the valuation of the consideration transferred for the Oryx Midstream Permian Basin business of the future crude volumes gathered and transported and the discount rates used in the valuation of the consideration transferred for the Oryx Midstream Permian Basin business of the future crude volumes gathered and transported involved considering (i) the consistency with external market and industry data and (ii) the past performance of the Oryx Midstream Permian Basin business. Professionals with specialized skill and knowledge were used to assist in evaluating the appropriateness of the valuation methods and the reasonableness of the discount rate significant assumption.

/s/ PricewaterhouseCoopers LLP

Houston, Texas February 28, 2022 We have served as the Partnership's auditor since 1998.

PLAINS ALL AMERICAN PIPELINE, L.P. AND SUBSIDIARIES CONSOLIDATED BALANCE SHEETS (in millions, except unit data)

	December 31, 2021	December 31, 2020
ASSETS		
CURRENT ASSETS		
Cash and cash equivalents	\$ 44	9 \$ 22
Restricted cash		4 38
Trade accounts receivable and other receivables, net	4,70	5 2,553
Inventory	78	3 647
Other current assets	19	6 405
Total current assets	6,13	7 3,665
PROPERTY AND EQUIPMENT	19,25	7 18,585
Accumulated depreciation	(4,35	4) (3,974)
Property and equipment, net	14,90	3 14,611
OTHER ASSETS		
Investments in unconsolidated entities	3,80	5 3,764
Intangible assets, net	1,96	0 805
Linefill and base gas	90	7 982
Long-term operating lease right-of-use assets, net	39	3 378
Long-term inventory	25	3 130
Other long-term assets, net	25	1 162
Total assets	\$ 28,60	9 \$ 24,497
LIABILITIES AND PARTNERS' CAPITAL		
CURRENT LIABILITIES		
Trade accounts payable	\$ 4,81	0 \$ 2,437
Short-term debt	82	2 831
Other current liabilities	60	0 985
Total current liabilities	6,23	2 4,253
LONG-TERM LIABILITIES		
Senior notes, net	8,32	9 9,071
Other long-term debt, net	6	9 311
Long-term operating lease liabilities	33	9 317
Other long-term liabilities and deferred credits	83	0 807
Total long-term liabilities	9,56	7 10,506
COMMITMENTS AND CONTINGENCIES (NOTE 19)		
PARTNERS' CAPITAL		
Series A preferred unitholders (71,090,468 and 71,090,468 units outstanding, respectively)	1,50	5 1,505
Series B preferred unitholders (800,000 and 800,000 units outstanding, respectively)	78	7 787
Common unitholders (704,991,540 and 722,380,416 units outstanding, respectively)	7,68	0 7,301
Total partners' capital excluding noncontrolling interests	9,97	2 9,593
Noncontrolling interests	2,83	8 145
Total partners' capital	12,81	9,738
Total liabilities and partners' capital	\$ 28,60	9 \$ 24,497

The accompanying notes are an integral part of these consolidated financial statements.

PLAINS ALL AMERICAN PIPELINE, L.P. AND SUBSIDIARIES CONSOLIDATED STATEMENTS OF OPERATIONS (in millions, except per unit data)

		Year Ended December 31,			
	2021		2020	_	2019
REVENUES					
Product sales revenues	· · · · · · · · · · · · · · · · · · ·	83 \$	22,058	\$	32,272
Services revenues	1,1		1,232		1,397
Total revenues	42,0	78	23,290		33,669
COSTS AND EXPENSES					
Purchases and related costs	38,5	04	20,431		29,452
Field operating costs	1,0	65	1,076		1,303
General and administrative expenses	2	92	271		297
Depreciation and amortization	5	74	653		601
(Gains)/losses on asset sales and asset impairments, net (Note 6, Note 7)	5	92	719		28
Goodwill impairment losses (Note 8)		_	2,515		_
Total costs and expenses	41,2	27	25,665		31,681
OPERATING INCOME/(LOSS)	8	51	(2,375)		1,988
OTHER INCOME/(EXPENSE)					
Equity earnings in unconsolidated entities	2	74	355		388
Gain on/(impairment of) investments in unconsolidated entities, net (Note 9)		2	(182)		271
Interest expense (net of capitalized interest of \$18, \$24 and \$34, respectively)	(4	25)	(436)		(425)
Other income, net		19	39		24
INCOME/(LOSS) BEFORE TAX	5	21	(2,599)		2,246
Current income tax expense		50)	(51)		(112)
Deferred income tax (expense)/benefit		23)	70		46
NET INCOME/(LOSS)	6	48	(2,580)		2,180
Net income attributable to noncontrolling interests		55)	(10)		(9)
NET INCOME/(LOSS) ATTRIBUTABLE TO PAA		93 \$	(2,590)	\$	2,171
NET INCOME/(LOSS) PER COMMON UNIT (NOTE 4):					
Net income/(loss) allocated to common unitholders — Basic	\$ 3	93 \$	(2,790)	\$	1,967
Basic weighted average common units outstanding	•	16	728	Ŷ	727
Basic net income/(loss) per common unit		55 <u>\$</u>	(3.83)	\$	2.70
			(2.500)	<u></u>	2.110
Net income/(loss) allocated to common unitholders — Diluted		93 \$	(2,790)	\$	2,119
Diluted weighted average common units outstanding		16	728		800
Diluted net income/(loss) per common unit	\$ 0	55 \$	(3.83)	\$	2.65

The accompanying notes are an integral part of these consolidated financial statements.

PLAINS ALL AMERICAN PIPELINE, L.P. AND SUBSIDIARIES CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME/(LOSS) (in millions)

		Year Ended December 31,					
	20	021		2020		2019	
Net income/(loss)	\$	648	\$	(2,580)	\$	2,180	
Other comprehensive income		65		15		97	
Comprehensive income/(loss)		713		(2,565)		2,277	
Comprehensive income attributable to noncontrolling interests		(55)		(10)		(9)	
Comprehensive income/(loss) attributable to PAA	\$	658	\$	(2,575)	\$	2,268	

The accompanying notes are an integral part of these consolidated financial statements.

PLAINS ALL AMERICAN PIPELINE, L.P. AND SUBSIDIARIES CONSOLIDATED STATEMENTS OF CHANGES IN ACCUMULATED OTHER COMPREHENSIVE INCOME/(LOSS) (in millions)

	Derivative nstruments	Translation Adjustments	Other		Total
Balance at December 31, 2018	\$ (177)	\$ (853)	\$	- 3	\$ (1,030)
	 			= =	
Reclassification adjustments	9	_	-	-	9
Unrealized loss on hedges	(91)	_	-	_	(91)
Currency translation adjustments	_	179	_	_	179
2019 Activity	(82)	179	_		97
Balance at December 31, 2019	\$ (259)	\$ (674)	\$	- 5	\$ (933)
				_	
Reclassification adjustments	11	_	_	-	11
Unrealized loss on hedges	(10)	_	_	_	(10)
Currency translation adjustments	_	17	_	_	17
Other	_	_	(3)	(3)
2020 Activity	1	17	(3)	15
Balance at December 31, 2020	\$ (258)	\$ (657)	\$ ()	3) 5	\$ (918)
Reclassification adjustments	31	_	-	_	31
Unrealized gain on hedges	19	_	_	_	19
Currency translation adjustments	_	15	-	_	15
2021 Activity	50	15	-		65
Balance at December 31, 2021	\$ (208)	\$ (642)	\$ (3	3) 5	\$ (853)

The accompanying notes are an integral part of these consolidated financial statements.

PLAINS ALL AMERICAN PIPELINE, L.P. AND SUBSIDIARIES CONSOLIDATED STATEMENTS OF CASH FLOWS (in millions)

(in millions)			Voor Endo	d December 31,		
		2021		2020		2019
CASH FLOWS FROM OPERATING ACTIVITIES						
Net income/(loss)	\$	648	\$	(2,580)	\$	2,180
Reconciliation of net income/(loss) to net cash provided by operating activities:						
Depreciation and amortization		774		653		601
(Gains)/losses on asset sales and asset impairments, net (Note 6, Note 7)		592		719		28
Goodwill impairment losses (Note 8)		_		2,515		_
Equity-indexed compensation expense		23		15		34
Inventory valuation adjustments (Note 5)		_		233		11
Deferred income tax expense/(benefit)		23		(70)		(46)
Settlement of terminated interest rate hedging instruments		_		(100)		(55)
Equity earnings in unconsolidated entities		(274)		(355)		(388)
Distributions on earnings from unconsolidated entities		431		472		401
(Gain on)/impairment of investments in unconsolidated entities, net (Note 9)		(2)		182		(271)
Other		8		(12)		21
Changes in assets and liabilities, net of acquisitions:						
Trade accounts receivable and other		(2,179)		1,432		(1,158)
Inventory		(18)		(304)		(5)
Trade accounts payable and other		1,970		(1,286)		1,151
Net cash provided by operating activities		1,996		1,514		2,504
CASH FLOWS FROM INVESTING ACTIVITIES						
Cash paid in connection with acquisitions, net of cash acquired (Note 7)		(32)		(310)		(50)
Investments in unconsolidated entities (Note 9)		(94)		(461)		(524)
Additions to property, equipment and other		(336)		(738)		(1,181)
Proceeds from sales of assets (Note 7)		881		429		77
Other investing activities		(33)		(13)		(87)
Net cash provided by/(used in) investing activities		386		(1,093)		(1,765)
CASH FLOWS FROM FINANCING ACTIVITIES						
Net borrowings/(repayments) under commercial paper program (Note 11)		(545)		456		93
Net borrowings/(repayments) under senior secured hedged inventory facility (Note 11)		(167)		(160)		325
Repayment of GO Zone term loans (Note 11)		(200)		_		_
Proceeds from the issuance of senior notes (Note 11)		_		748		998
Repayments of senior notes (Note 11)		_		(617)		(1,000)
Repurchase of common units (Note 12)		(178)		(50)		_
Distributions paid to Series A preferred unitholders (Note 12)		(149)		(149)		(149)
Distributions paid to Series B preferred unitholders (Note 12)		(49)		(49)		(49)
Distributions paid to common unitholders (Note 12)		(517)		(655)		(1,004)
Sale of noncontrolling interest in a subsidiary (Note 12)		—		—		128
Other financing activities		(179)		41		(62)
Net cash used in financing activities		(1,984)		(435)		(720)
Effect of translation adjustment		(5)		(8)		(3)
Net increase/(decrease) in cash and cash equivalents and restricted cash		393		(22)		16
Cash and cash equivalents and restricted cash, beginning of period		60		82		66
Cash and cash equivalents and restricted cash, end of period	\$	453	\$	60	\$	82
Cash paid for:						
Interest, net of amounts capitalized	\$	401	\$	428	\$	397
Income taxes, net of amounts refunded	\$	76	\$		\$	136
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The accompanying notes are an integral part of these consolidated financial statements.

PLAINS ALL AMERICAN PIPELINE, L.P. AND SUBSIDIARIES CONSOLIDATED STATEMENTS OF CHANGES IN PARTNERS' CAPITAL (in millions)

	Limited Partners						Partners' Capital					Total	
		Preferred	Unitholo				Excluding Noncontrolling		Noncontrolling			Partners'	
	+	Series A	-	Series B		mmon Unitholders	-	Interests	-	Interests		Capital	
Balance at December 31, 2018	\$	1,505	\$	787	\$	9,710	\$	12,002	\$		\$	12,002	
Net income		149		49		1,973		2,171		9		2,180	
Distributions (Note 12)		(149)		(49)		(1,004)		(1,202)		(6)		(1,208)	
Other comprehensive income				—		97		97		—		97	
Equity-indexed compensation expense		_		_		17		17		_		17	
Sale of noncontrolling interest in a subsidiary (Note 12)		_		_		(2)		(2)		130		128	
Other		_		_		(21)		(21)		_		(21)	
Balance at December 31, 2019	\$	1,505	\$	787	\$	10,770	\$	13,062	\$	133	\$	13,195	
Net income/(loss)		149		49		(2,788)		(2,590)		10		(2,580)	
Distributions (Note 12)		(149)		(49)		(655)		(853)		(10)		(863)	
Other comprehensive income				_		15		15		_		15	
Equity-indexed compensation expense		_				19		19		_		19	
Repurchase of common units (Note 12)						(50)		(50)				(50)	
Contributions from noncontrolling interests (Note 12)		_				_				12		12	
Other						(10)		(10)				(10)	
Balance at December 31, 2020	\$	1,505	\$	787	\$	7,301	\$	9,593	\$	145	\$	9,738	
Net income		149		49		395		593		55		648	
Distributions (Note 12)		(149)		(49)		(517)		(715)		(14)		(729)	
Other comprehensive income		_		_		65		65		_		65	
Equity-indexed compensation expense		_		_		19		19		_		19	
Repurchase of common units (Note 12)		_		_		(178)		(178)		_		(178)	
Contributions from noncontrolling interests (Note 12)		_		_		_		_		1		1	
Plains Oryx Permian Basin LLC joint venture formation (Note 7)		_		_		605		605		2,651		3,256	
Other				—		(10)		(10)		_		(10)	
Balance at December 31, 2021	\$	1,505	\$	787	\$	7,680	\$	9,972	\$	2,838	\$	12,810	

The accompanying notes are an integral part of these consolidated financial statements.

Note 1—Organization and Basis of Consolidation and Presentation

Organization

Plains All American Pipeline, L.P. ("PAA") is a Delaware limited partnership formed in 1998. Our operations are conducted directly and indirectly through our primary operating subsidiaries. As used in this Form 10-K and unless the context indicates otherwise, the terms "Partnership," "we," "us," "our," "our," "ours" and similar terms refer to PAA and its subsidiaries.

Our business model integrates large-scale supply aggregation capabilities with the ownership and operation of critical midstream infrastructure systems that connect major producing regions to key demand centers and export terminals. As one of the largest midstream service providers in North America, we own an extensive network of pipeline transportation, terminalling, storage and gathering assets in key crude oil and natural gas liquids ("NGL") producing basins (including the Permian Basin) and transportation corridors and at major market hubs in the United States and Canada. Our assets and the services we provide are primarily focused on and conducted through two operating segments: Crude Oil and NGL. See Note 20 for further discussion of our operating segments.

Our non-economic general partner interest is held by PAA GP LLC ("PAA GP"), a Delaware limited liability company, whose sole member is Plains AAP, L.P. ("AAP"), a Delaware limited partnership. In addition to its ownership of PAA GP, as of December 31, 2021, AAP also owned a limited partner interest in us through its ownership of approximately 241.5 million of our common units (approximately 31% of our total outstanding common units and Series A preferred units combined). Plains All American GP LLC ("GP LLC"), a Delaware limited liability company, is AAP's general partner. Plains GP Holdings, L.P. ("PAGP") is the sole and managing member of GP LLC, and, at December 31, 2021, owned an approximate 81% limited partner interest in AAP. PAA GP Holdings LLC ("PAGP GP") is the general partner of PAGP.

As the sole member of GP LLC, PAGP has responsibility for conducting our business and managing our operations; however, the board of directors of PAGP GP has ultimate responsibility for managing the business and affairs of PAGP, AAP and us. GP LLC employs our domestic officers and personnel; our Canadian officers and personnel are employed by our subsidiary, Plains Midstream Canada ULC.

References to the "PAGP Entities" include PAGP GP, PAGP, GP LLC, AAP and PAA GP. References to our "general partner," as the context requires, include any or all of the PAGP Entities. References to the "Plains Entities" include us, our subsidiaries and the PAGP Entities.



Definitions

Additional defined terms are used in the following notes and shall have the meanings indicated below:							
AOCI	=	Accumulated other comprehensive income/(loss)					
ASC	=	Accounting Standards Codification					
ASU	=	Accounting Standards Update					
Bcf	=	Billion cubic feet					
Btu	=	British thermal unit					
CAD	=	Canadian dollar					
CODM	=	Chief Operating Decision Maker					
DERs	=	Distribution equivalent rights					
EBITDA	=	Earnings before interest, taxes, depreciation and amortization					
EPA	=	United States Environmental Protection Agency					
FASB	=	Financial Accounting Standards Board					
GAAP	=	Generally accepted accounting principles in the United States					
ICE	=	Intercontinental Exchange					
ISDA	=	International Swaps and Derivatives Association					
LIBOR	=	London Interbank Offered Rate					
LTIP	=	Long-term incentive plan					
Mcf	=	Thousand cubic feet					
MMbls	=	Million barrels					
MLP	=	Master limited partnership					
NGL	=	Natural gas liquids, including ethane, propane and butane					
NYMEX	=	New York Mercantile Exchange					
SEC	=	United States Securities and Exchange Commission					
TWh	=	Terawatt hour					
U.S.	=	United States					
USD	=	United States dollar					
WTI	=	West Texas Intermediate					

Basis of Consolidation and Presentation

The accompanying financial statements and related notes present and discuss our consolidated financial position as of December 31, 2021 and 2020, and the consolidated results of our operations, cash flows, changes in partners' capital, comprehensive income and changes in accumulated other comprehensive income/(loss) for the years ended December 31, 2021, 2020 and 2019. All significant intercompany transactions have been eliminated in consolidation, and certain reclassifications have been made to information from previous years to conform to the current presentation, as discussed further below.

The accompanying consolidated financial statements include the accounts of PAA and all of its wholly owned subsidiaries and those entities that it controls. Investments in entities over which we have significant influence but not control are accounted for by the equity method. We apply proportionate consolidation for pipelines and other assets in which we own undivided joint interests.



Reclassification of Prior Period Information

During the fourth quarter of 2021, we effected changes in the primary financial information provided to our Chief Operating Decision Maker ("CODM") (our Chief Executive Officer) for assessing performance and allocating resources to present two operating segments, Crude Oil and NGL. Prior to the fourth quarter of 2021, this information was organized into three operating segments: Transportation, Facilities and Supply and Logistics. See Note 20 for further discussion of our operating segments. In connection with this change, we changed the presentation of Revenues on our Consolidated Statements of Operations. "Product sales revenues" include amounts that were previously presented as "Supply and Logistics segment revenues," while "Services revenues" includes amounts previously presented as "Transportation segment revenues."

In October 2021, we and Oryx Midstream Holdings LLC ("Oryx Midstream") completed the merger, in a cashless, debt-free transaction, of our respective Permian Basin assets, operations and commercial activities into a newly formed joint venture, Plains Oryx Permian Basin LLC (the "Permian JV"). See Note 7 for more details regarding this transaction. Due to the increase in intangible assets associated with this transaction, we present "Intangible assets, net" as a separate line item on our Consolidated Balance Sheets. Such amounts were previously reported in "Other long-term assets, net" on our Consolidated Balance Sheets.

COVID-19

Many uncertainties remain with respect to the novel coronavirus ("COVID-19") pandemic, including uncertainty regarding the length of time the pandemic will continue, as well as the timing, pace and extent of an economic recovery in the United States, Canada and elsewhere, and how such uncertainties will impact the energy industry and our business. As a result, these matters may affect our estimates and assumptions on amounts reported in the financial statements and accompanying notes in the near term.

Subsequent Events

Subsequent events have been evaluated through the financial statements issuance date and have been included in the following footnotes where applicable.

Note 2—Summary of Significant Accounting Policies

Use of Estimates

The preparation of financial statements in conformity with GAAP requires us to make estimates and assumptions that affect the reported amounts of assets and liabilities, as well as the disclosure of contingent assets and liabilities at the date of the financial statements. Such estimates and assumptions also affect the reported amounts of revenues and expenses during the reporting period. We make significant estimates with respect to (i) estimated fair value of assets and liabilities acquired and identification of associated goodwill and intangible assets, (ii) fair value of derivatives, (iii) accruals and contingent liabilities, (iv) property and equipment, depreciation and amortization expense and asset retirement obligations, (v) impairment assessments of property and equipment, investments in unconsolidated entities and intangible assets and (vi) inventory valuations. Although we believe these estimates are reasonable, actual results could differ from these estimates.

Purchases and Related Costs

Purchases and related costs include (i) the weighted average cost of crude oil and NGL sold to customers, (ii) fees incurred for storage and transportation, whether by pipeline, truck or rail and (iii) performance-related bonus costs. These costs are recognized when incurred except in the case of products sold, which are recognized at the time title transfers to our customers. Inventory exchanges under buy/sell transactions are presented net in "Purchases and related costs" in our Consolidated Statements of Operations.

Field Operating Costs and General and Administrative Expenses

Field operating costs consist of various field operating expenses, including payroll, compensation and benefits costs for operations personnel; fuel and power costs (including the impact of gains and losses from derivative related activities); third-party trucking transportation costs for our U.S. crude oil operations; maintenance and integrity management costs; regulatory compliance; environmental remediation; insurance; costs for usage of third-party owned pipeline, rail and storage assets; vehicle leases; and property taxes. General and administrative expenses consist primarily of payroll, compensation and benefits costs; certain information systems and legal costs; office rent; contract and consultant costs; and audit and tax fees.

Foreign Currency Transactions/Translation

Certain of our subsidiaries use the Canadian dollar as their functional currency. Assets and liabilities of subsidiaries with a Canadian dollar functional currency are translated at period-end rates of exchange, and revenues and expenses are translated at average exchange rates prevailing for each month. The resulting translation adjustments are made directly to a separate component of other comprehensive income, which is reflected in Partners' Capital on our Consolidated Balance Sheets.

Certain of our subsidiaries also enter into transactions and have monetary assets and liabilities that are denominated in a currency other than the entities' respective functional currencies. Gains and losses from the revaluation of foreign currency transactions and monetary assets and liabilities are generally included in the Consolidated Statements of Operations. However, gains and losses arising from intercompany foreign currency transactions that are of a long-term investment nature are reported in the same manner as translation adjustments. For the years ended December 31, 2021, 2020 and 2019, the revaluation of foreign currency transactions and monetary assets and liabilities resulted in the recognitions of net gains of \$7 million, \$16 million and \$1 million, respectively, in our Consolidated Statements of Operations.

Cash and Cash Equivalents and Restricted Cash

Cash and cash equivalents consist of all unrestricted demand deposits and funds invested in highly liquid instruments with original maturities of three months or less and typically exceed federally insured limits. We periodically assess the financial condition of the institutions where these funds are held and believe that our credit risk is minimal.

In accordance with our policy, unless they may be covered by funds on deposit, outstanding checks are classified as trade accounts payable rather than negative cash. As of December 31, 2021 and 2020, trade accounts payable included \$19 million and \$27 million, respectively, of outstanding checks that were reclassified from cash and cash equivalents.

Restricted cash includes cash held by us that is unavailable for general use and is comprised of amounts advanced to us by certain equity method investees related to the construction of fixed assets where we serve as construction manager. The following table presents a reconciliation of cash and cash equivalents and restricted cash reported on our Consolidated Balance Sheets that sum to the total of the amounts shown on our Consolidated Statements of Cash Flows (in millions):

	December 31,		
	 2021	2020	
Cash and cash equivalents	\$ 449 \$	22	
Restricted cash	4	38	
Total cash and cash equivalents and restricted cash	\$ 453 \$	60	

Noncontrolling Interests

Noncontrolling interest represents the portion of assets and liabilities in a consolidated subsidiary that is owned by a third party. FASB guidance requires all entities to report noncontrolling interests in subsidiaries as a component of equity in the consolidated financial statements. See Note 12 for additional discussion regarding our noncontrolling interests.

Asset Retirement Obligations

FASB guidance establishes accounting requirements for retirement obligations associated with tangible long-lived assets, including estimates related to (i) the time of the liability recognition, (ii) initial measurement of the liability, (iii) allocation of asset retirement cost to expense, (iv) subsequent measurement of the liability and (v) financial statement disclosures. FASB guidance also requires that the cost for asset retirement should be capitalized as part of the cost of the related long-lived asset and subsequently allocated to expense using a systematic and rational method.

Some of our assets, primarily our pipelines, certain processing and fractionation facilities and terminals assets, have contractual or regulatory obligations to perform remediation and, in some instances, dismantlement and removal activities when the assets are abandoned. These obligations include varying levels of activity including disconnecting inactive assets from active assets, cleaning and purging assets, and in some cases, completely removing the assets and returning the land to its original state. These assets have been in existence for many years and with regular maintenance will continue to be in service for many years to come. It is not possible to predict when demand for these transportation, storage or other services will cease, and we do not believe that such demand will cease for the foreseeable future. Accordingly, we believe the date when these assets will be abandoned is indeterminate. With no reasonably determinable abandonment date, we cannot reasonably estimate the fair value of the associated asset retirement obligations. We will record asset retirement obligations for these assets in the period in which sufficient information becomes available for us to reasonably estimate the settlement dates.

A small portion of our contractual or regulatory obligations is related to assets that are inactive or that we plan to take out of service and, although the ultimate timing and costs to settle these obligations are not known with certainty, we have recorded a reasonable estimate of these obligations. The following table presents the change in the liability for asset retirement obligations, substantially all of which is reflected in "Other long-term liabilities and deferred credits" on our Consolidated Balance Sheets as of December 31, 2021, 2020 and 2019 (in millions):

	December 31,				
	2021	2020	2019		
Beginning balance	\$ 135	\$ 137	\$ 109		
Liabilities incurred	2	12	3		
Liabilities settled	(1)	(1)	(3)		
Accretion expense	4	5	5		
Revisions in estimated cash flows	3	(18)	23		
Ending balance	\$ 143	\$ 135	\$ 137		

Fair Value Measurements

Financial assets and liabilities are classified in their entirety based on the lowest level of input that is significant to the fair value measurement. Our assessment of the significance of a particular input to the fair value measurement requires judgment, which affects the placement of assets and liabilities within the fair value hierarchy levels. The determination of the fair values includes not only the credit standing of the counterparties involved and the impact of credit enhancements (such as cash deposits and letters of credit) but also the impact of our nonperformance risk on our liabilities. The fair value of our commodity derivatives, interest rate derivatives and foreign currency derivatives includes adjustments for credit risk. Our credit adjustment methodology uses market observable inputs and requires judgment. There were no changes to any of our valuation techniques during the period. See Note 13 for further discussion.

Other Significant Accounting Policies

See the respective footnotes for our accounting policies regarding (i) revenues and accounts receivable, (ii) net income/(loss) per common unit, (iii) inventory, linefill and base gas and long-term inventory, (iv) property and equipment, (v) acquisitions, (vi) goodwill, (vii) investments in unconsolidated entities, (viii) intangible assets, (ix) income allocation for partners' capital presentation purposes, (x) derivatives and risk management activities, (xii) leases, (xiii) equity-indexed compensation and (xiv) legal and environmental matters.



Recent Accounting Pronouncements

In October 2021, the FASB issued ASU 2021-08, *Business Combinations (Topic 805): Accounting for Contract Assets and Contract Liabilities from Contracts with Customers.* This guidance requires that an acquirer recognize and measure contract assets and contract liabilities acquired in a business combination in accordance with Topic 606, Revenue from Contracts with Customers, as if it had originated the contracts. The guidance is effective prospectively for interim and annual periods beginning after December 15, 2022, with early adoption permitted. We have not adopted this guidance as of December 31, 2021, but do not anticipate that our adoption will have a material impact on our financial position, results of operations or cash flows.

In July 2021, the FASB issued ASU 2021-05, *Lessors - Certain Leases with Variable Lease Payments (Topic 842)* which modifies the lease classification requirements for lessors in Topic 842, which we adopted on the effective date of January 1, 2019. The amendments require lessors to classify and account for a lease with variable lease payments that do not depend on a reference index or a rate as an operating lease at lease commencement if another classification (i.e., sales-type or direct financing) would result in the recognition of a day-one loss. For entities that have adopted Topic 842, the guidance is effective for fiscal years, and for interim periods within those fiscal years, beginning after December 15, 2021, with early adoption permitted. We have elected to early adopt the guidance on a prospective basis as of July 1, 2021. Our adoption did not have a material impact on our financial position, results of operations or cash flows.

In August 2020, the FASB issued ASU 2020-06, *Debt—Debt with Conversion and Other Options (Subtopic 470-20) and Derivatives and Hedging—Contracts in Entity's Own Equity (Subtopic 815-40): Accounting for Convertible Instruments and Contracts in an Entity's Own Equity, which simplifies accounting for certain financial instruments with characteristics of liabilities and equity, including convertible instruments and contracts on an entity's own equity, by eliminating two of the three models that require separate accounting for embedded conversion features and the settlement assessment that entities are required to perform to determine whether a contract qualifies for equity classification. This guidance is effective for interim and annual periods beginning after December 15, 2021, with early adoption permitted. We adopted this guidance effective January 1, 2021, and our adoption did not have a material impact on our financial position, results of operations or cash flows.*

In March 2020, the FASB issued ASU 2020-04, *Reference Rate Reform (Topic 848): Facilitation of the Effects of Reference Rate Reform on Financial Reporting*, which provides optional expedients and exceptions for applying GAAP to contracts, hedging relationships and other transactions that reference LIBOR or another reference rate expected to be discontinued because of reference rate reform. This guidance is effective prospectively upon issuance through December 31, 2022 and may be applied from the beginning of an interim period that includes the issuance date of this ASU. We will apply applicable expedients and exceptions to contract modifications through December 31, 2022.

In December 2019, the FASB issued ASU 2019-12, *Income Taxes (Topic 740): Simplifying the Accounting for Income Taxes*, to simplify the accounting for income taxes based on changes suggested by stakeholders as part of the FASB's simplification initiative. This guidance is effective for interim and annual periods beginning after December 15, 2020, with early adoption permitted. We adopted this guidance effective January 1, 2021, and our adoption did not have a material impact on our financial position, results of operations or cash flows.



Note 3—Revenues and Accounts Receivable

Revenue Recognition

We disaggregate our revenues by segment and type of activity. These categories depict how the nature, amount, timing and uncertainty of revenues and cash flows are affected by economic factors.

Revenues from Contracts with Customers. The following tables present our revenues from contracts with customers disaggregated by segment and type of activity (in millions):

		Year E	nded December 31,	
	 2021		2020	2019
Crude Oil segment revenues from contracts with customers	 			
Sales	\$ 39,635	\$	21,250	\$ 30,156
Transportation	484		570	722
Terminalling, Storage and Other	431		507	505
Total Crude Oil segment revenues from contracts with customers	\$ 40,550	\$	22,327	\$ 31,383
		Year E	nded December 31,	
	 2021		2020	2019
NGL segment revenues from contracts with customers	 			
Sales	\$ 2,292	\$	1,350	\$ 2,211
Transportation	25		29	32
Terminalling, Storage and Other	82		96	80

Sales Revenues. Revenues from sales of crude oil and NGL are recognized at the time title to the product sold transfers to the purchaser, which occurs upon delivery of the product to the purchaser or its designee. The consideration received under these contracts is variable based on commodity prices. Inventory exchanges under buy/sell transactions are excluded from sales revenues in our Consolidated Statements of Operations.

2.399

\$

1,475

2.323

In addition, we have certain crude oil sales agreements that are entered into in conjunction with storage arrangements and future inventory exchanges. The revenues under these agreements are deferred until all performance obligations associated with the related agreements are completed. The inventory that has been sold under these crude oil sales agreements is reflected in "Other current assets" on our Consolidated Balance Sheet until all of our performance obligations are complete. At that time, the inventory that has been sold is removed from our Consolidated Balance Sheet and recorded as "Purchases and related costs" in our Consolidated Statement of Operations. See "*Contract Balances*" below for further discussion of contract liabilities associated with these agreements. The following table presents amounts in Other current assets and deferred revenue associated with these agreements (in millions):

	Decem	ıber 31,
_	2021	2020
Other current assets \$	\$	\$ 229
Deferred revenue ⁽¹⁾	\$	\$ 361

⁽¹⁾ Included in "Other current liabilities" on our Consolidated Balance Sheet.

Total NGL segment revenues from contracts with customers

We may also utilize derivatives in connection with the transactions described above. Derivative revenue is not included as a component of revenue from contracts with customers, but is included in other items in revenue. The change in the fair value of derivatives that are not designated or do not qualify for hedge accounting is recognized in revenues each period.



Transportation Revenues. Transportation revenues include revenues from transporting crude oil and NGL on pipelines and trucks. Revenues from pipeline tariffs and fees are associated with the transportation of crude oil and NGL at a published tariff. We primarily recognize pipeline tariff and fee revenues over time as services are rendered, based on the volumes transported. As is common in the pipeline transportation industry, our tariffs incorporate a loss allowance factor. We recognize the allowance volumes collected as part of the transaction price and record this non-cash consideration at fair value, measured as of the contract inception date.

Terminalling, Storage and Other Revenues. Revenues in this category include (i) fees that are generated when we receive liquids from one connecting source and deliver the applicable product to another connecting carrier, (ii) fees from storage capacity agreements, (iii) fees from loading and unloading services at our terminals and (iv) fees from natural gas and condensate processing services and from NGL fractionation and isomerization service. We generate revenue through a combination of month-to-month and multi-year agreements and processing arrangements. Storage fees are typically recognized in revenue ratably over the term of the contract regardless of the actual storage capacity utilized as our performance obligation is to make available storage capacity for a period of time. Terminal fees (including throughput and loading/unloading fees) are recognized as the liquids enter or exit the terminal and are received from or delivered to the connecting carrier or third-party terminal, as applicable. We recognize loading and unloading fees when the volumes are delivered or received. Natural gas storage related activities fees were recognized in the period the natural gas moved across our header system. Fees from NGL fractionation and isomerization services and gas processing services are recognized in the period when the services are performed.

Reconciliation to Total Revenues of Reportable Segments. The following disclosures only include information regarding revenues associated with consolidated entities; revenues from entities accounted for by the equity method are not included. The following tables present the reconciliation of our revenues from contracts with customers (as described above for each segment) to segment revenues and total revenues as disclosed in our Consolidated Statements of Operations (in millions):

Year Ended December 31, 2021		Crude Oil		NGL		Total
Revenues from contracts with customers	\$	40,550	\$	2,399	\$	42,949
Other items in revenues		(80)		(431)		(511)
Total revenues of reportable segments	\$	40,470	\$	1,968	\$	42,438
Intersegment revenues elimination						(360)
Total revenues					\$	42,078
Year Ended December 31, 2020		Crude Oil		NGL		Total
Revenues from contracts with customers	¢		¢	-	¢	
	\$	22,327	\$	1,475	\$	23,802
Other items in revenues		(128)	-	(115)	-	(243)
Total revenues of reportable segments	\$	22,199	\$	1,360	\$	23,559
Intersegment revenues elimination						(269)
Total revenues					\$	23,290
Year Ended December 31, 2019		Crude Oil	*	NGL	*	Total
Revenues from contracts with customers	\$	31,383	\$	2,323	\$	33,706
Other items in revenues		272		116		388
Total revenues of reportable segments	\$	31,655	\$	2,439	\$	34,094
Intersegment revenues elimination						(425)
Total revenues					\$	33,669

Minimum Volume Commitments. We have certain agreements that require counterparties to transport or throughput a minimum volume over an agreed upon period. Some of these agreements include make-up rights if the minimum volume is not met. We record a receivable from the counterparty in the period that services are provided or when the transaction occurs, including amounts for deficiency obligations from counterparties associated with minimum volume commitments. If a counterparty has a make-up right associated with a deficiency, we defer the revenue attributable to the counterparty's make-up right as a contract liability and subsequently recognize the revenue at the earlier of when the deficiency volume is delivered or shipped, when the make-up right expires or when it is determined that the counterparty's ability to utilize the make-up right is remote.

The following table presents counterparty deficiencies associated with contracts with customers and buy/sell arrangements that include minimum volume commitments for which we had remaining performance obligations and the customers still had the ability to meet their obligations (in millions):

			December 31,	
Counterparty Deficiencies	Financial Statement Classification	202	.1	2020
Billed and collected	Liability	\$	63 \$	73
Unbilled ⁽¹⁾	N/A		16	4
Total		\$	79 \$	77

(1) Amounts were related to deficiencies for which the counterparties had not met their contractual minimum commitments and are not reflected in our Consolidated Financial Statements as we had not yet billed or collected such amounts.

Contract Balances. Our contract balances consist of amounts received associated with services or sales for which we have not yet completed the related performance obligation. The following table presents the changes in the liability balance associated with contracts with customers (in millions):

	Contr	act Liabilities
Balance at December 31, 2019	\$	354
Amounts recognized as revenue (1)		(246)
Additions (2)		393
Balance at December 31, 2020	\$	501
Amounts recognized as revenue ⁽²⁾		(393)
Additions		33
Balance at December 31, 2021	\$	141

(1) Includes approximately \$155 million associated with crude oil sales agreements that were entered into in conjunction with storage arrangements and future inventory exchanges. Such agreements were entered into in 2019 and recognized as revenue in the first quarter of 2020.

(2) Includes approximately \$361 million associated with crude oil sales agreements that were entered into in conjunction with storage arrangements and future inventory exchanges. Such amount was recognized as revenue in the first quarter of 2021.

Remaining Performance Obligations. The information below includes the amount of consideration allocated to partially and wholly unsatisfied remaining performance obligations under contracts that exist as of the end of the periods and the timing of revenue recognition of those remaining performance obligations. Certain contracts meet the requirements for the presentation as remaining performance obligations. These arrangements include a fixed minimum level of service, typically a set volume of service, and do not contain any variability other than expected timing within a limited range. The following table presents the amount of consideration associated with remaining performance obligations for the population of contracts with external customers meeting the presentation requirements as of December 31, 2021 (in millions):

	2022	2023	2024	2025	2026	2027	and Thereafter
Pipeline revenues supported by minimum volume commitments and capacity agreements ⁽¹⁾	\$ 179	\$ 174	\$ 158	\$ 131	\$ 86	\$	379
Terminalling, storage and other agreement revenues	237	170	130	63	45		197
Total	\$ 416	\$ 344	\$ 288	\$ 194	\$ 131	\$	576

⁽¹⁾ Calculated as volumes committed under contracts multiplied by the current applicable tariff rate.

The presentation above does not include (i) expected revenues from legacy shippers not underpinned by minimum volume commitments, including pipelines where there are no or limited alternative pipeline transportation options, (ii) intersegment revenues and (iii) the amount of consideration associated with certain income generating contracts, which include a fixed minimum level of service, that are either not within the scope of ASC 606 or do not meet the requirements for presentation as remaining performance obligations. The following are examples of contracts that are not included in the table above because they are not within the scope of ASC 606 or do not meet the requirements for presentation:

- · Minimum volume commitments on certain of our joint venture pipeline systems;
- · Acreage dedications;
- Buy/sell arrangements with future committed volumes;
- · Short-term contracts and those with variable consideration due to the election of practical expedients, as discussed below;
- · Contracts within the scope of ASC Topic 842, Leases; and
- · Contracts within the scope of ASC Topic 815, Derivatives and Hedging.

We have elected practical expedients to exclude the presentation of remaining performance obligations for variable consideration which relates to wholly unsatisfied performance obligations. Certain contracts do not meet the requirements for presentation of remaining performance obligations due to variability in amount of performance obligation remaining, variability in the timing of recognition or variability in consideration. Acreage dedications do require us to perform future services but do not contain a minimum level of services and are therefore excluded from this presentation. Long-term merchant arrangements contain variable timing, volumes and/or consideration and are excluded from this presentation. The duration of these contracts varies across the periods presented above.

Additionally, we have elected practical expedients to exclude contracts with terms of one year or less, and therefore exclude the presentation of remaining performance obligations for short-term transportation, storage and processing services, merchant arrangements, including the non-cancelable period of evergreen arrangements, and any other types of arrangements with terms of one year or less.

Trade Accounts Receivable and Other Receivables, Net

Our accounts receivable are primarily from purchasers and shippers of crude oil and, to a lesser extent, purchasers of NGL. These purchasers include, but are not limited to, refiners, producers, marketing and trading companies and financial institutions. The majority of our accounts receivable relate to our crude oil merchant activities that can generally be described as high volume and low margin activities, in many cases involving exchanges of crude oil volumes.

To mitigate credit risk related to our accounts receivable, we utilize a rigorous credit review process. We closely monitor market conditions and perform credit reviews of each customer to make a determination with respect to the amount, if any, of open credit to be extended to any given customer and the form and amount of financial performance assurances we require. Such financial assurances are commonly provided to us in the form of advance cash payments, standby letters of credit, credit insurance or parental guarantees. Additionally, in an effort to mitigate credit risk, a significant portion of our transactions with counterparties are settled on a net-cash basis. For a majority of these net-cash arrangements, we also enter into netting agreements (contractual agreements that allow us to offset receivables and payables with those counterparties against each other on our balance sheet).

Accounts receivable from the sale of crude oil are generally settled with counterparties on the industry settlement date, which is typically in the month following the month in which the title transfers. Otherwise, we generally invoice customers within 30 days of when the products or services were provided and generally require payment within 30 days of the invoice date. We review all outstanding accounts receivable balances on a monthly basis and record our receivables net of expected credit losses. We do not write-off accounts receivable balances until we have exhausted substantially all collection efforts. At December 31, 2021 and 2020, substantially all of our trade accounts receivable were less than 30 days past their invoice date. Our expected credit losses are immaterial. Although we consider our credit procedures to be adequate to mitigate any significant credit losses, the actual amount of current and future credit losses could vary significantly from estimated amounts.

The following is a reconciliation of trade accounts receivable from revenues from contracts with customers to total Trade accounts receivable and other receivables, net as presented on our Consolidated Balance Sheets (in millions):

	December 31,		
	 2021		2020
Trade accounts receivable arising from revenues from contracts with customers	\$ 4,031	\$	2,317
Other trade accounts receivables and other receivables ⁽¹⁾	5,126		2,818
Impact due to contractual rights of offset with counterparties	 (4,452)		(2,582)
Trade accounts receivable and other receivables, net	\$ 4,705	\$	2,553

⁽¹⁾ The balance is comprised primarily of accounts receivable associated with buy/sell arrangements that are not within the scope of ASC 606.

Note 4-Net Income/(Loss) Per Common Unit

After consideration of distributions to preferred unitholders (whether paid in cash or in-kind), basic and diluted net income/(loss) per common unit is determined pursuant to the two-class method as prescribed in FASB guidance. This method is an earnings allocation formula that is used to determine allocations to our limited partners and participating securities according to distributions pertaining to the current period's net income and participation rights in undistributed earnings or distributions in excess of earnings. Under the two-class method, net income is reduced by distributions pertaining to the period, and all remaining earnings or distributions in excess of earnings are then allocated to our common unitholders and participating securities based on their respective rights to share in distributions, regardless of whether those earnings would actually be distributed during a particular period from an economic or practical perspective. Participating securities include equity-indexed compensation plan awards that have vested DERs, which entitle the grantee to a cash payment equal to the cash distribution paid on our outstanding common units.

We calculate basic and diluted net income/(loss) per common unit by dividing net income/(loss) attributable to PAA (after deducting amounts allocated to the preferred unitholders and participating securities) by the basic and diluted weighted average number of common units outstanding during the period. Participating securities include equity-indexed compensation plan awards that have vested distribution equivalent rights, which entitle the grantee to a cash payment equal to the cash distribution paid on our outstanding common units.

The diluted weighted average number of common units is computed based on the weighted average number of common units plus the effect of potentially dilutive securities outstanding during the period, which include (i) our Series A preferred units and (ii) our equity-indexed compensation plan awards. See Note 12 for additional information regarding our Series A preferred units. See Note 18 for a complete discussion of our equity-indexed compensation plan awards. When applying the if-converted method prescribed by FASB guidance, the possible conversion of approximately 71 million Series A



preferred units, on a weighted-average basis, were excluded from the calculation of diluted net income/(loss) per common unit for the year ended December 31, 2021 and 2020 as the effect was antidilutive for both periods. Our equity-indexed compensation plan awards that contemplate the issuance of common units are considered potentially dilutive unless (i) they become vested only upon the satisfaction of a performance condition and (ii) that performance condition has yet to be satisfied. Equity-indexed compensation plan awards that were deemed to be dilutive during the year ended December 31, 2019 were reduced by a hypothetical common unit repurchase based on the remaining unamortized fair value, as prescribed by the treasury stock method in guidance issued by the FASB. For the twelve months ended December 31, 2021 and 2020, approximately 0.5 million and 0.3 million equity-indexed compensation plan awards, respectively, on a weighted-average basis, were excluded from the computation of diluted net loss per common unit as the effect did not change the presentation of diluted net income/(loss) per common unit or the effect was antidilutive.

The following table sets forth the computation of basic and diluted net income/(loss) per common unit (in millions, except per unit data):

		Year Ended December 31,				
	202	21	2020	2019		
Basic Net Income/(Loss) per Common Unit						
Net income/(loss) attributable to PAA	\$	593	\$ (2,590)	\$ 2,171		
Distributions to Series A preferred unitholders		(149)	(149)	(149)		
Distributions to Series B preferred unitholders		(49)	(49)	(49)		
Distributions to participating securities		(2)	(2)	(3)		
Other		_		(3)		
Net income/(loss) allocated to common unitholders (1)	\$	393	\$ (2,790)	\$ 1,967		
Basic weighted average common units outstanding		716	728	727		
Basic net income/(loss) per common unit	\$	0.55	\$ (3.83)	\$ 2.70		
Diluted Net Income/(Loss) per Common Unit						
Net income/(loss) attributable to PAA	\$		\$ (2,590)	\$ 2,171		
Distributions to Series A preferred unitholders		(149)	(149)	—		
Distributions to Series B preferred unitholders		(49)	(49)	(49)		
Distributions to participating securities		(2)	(2)	(3)		
Net income/(loss) allocated to common unitholders ⁽¹⁾	\$	393	\$ (2,790)	\$ 2,119		
Basic weighted average common units outstanding		716	728	727		
Effect of dilutive securities:						
Series A preferred units		_	—	71		
Equity-indexed compensation plan awards				2		
Diluted weighted average common units outstanding		716	728	800		
Diluted net income/(loss) per common unit	<u>\$</u>	0.55	\$ (3.83)	\$ 2.65		

(1) We calculate net income/(loss) allocated to common unitholders based on the distributions pertaining to the current period's net income. After adjusting for the appropriate period's distributions, the remaining undistributed earnings or excess distributions over earnings (i.e., undistributed loss), if any, are allocated to the common unitholders and participating securities in accordance with the contractual terms of our partnership agreement in effect for the period and as further prescribed under the two-class method.

Note 5—Inventory, Linefill and Base Gas and Long-term Inventory

Inventory, including long-term inventory, primarily consists of crude oil and NGL in pipelines, storage facilities and railcars that are valued at the lower of cost or net realizable value, with cost determined using an average cost method within specific inventory pools. At the end of each reporting period, we assess the carrying value of our inventory and make any adjustments necessary to reduce the carrying value to the applicable net realizable value. Any resulting adjustments are a component of "Purchases and related costs" on our accompanying Consolidated Statements of Operations. During the year ended December 31, 2021, no adjustments were recorded. During the years ended December 31, 2020 and 2019, we recorded charges of \$233 million (of which \$40 million was associated with our long-term inventory) and \$11 million, respectively, related to the write down of our crude oil and NGL inventory due to declines in prices. A portion of these inventory valuation adjustments was offset by the recognition of gains on derivative instruments being utilized to hedge future sales of our crude oil and NGL inventory. Such gains were recorded to "Product sales revenues" in our accompanying Consolidated Statements of Operations. See Note 13 for discussion of our derivative and risk management activities.

Linefill and base gas in assets we own are recorded at historical cost and consist of crude oil, NGL and natural gas. We classify as linefill or base gas (i) our proportionate share of barrels used to fill a pipeline that we own such that when an incremental barrel is pumped into or enters a pipeline it forces product out at another location, (ii) barrels that represent the minimum working requirements in tanks and caverns that we own and (iii) natural gas required to maintain the minimum operating pressure of natural gas storage facilities we own. Following the sale of our Pine Prairie and Southern Pines natural gas storage facilities in August of 2021, we no longer own natural gas storage facilities. See Note 7 for additional information.

Linefill and base gas carrying amounts are reviewed for impairment in accordance with FASB guidance with respect to accounting for the impairment or disposal of long-lived assets. Carrying amounts that are not expected to be recoverable through future cash flows are written down to estimated fair value. See Note 6 for further discussion regarding impairment of long-lived assets. During 2021, 2020 and 2019, we did not recognize any material impairments of linefill and base gas.

Minimum working inventory requirements in third-party assets and other working inventory in our assets that are needed for our commercial operations are included within specific inventory pools in inventory (a current asset) in determining the average cost of operating inventory. At the end of each period, we reclassify the inventory not expected to be liquidated within the succeeding twelve months out of "Inventory," at the average cost of the applicable inventory pools, and into "Long-term inventory," which is reflected as a separate line item under "Other assets" on our Consolidated Balance Sheets.



Inventory, linefill and base gas and long-term inventory consisted of the following (barrels and natural gas volumes in thousands and carrying value in millions):

	December 31, 2021						Decem	ber 31, 2	020		
	Volumes	Unit of Measure		Carrying Value		Price/ Unit ⁽¹⁾	Volumes	Unit of Measure		Carrying Value	Price/ Unit ⁽¹⁾
Inventory											
Crude oil	8,041	barrels	\$	544	\$	67.65	13,450	barrels	\$	441	\$ 32.79
NGL	6,982	barrels		234	\$	33.51	12,302	barrels		199	\$ 16.18
Other	N/A			5		N/A	N/A			7	N/A
Inventory subtotal				783						647	
Linefill and base gas											
Crude oil	15,199	barrels		862	\$	56.71	14,669	barrels		828	\$ 56.45
NGL	1,633	barrels		45	\$	27.56	1,640	barrels		44	\$ 26.83
Natural gas ⁽²⁾	_	Mcf		_	\$	_	25,576	Mcf		110	\$ 4.30
Linefill and base gas subtotal				907						982	
Long-term inventory											
Crude oil	2,973	barrels		209	\$	70.30	2,499	barrels		111	\$ 44.42
NGL	1,135	barrels		44	\$	38.77	1,185	barrels		19	\$ 16.03
Long-term inventory subtotal				253						130	
Total			\$	1,943					\$	1,759	

(1) Price per unit of measure is comprised of a weighted average associated with various grades, qualities and locations. Accordingly, these prices may not coincide with any published benchmarks for such products.

(2) Base gas with a carrying value of \$110 million was included in the sale of our natural gas storage facilities, which closed in August 2021. See Note 7 for additional information.

Note 6—Property and Equipment

In accordance with our capitalization policy, expenditures made to expand the existing operating and/or earnings capacity of our assets are capitalized. We also capitalize certain costs directly related to the construction of such assets, including related internal labor costs, engineering costs and interest costs. For the years ended December 31, 2021, 2020 and 2019, capitalized interest recorded to property and equipment was \$6 million, \$8 million and \$14 million, respectively. In addition, we capitalize interest related to investments in certain unconsolidated entities. See Note 9 for additional information. We also capitalize expenditures for the replacement and/or refurbishment of partially or fully depreciated assets in order to maintain the operating and/or earnings capacity of our existing assets. Repair and maintenance expenditures incurred in order to maintain the day to day operation of our existing assets are expensed as incurred.

Property and equipment, net is stated at cost and consisted of the following (in millions):

	Estimated Useful		Decem	ıber 31,	
	Lives (Years)		2021		2020
Pipelines and related facilities ^{(1) (2)}	10 - 50	\$	12,765	\$	11,112
Storage, terminal and rail facilities ⁽²⁾	10 - 50		5,100		6,042
Trucking equipment and other	2 - 15		502		524
Construction in progress	N/A		248		272
Office property and equipment	2 - 50		312		293
Land and other	N/A		330		342
Property and equipment, gross			19,257		18,585
Accumulated depreciation			(4,354)		(3,974)
Property and equipment, net		\$	14,903	\$	14,611

(1) We include rights-of-way, which are intangible assets, in our Pipelines and related facilities amounts within property and equipment.

⁽²⁾ Useful lives changed to 10 to 50 years in 2021. See below for additional information.

We calculate our depreciation using the straight-line method, based on estimated useful lives and salvage values of our assets. Depreciation expense for the years ended December 31, 2021, 2020 and 2019 was \$652 million, \$563 million and \$525 million, respectively. During the first quarter of 2021, we modified the useful lives of our Pipelines and related facilities and Storage, terminal and rail facilities to useful lives of 10 to 50 years from useful lives of 10 to 70 years to reflect current expectations given our future operating and commercial outlook. These depreciable life adjustments will prospectively increase depreciation expense. For the year ended December 31, 2021, these reductions in useful lives increased depreciation expense by approximately \$72 million, which resulted in a decrease to both basic and diluted net income per common unit of approximately \$0.10 from what these amounts would have been absent the change in useful lives.

As of December 31, 2021, 2020 and 2019, we incurred liabilities for construction in progress that had not been paid of \$48 million, \$51 million and \$120 million, respectively.

Impairment of Long-Lived Assets (Held and Used)

Long-lived assets with recorded values that are not expected to be recovered through future cash flows are written down to estimated fair value in accordance with FASB guidance with respect to the accounting for the impairment or disposal of long-lived assets. Under this guidance, a long-lived asset is tested for impairment when events or circumstances indicate that its carrying value may not be recoverable. The carrying value of a long-lived asset is not recoverable if it exceeds the sum of the undiscounted cash flows expected to result from the use and eventual disposition of the asset. If the carrying value exceeds the sum of the undiscounted cash flows, an impairment loss equal to the amount by which the carrying value exceeds the fair value of the asset is recognized.

We periodically evaluate property and equipment and other long-lived assets for impairment when events or circumstances indicate that the carrying value of these assets may not be recoverable. The evaluation is highly dependent on the underlying assumptions of related cash flows. The subjective assumptions used to determine the existence of an impairment in carrying value include:

- whether there is an indication of impairment;
- the grouping of assets;
- the intention of "holding," "abandoning" or "selling" an asset;
- the forecast of undiscounted expected future cash flow over the asset's estimated useful life; and
- if an impairment exists, the fair value of the asset or asset group.

In addition, when we evaluate property and equipment and other long-lived assets for recoverability, it may also be necessary to review related depreciation estimates and methods.

During the year ended December 31, 2021, we recognized approximately \$220 million of non-cash impairment losses related to certain crude oil storage terminal assets included in our Crude Oil segment. This amount is reflected in "(Gains)/losses on asset sales and asset impairments, net" on our Consolidated Statements of Operations. Decreased demand for our services related to changing market conditions resulted in decreases in expected future cash flows for certain of our assets, which was a triggering event that required us to assess the recoverability of our carrying value of such long-lived assets. As a result of our impairment review, we wrote off the portion of the carrying amount of these long-lived assets that exceeded their fair value. Our estimated fair value (which we consider a Level 3 measurement in the fair value hierarchy) was primarily based upon an assumption for the amount for which the relevant assets and land could be sold.

During the year ended December 31, 2020, we recognized approximately \$541 million of non-cash impairment losses, reflected in "(Gains)/losses on asset sales and asset impairments, net" on our Consolidated Statement of Operations.

Of our impairment losses, approximately \$415 million was associated with certain pipeline assets in our Crude Oil segment located in the Mid-Continent region. The macroeconomic and geopolitical conditions that occurred in 2020, including the collapse of oil prices driven by both the decrease in demand caused by the COVID-19 pandemic and excess supply, as well as changing market conditions and expected lower crude oil production in certain regions, resulted in expected decreases in future cash flows for certain of our assets, which was a triggering event that required us to assess the recoverability of our carrying value of such long-lived assets. As a result of our impairment review, we wrote off the portion of the carrying amount of these long-lived assets that exceeded their fair value. Our estimated fair values (which we consider a Level 3 measurement in the fair value hierarchy) were based upon a discounted cash flow approach utilizing various assumptions and the application of a discount rate of approximately 14%, which represents our estimate of the cost of capital of a theoretical market participant. Such assumptions included (but were not limited to) (i) future commodity volumes (consistent with historical information and estimates of future drilling and completion activity), (ii) tariff rates, (iii) future commodity prices (based on relevant indices and applicable quality and location differentials), and (iv) estimated fixed and variable costs.

The remaining impairment losses were associated with idled or underutilized assets, primarily in our Crude Oil segment, including certain pipelines located in the Western region and other long-lived assets, for which it has been determined that it is unlikely that opportunities will exist in the future to recover our investment in these assets. We wrote off substantially all of the carrying value of these assets.

We did not recognize any material impairments during the year ended December 31, 2019.

Note 7—Acquisitions, Divestitures and Other Transactions

Joint Venture Transaction

In October 2021, we and Oryx Midstream completed the merger, in a cashless, debt-free transaction, of our respective Permian Basin assets, operations and commercial activities into a newly formed joint venture, the Permian JV. The Permian JV includes all of Oryx Midstream's Permian Basin assets and, with the exception of our long-haul pipeline systems and certain of our intrabasin terminal assets, the vast majority of our assets located within the Permian Basin. We own 65% of the Permian JV, operate the combined assets and reflect the Permian JV as a consolidated subsidiary in our consolidated financial statements.

The formation of the joint venture was accounted for as a business combination using the acquisition method of accounting. As the majority owner and the controlling entity, we are considered the acquirer and the transfer of our predecessor business to the joint venture was accounted for at historical cost, while the Oryx Midstream predecessor business was recorded based on the fair value of the assets acquired and liabilities assumed. In accordance with applicable accounting guidance, the fair value of Oryx Midstream's ownership interest in the joint venture following the formation of \$3.256 billion is utilized as the consideration transferred for the purchase price allocation.

The combination of the historical cost and fair value, discussed above, resulted in net assets of the joint venture of approximately \$7.575 billion upon formation. Oryx Midstream's 35% interest in the net assets of the Permian JV was recognized as noncontrolling interest in partners' capital. The difference between the noncontrolling interest recognized and the fair value of Oryx Midstream's assets acquired and liabilities assumed was recorded as an increase to our partners' capital excluding noncontrolling interests.

The following table presents the amounts recognized in partners' capital associated with this transaction (in millions):

	Recogniz	ed Amount
Noncontrolling interests	\$	2,651
Partners' capital, excluding noncontrolling interests		605
	\$	3,256

The fair value of the \$3.256 billion consideration is a Level 3 measurement in the fair value hierarchy and was determined by valuing both the enterprise value of Oryx Midstream's Permian Basin business and the enterprise value of our Permian Basin assets that were contributed to the joint venture. The enterprise value of Oryx Midstream's Permian Basin business was calculated by weighting the results of (i) a discounted cash flow ("DCF") approach and (ii) a guideline public company method ("GPCM"). The value of our Permian Basin assets that were contributed to the joint venture was based on a GPCM. The DCF approach utilized a discount rate of 11.75%, based on our estimate of the risk that a theoretical market participant would assign to the business. The projection of future crude volumes gathered and transported was also a key assumption in the DCF approach and was based on projected rig activity on the associated acreage. The GPCM applies market multiples to estimated earnings to derive the fair value. The GPCM values for Oryx Midstream's Permian Basin business and for our Permian Basin assets that were contributed to the joint venture assumed market multiples to 11.0, which were derived from assumptions of market multiples for similar businesses.

The determination of the fair value of the assets acquired and liabilities assumed was estimated in accordance with the applicable accounting guidance. The analysis was performed based on estimates that are reflective of market participant assumptions. The determination of these values is preliminary, pending finalization of working capital balances, and we expect to finalize our fair value determination in 2022. The following table reflects our preliminary determination of the fair value of those assets and liabilities (in millions):

Identifiable Assets Acquired and Liabilities Assumed	Estimated Useful Lives (in years)	Recognized Amount
Property and equipment	3-30	\$ 1,886
Intangible assets	20	1,247
Investment in unconsolidated entities	N/A	103
Linefill	N/A	5
Working capital and other assets and liabilities	N/A	15
		\$ 3,256

The fair value of the tangible assets is a Level 3 measurement in the fair value hierarchy and was determined using a cost approach based on costs incurred on similar recent construction projects. The fair value of the intangible assets is also a Level 3 measurement in the fair value hierarchy and was determined by applying a discounted cash flow approach. Such approach utilized a discount rate of approximately 16%, based on our estimate of the risk that a theoretical market participant would assign to the respective intangible assets. The projection of future crude oil volumes gathered and transported was also a key assumption in the valuation of the intangible assets and was based on projected rig activity on the associated acreage.

The fair value of intangible assets is comprised of customer relationships that will be amortized over their useful lives, which have a remaining weighted average life of approximately 20 years. The value assigned to such intangible assets will be amortized to earnings under the declining balance method of amortization. Amortization expense was approximately \$28 million during the year ended December 31, 2021, and the future amortization expense through 2026 is estimated as follows (in millions):

2022	\$ 142
2023	\$ 138
2024	\$ 127
2025	\$ 117
2026	\$ 106

During the year ended December 31, 2021, we incurred approximately \$17 million of transaction-related costs associated with the joint venture formation transaction. Such costs are reflected as a component of "General and administrative expenses" on our Consolidated Statements of Operations.

Quarterly distributions of available cash from the Permian JV to us and Oryx Midstream are subject to a tiered modified sharing arrangement ("MSA") for up to ten years. Pursuant to the terms of the governing documents for the Permian JV, the MSA will terminate in October 2031, or sooner if Oryx Midstream exercises its right to terminate the MSA at any time by delivery of written notice to us. Upon termination of the MSA, quarterly distributions of available cash will be paid 65% to PAA and 35% to Oryx.

Under the MSA, distributions will be allocated as follows (in millions):

	Available Cash	Distributions Percentages		
Tier	Annualized	PAA	Oryx	
1	Up to \$300	50%	50%	
2	\$300 - \$428	100%	%	
3	\$428 - \$815	65%	35%	
4	\$815 and above	70%	30%	

Oryx Midstream is a portfolio company of Stonepeak Infrastructure Partners ("Stonepeak"). Affiliates of Stonepeak own approximately 8.9% of our outstanding Series A preferred units, which equates to less than 1% of our outstanding common units and Series A preferred units (our "common unit equivalents") combined.

Pro Forma and Other Financial Results

Financial results of the Permian JV have been included in the results of operations within the Crude Oil segment since the date of the formation. Disclosure of the revenues and earnings from the Oryx Midstream predecessor business for the period subsequent to the joint venture formation is not practicable as it is not being operated as a standalone subsidiary. The following selected unaudited pro forma results of operations were derived from the historical financial statements of PAA and Oryx Midstream, and gives effect to the joint venture formation as if it had occurred on January 1, 2020. The pro forma results of operations do not include any cost savings or other synergies that may result from the Permian JV or any estimated costs that have been or will be incurred by us to integrate Oryx Midstream's assets. These results are not necessarily indicative of the results that might have actually occurred had the merger taken place on January 1, 2020; furthermore, this financial information is not intended to be a projection of future results (in millions, except per unit amounts):

	Year ended December 31,		
	2021		2020
Total revenues	\$ 42,359	\$	23,536
Net income/(loss) attributable to PAA	\$ 524	\$	(2,898)
Net income/(loss) allocated to common unitholders	\$ 324	\$	(3,098)
Basic and diluted net income/(loss) per common unit	\$ 0.45	\$	(4.26)

Asset Exchange

In June 2021, we closed on an asset exchange agreement (the "Asset Exchange") with Inter Pipeline Ltd., through which we acquired additional interests in two straddle plants included in our NGL segment that we currently operate, in exchange for a pipeline and related storage and truck offload facilities previously included in our Crude Oil segment and cash consideration of \$32 million, including working capital and other adjustments. We recognized a gain of \$106 million on the divestiture of the pipeline and related storage and truck offload facilities, which is included in "(Gains)/losses on asset sales and asset impairments, net" on our Consolidated Statement of Operations, based on the difference between the fair value of the divested assets and their carrying value.

Acquisitions

In February 2020, we acquired Felix Midstream LLC, now known as FM Gathering LLC ("FM Gathering") from Felix Energy Holdings II, LLC for approximately \$300 million, net of working capital and other adjustments. FM Gathering owns and operates a newly constructed crude oil gathering system in the Delaware Basin, with associated crude oil storage and truck offloading capacity, and is supported by a long-term acreage dedication. The assets acquired are included in our Crude Oil segment. This acquisition was accounted for using the acquisition method of accounting and the determination of the fair value of the assets acquired and liabilities assumed was determined in accordance with the applicable accounting guidance. The assets acquired primarily consisted of property and equipment of \$115 million and intangible assets of \$187 million. The fair value of the tangible assets is a Level 3 measurement in the fair value hierarchy and was determined using a cost approach. The cost approach was based on costs incurred on similar recent construction projects. The fair value of the intangible assets is also a Level 3 measurement in the fair value hierarchy and was determined by applying a discounted cash flow approach. Such approach utilized discount rates varying from 18% to 19%, based on our estimate of the risk that a theoretical market participant would assign to the respective intangible assets.

During the second quarter of 2019, we acquired a crude oil terminal, including tank bottoms and linefill, in Cushing, Oklahoma for cash consideration of \$44 million, which was accounted for as an asset acquisition.

Divestitures

In August 2021, we sold our Pine Prairie and Southern Pines natural gas storage facilities, which were included in our Crude Oil segment for periods prior to the sale, for net proceeds of approximately \$850 million, including working capital adjustments. Prior to the sale, we classified the assets related to this transaction (primarily "Property and equipment"), valued at the lower of the carrying amount or fair value less costs to sell, of approximately \$832 million as assets held for sale with approximately \$18 million of deferred losses on hedges remaining in other comprehensive income until the closing of the sale. Upon classification of the assets to held for sale in the second quarter of 2021, we recognized a non-cash impairment loss of \$475 million which is included in "(Gains)/losses on asset sales and asset impairments, net" on our Consolidated Statement of Operations.

During the year ended December 31, 2020, we received cash proceeds of \$451 million, primarily from the sale of:

- certain Los Angeles Basin crude oil terminals previously included in our Crude Oil segment for proceeds of approximately \$200 million, subject to certain adjustments;
- certain NGL terminals previously included in our NGL segment for proceeds of approximately \$163 million (including \$22 million related to a multi-year supply agreement related to the sale), subject to certain adjustments; and
- a 10% ownership interest in Saddlehorn Pipeline Company, LLC ("Saddlehorn") for proceeds of approximately \$78 million, including working capital adjustments (see Note 9 for additional information).

We recognized a loss related to these assets sales of \$178 million, including non-cash impairments recognized upon classification to assets held for sale, for the year ended December 31, 2020. Such amount is included in "(Gains)/losses on asset sales and asset impairments, net" on our Consolidated Statement of Operations.

During the year ended December 31, 2019, we sold certain non-core assets for total proceeds of \$77 million that primarily consisted of a storage terminal in North Dakota, which is reflected in our Crude Oil segment for the period prior to the sale. For the year ended December 31, 2019, we recognized a net loss related to these asset sales of \$16 million, which is comprised of gains of \$31 million and losses of \$47 million. Such amounts are included in "(Gains)/losses on asset sales and asset impairments, net" on our Consolidated Statement of Operations.

Note 8—Goodwill

Goodwill represents the future economic benefits arising from assets acquired in a business combination that are not individually identified and separately recognized.

In accordance with FASB guidance, we test goodwill to determine whether an impairment has occurred at least annually (as of June 30) and on an interim basis if it is more likely than not that a reporting unit's fair value is less than its carrying value. Goodwill is tested for impairment at a level of reporting referred to as a reporting unit. A reporting unit is an operating segment or one level below an operating segment for which discrete financial information is available and regularly reviewed by segment management. Our reporting units are our operating segments. FASB guidance provides for a quantitative approach to testing goodwill for impairment; however, we may first assess certain qualitative factors to determine whether it is necessary to perform the quantitative goodwill impairment test. In the quantitative test, we compare the fair value of the reporting unit with the respective book values, including goodwill, by using an income approach based on a discounted cash flow model. This approach requires us to make long-term forecasts of future revenues, expenses and other expenditures. Those forecasts require the use of various assumptions and estimates, the most significant of which are net revenues (total revenues less purchases and related costs), operating expenses, general and administrative expenses and the weighted average cost of capital. Fair value of the reporting unit's goodwill is not considered impaired. If the book value is greater than fair value, then goodwill is impaired by the amount by which a reporting unit's carrying value exceeds its fair value, not to exceed the carrying value of goodwill.

During the first quarter of 2020, we recorded impairment losses of \$2.515 billion related to goodwill. Our market capitalization declined significantly during the first quarter driven by macroeconomic and geopolitical conditions that occurred in 2020, including the collapse of oil prices driven by both the decrease in demand caused by the COVID-19 pandemic and excess supply, as well as changing market conditions and expected lower crude oil production in certain regions, that resulted in expected decreases in future cash flows for certain of our assets, which we concluded was a triggering event that required us to perform a quantitative impairment test as of March 31, 2020, utilizing a discounted cash flow approach. We applied a discount rate of approximately 14% in the determination of the fair value of each of our reporting units, which represents our estimate of the cost of capital of a theoretical market participant as of March 31, 2020. The fair values of the reporting units are Level 3 measurements in the fair value hierarchy and were based on various inputs, as discussed below. The discounted cash flows for ether preporting unit were based on six years of projected cash flows and terminal values that we believe would be applied by a theoretical market participant in similar market transactions. The discounted cash flows for the respective reporting units utilized various other assumptions, including, but not limited to (i) volumes (based on historical information and estimates of future drilling and completion activity, as well as expectations of future demand recovery), (ii) tariff and storage rates, (iii) future commodity prices (based on relevant indices and applicable quality and location differentials), and (iv) estimated fixed and variable costs. We used a range of cash flows for the discounted cash flows. As a result of the impairment test, we concluded that the carrying value of each of our reporting units exceeded their respective fair values, resulting in a goodwill impairment charge for the en

Goodwill by segment and changes in goodwill is reflected in the following table (in millions):

	Crude Oil	NGL	Total
Balance at December 31, 2019	\$ 2,300	\$ 240	\$ 2,540
Acquisitions	2		2
Goodwill, gross	\$ 2,302	\$ 240	\$ 2,542
Impairments	(2,287) (228)	(2,515)
Foreign currency translation adjustments	(15) (12)	(27)
Accumulated impairment losses	(2,302) (240)	(2,542)
Balance at December 31, 2020	\$	\$	\$

Note 9-Investments in Unconsolidated Entities

Investments in entities over which we have significant influence but not control are accounted for under the equity method. We do not consolidate any part of the assets or liabilities of our equity investees. Our share of net income or loss is reflected as one line item on our Consolidated Statements of Operations entitled "Equity earnings in unconsolidated entities" and will increase or decrease, as applicable, the carrying value of our investments in unconsolidated entities on our Consolidated Balance Sheets. We evaluate our equity investments for impairment in accordance with FASB guidance with respect to the equity method of accounting for investments in common stock. An impairment of an equity investment results when factors indicate that the investment's fair value is less than its carrying value and the reduction in value is other than temporary in nature.

Our investments in unconsolidated entities consisted of the following (in millions, except percentage data):

		Ownership Interest at December 31,	Investment Balance December 31,		
Entity (1)	Type of Operation	2021	20	21	2020
BridgeTex Pipeline Company, LLC ("BridgeTex")	Crude Oil Pipeline	20%	\$	406 \$	421
Cactus II Pipeline LLC ("Cactus II")	Crude Oil Pipeline	65%		737	752
Capline Pipeline Company LLC	Crude Oil Pipeline ⁽²⁾	54%		531	514
Diamond Pipeline LLC ("Diamond")	Crude Oil Pipeline	50%		464	480
Eagle Ford Pipeline LLC ("Eagle Ford Pipeline")	Crude Oil Pipeline	50%		363	372
Eagle Ford Terminals Corpus Christi LLC ("Eagle Ford Terminals")	Crude Oil Terminal and Dock	50%		120	122
OMOG JV LLC ⁽³⁾	Crude Oil Pipeline	40%		102	—
Saddlehorn	Crude Oil Pipeline	30%		209	208
White Cliffs Pipeline, LLC	Crude Oil Pipeline	36%		171	192
Wink to Webster Pipeline LLC ("W2W Pipeline") ⁽⁴⁾	Crude Oil Pipeline ⁽⁵⁾	16%		345	330
Other investments				357	373
Total Investments in Unconsolidated Entities			\$	3,805 \$	3,764

⁽¹⁾ The financial results from these entities are reported in our Crude Oil segment.

(2) The Capline pipeline was out of service during 2020 and a majority of 2021 pending the reversal of the pipeline system. The pipeline reversal project was completed with interim service beginning in mid-December 2021 and full service beginning in January 2022.

(3) Our ownership in this entity was acquired as part of the assets contributed by Oryx Midstream in the formation of the Permian JV in October 2021. See Note 7 for additional information.

(4) Although we own less than 20% of W2W Pipeline, we use the equity method to account for the investment because we believe we have significant influence over the financial and operating decisions of the company.

(5) The pipeline system was in partial service during 2021 and another phase of the pipeline construction project was completed in the first quarter of 2022.

Impairments

During the year ended December 31, 2020, we recognized losses as a result of the write-down of certain of our investments in unconsolidated entities, as discussed further below. Such amounts are reflected in "Gain on/(impairment of) investments in unconsolidated entities, net" on our Consolidated Statement of Operations.

STACK. During the third quarter of 2020, we determined that there was an other-than-temporary impairment of our investment in STACK Pipeline LLC as a result of a continued decline of drilling activity and related volumes of crude oil in its area of operation. We recognized a loss of \$91 million related to the write-down of the portion of the carrying amount of our investment that exceeded its fair value. The estimated fair value (which we consider a Level 3 measurement in the fair value hierarchy) was based on a discounted cash flow approach utilizing various assumptions and the application of a discount rate of approximately 14%, which represents our estimate of the cost of capital of a theoretical market participant. Such assumptions included (but were not limited to) (i) volumes (consistent with historical information and estimates of future drilling and completion activity), (ii) tariff rates, (iii) future commodity prices (based on relevant indices and applicable quality and location differentials), and (iv) estimated fixed and variable costs.

Red Oak. In June 2019, we formed Red Oak Pipeline LLC ("Red Oak"), a joint venture with a subsidiary of Phillips 66 and in which we own a 50% interest, to develop a new crude oil pipeline project. In 2020, the partners of Red Oak determined that the project would not proceed as previously contemplated. We determined that there was an other-than-temporary impairment of our investment in Red Oak, and we recognized a loss of \$69 million related to the write-down of our investment in Red Oak to the estimated residual value of our share of the net assets during the second quarter of 2020.

Other investments. During the first quarter of 2020, we also recognized a loss of \$43 million related to the write-down of certain of our investments included in "Other investments" in the table above due to an other-than-temporary impairment related to a decline in market conditions.

Formations

Capline LLC. During the first quarter of 2019, the owners of the Capline pipeline system contributed their undivided joint interests in the system to a newly formed entity, Capline Pipeline Company LLC ("Capline LLC"), in exchange for equity interests in such entity. After the contribution, Capline LLC owns 100% of the pipeline system. Each owner's undivided joint interest in the Capline pipeline system prior to the transaction is equal to each owner's equity interest in Capline LLC. Although we own a majority of Capline LLC's equity, we do not have a controlling financial interest in Capline LLC because the other members have substantive participating rights. Therefore, we account for our ownership interest in Capline LLC as an equity method investment.

Under applicable accounting rules, the transaction resulted in a "loss of control" of our undivided joint interest, which was derecognized and contributed to Capline LLC. The "loss of control" required us to measure our equity interest in Capline LLC at fair value. At the time of the transaction, our 54% undivided joint interest in the Capline pipeline system had a carrying value of \$175 million, which primarily related to property and equipment included in our Crude Oil segment. We determined the fair value of our investment in Capline LLC to be approximately \$444 million, resulting in the recognition of a gain of \$269 million during the year ended December 31, 2019. Such gain is included in "Gain on/(impairment of) investment in unconsolidated entities, net" on our Consolidated Statement of Operations.

The fair value of our investment in Capline LLC was based on an income approach utilizing a discounted cash flow analysis. The cash flow forecasts require the use of various assumptions and estimates which include those related to the timing and amount of capital expenditures, the expected tariff rates and volumes of crude oil, and the terminal value. We probability-weighted various forecasted cash flow scenarios utilized in the analysis when we considered the possible outcomes. We used a discount rate representing our estimate of the risk adjusted discount rate that would be used by market participants. If shipper interest varies from the levels assumed in our model, the related cash flows, and thus the fair value of our investment, could be materially impacted. The fair value of our investment was determined using significant unobservable inputs, or Level 3 inputs in the fair value hierarchy.

Divestitures

Saddlehorn. In February 2020, we sold a 10% ownership interest in Saddlehorn for proceeds of approximately \$78 million and have retained a 30% ownership interest. We recorded a gain of approximately \$21 million related to this sale, which is included in "Gain on/(impairment of) investments in unconsolidated entities, net" on our Consolidated Statement of Operations. We continue to account for our remaining interest under the equity method of accounting.

Distributions

Distributions received from unconsolidated entities are classified based on the nature of the distribution approach, which looks to the activity that generated the distribution. We consider distributions received from unconsolidated entities as a return on investment in those entities to the extent that the distribution was generated through operating results, and therefore classify these distributions as cash flows from operating activities in our Consolidated Statement of Cash Flows. Other distributions received from unconsolidated entities are considered a return of investment and classified as cash flows from investing activities on the Consolidated Statement of Cash Flows.

Contributions

We generally fund our portion of development, construction or capital investment projects of our equity method investees through capital contributions. Our contributions to these entities increase the carrying value of our investments and are reflected in our Consolidated Statements of Cash Flows as cash used in investing activities. During the years ended December 31, 2021, 2020 and 2019, we made cash contributions of \$82 million, \$445 million and \$504 million, respectively, to certain of our equity method investees. In addition, we capitalized interest of \$12 million, \$16 million and \$20 million during the years ended December 31, 2021, 2020 and 2019, respectively, related to contributions to unconsolidated entities for projects under development and construction.



Basis Differences

Our investments in unconsolidated entities exceeded our share of the underlying equity in the net assets of such entities by \$223 million and \$170 million at December 31, 2021 and 2020, respectively. Such basis differences are included in the carrying values of our investments on our Consolidated Balance Sheets. The portion of the basis differences attributable to depreciable or amortizable assets is amortized on a straight-line basis over the estimated useful life of the related assets, which reduces "Equity earnings in unconsolidated entities" on our Consolidated Statements of Operations. The portion of the basis differences attributable to goodwill is not amortized. The majority of the basis difference at both December 31, 2021 and 2020 was attributable to goodwill related to our ownership interest in BridgeTex and Capline LLC with the remaining basis difference primarily related to capitalized interest incurred during construction of the assets of our unconsolidated entities.

Summarized Financial Information of Unconsolidated Entities

Combined summarized financial information for all of our unconsolidated entities is shown in the tables below (in millions). None of our unconsolidated entities have noncontrolling interests.

	December 31,			
	2021		2020	
Current assets	\$ 509	\$	580	
Noncurrent assets	\$ 8,879	\$	8,769	
Current liabilities	\$ 366	\$	343	
Noncurrent liabilities	\$ 15	\$	10	

	Year Ended December 31,				
	 2021		2020		2019
venues	\$ 1,320	\$	1,360	\$	1,469
Operating income	\$ 505	\$	828	\$	994
Net income	\$ 506	\$	826	\$	995



Note 10—Intangible Assets, Net

Intangible assets, net of accumulated amortization, consisted of the following (in millions):

		December 31, 2021					D	December 31, 2020				
	Estimated Useful Lives (Years)	 Cost		Accumulated ost Amortization		Net		Cost		Accumulated Amortization		Net
Customer contracts and relationships (1)	3 - 31	\$ 2,445	\$	(510)	\$	1,935	\$	1,291	\$	(519)	\$	772
Other agreements	1 - 70	36		(11)		25		63		(30)		33
Intangible assets ⁽²⁾		\$ 2,481	\$	(521)	\$	1,960	\$	1,354	\$	(549)	\$	805

(1) The increase in intangible assets related to Customer contracts and relationships in 2021 is associated with the assets acquired in the formation of the Permian JV. See Note 7 for additional information.

(2) We include rights-of-way, which are intangible assets, in our pipeline and related facilities amounts within property and equipment. See Note 6 for a discussion of property and equipment.

Intangible assets that have finite lives are tested for impairment when events or circumstances indicate that the carrying value may not be recoverable. We did not recognize any impairments of finite-lived intangible assets during the three years ended December 31, 2021.

Amortization expense for finite-lived intangible assets for the years ended December 31, 2021, 2020 and 2019 was \$122 million, \$90 million and \$76 million, respectively. We estimate that our amortization expense related to finite-lived intangible assets for the next five years will be as follows (in millions):

2022	\$ 240
2023	\$ 232
2024	\$ 220
2025	\$ 207
2023 2024 2025 2026	\$ 187



Note 11—Debt

Debt consisted of the following (in millions):

	Decem 20		December 31, 2020
SHORT-TERM DEBT			
Commercial paper notes, bearing a weighted-average interest rate of 0.7% ⁽¹⁾	\$	— \$	547
Senior secured hedged inventory facility, bearing a weighted-average interest rate of 1.2% ⁽¹⁾		—	167
Senior notes:			
3.65% senior notes due June 2022 ⁽²⁾		750	—
Other		72	117
Total short-term debt		822	831
LONG-TERM DEBT			
Senior notes:			
3.65% senior notes due June 2022		_	750
2.85% senior notes due January 2023		400	400
3.85% senior notes due October 2023		700	700
3.60% senior notes due November 2024		750	750
4.65% senior notes due October 2025		1,000	1,000
4.50% senior notes due December 2026		750	750
3.55% senior notes due December 2029		1,000	1,000
3.80% senior notes due September 2030		750	750
6.70% senior notes due May 2036		250	250
6.65% senior notes due January 2037		600	600
5.15% senior notes due June 2042 ⁽³⁾		499	499
4.30% senior notes due January 2043 ⁽³⁾		348	348
4.70% senior notes due June 2044 ⁽³⁾		687	687
4.90% senior notes due February 2045 ⁽³⁾		649	649
Unamortized discounts and debt issuance costs		(54)	(62)
Senior notes, net of unamortized discounts and debt issuance costs		8,329	9,071
Other long-term debt:			
GO Zone term loans, net of debt issuance costs of $\$1$, bearing a weighted-average interest rate of 1.3% $^{(4)}$		_	199
Other		69	112
Total long-term debt		8,398	9,382
Total debt ⁽⁵⁾	\$	9,220 \$	10,213

(1) We classified these commercial paper notes and credit facility borrowings as short-term as of December 31, 2020, as these notes and borrowings were primarily designated as working capital borrowings, were required to be repaid within one year and were primarily for hedged NGL and crude oil inventory and NYMEX and ICE margin deposits.

⁽²⁾ In January 2022, we provided notice of our intention to redeem these senior notes on March 1, 2022.

(3) During the year ended December 31, 2020, we repurchased \$17 million of our outstanding senior notes on the open market and recognized a gain of \$3 million on these transactions, which is included in "Other income/(expense), net" on our Consolidated Statement of Operations.

- (4) The GO Zone term loans were initially assumed by one of our subsidiaries in connection with the acquisition of the Southern Pines natural gas storage facility. The loans were repaid in August 2021 in connection with the sale of that facility. See Note 7 for additional information.
- (5) Our fixed-rate senior notes had a face value of approximately \$9.1 billion at both December 31, 2021 and 2020. We estimated the aggregate fair value of these notes to be approximately \$9.9 billion at both December 31, 2021 and 2020. Our fixed-rate senior notes are traded among institutions, and these trades are routinely published by a reporting service. Our determination of fair value is based on reported trading activity near the end of the reporting period. We estimate that the carrying value of outstanding borrowings under our credit facilities, commercial paper program and GO Zone term loans approximates fair value as interest rates reflect current market rates. The fair value estimates for our senior notes, credit facilities, commercial paper program and GO Zone term loans are based upon observable market data and are classified in Level 2 of the fair value hierarchy.

Commercial Paper Program

We have a commercial paper program under which we may issue (and have outstanding at any time) up to \$2.7 billion in the aggregate of privately placed, unsecured commercial paper notes. Such notes are backstopped by our senior unsecured revolving credit facility and our senior secured hedged inventory facility; as such, any borrowings under our commercial paper program reduce the available capacity under these facilities.

Credit Agreements

Senior secured hedged inventory facility. In August 2021, we entered into an amended credit agreement which replaced our \$1.4 billion senior secured hedged inventory facility scheduled to mature in August 2022 with a \$1.35 billion senior secured hedged inventory facility with an initial maturity date of August 2024. Subject to obtaining additional or increased lender commitments and other terms and conditions, the committed capacity of the facility may be increased to \$1.9 billion. The amended credit agreement provides for the issuance of letters of credit of up to \$400 million. Proceeds from the facility are primarily used to finance purchased or stored hedged inventory, including NYMEX and ICE margin deposits. Such obligations under the committed facility are secured by the financed inventory and the associated accounts receivable and are repaid from the proceeds of the sale of the financed inventory. Borrowings accrue interest based, at our election, on certain floating rate indices as defined in the credit agreement, in each case plus a margin based on our credit rating at the applicable time. The amended credit agreement also provides for one or more one-year extensions, subject to applicable approval and other terms and conditions.

Senior unsecured revolving credit facility. In August 2021, we entered into a new unsecured credit agreement that provides for a senior unsecured revolving credit facility with a committed borrowing capacity of \$1.35 billion, of which \$400 million is available for the issuance of letters of credit. The new credit agreement replaced our previous credit agreement that provided for a \$1.6 billion senior unsecured revolving credit facility and was scheduled to mature in August 2024. Subject to obtaining additional or increased lender commitments and other terms and conditions, the committed capacity may be increased to \$2.1 billion. Borrowings accrue interest based, at our election, on certain floating rate indices as defined in the credit agreement, in each case plus a margin based on our credit rating at the applicable time. The new credit agreement has an initial maturity date of August 2026 and provides for one or more one-year extensions, subject to applicable approval and other terms and conditions.

GO Zone term loans. In August 2018, we entered into an agreement for two \$100 million term loans (the "GO Zone term loans") from the remarketing of our \$100 million Mississippi Business Finance Corporation Gulf Opportunity Zone Industrial Development Revenue Bonds (PAA Natural Gas Storage, L.P. Project), Series 2009 and our \$100 million Mississippi Business Finance Corporation Gulf Opportunity Zone Industrial Development Revenue Bonds (PAA Natural Gas Storage, L.P. Project), Series 2010 (collectively, the "GO Bonds"). The GO Zone term loans accrued interest, based on certain floating rate indices, in accordance with the interest payable on the related GO Bonds as provided in the GO Bonds Indenture pursuant to which such GO Bonds are issued and governed. The GO Zone term loans were repaid in August 2021 in connection with the sale of the Southern Pines natural gas storage facility. See Note 7 for additional information.

Senior Notes

Our senior notes are co-issued, jointly and severally, by Plains All American Pipeline, L.P. and a 100%-owned consolidated finance subsidiary (neither of which have independent assets or operations) and are unsecured senior obligations of such entities and rank equally in right of payment with existing and future senior indebtedness of the issuers. We may, at our option, redeem any series of senior notes at any time in whole or from time to time in part, prior to maturity, at the redemption prices described in the indentures governing the senior notes. Our senior notes are not guaranteed by any of our subsidiaries.

Senior Notes Issuances. The table below summarizes our issuances of senior unsecured notes during the three years ended December 31, 2021 (in millions):

Year	Description	Maturity	Face Value	Interest Payment Dates
2020	3.80% Senior Notes issued at 99.794% of face value	September 2030	\$ 750	March 15 and September 15
2019	3.55% Senior Notes issued at 99.801% of face value	December 2029	\$ 1,000	June 15 and December 15

Senior Notes Repayments. During the three years ended December 31, 2021, we repaid the following senior unsecured notes in full (in millions):

Year	Description	Repayment Date	_
2020	\$600 million 5.00% Senior Notes due February 2021	November 2020	(1)
2019	\$500 million 2.60% Senior Notes due December 2019	November 2019	(2)
2019	\$500 million 5.75% Senior Notes due January 2020	December 2019	(2)

⁽¹⁾ We repaid these senior notes with proceeds from our 3.80% senior notes issued in June 2020 and cash on hand.

⁽²⁾ We repaid these senior notes with proceeds from our 3.55% senior notes issued in September 2019 and cash on hand.

Maturities

The weighted average maturity of our senior notes outstanding at December 31, 2021 was approximately 10 years. The following table presents the aggregate contractually scheduled maturities of such senior notes for the next five years and thereafter. The amounts presented exclude unamortized discounts and debt issuance costs.

Calendar Year	Payment (in millions)
2022	\$ 750
2023	\$ 1,100
2024	\$ 750
2025	\$ 1,000
2026	\$ 750
Thereafter	\$ 4,783

Covenants and Compliance

The credit agreements for our revolving credit facilities (which impact our ability to access our commercial paper program because they provide the financial backstop that supports our short-term credit ratings) and the indentures governing our senior notes contain cross-default provisions. Our credit agreements prohibit declaration or payments of distributions on, or purchases or redemptions of, units if any default or event of default is continuing. In addition, the agreements contain various covenants limiting our ability to, among other things:

- grant liens on certain property;
- incur indebtedness, including finance leases;
- sell substantially all of our assets or enter into a merger or consolidation;
- engage in certain transactions with affiliates; and
- enter into certain burdensome agreements.

The credit agreements for our senior unsecured revolving credit facility and senior secured hedged inventory facility treat a change of control as an event of default and also require us to maintain a debt-to-EBITDA coverage ratio that, on a trailing four-quarter basis, will not be greater than 5.00 to 1.00 (or 5.50 to 1.00 on all outstanding debt during an acquisition period (generally, the period consisting of three fiscal quarters following an acquisition greater than \$150 million)). For covenant compliance purposes, Consolidated EBITDA may include certain adjustments, including those for material projects and certain non-recurring expenses. Additionally, letters of credit and borrowings to fund hedged inventory and margin requirements are excluded when calculating the debt coverage ratio.

A default under our credit agreements or indentures would permit the lenders to accelerate the maturity of the outstanding debt. As long as we are in compliance with the provisions contained in our credit agreements, our ability to make distributions of available cash is not restricted. As of December 31, 2021, we were in compliance with the covenants contained in our credit agreements and indentures.

Borrowings and Repayments

Total borrowings under our credit facilities and commercial paper program for the years ended December 31, 2021, 2020 and 2019 were approximately \$32.5 billion, \$29.3 billion and \$13.3 billion, respectively. Total repayments under our credit facilities and commercial paper program were approximately \$33.2 billion, \$29.0 billion and \$12.9 billion for the years ended December 31, 2021, 2020 and 2019, respectively. The variance in total gross borrowings and repayments is impacted by various business and financial factors including, but not limited to, the timing, average term and method of general partnership borrowing activities.

Letters of Credit

In connection with our merchant activities, we provide certain suppliers with irrevocable standby letters of credit to secure our obligation for the purchase and transportation of crude oil and NGL. These letters of credit are issued under our senior unsecured revolving credit facility and our senior secured hedged inventory facility, and our liabilities with respect to these purchase obligations are recorded in accounts payable on our balance sheet in the month the crude oil or NGL is purchased. Generally, these letters of credit are issued for periods of up to seventy days and are terminated upon completion of each transaction. Additionally, we issue letters of credit to support insurance programs, derivative transactions, including hedging-related margin obligations, and construction activities. At December 31, 2021 and 2020, we had outstanding letters of credit of \$98 million and \$129 million, respectively.

Debt Issuance Costs

Costs incurred in connection with the issuance of senior notes are recorded as a direct deduction from the related debt liability and are amortized using the straight-line method over the term of the related debt. Use of the straight-line method does not differ materially from the "effective interest" method of amortization.



Note 12—Partners' Capital and Distributions

Units Outstanding

At December 31, 2021, partners' capital consisted of outstanding common units and Series A and Series B preferred units, which represent limited partner interests in us, which give the holders thereof the right to participate in distributions and to exercise the other rights or privileges as outlined in our partnership agreement. Our general partner has a non-economic interest in us.

Series A Preferred Units

Our Series A preferred units were issued in a private placement in 2016 at a price of \$26.25 per unit (the "Issue Price"). The Series A preferred units represent limited partner interests in us, rank pari passu with our Series B preferred units, and senior to our common units and to each other class or series of our equity securities with respect to distribution rights and rights upon liquidation. The holders of the Series A preferred units receive cumulative quarterly distributions, subject to customary antidilution adjustments, equal to \$0.525 per unit (\$2.10 per unit annualized).

The holders may convert their Series A preferred units into common units, generally on a one-for-one basis and subject to customary anti-dilution adjustments, at any time, in whole or in part, subject to certain minimum conversion amounts (and not more often than once per quarter). We may convert the Series A preferred units into common units at any time (but not more often than once per quarter), in whole or in part, subject to certain minimum conversion amounts, if the closing price of our common units is greater than 150% of the Issue Price for the preceding 20 trading days. The Series A preferred units vote on an as-converted basis with our common units and have certain other class voting rights with respect to any amendment to our partnership agreement that would adversely affect any rights, preferences or privileges of the Series A preferred units. In addition, upon certain events involving a change of control, the holders of the Series A preferred units and perferred units at the then applicable conversion rate.

For a period of 30 days following (a) the fifth anniversary of the January 28, 2016 issuance date (the "Issuance Date") of the Series A preferred units and (b) each subsequent anniversary of the Issuance Date, the holders of the Series A preferred units, acting by majority vote, may make a one-time election to reset the Series A preferred unit distribution rate to equal the then applicable rate of ten-year U.S. Treasury Securities plus 5.85% (the "Preferred Distribution Rate Reset Option"). The Preferred Distribution Rate Reset Option is accounted for as an embedded derivative. See Note 13 for additional information. If the holders of the Series A preferred units have exercised the Preferred Distribution Rate Reset Option, then, at any time following 30 days after the sixth anniversary of the Issuance Date, we may redeem all or any portion of the outstanding Series A preferred units in exchange for cash, common units (valued at 95% of the volume-weighted average price of our common units for a trading day period specified in our partnership agreement) or a combination of cash and common units at a redemption price equal to 110% of the Issue Price, plus any accrued and unpaid distributions.

Series B Preferred Units

Our Series B Fixed-to-Floating Rate Cumulative Redeemable Perpetual Preferred Units representing limited partner interests in us (the "Series B preferred units") were issued in 2017 at a price to the public of \$1,000 per unit. Our Series B preferred units represent perpetual equity interests in us, and they have no stated maturity or mandatory redemption date and are not redeemable at the option of the holders under any circumstances. Holders of the Series B preferred units generally have no voting rights, except for limited voting rights with respect to (i) potential amendments to our partnership agreement that would have a material adverse effect on the existing preferences, rights, powers or duties of the Series B preferred units, (ii) the creation or issuance of any parity securities if the cumulative distributions payable on the noutstanding Series B preferred units are in arrears, (iii) the creation or issuance of any senior securities and (iv) the payment of distributions to our common unitholders out of capital surplus. The Series B preferred units rank, as to the payment of distributions and amounts payable on a liquidation event, pari passu with our outstanding Series A preferred units and senior to our common units.

The Series B preferred units have a liquidation preference of \$1,000 per unit. Holders of our Series B preferred units are entitled to receive, when, as and if declared by our general partner out of legally available funds for such purpose, cumulative semiannual or quarterly cash distributions, as applicable. Distributions on the Series B preferred units accrue and are cumulative from October 10, 2017, the date of original issue, and are payable semiannually in arrears on the 15th day of May and November through and including November 15, 2022, and after November 15, 2022, quarterly in arrears on the 15th day of February, May, August and November of each year. The initial distribution rate for the Series B preferred units from and including October 10, 2017 to, but not including, November 15, 2022 is 6.125% per year of the liquidation preference per unit (equal to \$61.25 per unit per year). On and after November 15, 2022, distributions on the Series B preferred units for each distributions on the Series B preferred units for addition of the liquidation preference per unit (equal to \$61.25 per unit per year). On and after November 15, 2022, distributions on the Series B preferred units of each distribution and calculated pursuant to our Seventh Amended and Restated Agreement of Limited Partnership) plus a spread of 4.11%.

Upon the occurrence of certain rating agency events, we may redeem the Series B preferred units, in whole but not in part, at a price of \$1,020 (102% of the liquidation preference) per Series B preferred unit plus an amount equal to all accumulated and unpaid distributions thereon to, but not including, the date of redemption, whether or not declared. In addition, at any time on or after November 15, 2022, we may redeem the Series B preferred units, at our option, in whole or in part, at a redemption price of \$1,000 per Series B preferred unit plus an amount equal to all accumulated and unpaid distributions thereon to, but not including, the date of redemption, whether or not declared.

The following table presents the activity for our preferred and common units:

	Series A Preferred Units	Series B Preferred Units	Common Units
Outstanding at December 31, 2018	71,090,468	800,000	726,361,924
Issuances of common units under equity-indexed compensation plans		_	1,666,652
Outstanding at December 31, 2019	71,090,468	800,000	728,028,576
Repurchase and cancellation of common units under the Common Equity Repurchase Program		_	(6,222,748)
Issuances of common units under equity-indexed compensation plans		—	574,588
Outstanding at December 31, 2020	71,090,468	800,000	722,380,416
Repurchase and cancellation of common units under the Common Equity Repurchase Program		_	(18,061,583)
Issuances of common units under equity-indexed compensation plans	—	—	672,707
Outstanding at December 31, 2021	71,090,468	800,000	704,991,540

Common Equity Repurchase Program. In November 2020, the board of directors of PAGP GP approved a \$500 million common equity repurchase program (the "Program") to be utilized as an additional method of returning capital to investors. The Program authorizes the repurchase from time to time of up to \$500 million of our common units and/or PAGP Class A shares via open market purchases or negotiated transactions conducted in accordance with applicable regulatory requirements. No time limit has been set for completion of the Program, and the Program may be suspended or discontinued at any time. The Program does not obligate us or PAGP to acquire a particular number of common units or PAGP Class A shares. Any common units or PAGP Class A shares that are repurchased will be canceled. PAGP Class C shares held by us associated with any publicly held common units that are repurchased will also be canceled. See Note 17 for additional information regarding our ownership of PAGP Class C shares.

We repurchased 18,061,583 and 6,222,748 common units under the Program through open market purchases that settled during the years ended December 31, 2021 and 2020, respectively. The total purchase price of these units was \$178 million and \$50 million, respectively, including commissions and fees. The repurchased common units were canceled immediately upon acquisition, as were the PAGP Class C shares held by us associated with the repurchased common units. At December 31, 2021, the remaining available capacity under the Program was \$272 million.

Income Allocation

We allocate net income for partners' capital presentation purposes by applying the allocation methodology in our partnership agreement. Net income is allocated 100% to our common unitholders, after giving effect to income allocations for cash distributions to our Series A preferred unitholders and guaranteed payments attributable to our Series B preferred unitholders. In accordance with our partnership agreement, our Series A preferred unitholders are not allocated income for paid-in-kind distributions for partners' capital presentation purposes.

For purposes of determining basic and diluted net income per common unit, income is allocated as prescribed in FASB guidance for calculating earnings per unit, including a deduction to income available to common unitholders for distributions attributable to the period (whether paid in cash or in-kind) on our Series A and Series B preferred units. See Note 4 for additional information.

Distributions to Unitholders

In accordance with our partnership agreement, after making distributions to holders of our outstanding preferred units, we distribute the remainder of our available cash to common unitholders of record within 45 days following the end of each quarter. Available cash is generally defined as all of our cash and cash equivalents on hand at the end of each quarter, less reserves established in the discretion of our general partner for future requirements. Our available cash also includes cash on hand resulting from borrowings made after the end of the quarter.

Preferred Unit Distributions

The following table details distributions paid to our preferred unitholders during the years presented (in millions, except unit data):

		Cash Distributions				
Year	Series A Prefe	erred Unitholders	Series B Preferred Unitholder	s		
2021	\$	149 \$	5	49		
2020	\$	149 \$	5	49		
2019	\$	149 \$	5	49		

On February 14, 2022, we paid a cash distribution of \$37 million to our Series A preferred unitholders. At December 31, 2021, such amount was accrued as distributions payable in "Other current liabilities" on our Consolidated Balance Sheet. At December 31, 2021, approximately \$6 million of accrued distributions payable to our Series B preferred unitholders was included in "Other current liabilities" on our Consolidated Balance Sheet.

Common Unit Distributions

The following table details distributions paid to common unitholders during the years presented (in millions, except per unit data):

	Distributions Paid						Distributions per
Year	Public		AAP		Total		common unit
2021	\$ 341	\$	176	\$	517	\$	0.72
2020	\$ 432	\$	223	\$	655	\$	0.90
2019	\$ 632	\$	372	\$	1,004	\$	1.38

On January 10, 2022, we declared a cash distribution of \$0.18 per unit on our outstanding common units. The total distribution of \$127 million was paid on February 14, 2022 to unitholders of record at the close of business on January 31, 2022, for the period from October 1, 2021 through December 31, 2021. Of this amount, approximately \$43 million was paid to AAP.

Noncontrolling Interests in Subsidiaries

As of December 31, 2021, noncontrolling interests in our subsidiaries consisted of (i) a 35% interest in the Permian JV and (ii) a 33% interest in Red River Pipeline Company LLC ("Red River LLC"). The transactions resulting in the recognition of such noncontrolling interests are described below.

In October 2021, we formed a joint venture, the Permian JV, with Oryx Midstream. We own 65% of the Permian JV and consolidate based on control, with Oryx Midstream's 35% interest accounted for as a noncontrolling interest. This transaction resulted in the recognition of partners' capital attributable to noncontrolling interests of approximately \$2.7 billion and an increase to our partners' capital excluding noncontrolling interests of approximately \$605 million. See Note 7 for more details regarding this transaction.

In May 2019, we formed a joint venture, Red River LLC, with Delek Logistics Partners, LP ("Delek") on our Red River pipeline system. We received approximately \$128 million for Delek's 33% interest in Red River LLC. We consolidate Red River LLC based on control, with Delek's 33% interest accounted for as a noncontrolling interest.

Noncontrolling Interest Contributions and Distributions

During the years ended December 31, 2021 and 2020, we received contributions from noncontrolling interests in Red River LLC of \$1 million and \$12 million, respectively, related to the Red River pipeline capacity expansion.

During the years ended December 31, 2021, 2020 and 2019, we paid distributions of \$14 million, \$10 million and \$6 million, respectively, to noncontrolling interests in Red River LLC.

The initial distribution from the Permian JV was paid during the first quarter of 2022, with approximately \$54 million paid to noncontrolling interests. Subsequent distributions will be allocated based on the MSA. See Note 7 for additional information.

Note 13—Derivatives and Risk Management Activities

We identify the risks that underlie our core business activities and use risk management strategies to mitigate those risks when we determine that there is value in doing so. We use various derivative instruments to optimize our profits while managing our exposure to (i) commodity price risk, (ii) interest rate risk and (iii) currency exchange rate risk. Our commodity price risk management policies and procedures are designed to help ensure that our hedging activities address our risks by monitoring our derivative positions, as well as physical volumes, grades, locations, delivery schedules and storage capacity. Our interest rate and currency exchange rate risk management policies and procedures are designed to monitor our derivative positions and ensure that those positions are consistent with our objectives and approved strategies. Our policy is to use derivative instruments for risk management purposes and not for the purpose of speculating on changes in commodity prices, interest rates or currency exchange rates. When we apply hedge accounting, our policy is to formally document all relationships between hedging instruments and hedged items, as well as our risk management objectives for undertaking the hedge. This process includes specific identification of the hedging instrument and the hedged transaction, the nature of the risk being hedged and how the hedging instrument's effectiveness will be assessed. At the inception of the hedging relationship, we assess whether the derivatives employed are highly effective in offsetting changes in cash flows of anticipated hedged transactions. Throughout the hedging relationship, retrospective and prospective hedge effectiveness is assessed on a qualitative basis.

We record all open derivatives on the balance sheet as either assets or liabilities measured at fair value. Changes in the fair value of derivatives are recognized currently in earnings unless specific hedge accounting criteria are met. For derivatives designated as cash flow hedges, changes in fair value are deferred in AOCI and recognized in earnings in the periods during which the underlying hedged transactions are recognized in earnings. Derivatives that are not designated in a hedging relationship for accounting purposes are recognized in earnings each period. Cash settlements associated with our derivative activities are classified within the same category as the related hedged item in our Consolidated Statements of Cash Flows.

Our financial derivatives, used for hedging risk, are governed through ISDA master agreements and clearing brokerage agreements. These agreements include stipulations regarding the right of set off in the event that we or our counterparty default on performance obligations. If a default were to occur, both parties have the right to net amounts payable and receivable into a single net settlement between parties.

At December 31, 2021 and 2020, none of our outstanding derivatives contained credit-risk related contingent features that would result in a material adverse impact to us upon any change in our credit ratings. Although we may be required to post margin on our exchange-traded derivatives transacted through a clearing brokerage account, as described below, we do not require our noncleared derivative counterparties to post collateral with us.

Commodity Price Risk Hedging

Our core business activities involve certain commodity price-related risks that we manage in various ways, including through the use of derivative instruments. Our policy is to (i) only purchase inventory for which we have a sales market, (ii) structure our sales contracts so that price fluctuations do not materially affect our operating income and (iii) not acquire and hold material physical inventory or derivatives for the purpose of speculating on commodity price changes. The material commodity-related risks inherent in our business activities can be divided into the following general categories:

Commodity Purchases and Sales — In the normal course of our operations, we purchase and sell commodities. We use derivatives to manage the associated risks and to optimize profits. As of December 31, 2021, net derivative positions related to these activities included:

- A net long position of 8.4 million barrels associated with our crude oil purchases, which was unwound ratably during January 2022 to match monthly average pricing.
- A net short time spread position of 5.7 million barrels, which hedges a portion of our anticipated crude oil lease gathering purchases through December 2022.
- A net crude oil basis spread position of 7.3 million barrels at multiple locations through December 2022. These derivatives allow us to lock in grade and location basis differentials.
- A net short position of 19.2 million barrels through December 2023 related to anticipated net sales of crude oil and NGL inventory.

Natural Gas Processing/NGL Fractionation — We purchase natural gas for processing and operational needs. Additionally, we purchase NGL mix for fractionation and sell the resulting individual specification products (including ethane, propane, butane and condensate). In conjunction with these activities, we hedge the price risk associated with the purchase of the natural gas and the subsequent sale of the individual specification products. The following table summarizes our open derivative positions utilized to hedge the price risk associated with anticipated purchases and sales related to our natural gas processing and NGL fractionation activities as of December 31, 2021.

	Notional Volume (Short)/Long	Remaining Tenor
Natural gas purchases	73.4 Bcf	December 2023
Propane sales	(13.7) MMbls	December 2023
Butane sales	(3.3) MMbls	December 2023
Condensate sales	(1.5) MMbls	December 2023
Fuel gas requirements ⁽¹⁾	7.5 Bcf	December 2022
Power supply requirements ⁽¹⁾	0.6 TWh	December 2023

⁽¹⁾ Positions to hedge a portion of our power supply and fuel gas requirements at our Canadian natural gas processing and fractionation plants.

Physical commodity contracts that meet the definition of a derivative but are ineligible, or not designated, for the normal purchases and normal sales scope exception are recorded on the balance sheet at fair value, with changes in fair value recognized in earnings. We have determined that substantially all of our physical commodity contracts qualify for the normal purchases and normal sales scope exception.

Our commodity derivatives are not designated in a hedging relationship for accounting purposes; as such, changes in the fair value are reported in earnings. The following table summarizes the impact of our commodity derivatives recognized in earnings (in millions):

	Year Ended December 31,					
	2021	2020	2019			
Product sales revenues	\$ (710)	\$ (302)	\$ 310			
Field operating costs	71	5	14			
Net gain/(loss) from commodity derivative activity	\$ (639)	\$ (297)	\$ 324			

Our accounting policy is to offset derivative assets and liabilities executed with the same counterparty when a master netting arrangement exists. Accordingly, we also offset derivative assets and liabilities with amounts associated with cash margin. Our exchange-traded derivatives are transacted through clearing brokerage accounts and are subject to margin requirements as established by the respective exchange. On a daily basis, our account equity (consisting of the sum of our cash balance and the fair value of our open derivatives) is compared to our initial margin requirement resulting in the payment or return of variation margin. The following table provides the components of our net broker receivable/(payable) (in millions):

	Decem	ber 31,	
	 2021		2020
Initial margin	\$ 133	\$	91
Variation margin posted/(returned)	173		290
Letters of credit	(47)		(63)
Net broker receivable/(payable)	\$ 259	\$	318

The following table reflects the Consolidated Balance Sheet line items that include the fair values of our commodity derivative assets and liabilities and the effect of the collateral netting. Such amounts are presented on a gross basis, before the effects of counterparty netting. However, we have elected to present our commodity derivative assets and liabilities with the same counterparty on a net basis on our Consolidated Balance Sheet when the legal right of offset exists. Amounts in the table below are presented in millions.

December 31, 2020

December 31, 2021

	 Commodity	y Der	ivatives			Net Carrying Value Effect of Collateral Presented on the —				Commodity Derivatives					fect of Collateral		t Carrying Value resented on the
	 Assets		Liabilities	1.11	Netting	Balance Sheet		Assets		Liabilities	L			Balance Sheet			
Derivative Assets						 			_		_						
Other current assets	\$ 90	\$	(210)	\$	259	\$ 139	\$	71	\$	(314)	\$	318	\$	75			
Other long-term assets, net	3					3		5		_				5			
Derivative Liabilities																	
Other current liabilities	4		(24)		_	(20)		9		(40)		_		(31)			
Other long-term liabilities and deferred credits	3		(9)		_	(6)		_		(32)		_		(32)			
Total	\$ 100	\$	(243)	\$	259	\$ 116	\$	85	\$	(386)	\$	318	\$	17			

Interest Rate Risk Hedging

We use interest rate derivatives to hedge the benchmark interest rate associated with interest payments occurring as a result of debt issuances. The derivative instruments we use to manage this risk consist of forward starting interest rate swaps and treasury locks. These derivatives are designated as cash flow hedges. As such, changes in fair value are deferred in AOCI and are reclassified to interest expense as we incur the interest expense associated with the underlying debt.

The following table summarizes the terms of our outstanding interest rate derivatives as of December 31, 2021 (notional amounts in millions):

Hedged Transaction	Number and Types of Derivatives Employed	Notional Amount	Expected Termination Date	Average Rate Locked	Accounting Treatment
Anticipated interest payments	8 forward starting swaps (30-year)	\$ 200	6/15/2023	1.38 %	Cash flow hedge
Anticipated interest payments	8 forward starting swaps (30-year)	\$ 200	6/14/2024	0.73 %	Cash flow hedge

As of December 31, 2021, there was a net loss of \$208 million deferred in AOCI. The deferred net loss recorded in AOCI is expected to be reclassified to future earnings contemporaneously with interest expense accruals associated with underlying debt instruments. We estimate that substantially all of the remaining deferred loss will be reclassified to earnings through 2054 as the underlying hedged transactions impact earnings. A portion of these amounts is based on market prices as of December 31, 2021; thus, actual amounts to be reclassified will differ and could vary materially as a result of changes in market conditions.

The following table summarizes the net unrealized gain/(loss) recognized in AOCI for derivatives (in millions):

		Year Ended December 31,	
	 2021	2020	2019
Interest rate derivatives, net	\$ 19	\$ (10)	\$ (91)

At December 31, 2021, the net fair value of our interest rate hedges, which were included in "Other long-term assets, net" on our Consolidated Balance Sheet, totaled \$65 million. At December 31, 2020, the net fair value of these hedges totaled \$46 million and was included in "Other long-term assets, net."

Preferred Distribution Rate Reset Option

A derivative feature embedded in a contract that does not meet the definition of a derivative in its entirety must be bifurcated and accounted for separately if the economic characteristics and risks of the embedded derivative are not clearly and closely related to those of the host contract. The Preferred Distribution Rate Reset Option of our Series A preferred units is an embedded derivative that must be bifurcated from the related host contract, our partnership agreement, and recorded at fair value on our Consolidated Balance Sheets. This embedded derivative is not designated in a hedging relationship for accounting purposes and corresponding changes in fair value are recognized in "Other income/(expense), net" in our Consolidated Statement of Operations. For the years ended December 31, 2021, 2020 and 2019 we recognized net gains of \$14 million, \$20 million and \$2 million, respectively. The fair value of the Preferred Distribution Rate Reset Option, which was included in "Other long-term liabilities and deferred credits" on our Consolidated Balance Sheets, totaled less than \$1 million and \$14 million at December 31, 2021 and 2020, respectively. See Note 12 for additional information regarding our Series A preferred units and the Preferred Distribution Rate Reset Option.

Recurring Fair Value Measurements

Derivative Financial Assets and Liabilities

The following table sets forth by level within the fair value hierarchy our financial assets and liabilities that were accounted for at fair value on a recurring basis (in millions):

	Fair Value as of December 31, 2021						Fair Value as of December 31, 2020								
Recurring Fair Value Measures ⁽¹⁾	 Level 1		Level 2		Level 3		Total	_	Level 1		Level 2		Level 3		Total
Commodity derivatives	\$ (17)	\$	(124)	\$	(2)	\$	(143)	\$	(143)	\$	(143)	\$	(15)	\$	(301)
Interest rate derivatives	_		65		_		65		_		46		_		46
Preferred Distribution Rate Reset Option and Other	—		—		—		—				2		(14)		(12)
Total net derivative asset/(liability)	\$ (17)	\$	(59)	\$	(2)	\$	(78)	\$	(143)	\$	(95)	\$	(29)	\$	(267)

⁽¹⁾ Derivative assets and liabilities are presented above on a net basis but do not include related cash margin deposits.

Level 1

Level 1 of the fair value hierarchy includes exchange-traded commodity derivatives and over-the-counter commodity contracts such as futures and swaps. The fair value of exchange-traded commodity derivatives and over-the-counter commodity contracts is based on unadjusted quoted prices in active markets.

Level 2

Level 2 of the fair value hierarchy includes exchange-cleared commodity derivatives and over-the-counter commodity, interest rate and foreign currency derivatives that are traded in observable markets with less volume and transaction frequency than active markets. In addition, it includes certain physical commodity contracts. The fair values of these derivatives are corroborated with market observable inputs.

Level 3

Level 3 of the fair value hierarchy includes certain physical commodity and other contracts, over-the-counter options and the Preferred Distribution Rate Reset Option contained in our partnership agreement which is classified as an embedded derivative.

The fair values of our Level 3 physical commodity and other contracts and over-the-counter options are based on valuation models utilizing significant timing estimates, which involve management judgment, and pricing inputs from observable and unobservable markets with less volume and transaction frequency than active markets. Significant deviations from these estimates and inputs could result in a material change in fair value. We report unrealized gains and losses associated with these contracts in our Consolidated Statements of Operations as Product sales revenues.

The fair value of the embedded derivative feature contained in our partnership agreement is based on a valuation model that estimates the fair value of the Series A preferred units with and without the Preferred Distribution Rate Reset Option. This model contains inputs, including our common unit price, ten-year U.S. Treasury rates, default probabilities and timing estimates, some of which involve management judgment. A significant change in these inputs could result in a material change in fair value to this embedded derivative feature.



Rollforward of Level 3 Net Asset/(Liability)

The following table provides a reconciliation of changes in fair value of the beginning and ending balances for our derivatives classified as Level 3 (in millions):

	Year Ended December 31,			
	 2021	2020		
Beginning Balance	\$ (29) \$	(51)		
Net gains/(losses) for the period included in earnings	15	12		
Settlements	 12	10		
Ending Balance	\$ (2) \$	(29)		
Change in unrealized gains/(losses) included in earnings relating to Level 3 derivatives still held at the end of the period	\$ 15 \$	12		

Note 14—Leases

Lessee

We evaluate all agreements entered into or modified that convey to us the use of property or equipment for a term to determine whether the agreement is or contains a lease. Significant judgment is required when determining whether we obtain the right to direct the use of identified property or equipment. We lease certain property and equipment under noncancelable and cancelable operating and finance leases. Our operating leases primarily relate to railcars, office space, land, vehicles, and storage tanks, and our finance leases primarily relate to tractor trailers, land, storage tanks and vehicles. One of our finance leases is for storage tanks owned by an equity method investee, in which we own a 50% interest. For leases with an initial term of greater than 12 months, we recognize a right-of-use asset and lease liability on the balance sheet. Leases with an initial term of 12 months or less are not recorded on the balance sheet. We have elected the non-lease component separation practical expedient for certain classes of assets where we are the lessee. Our lease agreements have remaining lease terms ranging from one year to approximately 59 years. When applicable, this range includes additional terms associated with leases for which we are reasonably certain to exercise the option to renew and such renewal options are recognized as part of our right-of-use assets or lease liabilities. We have renewal options for leases with terms ranging from one year to 25 years that are not recognized as part of our right-of-use assets or lease liabilities as we have determined we are not reasonably certain to exercise the option to renew.

Certain of our leases have variable lease payments, many of which are based on changes in market indices such as the Consumer Price Index. Our lease agreements for our tractor trailers contain residual value guarantees equal to the fair market value of the tractor trailers at the end of the lease term in the event that we elect not to purchase the asset for an amount equal to the fair value. Our lease agreements do not contain any material restrictive covenants.

For determining the present value of lease payments, we use the discount rate implicit in the lease when readily determinable; however, such rate is not readily determinable for most of our leases. For those leases for which the discount rate is not readily determinable, we utilize incremental borrowing rates that reflect collateralized borrowing with payments and terms that mirror our lease portfolio to discount the lease payments based on information available at the lease commencement date.

(2)

PLAINS ALL AMERICAN PIPELINE, L.P. AND SUBSIDIARIES NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS

The following table presents components of lease cost, including both amounts recognized in income and amounts capitalized (in millions):

	Year Ended December 31,					
Lease Cost	2021	2020	2019			
Operating lease cost	\$ 96	\$ 111	\$ 125			
Short-term lease cost	19	31	35			
Other ^{(1) (2)}	14	8	_			
Total lease cost	\$ 129	\$ 150	\$ 160			

⁽¹⁾ Includes finance lease costs, variable lease costs and sublease income.

Includes approximately \$8 million and \$6 million for the years ended December 31, 2021 and 2020, respectively, associated with leased storage tanks owned by an equity method investee, in which we own a 50% interest.

The following table presents information related to cash flows arising from lease transactions (in millions):

	Year Ended December 31,					
		2021		2020		2019
Cash paid for amounts included in the measurement of lease liabilities:						
Operating cash flows for operating leases	\$	91	\$	108	\$	116
Operating cash flows for finance leases	\$	7	\$	5	\$	1
Financing cash flows for finance leases	\$	11	\$	19	\$	18
Non-cash change in lease liabilities arising from obtaining new right-of-use assets or modifications:						
Operating leases	\$	94	\$	5	\$	77
Finance leases (1)	\$	1	\$	32	\$	27

(1) Includes \$25 million and \$12 million for the years ended December 31, 2020 and 2019, respectively, associated with leased storage tanks owned by an equity method investee, in which we own a 50% interest.

Information related to the weighted-average remaining lease term and discount rate is presented in the table below:

	Dece	mber 31,
	2021	2020
Weighted-average remaining lease term (in years):		
Operating leases	11	12
Finance leases	S) 9
Weighted-average discount rate:		
Operating leases	4.2 %	4.5 %
Finance leases	11.6 %	5 11.1 %

The following table presents the amount and location of our operating and finance lease right-of-use assets and liabilities on our Consolidated Balance Sheets (in millions):

			December 31,					
Leases	Balance Sheet Location		2021	2	020			
Assets								
Operating lease right-of-use assets	Long-term operating lease right-of-use assets, net	\$	393	\$	378			
Finance lease right-of-use assets ⁽¹⁾	Property and equipment	\$	136	\$	141			
	Accumulated depreciation		(37)		(27)			
	Property and equipment, net	\$	99	\$	114			
Teaching which of one prove		¢	492	\$	492			
Total lease right-of-use assets		\$	432		492			
Liabilities								
Operating lease liabilities								
Current	Other current liabilities	\$	77	\$	78			
Noncurrent	Long-term operating lease liabilities		339		317			
Total operating lease liabilities		\$	416	\$	395			
Finance lease liabilities ⁽¹⁾								
Current	Short-term debt	\$	12	¢	11			
Noncurrent	Other long-term debt, net	ψ	59	ψ	70			
Total finance lease liabilities	Other long-term debt, net	\$	71	¢	81			
Total Illidice lease liabilities		ې	/1	φ	01			
Total lease liabilities		\$	487	\$	476			

(1) Includes right-of-use assets of \$33 million and \$35 million and lease liabilities of \$35 million and \$36 million as of December 31, 2021 and 2020, respectively, associated with leased storage tanks owned by an equity method investee, in which we own a 50% interest.

The following table presents the maturity of undiscounted cash flows for future minimum lease payments under noncancelable leases as of December 31, 2021 reconciled to our lease liabilities on our Consolidated Balance Sheet (amounts in millions):

	Operating	Finance ⁽²⁾
Future minimum lease payments ⁽¹⁾ :		
2022	\$ 92	\$ 18
2023	75	15
2024	63	14
2025	50	12
2026	38	7
Thereafter	252	60
Total	570	126
Less: Present value discount	(154)	(55)
Lease liabilities	\$ 416	\$ 71

- (1) Excludes future minimum payments for short-term and other immaterial leases not included on our Consolidated Balance Sheet.
- (2) Includes payments of approximately \$6 million for each of the years ending 2022 through 2026 and approximately \$58 million thereafter associated with leased storage tanks owned by an equity method investee, in which we own a 50% interest.

Lessor

We evaluate all agreements entered into or modified that convey to others the use of property or equipment for a term to determine whether the agreement is or contains a lease. Significant judgment is required when determining whether a customer obtains the right to direct the use of identified property or equipment. The underlying assets associated with these agreements are evaluated for future use beyond the lease term. We have elected the non-lease component separation practical expedient for all classes of assets where we are the lessor.

We enter into agreements to conduct activities associated with (i) providing storage services primarily for crude oil and NGL and (ii) transporting crude oil and NGL. Certain of these agreements convey counterparties the right to direct the operation of physically distinct assets. Such agreements include (i) fixed consideration, which is measured based on an available capacity during the period multiplied by the rate in the agreement, or (ii) a fixed monthly fee and variable consideration based on usage. These agreements often include options to extend or terminate the lease, with advance notice. These agreements are operating leases.

The following table presents our lease revenue for the periods indicated (in millions):

		Year Ended December 31,					
	20	21	2020		2019		
Operating lease revenue ⁽¹⁾	\$	28	\$ 1	Э\$	17		

⁽¹⁾ These amounts are included in "Services revenues" on our Consolidated Statements of Operations.

The table below presents the maturity of lease payments for operating lease agreements in effect as of December 31, 2021. This presentation includes minimum fixed lease payments and does not include an estimate of variable lease consideration. These agreements have remaining lease terms ranging from one year to 20 years. The following table presents the undiscounted cash flows expected to be received related to these agreements (in millions):

	2022		2023		2024	2025	2026	Thereafter
Future minimum lease revenue	\$	29	\$	22	\$ 20	\$ 20	\$ 20	\$ 197

Note 15—Income Taxes

Income tax expense is estimated using the tax rate in effect or to be in effect during the relevant periods in the jurisdictions in which we operate. Deferred income tax assets and liabilities are recognized for temporary differences between the basis of assets and liabilities for financial reporting and tax purposes and are stated at enacted tax rates expected to be in effect when taxes are actually paid or recovered. To the extent we do not consider it more likely than not that a deferred tax asset will be recovered, a valuation allowance is established. Changes in tax legislation are included in the relevant computations in the period in which such changes are effective. We review contingent tax liabilities for estimated exposures on a more likely than not standard related to our current tax positions.

Pursuant to FASB guidance related to accounting for uncertainty in income taxes, we may recognize the tax benefit from an uncertain tax position only if it is more likely than not that the tax position will be sustained upon examination by the taxing authorities, based on the technical merits of the tax position and also the past administrative practices and precedents of the taxing authority. As of December 31, 2021 and 2020, we had not recognized any material amounts in connection with uncertainty in income taxes.

U.S. Federal and State Taxes

As an MLP, we are not subject to U.S. federal income taxes; rather the tax effect of our operations is passed through to our unitholders. Although we are subject to state income taxes in some states, the impact to the years ended December 31, 2021, 2020, and 2019 was immaterial.

Canadian Federal and Provincial Taxes

All of our Canadian operations are conducted by entities that are treated as corporations for Canadian tax purposes (flow through for U.S. income tax purposes) and that are subject to Canadian federal and provincial taxes. Additionally, payments of interest and dividends from our Canadian entities to other Plains entities are subject to Canadian withholding tax that is treated as income tax expense.

Tax Components

Components of income tax expense are as follows (in millions):

	Year Ended December 31,						
	 2021 2020		2019				
Current income tax expense:							
State income tax	\$ 2	\$	\$ 3				
Canadian federal and provincial income tax	48	51	109				
Total current income tax expense	\$ 50	\$ 51	\$ 112				
Deferred income tax expense/(benefit):							
Canadian federal and provincial income tax	\$ 23	\$ (70)	\$ (46)				
Total deferred income tax expense/(benefit)	\$ 23	\$ (70)	\$ (46)				
Total income tax expense/(benefit)	\$ 73	\$ (19)	\$ 66				

The difference between income tax expense based on the statutory federal income tax rate and our effective income tax expense is summarized as follows (in millions):

	Year Ended December 31,							
	2021 2020					2019		
Income/(loss) before tax	\$	721	\$	(2,599)	\$	2,246		
Partnership (earnings)/loss not subject to current Canadian tax		(370)		2,221		(1,769)		
	\$	351	\$	(378)	\$	477		
Canadian federal and provincial corporate tax rate		24%		24%		26%		
Income tax expense/(benefit) at statutory rate	\$	84	\$	(91)	\$	124		
Canadian permanent differences and rate changes	\$	(13)	\$	72	\$	(61)		
State income tax		2		—		3		
Total income tax expense/(benefit)	\$	73	\$	(19)	\$	66		

The Canadian permanent differences and rate changes for the year ended December 31, 2020 primarily related to an impairment of goodwill that was recognized during the year. A portion of the goodwill that was impaired had no basis for Canadian income tax purposes and thus was not a deductible expense in determining taxable income, resulting in a permanent difference for Canadian tax purposes. See Note 8 for additional information regarding this impairment.

During the second quarter of 2019, the Alberta government enacted legislation that reduces the Alberta provincial corporate income tax rate from 12% to 8% over the period from July 1, 2019 through January 1, 2022. As a result, during the second quarter of 2019, we recognized a reduction of our deferred income tax liability of approximately \$60 million and a corresponding deferred tax benefit. In the fourth quarter of 2020, the Alberta government changed the timing of the rate reduction to decrease the corporate income tax rate to 8% starting July 1, 2020.

Deferred tax assets and liabilities are aggregated by the applicable tax paying entity and jurisdiction and result from the following (in millions):

	Decem	ber 31,	
	2021		2020
Deferred tax assets:			
Derivative instruments	\$ 39	\$	45
Lease liabilities	48		39
Net operating losses	2		2
Other	17		16
Total deferred tax assets	 106		102
Deferred tax liabilities:			
Property and equipment in excess of tax values	(531)		(475)
Lease assets	(47)		(38)
Other	(3)		(3)
Total deferred tax liabilities	(581)		(516)
Net deferred tax liabilities	\$ (475)	\$	(414)
Balance sheet classification of deferred tax assets/(liabilities):			
Other long-term assets, net	\$ 2	\$	2
Other long-term liabilities and deferred credits	(477)		(416)
	\$ (475)	\$	(414)

As of December 31, 2021, we had foreign net operating loss carryforwards of \$9 million, which will expire beginning in 2034.

Generally, tax returns for our Canadian entities are open to audit from 2017 through 2021. Our U.S. and state tax years are generally open to examination from 2018 to 2021.

As of December 31, 2021, in reference to tax years 2008 to 2016, we had received notices of reassessment ("notices") from the Canada Revenue Agency and the Alberta Tax and Revenue Administration (the "Canadian Tax Authorities") related primarily to transfer pricing associated with cross-border intercompany financing transactions. These notices include assessments, including penalties and interest, associated with these transfer pricing matters totaling approximately \$120 million (based on the exchange rate as of December 31, 2021). Payment of a portion of the assessment is required in order to file a notice of objection to dispute the reassessment. Accordingly, we have remitted approximately \$101 million (based on the exchange rate as of December 31, 2021) related to the assessments, which is included in "Other long-term assets, net," on our Consolidated Balance Sheets. We disagree with these notices and have contested the reassessments. We intend to vigorously defend our position, and we plan to pursue all remedies available to us to successfully resolve these matters, including administrative remedies with the Canadian Tax Authorities, and judicial remedies, if necessary. As of December 31, 2021, we believe that our tax position associated with these matters is "more likely than not" to be sustained and have not recognized any amounts for uncertainty in income taxes related to these notices.

Note 16—Major Customers and Concentration of Credit Risk

ExxonMobil Corporation and its subsidiaries accounted for 15%, 12% and 12% of our revenues for the years ended December 31, 2021, 2020 and 2019, respectively. Marathon Petroleum Corporation and its subsidiaries accounted for 12%, 13% and 12% of our revenues for the years ended December 31, 2021, 2020 and 2019, respectively. BP p.l.c. and its subsidiaries accounted for 10% of our revenues for the year ended December 31, 2021. Phillips 66 Company and its subsidiaries accounted for 11% of our revenues for the year ended December 31, 2019. No other customers accounted for 10% or more of our revenues during any of the three years ended December 31, 2021. The majority of revenues from these customers pertain to our Crude Oil segment merchant activities, and sales to these customers occur at multiple locations. If we were to lose one or more of these customers, there is risk that we would not be able to identify and access a replacement market at a comparable margin.

Financial instruments that potentially subject us to concentrations of credit risk consist principally of trade receivables. Our accounts receivable are primarily from purchasers and shippers of crude oil and, to a lesser extent, purchasers of NGL. This industry concentration has the potential to impact our overall exposure to credit risk in that the customers may be similarly affected by changes in economic, industry or other conditions. We review credit exposure and financial information of our counterparties and generally require letters of credit for receivables from customers that are not considered creditworthy, unless the credit risk can otherwise be reduced. See Note 3 for additional discussion of our accounts receivable and our review of credit exposure.

Note 17—Related Party Transactions

Ownership of PAGP Class C Shares

As of December 31, 2021 and 2020, we owned 534,596,831 and 547,717,762, respectively, Class C shares of PAGP. Each Class C share represents a non-economic limited partner interest in PAGP. The number of Class C shares that we own is equal to the number of outstanding common units and Series A preferred units that are entitled to vote, pro rata with the holders of PAGP Class A and Class B shares, for the election of eligible PAGP GP directors. The Class C shares function as a "pass-through" voting mechanism through which we vote at the direction of and as proxy for our common units held by AAP and Series B preferred units are not entitled to vote in the election of directors.

Reimbursement of Our General Partner and its Affiliates

Our general partner provides services necessary to manage and operate our business, properties and assets, including employing or retaining personnel. We do not pay our general partner a management fee, but we do reimburse our general partner for all direct and indirect costs it incurs or payments it makes on our behalf, including the costs of employee, officer and director compensation and benefits allocable to us as well as all other expenses necessary or appropriate to the conduct of our business. We record these costs on the accrual basis in the period in which our general partner incurs them. Our partnership agreement provides that our general partner will determine the expenses that are allocable to us in any reasonable manner determined by our general partner in its sole discretion. Total costs reimbursed by us to our general partner for the years ended December 31, 2021, 2020 and 2019 were \$467 million, \$553 million and \$580 million, respectively.

Omnibus Agreement

The Plains Entities entered into an Omnibus Agreement on November 15, 2016, which provides for the following:

- that we will pay all direct or indirect expenses of any of the PAGP Entities, other than income taxes (including, but not limited to, (i) compensation for the directors of PAGP GP, (ii) director and officer liability insurance, (iii) listing exchange fees, (iv) investor relations expenses and (v) fees related to legal, tax, financial advisory and accounting services). We paid \$5 million, \$5 million and \$4 million during the years ended December 31, 2021, 2020 and 2019, respectively;
- the ability of PAGP to issue additional Class A shares and use the net proceeds therefrom to purchase a like number of AAP units from AAP, and the corresponding ability of AAP to use the net proceeds therefrom to purchase a like number of our common units from us; and



the ability of PAGP to lend proceeds of any future indebtedness incurred by it to AAP, and AAP's corresponding ability to lend such proceeds to us, in each case on substantially the same terms as incurred by PAGP.

Transactions with Other Related Parties

Our other related parties include (i) principal owners and their affiliated entities and (ii) entities in which we hold investments and account for under the equity method of accounting (see Note 9 for information regarding such entities). We recognize as our principal owners entities that have a designated representative on the board of directors of PAGP GP and/or own greater than 10% of the limited partner interests in AAP. Such limited partner interests in AAP translate into a significantly smaller indirect ownership interest in PAA. We also consider subsidiaries or funds identified as affiliated with principal owners to be related parties. As of December 31, 2021, no entities met the criteria to be recognized as a principal owner.

Through various transactions by an affiliate of The Energy & Minerals Group ("EMG") in May 2019, EMG's limited partner interest in AAP was significantly reduced, which caused EMG to lose its right to designate a representative on the board of directors of PAGP GP. Additionally, as a result of various transactions by Occidental Petroleum Corporation or its subsidiaries ("Oxy") in September 2019, Oxy no longer holds a limited partner interest in AAP and lost its right to designate a representative on the board of directors, we no longer recognize EMG or Oxy as a principal owner.

In August 2021, the board of directors of PAGP GP approved and adopted an amendment to PAGP GP's limited liability company agreement (the "Amendment") which eliminated all previously negotiated "director designation" rights and requires that all directors be subject to public election, including Kayne Anderson Capital Advisors, L.P.'s ("Kayne Anderson") legacy contractual right to designate an individual to serve on the PAGP GP board without being subject to public election. The Amendment also eliminated all previously negotiated rights, including Kayne Anderson's right, to appoint a PAGP GP board observer under certain circumstances. As a result of these changes, we no longer recognize Kayne Anderson and its affiliates as related parties.

During the three years ended December 31, 2021, we recognized sales and transportation revenues, purchased petroleum products and utilized transportation and storage services from our related parties. These transactions were conducted at posted tariff rates or prices that we believe approximate market.

The impact to our Consolidated Statements of Operations from these transactions is included below (in millions):

	Year Ended December 31,							
	2021			2020		2019		
Revenues from related parties (1)	\$	33	\$	46	\$	692		
Purchases and related costs from related parties ⁽¹⁾	\$	385	\$	451	\$	223		

(1) Crude oil purchases that are part of inventory exchanges under buy/sell transactions are netted with the related sales, with any margin presented in "Purchases and related costs" in our Consolidated Statements of Operations.

Our receivable and payable amounts with these related parties as reflected on our Consolidated Balance Sheets were as follows (in millions):

	Decer	nber 31,
	2021	2020
Trade accounts receivable and other receivables, net from related parties ⁽¹⁾	\$ 41	\$ 34
Trade accounts payable to related parties ^{(1) (2)}	\$ 72	\$ 88

(1) Includes amounts related to crude oil purchases and sales, transportation and storage services and amounts owed to us or advanced to us related to investment capital projects of equity method investees where we serve as construction manager.

⁽²⁾ We have agreements to store crude oil at facilities and transport crude oil or utilize capacity on pipelines that are owned by equity method investees. A portion of our commitment to transport is supported by crude oil buy/sell or other agreements with third parties with commensurate quantities.

Note 18—Equity-Indexed Compensation Plans

Our equity-indexed compensation plans primarily include LTIPs. Although other types of awards are contemplated under certain of the LTIPs, currently outstanding awards are limited to "phantom units," which mature into the right to receive common units of PAA (or cash equivalent) upon vesting, and "tracking units," which, upon vesting, represent the right to receive a cash payment in an amount based upon the market value of a PAA common unit at the time of vesting. Some awards also include DERs, which, subject to applicable vesting criteria, entitle the grantee to a cash payment equal to the cash distribution paid on an outstanding PAA common unit. The DERs terminate with the vesting or forfeiture of the underlying LTIP award.

Plains All American 2021 Long-Term Incentive Plan. In May 2021, PAA unitholders approved the Plains All American 2021 Long-Term Incentive Plan, which amends, restates, and renames the Plains All American 2013 Long-Term Incentive Plan and authorizes an incremental 20 million PAA common units deliverable upon vesting of awards granted under the plan.

Our LTIP awards include both liability-classified and equity-classified awards. In accordance with FASB guidance regarding share-based payments, the fair value of liability-classified LTIP awards is calculated based on the closing market price of the underlying PAA unit at each balance sheet date and adjusted for the present value of any distributions that are estimated to occur on the underlying units over the vesting period that will not be received by the award recipients. The fair value for equity-classified awards is calculated in a similar manner on the respective grant dates. These fair values are recognized as compensation expense over the service period. We have elected to recognize forfeitures of awards when they occur.

Our LTIP awards contain (i) time-based vesting criteria, (ii) performance conditions, (iii) market conditions or (iv) a combination of time-based vesting criteria and performance conditions. For awards with performance conditions, expense is accrued over the service period only if the performance condition is considered probable of occurring. When awards with performance conditions that were previously considered improbable become probable, we incur additional expense in the period that the probability assessment changes. This is necessary to bring the accrued obligation associated with these awards up to the level it would have been if we had been accruing for these awards since the grant date. For awards with market conditions, the probable outcomes are determined on the respective dates that the fair values are calculated, and the resulting expense is accrued over the service period.

The following is a summary of the awards authorized under our LTIPs as of December 31, 2021 (in millions):

LTIP	LTIP Awards Authorized
Plains All American 2021 Long-Term Incentive Plan	28.8
Plains All American PNG Successor Long-Term Incentive Plan	1.3
Plains All American GP LLC 2006 Long-Term Incentive Tracking Unit Plan	13.4
Total ⁽¹⁾	43.5

(1) Of the 43.5 million total awards authorized, 22.7 million awards are currently available. The remaining balance has already vested or is currently outstanding.

As of December 31, 2021, 10.7 million LTIP awards were outstanding. Of the awards outstanding, 7.6 million include associated DERs. At December 31, 2021, certain of the outstanding LTIP awards were considered probable of vesting and such awards are expected to vest at various dates between January 2022 and August 2026. As of December 31, 2021, the outstanding awards that are considered probable of vesting have a remaining unrecognized fair value of approximately \$44 million.

Note 19—Commitments and Contingencies

Commitments

We have commitments, some of which are leases, related to real property, equipment and operating facilities. We also incur costs associated with leased land, rights-of-way, permits and regulatory fees. Future noncancelable commitments related to these items at December 31, 2021 are summarized below (in millions):

	20	022	2023	2024	2025	2026	Thereafter	Total
Leases (1)	\$	110	\$ 90	\$ 77	\$ 62	\$ 45	\$ 312	\$ 696
Other commitments (2)		327	307	298	282	211	624	2,049
Total	\$	437	\$ 397	\$ 375	\$ 344	\$ 256	\$ 936	\$ 2,745

(1) Includes both operating and finance leases as defined by FASB guidance. Leases are primarily for (i) railcars, (ii) office space, (iii) land, (iv) vehicles, (v) storage tanks and (vi) tractor trailers. See Note 14 for additional information.

(2) Primarily includes storage, transportation and pipeline throughput agreements, as well as certain rights-of-way easements. Expense associated with our storage, transportation and pipeline throughput agreements was approximately \$270 million, \$265 million and \$236 million for 2021, 2020 and 2019, respectively. A majority of the storage, transportation and pipeline throughput commitments are associated with agreements to store crude oil at facilities and transport crude oil on pipelines owned by equity method investees, in which we own a 50% interest, at posted tariff rates or prices that we believe approximate market. A portion of our commitment to transport is supported by crude oil buy/sell or other agreements with third parties with commensurate quantities.

Loss Contingencies — General

To the extent we are able to assess the likelihood of a negative outcome for a contingency, our assessments of such likelihood range from remote to probable. If we determine that a negative outcome is probable and the amount of loss is reasonably estimable, we accrue an undiscounted liability equal to the estimated amount. If a range of probable loss amounts can be reasonably estimated and no amount within the range is a better estimate than any other amount, then we accrue an undiscounted liability equal to the minimum amount in the range. In addition, we estimate legal fees that we expect to incur associated with loss contingencies and accrue those costs when they are material and probable of being incurred.

We do not record a contingent liability when the likelihood of loss is probable but the amount cannot be reasonably estimated or when the likelihood of loss is believed to be only reasonably possible or remote. For contingencies where an unfavorable outcome is reasonably possible and the impact would be material to our consolidated financial statements, we disclose the nature of the contingency and, where feasible, an estimate of the possible loss or range of loss.

Legal Proceedings — General

In the ordinary course of business, we are involved in various legal proceedings, including those arising from regulatory and environmental matters. In connection with determining the probability of loss associated with such legal proceedings and whether any potential losses associated therewith are estimable, we take into account what we believe to be all relevant known facts and circumstances, and what we believe to be reasonable assumptions regarding the application of those facts and circumstances to existing agreements, laws and regulations. Although we are insured against various risks to the extent we believe it is prudent, there is no assurance that the nature and amount of such insurance will be adequate, in every case, to fully protect us from losses arising from current or future legal proceedings.

Accordingly, we can provide no assurance that the outcome of the various legal proceedings that we are currently involved in, or will become involved with in the future, will not, individually or in the aggregate, have a material adverse effect on our consolidated financial condition, results of operations or cash flows.



Environmental — General

We currently own or lease, and in the past have owned and leased, properties where hazardous liquids, including hydrocarbons, are or have been handled. These properties and the hazardous liquids or associated wastes disposed thereon may be subject to the U.S. federal Comprehensive Environmental Response, Compensation and Liability Act, as amended, and the U.S. federal Resource Conservation and Recovery Act, as amended, as well as state and Canadian federal and provincial laws and regulations. Under such laws and regulations, we could be required to remove or remediate hazardous liquids or associated wastes (including wastes disposed of or released by prior owners or operators) and to clean up contaminated property (including contaminated groundwater). Assets we have acquired or will acquire in the future may have environmental remediation liabilities for which we are not indemnified.

Although we have made significant investments in our maintenance and integrity programs, we have experienced (and likely will experience future) releases of hydrocarbon products into the environment from our pipeline, rail, storage and other facility operations. These releases can result from accidents or from unpredictable man-made or natural forces and may reach surface water bodies, groundwater aquifers or other sensitive environments. We also may discover environmental impacts from past releases that were previously unidentified. Damages and liabilities associated with any such releases from our existing or future assets could be significant and could have a material adverse effect on our consolidated financial condition, results of operations or cash flows.

We record environmental liabilities when environmental assessments and/or remedial efforts are probable and the amounts can be reasonably estimated. Generally, our recording of these accruals coincides with our completion of a feasibility study or our commitment to a formal plan of action. We do not discount our environmental remediation liabilities to present value. We also record environmental liabilities assumed in business combinations based on the estimated fair value of the environmental obligations caused by past operations of the acquired company. We record receivables for amounts we believe are recoverable from insurance or from third parties under indemnification agreements in the period that we determine the costs are probable of recovery.

Environmental expenditures that pertain to current operations or to future revenues are expensed or capitalized consistent with our capitalization policy for property and equipment. Expenditures that result from the remediation of an existing condition caused by past operations and that do not contribute to current or future profitability are expensed.

At December 31, 2021, our estimated undiscounted reserve for environmental liabilities (excluding liabilities related to the Line 901 incident, as discussed further below) totaled \$57 million, of which \$11 million was classified as short-term and \$46 million was classified as long-term. At December 31, 2020, our estimated undiscounted reserve for environmental liabilities (excluding liabilities related to the Line 901 incident) totaled \$55 million, of which \$8 million was classified as short-term and \$47 million was classified as long-term. Such short-term liabilities are reflected in "Other long-term liabilities" and long-term liabilities are reflected in "Other long-term liabilities and deferred credits" on our Consolidated Balance Sheets. At December 31, 2021, and 2020, we had recorded receivables (excluding greeeivables related to the Line 901 incident) totaling \$11 million and \$6 million, respectively, for amounts probable of recovery under insurance and from third parties under indemnification agreements, \$1 million of which for each period is reflected in "Other long-term assets, net" and the remainder is reflected in "Trade accounts receivable and other receivables, net" on our Consolidated Balance Sheets.

In some cases, the actual cash expenditures associated with these liabilities may not occur for three years or longer. Our estimates used in determining these reserves are based on information currently available to us and our assessment of the ultimate outcome. Among the many uncertainties that impact our estimates are the necessary regulatory approvals for, and potential modification of, our remediation plans, the limited amount of data available upon initial assessment of the impact of soil or water contamination, changes in costs associated with environmental remediation services and equipment and the possibility of existing or future legal claims giving rise to additional liabilities. Therefore, although we believe that the reserve is adequate, actual costs incurred (which may ultimately include costs for contingencies that are currently not reasonably estimable or costs for contingencies where the likelihood of loss is currently believed to be only reasonably possible or remote) may be in excess of the reserve and may potentially have a material adverse effect on our consolidated financial condition, results of operations or cash flows.

Specific Legal, Environmental or Regulatory Matters

Line 901 Incident. In May 2015, we experienced a crude oil release from our Las Flores to Gaviota Pipeline (Line 901) in Santa Barbara County, California. A portion of the released crude oil reached the Pacific Ocean at Refugio State Beach through a drainage culvert. Following the release, we shut down the pipeline and initiated our emergency response plan. A Unified Command, which included the United States Coast Guard, the EPA, the State of California Department of Fish and Wildlife ("CDFW"), the California Office of Spill Prevention and Response and the Santa Barbara Office of Emergency Management, was established for the response effort. Clean-up and remediation operations with respect to impacted shoreline and other areas has been determined by the Unified Command has been dissolved. Our estimate of the amount of oil spilled, based on relevant facts, data and information, and as set forth in the Consent Decree described below, is approximately 2,934 barrels; of this amount, we estimate that 598 barrels reached the Pacific Ocean.

As a result of the Line 901 incident, several governmental agencies and regulators initiated investigations into the Line 901 incident, various claims have been made against us and a number of lawsuits have been filed against us, the majority of which have been resolved. Set forth below is a brief summary of actions and matters that are currently pending or recently resolved:

As the "responsible party" for the Line 901 incident we are liable for various costs and for certain natural resource damages under the Oil Pollution Act. In this regard, following the Line 901 incident, we entered into a cooperative Natural Resource Damage Assessment ("NRDA") process with the federal and state agencies designated or authorized by law to act as trustees for the natural resources of the United States and the State of California (collectively, the "Trustees"). Additionally, various government agencies sought to collect civil fines and penalties under applicable state and federal regulations. On March 13, 2020, the United States and the People of the State of California filed a civil complaint against Plains All American Pipeline, L.P. and Plains Pipeline L.P. along with a pre-negotiated settlement agreement in the form of a Consent Decree (the "Consent Decree") that was signed by the United States Department of Justice, Environmental and Natural Resources Division, the United States Department of Transportation, Pipeline and Hazardous Materials Safety Administration, the EPA, CDFW, the California Department of Parks and Recreation, the California State Lands Commission, the California Department of Forestry and Fire Protection's Office of the State Fire Marshal, Central Coast Regional Water Quality Control Board, and Regents of the University of California. The Consent Decree was approved and entered by the Federal District Court for the Central District of California on October 14, 2020. Pursuant to the terms of the Consent Decree, Plains paid \$24 million in civil penalties and \$22.325 million as compensation for injuries to, destruction of, loss of, or loss of use of natural resources resulting from the Line 901 incident. The Consent Decree also contains requirements for implementing certain agreed-upon injunctive relief, as well as requirements for potentially restarting Line 901 and the Sisquoc to Pentland portion of Line 903. The Consent Decree resolved all regulatory claims related to the i

Following an investigation and grand jury proceedings, in May of 2016, PAA was charged by a California state grand jury, pursuant to an indictment filed in California Superior Court, Santa Barbara County (the "May 2016 Indictment"), with alleged violations of California law in connection with the Line 901 incident. Fifteen charges from the May 2016 Indictment were the subject of a jury trial in California Superior Court in Santa Barbara County, and the jury returned a verdict on September 7, 2018, pursuant to which we were (i) found guilty on one felony discharge count and eight misdemeanor counts (which included one reporting count, one strict liability discharge count and six strict liability animal takings counts) and (ii) found not guilty on one strict liability animal takings count. The remaining counts were subsequently dismissed by the Court. On April 25, 2019, PAA was sentenced to pay fines and penalties in the aggregate amount of just under \$3.35 million for the convictions covered by the September 2018 jury verdict (the "2019 Sentence"). The fines and penalties imposed in connection with the 2019 Sentence have been paid. In September 2021, the Superior Court level and without affecting any rights of the claimants under civil law, the Court dismissed the vast majority of the claims and ruled that the claimants were not entitled to restitution under applicable criminal laws. The Court did award an aggregate amount of less than \$150,000 to a handful of claimants and we settled with approximately 40 claimants before the hearings for aggregate consideration that is not material. The prosecution has appealed the Court's rulings.

Shortly following the Line 901 incident, we established a claims line and encouraged any parties that were damaged by the release to contact us to discuss their damage claims. We received a number of claims through the claims line and we have processed those claims and made payments as appropriate. Nine class action lawsuits were filed against us; however, after various claims were either dismissed or consolidated, two proceedings remain pending in the United States District Court for the Central District of California. In the first proceeding, the plaintiffs claim two different classes of claimants were damaged by the release: (i) commercial fishermen who landed fish in certain specified fishing blocks in the waters off the coast of Southern California or persons or businesses who resold commercial seafood caught in those areas; and (ii) owners and lessees of residential beachfront properties, or properties with a private easement to a beach, where plaintiffs claim oil from the spill washed up. We are vigorously defending against those claims. This case is set for trial to begin in June of 2022. In the second proceeding, the plaintiffs seek a declaratory judgment that Plains' right-of-way agreements would not allow Plains to lay a new pipeline to replace Line 901 and/or the non-operating segment of Line 903 without paying additional compensation. No trial date has been set in that action.

In addition, four unitholder derivative lawsuits were filed by certain purported investors in the Partnership against PAGP and certain of the Partnership's affiliates, officers and directors. After various claims were either dismissed or consolidated, one proceeding against PAGP remains pending in Delaware Chancery Court. Generally, the plaintiffs claim that PAGP failed to exercise proper oversight over the Partnership's pipeline integrity efforts. We will continue to vigorously defend against the claim. No trial date has been set in this action.

We have also received several other individual lawsuits and claims from companies, governmental agencies and individuals alleging damages arising out of the Line 901 incident. These lawsuits and claims generally seek restitution, compensatory and punitive damages, and/or injunctive relief. The majority of these lawsuits have been settled or dismissed by the court. Remaining claims include claims for lost revenue or profit asserted by a former oil producer that declared bankruptcy and shut in its offshore production platform following the Line 901 incident, a state agency that received royalties on oil produced from that platform until it was abandoned by its owner, and various companies and individuals who provided labor, goods, or services associated with oil production activities they claim were disrupted following the Line 901 incident. We are vigorously defending these suits. We may be subject to additional claims and lawsuits, which could materially impact the liabilities and costs we currently expect to incur as a result of the Line 901 incident.

Taking the foregoing into account, as of December 31, 2021, we estimate that the aggregate total costs we have incurred or will incur with respect to the Line 901 incident will be approximately \$495 million, which includes actual and projected emergency response and clean-up costs, natural resource damage assessments, fines and penalties payable pursuant to the Consent Decree and certain third-party claims settlements, as well as estimates for certain legal fees. We accrue such estimates of aggregate total costs to "Field operating costs" in our Consolidated Statements of Operations. This estimate considers our prior experience in environmental investigation and remediation matters and available data from, and in consultation with, our environmental and other specialists, as well as currently available facts and presently enacted laws and regulations. We have made assumptions for (i) the resolution of certain third-party claims and lawsuits, but excluding claims and lawsuits with respect to which losses are not probable and reasonably estimable, and excluding future claims and lawsuits and (ii) the nature, extent and cost of legal services that will be required in connection with all lawsuits, claims and other matters requiring legal or expert advice associated with the Line 901 incident. Our estimate does not include any lost revenue associated with the shutdown of Line 901 or 903 and does not include any liabilities or costs that are not reasonably estimable at this time or that relate to contingencies where we currently regard the likelihood of loss as being only reasonably possible or remote. We believe we have accrued adequate amounts for all probable and reasonably estimable costs; however, this estimate is subject to uncertainties associated with the assumptions that we have made. For example, with respect to potential losses that we regard as only reasonably possible or remote, we have made assumptions regarding the strength of our legal position based on our assessment of the relevant facts and applicable law and precedent; if our assumptions regarding such matters turn out to be inaccurate (i.e., we are found to be liable under circumstances where we regard the likelihood of loss as being only reasonably possible or remote), we could be responsible for significant costs and expenses that are not currently included in our estimates and accruals. In addition, for any potential losses that we regard as probable and for which we have accrued an estimate of the potential losses, our estimates regarding damages, legal fees, court costs and interest could turn out to be inaccurate and the actual losses we incur could be significantly higher than the amounts included in our estimates and accruals. Also, the amount of time it takes for us to resolve all of the current and future lawsuits and claims that relate to the Line 901 incident could turn out to be significantly longer than we have assumed, and as a result the costs we incur for legal services could be significantly higher than we have estimated. Accordingly, our assumptions and estimates may turn out to be inaccurate and our total costs could turn out to be materially higher; therefore, we can provide no assurance that we will not have to accrue significant additional costs in the future with respect to the Line 901 incident.

As of December 31, 2021, we had a remaining undiscounted gross liability of \$103 million related to this event, which is reflected in "Trade accounts payable" and "Other current liabilities" on our Consolidated Balance Sheet. We maintain insurance coverage, which is subject to certain exclusions and deductibles, in the event of such environmental liabilities. Subject to such exclusions and deductibles, we believe that our coverage is adequate to cover the current estimated total emergency response and clean-up costs, claims settlement costs and remediation costs and we believe that this coverage is also adequate to cover any potential increase in the estimates for these costs that exceed the amounts currently identified. Through December 31, 2021, we had collected, subject to customary reservations, \$250 million out of the approximate \$355 million of release costs that we believe are probable of recovery from insurance carriers, net of deductibles and amounts already collected. Such amount is recognized as a current asset in "Trade accounts precivable and other receivables, net" on our Consolidated Balance Sheet. We have completed the required clean-up and remediation work as determined by the Unified Command and the Unified Command has been dissolved; however, we expect to make payments for additional costs associated with restoration of the impacted areas, as well as legal, professional and regulatory costs during future periods.

Insurance

Pipelines, terminals, trucks or other facilities or equipment may experience damage as a result of an accident, natural disaster, terrorist attack, cyber event or other event. These hazards can cause personal injury and loss of life, severe damage to and destruction of property and equipment, pollution or environmental damage and suspension of operations. Consistent with insurance coverage generally available in the industry, in certain circumstances our insurance policies provide limited coverage for losses or liabilities relating to gradual pollution, with broader coverage for sudden and accidental occurrences. We maintain various types and varying levels of insurance coverage to cover our operations and properties, and we self-insure certain risks, including gradual pollution, cybersecurity and named windstorms. However, such insurance does not cover every potential risk that might occur, associated with operating pipelines, terminals and other facilities and equipment, including the potential loss of significant revenues and cash flows.

The occurrence of a significant event not fully insured, indemnified or reserved against, or the failure of a party to meet its indemnification obligations, could materially and adversely affect our operations and financial condition. We believe that we maintain adequate insurance coverage, although insurance will not cover many types of interruptions that might occur, will not cover amounts up to applicable deductibles and will not cover all risks associated with certain of our assets and operations. With respect to our insurance coverage, our policies are subject to deductibles and retention levels that we consider reasonable and not excessive. Additionally, no assurance can be given that we will be able to maintain adequate insurance in the future at rates we consider reasonable. As a result, we may elect to self-insure or utilize higher deductibles in certain other insurance programs. In addition, although we believe that we have established adequate reserves and liquidity to the extent such risks are not insured, costs incurred in excess of these reserves may be higher or we may not receive insurance proceeds in a timely manner, which may potentially have a material adverse effect on our financial conditions, results of operations or cash flows.

Note 20—Segment Information

During the fourth quarter of 2021, we effected changes in the primary financial information provided to our CODM (our Chief Executive Officer) for assessing performance and allocating resources to present two operating segments, Crude Oil and NGL. Prior to the fourth quarter of 2021, this information was organized into three operating segments: Transportation, Facilities and Supply and Logistics. The change in our segments is reflective of a change in how our CODM views our business and stems primarily from (i) a multi-year transition in the midstream energy industry driven by increased competition that has reduced the stand alone earnings opportunities of our supply and logistics activities such that those activities now primarily support our effort to increase the utilization of our Crude Oil and NGL assets and (ii) internal changes regarding the oversight and reporting of our assets and related results of operations. All segment data and related disclosures for earlier periods presented herein have been recast to reflect the new segment reporting structure.

Our operating segments, which are also our reportable segments, are organized by product as our Crude Oil and NGL businesses are generally impacted by different market fundamentals and require the use of different assets and business strategies. The Crude Oil segment includes our crude oil pipelines, crude oil storage and marine terminals and related crude oil marketing activities. The NGL segment includes our NGL pipelines, NGL storage, natural gas processing and NGL fractionation facilities and related NGL marketing activities. In our historical segment reporting, our marketing activities were presented separately from our other operating activities. Our crude oil and NGL marketing activities are now included in the respective reporting segments as their primary purpose is to support the utilization of our assets by entering into transactions that facilitate increased volumes handled by our assets, resulting in additional earnings for each of our segments.

Our CODM evaluates segment performance based on measures including Segment Adjusted EBITDA (as defined below) and maintenance capital. The measure of Segment Adjusted EBITDA forms the basis of our internal financial reporting and is the primary performance measure used by our CODM in assessing performance and allocating resources among our operating segments. We define Segment Adjusted EBITDA as revenues and equity earnings in unconsolidated entities less (a) purchases and related costs, (b) field operating costs and (c) segment general and administrative expenses, plus (d) our proportionate share of the depreciation and amortization expense of unconsolidated entities, further adjusted (e) for certain selected items including (i) gains and losses on derivative instruments that are related to underlying activities in another period (or the reversal of such adjustments from a prior period), gains and losses on derivatives that are related to investing activities (such as the purchase of linefill) and inventory valuation adjustments, as applicable, (ii) long-term inventory costing adjustments, (iii) charges for obligations that are expected to be settled with the issuance of equity instruments, (iv) amounts related to deficiencies associated with minimum volume commitments, net of the applicable amounts subsequently recognized into revenue and (v) other items that our CODM believes are integral to understanding our core segment operating performance and (f) to exclude the portion of all preceding items that is attributable to noncontrolling interests ("Adjusted EBITDA attributable to noncontrolling interests").

During the fourth quarter of 2021, we modified our definition of Segment Adjusted EBITDA to exclude amounts attributable to noncontrolling interests. In connection with the Permian JV formation in October 2021, our CODM determined this modification resulted in amounts that were more meaningful to evaluate segment performance. Amounts attributable to noncontrolling interests for periods prior have been recast to reflect this modification.

Segment Adjusted EBITDA excludes depreciation and amortization. As an MLP, we make quarterly distributions of our "available cash" (as defined in our partnership agreement) to our unitholders. We look at each period's earnings before non-cash depreciation and amortization as an important measure of segment performance. The exclusion of depreciation and amortization expense could be viewed as limiting the usefulness of Segment Adjusted EBITDA as a performance measure because it does not account in current periods for the implied reduction in value of our capital assets, such as pipelines and facilities, caused by age-related decline and wear and tear. We compensate for this limitation by recognizing that depreciation and amortization are largely offset by repair and maintenance investments, which act to partially offset the aging and wear and tear in the value of our principal fixed assets. These maintenance investments are a component of field operating costs included in Segment Adjusted EBITDA or in maintenance capital, depending on the nature of the cost. Capital expenditures made to expand the existing operating and/or earnings capacity of our existing assets are classified as maintenance capital, which is deducted in determining "available cash." Repair and maintenance expenditures incurred in order to maintain the day to day operation of our existing assets are charged to expense as incurred. Assets are not reviewed by our CODM on a segmented basis; therefore, such information is not presented.



The following tables reflect certain financial data for each segment (in millions):

	Crude Oil	NGL	Intersegment Revenues Elimination	Total	
Year Ended December 31, 2021	 crude on				
Revenues ⁽¹⁾ :					
Product sales	\$ 39,395	\$ 1,829	\$ (341)	\$ 40,88	
Services	 1,075	139	(19)	1,19	
Total revenues	\$ 40,470	\$ 1,968	\$ (360)	\$ 42,07	
Equity earnings in unconsolidated entities	\$ 274	<u>\$ </u>	-	\$ 27-	
Segment Adjusted EBITDA	\$ 1,909	\$ 285	-	\$ 2,19	
Investment and acquisition capital expenditures (2)(3)	\$ 212	\$ 57	_	\$ 26	
Maintenance capital expenditures ⁽³⁾	\$ 100	\$ 68		\$ 16	
As of December 31, 2021					
Investments in unconsolidated entities	\$ 3,805	\$	=	\$ 3,80	
			Intersegment Revenues		
Year Ended December 31, 2020	 Crude Oil	NGL	Elimination	Total	
Revenues ⁽¹⁾ :					
Product sales	\$ 21,089	\$ 1,218	\$ (249)	\$ 22,05	
Services	1,110	142	(20)	1,23	
Total revenues	\$ 22,199	\$ 1,360	\$ (269)	\$ 23,29	
Equity earnings in unconsolidated entities	\$ 355	\$		\$ 35	
Segment Adjusted EBITDA	\$ 2,216	\$ 327		\$ 2,543	
Investment and acquisition capital expenditures ^{(2) (3)}	\$ 1,182	\$ 49		\$ 1,23	
Maintenance capital expenditures ⁽³⁾	\$ 171	\$ 45		\$ 21	
As of December 31, 2020					
Investments in unconsolidated entities	\$ 3,764	\$		\$ 3,764	
	Crude Oil	NGL	Intersegment Revenues Elimination	Total	
Year Ended December 31, 2019	 cruit on	NGL	Linningtion	Total	
Revenues ⁽¹⁾ :					
Product sales	\$ 30,375	\$ 2,302	\$ (405)	\$ 32,272	
Services	 1,280	137	(20)	1,39	
Total revenues	\$ 31,655	\$ 2,439	\$ (425)	\$ 33,669	
Equity earnings in unconsolidated entities	\$ 388	\$		\$ 38	
Segment Adjusted EBITDA	\$ 2,753	\$ 467		\$ 3,22	
Investment and acquisition capital expenditures (2)(3)	\$ 1,332	\$ 58		\$ 1,39	
Maintenance capital expenditures ⁽³⁾	\$ 248	\$ 39		\$ 28	
As of December 31, 2019					
Investments in unconsolidated entities	\$ 3,683	\$		\$ 3,683	

⁽¹⁾ Segment revenues include intersegment amounts that are eliminated in Purchases and related costs. Intersegment activities are conducted at posted tariff rates where applicable, or otherwise at rates similar to those charged to third parties or rates that we believe approximate market at the time the agreement is executed or renegotiated.

⁽²⁾ Investment and acquisition capital expenditures, including investments in unconsolidated entities.

⁽³⁾ These amounts combined represent total capital expenditures.

Segment Adjusted EBITDA Reconciliation

The following table reconciles Segment Adjusted EBITDA to Net income/(loss) attributable to PAA (in millions):

		Yea	r Ended December 31,	
	2	021	2020	2019
Segment Adjusted EBITDA	\$	2,194 \$	2,543	\$ 3,220
Adjustments ⁽¹⁾ :				
Depreciation and amortization of unconsolidated entities ⁽²⁾		(123)	(73)	(62)
Gains/(losses) from derivative activities and inventory valuation adjustments ⁽³⁾		271	(480)	(160)
Long-term inventory costing adjustments (4)		94	(44)	20
Deficiencies under minimum volume commitments, net ⁽⁵⁾		7	(74)	18
Equity-indexed compensation expense ⁽⁶⁾		(19)	(19)	(17)
Net gain/(loss) on foreign currency revaluation ⁽⁷⁾		4	3	(14)
Line 901 incident ⁽⁸⁾		(15)	_	(10)
Significant transaction-related expenses ⁽⁹⁾		(16)	(3)	_
Adjusted EBITDA attributable to noncontrolling interests ⁽¹⁰⁾		94	14	10
Depreciation and amortization		(774)	(653)	(601)
Gains/(losses) on asset sales and asset impairments, net		(592)	(719)	(28)
Goodwill impairment losses		—	(2,515)	_
Gain on/(impairment of) investments in unconsolidated entities, net		2	(182)	271
Interest expense, net		(425)	(436)	(425)
Other income, net		19	39	24
Income/(loss) before tax		721	(2,599)	2,246
Income tax (expense)/benefit		(73)	19	(66)
Net income/(loss)		648	(2,580)	2,180
Net income attributable to noncontrolling interests		(55)	(10)	(9)
Net income/(loss) attributable to PAA	\$	593 \$	(2,590)	\$ 2,171

⁽¹⁾ Represents adjustments utilized by our CODM in the evaluation of segment results.

(2) Includes our proportionate share of the depreciation and amortization expense (including write-downs related to cancelled projects) of unconsolidated entities.

- (3) We use derivative instruments for risk management purposes and our related processes include specific identification of hedging instruments to an underlying hedged transaction. Although we identify an underlying transaction for each derivative instrument we enter into, there may not be an accounting hedge relationship between the instrument and the underlying transaction. In the course of evaluating our results, we identify differences in the timing of earnings from the derivative instruments and the underlying transactions and exclude the related gains and losses in determining Segment Adjusted EBITDA such that the earnings from the derivative instruments and the underlying transactions impact Segment Adjusted EBITDA in the same period. In addition, we exclude gains and losses on derivatives that are related to investing activities, such as the purchase of linefill. We also exclude the impact of corresponding inventory valuation adjustments, as applicable.
- (4) We carry crude oil and NGL inventory that is comprised of minimum working inventory requirements in third-party assets and other working inventory that is needed for our commercial operations. We consider this inventory necessary to conduct our operations and we intend to carry this inventory for the foreseeable future. Therefore, we classify this inventory as long-term on our balance sheet and do not hedge the inventory with derivative instruments (similar to linefill in our own assets). We exclude the impact of changes in the average cost of the long-term inventory (that result from fluctuations in market prices) and write-downs of such inventory that result from price declines from Segment Adjusted EBITDA.
- (5) We, and certain of our equity method investments, have certain agreements that require counterparties to deliver, transport or throughput a minimum volume over an agreed upon period. Substantially all of such agreements were entered into with counterparties to economically support the return on our capital expenditure necessary to construct the related asset. Some of these agreements include make-up rights if the minimum volume is not met. We record a receivable from the counterparty in the period that services are provided or when the transaction occurs, including amounts for deficiency obligations from counterparties associated with minimum volume commitments. If a counterparty has a make-up right associated with a deficiency, we defer the revenue attributable to the counterparty's make-up right and subsequently recognize the revenue at the earlier of when the deficiency volume is delivered or shipped, when the make-up right expires or when it is determined that the counterparty's ability to utilize the make-up right is remote. We include the impact of amounts billed to counterparties for their deficiency obligation, net of applicable amounts subsequently recognized into revenue, as a selected item impacting comparability. Our CODM views the inclusion of the contractually committed revenues associated with that period as meaningful to Segment Adjusted EBITDA as the related asset has been constructed, is standing ready to provide the committed service and the fixed operating costs are included in the current period results.
- (6) Our total equity-indexed compensation expense includes expense associated with awards that will be settled in units and awards that will be settled in cash. The awards that will be settled in units are included in our diluted net income per unit calculation when the applicable performance criteria have been met. We exclude compensation expense associated with these awards in determining Segment Adjusted EBITDA as the dilutive impact of the outstanding awards is included in our diluted net income per unit calculation, as applicable. The portion of compensation expense associated with awards that will settle in cash is not excluded in determining Segment Adjusted EBITDA. See Note 18 for information regarding our equity-indexed compensation plans.
- (7) During the periods presented, there were fluctuations in the value of CAD to USD, resulting in the realization of foreign exchange gains and losses on the settlement of foreign currency transactions as well as the revaluation of monetary assets and liabilities denominated in a foreign currency. These gains and losses are not integral to our core operating performance and were therefore excluded in determining Segment Adjusted EBITDA.
- (8) Includes costs recognized during the period related to the Line 901 incident that occurred in May 2015, net of amounts we believe are probable of recovery from insurance. See Note 19 for additional information regarding the Line 901 incident.
- (9) Includes expenses associated with the Permian JV transaction in 2021 and the Felix Midstream LLC acquisition in 2020. See Note 7 for additional discussion. An adjustment for these non-recurring expenses is included in the calculation of Segment Adjusted EBITDA for the years ended December 31, 2021 and 2020 as our CODM does not view such expenses as integral to understanding our core segment operating performance.
- (10) Reflects amounts attributable to noncontrolling interests in the Permian JV (beginning October 2021) and Red River LLC.

Geographic Data

We have operations in the United States and Canada. Set forth below are revenues and long-lived assets attributable to these geographic areas (in millions):

	Year Ended December 31,							
Revenues ⁽¹⁾		2021		2020		2019		
United States	\$	34,458	\$	17,942	\$	27,162		
Canada		7,620		5,348		6,507		
	\$	42,078	\$	23,290	\$	33,669		
					-			

⁽¹⁾ Revenues are primarily attributed to each region based on where the services are provided or the product is shipped.

	December 31,		
Long-Lived Assets (1)	 2021		2020
United States	\$ 18,273	\$	16,887
Canada	4,094		3,892
	\$ 22,367	\$	20,779

⁽¹⁾ Excludes long-term derivative assets, long-term deferred tax assets and goodwill.

Exhibit 3.21

Execution Version

FOURTH AMENDED AND RESTATED

LIMITED LIABILITY COMPANY AGREEMENT

OF

PAA GP HOLDINGS LLC

effective as of August 19, 2021

TABLE OF CONTENTS

Page

ARTIC	LE I	DEFINITIONS 1	L
ARTIC	LE II	GENERAL	1
2.1 2.2 2.3 2.4 2.5 2.6 2.7 2.8	PRINC REGIS PURPO DATE QUAL MEME RELIA	ATION	7788888
3.1 3.2 3.3	CAPIT ADDIT SPLITS	AL CONTRIBUTIONS	3
4.1 4.2	DISTR	DISTRIBUTIONS)
ARTIC	LE V	MEMBERS' MEETINGS)
5.1 5.2 5.3 5.4 5.5 5.6	QUOR PROXI ACTIC NOTIC	INGS OF MEMBERS))
ARTIC	LE VI	MANAGEMENT AND CONTROL 10)
6.1 6.2 6.3 6.4 6.5 6.6 6.7 6.8 6.9	CLASS MEET QUOR COMM COMM COMP DIREC	D OF DIRECTORS	55557777
ARTIC		LIABILITY AND INDEMNIFICATION	
7.1 7.2		ATION ON LIABILITY OF MEMBERS, DIRECTORS AND OFFICERS	

ARTICI	LE VIII	TRANSFERS OF UNITS	20
8.1	GENERAL	L RESTRICTIONS	20
8.2		UTE MEMBERS	
8.3	EFFECT C	OF ADMISSION AS A SUBSTITUTE MEMBER	21
8.4		Τ	
8.5		SOLUTION	
8.6	ADDITIO	DNAL MEMBERS	22
ARTICI	LE IX D	DISSOLUTION AND TERMINATION	22
9.1	EVENTS	CAUSING DISSOLUTION	22
9.2	FINAL AG	CCOUNTING	22
9.3	DISTRIBU	UTIONS FOLLOWING DISSOLUTION AND TERMINATION	22
9.4	TERMINA	ATION OF THE COMPANY	23
9.5	NO ACTI	ION FOR DISSOLUTION	23
ARTICI	LEX A	ACCOUNTING; BOOKS AND RECORDS	23
10.1	FISCAL Y	YEAR AND ACCOUNTING METHOD	23
10.2		AND RECORDS	
10.3		RY TO MEMBERS; INSPECTION	
10.4		SCLOSURE	
ARTICI	LE XI N	NON-COMPETITION AND NON-SOLICITATION	24
11.1	Non-Co	DMPETITION	24
11.1 11.2	Non-Co Non-Soi	DMPETITION DLICITATION	24 25
11.1	Non-Coi Non-Soi Damage	DMPETITION DLICITATION ES	24 25 25
11.1 11.2 11.3 11.4	Non-Co Non-Soi Damage Limitati	DMPETITION DLICITATION ES TIONS	24 25 25 26
11.1 11.2 11.3 11.4 ARTICI	Non-Coi Non-Soi Damage Limitati L E XII	DMPETITION DLICITATION ES TONS MISCELLANEOUS	24 25 25 26 26
11.1 11.2 11.3 11.4 ARTICI 12.1	Non-Coi Non-Soi Damage Limitati L E XII Waiver	DMPETITION DLICITATION ES TIONS MISCELLANEOUS C OF DEFAULT	24 25 26 26 26
11.1 11.2 11.3 11.4 ARTICI 12.1 12.2	Non-Coi Non-Soi Damage Limitati L E XII Waiver Amendm	DMPETITION DLICITATION ES TIONS MISCELLANEOUS C OF DEFAULT MENT	24 25 26 26 26 26 26 26
11.1 11.2 11.3 11.4 ARTICI 12.1 12.2 12.3	Non-Coi Non-Soi Damage Limitati L E XII Waiver Amendm No Thir	DMPETITION DLICITATION ES TIONS MISCELLANEOUS OF DEFAULT MENT RD PARTY RIGHTS	24 25 26 26 26 26 26 26 27
11.1 11.2 11.3 11.4 ARTICI 12.1 12.2 12.3 12.4	Non-Co Non-Soi Damage Limitati L E XII Waiver Amendm No Thir Severae	DMPETITION DELICITATION ES TIONS MISCELLANEOUS OF DEFAULT MENT RD PARTY RIGHTS BILITY	24 25 26 26 26 26 26 26 27 27
11.1 11.2 11.3 11.4 ARTICI 12.1 12.2 12.3 12.4 12.5	Non-Coi Non-Soi Damage Limitati L E XII Waiver Amendm No Thir Severae Nature	DMPETITION DLICITATION ES TIONS MISCELLANEOUS C OF DEFAULT MENT RD PARTY RIGHTS BILITY C OF INTEREST IN THE COMPANY	24 25 26 26 26 26 26 27 27 27 27
11.1 11.2 11.3 11.4 ARTICI 12.1 12.2 12.3 12.4	NON-CO NON-SO DAMAGE LIMITATI LE XII WAIVER AMENDM NO THIR SEVERAE NATURE BINDING	DMPETITION DLICITATION ES TIONS MISCELLANEOUS C OF DEFAULT MENT RD PARTY RIGHTS BILITY C OF INTEREST IN THE COMPANY G AGREEMENT	24 25 26 26 26 26 26 26 27 27 27 27
11.1 11.2 11.3 11.4 ARTICI 12.1 12.2 12.3 12.4 12.5 12.6	Non-Co Non-Soi Damage Limitati LE XII Waiver Amendm No Thir Severae Nature Binding Heading	DMPETITION DUICITATION ES TIONS MISCELLANEOUS OF DEFAULT MENT RD PARTY RIGHTS BILITY S OF INTEREST IN THE COMPANY G AGREEMENT GS	24 25 26 26 26 26 26 26 27 27 27 27 27
11.1 11.2 11.3 11.4 ARTICI 12.1 12.2 12.3 12.4 12.5 12.6 12.7	NON-CO NON-SOI DAMAGE LIMITATI LE XII WAIVER AMENDM NO THIR SEVERAE NATURE BINDING HEADING WORD M	DMPETITION DLICITATION ES TIONS MISCELLANEOUS C OF DEFAULT MENT RD PARTY RIGHTS BILITY C OF INTEREST IN THE COMPANY G AGREEMENT	24 25 26 26 26 26 26 27 27 27 27 27 27
11.1 11.2 11.3 11.4 ARTICI 12.1 12.2 12.3 12.4 12.5 12.6 12.7 12.8	NON-CO NON-SOI DAMAGE LIMITATI LE XII WAIVER AMENDM NO THIR SEVERAE NATURE BINDING HEADING WORD M COUNTEI	DMPETITION DUICITATION ES TONS MISCELLANEOUS OF DEFAULT MENT RD PARTY RIGHTS BILITY G OF INTEREST IN THE COMPANY G AGREEMENT GS MEANINGS	24 25 26 26 26 26 26 26 27 27 27 27 27 27 27 27
11.1 11.2 11.3 11.4 ARTICI 12.1 12.2 12.3 12.4 12.5 12.6 12.7 12.8 12.9	NON-CO NON-SOI DAMAGE LIMITATI LE XII WAIVER AMENDM NO THIR SEVERAE NATURE BINDING HEADING WORD M COUNTEI ENTIRE A	DMPETITION DUICITATION ES TIONS MISCELLANEOUS C OF DEFAULT MENT RD PARTY RIGHTS BILITY C OF INTEREST IN THE COMPANY G AGREEMENT GS MEANINGS ERPARTS	24 25 26 26 26 26 26 27 27 27 27 27 27 27 27 27 27

FOURTH AMENDED AND RESTATED LIMITED LIABILITY COMPANY AGREEMENT OF PAA GP HOLDINGS LLC

THIS FOURTH AMENDED AND RESTATED LIMITED LIABILITY COMPANY AGREEMENT (this "*Agreement*") of PAA GP Holdings LLC, a Delaware limited liability company (the "*Company*"), is made and entered into this 25th day of February, 2022 to be effective for all purposes as of August 19, 2021 by the Company and is binding on those Persons that are currently, or that may hereafter become, members of the Company (such Persons referred to collectively as the "*Members*" or, individually, as a "*Members*").

WHEREAS, the Company was formed on July 17, 2013 as a limited liability company under the Act (as defined below) by the filing of a certificate of formation of the Company with the Delaware Secretary of State; and

WHEREAS, the Board adopted the Third Amended and Restated Limited Liability Company Agreement of PAA GP Holdings LLC on February 16, 2017 (the "*Third A&R LLC Agreement*"); and

WHEREAS, the Board adopted amendments to the Third A&R LLC Agreement on October 1, 2018, December 10, 2018, November 21, 2019 (effective January 1, 2020), February 25, 2021 and August 19, 2021 (collectively, the "*Amendments*"); and

WHEREAS, the Board has authorized the Company to amend and restate the Third A&R LLC Agreement in its entirety to reflect and consolidate the Amendments and has approved this Agreement.

NOW, THEREFORE, in consideration of the premises and the mutual agreements contained herein, the parties agree as follows:

ARTICLE I DEFINITIONS

As used herein, the following terms shall have the following meanings, unless the context otherwise requires:

"AAP" means Plains AAP, L.P., a Delaware limited partnership.

"AAP Class A Units" means the Class A Units of AAP, having the rights and obligations specified in the AAP Partnership Agreement.

"AAP Class B Units" means the Class B Units of AAP, having the rights and obligations specified in the AAP Partnership Agreement.

"*AAP Partnership Agreement*" means the Eighth Amended and Restated Limited Partnership Agreement, dated as of November 15, 2016, as such may be further amended, modified, supplemented or restated from time to time in accordance with the terms thereof. "*AAP Redemption*" means a redemption in accordance with Section 7.11 of the AAP Partnership Agreement.

"Act" means the Delaware Limited Liability Company Act, 6 Del. C. Section 18-101, et seq., as amended from time to time.

"Affiliate" means, with respect to any specified Person, any other Person that directly, or indirectly through one or more intermediaries, controls, is controlled by, or is under common control with, such specified Person. As used herein, the term "control" means the possession, direct or indirect, of the power to direct or cause the direction of the management and policies of a Person, whether through ownership of voting securities, by contract or otherwise; *provided* that the determination as to whether a Person, directly or indirectly through one or more intermediaries, controls, is controlled by or under common control with another Person shall be made taking into account, at the time of such determination, the context and circumstances surrounding such determination, including any known agreements or understandings that may impact such Person's possession, directly or indirectly, of the power to direct or cause the direction of the management or policies of such other Person. For purposes of the foregoing:

(a) any individual who is an officer or director of the Company or any Group Member (excluding the Chief Executive Officer and Chairman of the Board) shall not be considered to be an Affiliate of the Company or any Group Member by virtue of such Person's status as an officer or director and the possession of the powers that are within the scope of the designated or delegated authority of such officer or director;

(b) any Person that, alone or together with any Affiliate Group of which such Person is a part, owns less than 50% of the total number of outstanding Company Units shall not be considered to be an Affiliate of the Company or any Group Member by virtue of the ownership by such Person (and Affiliate Group, if applicable) of such Company Units; and

(c) any Person that, alone or together with any Affiliate Group of which such Person is a part, owns less than 50% of the total "Partnership Interests" (as such term is defined in the AAP Partnership Agreement) held by all partners of AAP, shall not be considered to be an Affiliate of the Company or any Group Member by virtue of the ownership by such Person (and Affiliate Group, if applicable) of such interests.

For the avoidance of doubt, for purposes of this Agreement, as of the date hereof (but subject to redetermination upon changed circumstances) (i) each of KAFU Holdings, L.P., KAFU Holdings (QP), L.P., Kayne Anderson MLP Investment Company, Kayne Anderson Energy Development Company, Kayne Anderson Midstream/Energy Fund, Inc. and KAFU Holdings II, L.P. is an Affiliate of each other, and (ii) each of EMG Investment, LLC and Lynx Holdings I, LLC is an Affiliate of the other.

"*Affiliate Group*" means a Person that with or through any of its Affiliates has any agreement, arrangement, understanding or relationship for the purpose of acquiring, holding, voting (except voting pursuant to a revocable proxy or consent given to such Person in response to a proxy or consent solicitation made to 10 or more Persons), exercising investment power or disposing of any Company Units or "Partnership Interests" (as that term is defined in the AAP

Partnership Agreement) with any other Person that beneficially owns, or whose Affiliates beneficially own, directly or indirectly, Company Units.

"*Agreement*" has the meaning set forth in the preamble hereof, as such may be amended, supplemented or restated from time to time.

"Amendments" has the meaning set forth in the recitals hereof.

"Audit Committee" has the meaning set forth in Section 6.6(c).

"Authorized Representative" has the meaning set forth in Section 5.3.

"Board" means the Board of Directors of the Company.

"Business Day" means Monday through Friday of each week, except that a legal holiday recognized as such by the government of the United States of America or the States of New York or Texas shall not be regarded as a Business Day.

"Cause" means (i) with respect to any Director, gross misconduct or neglect, false or fraudulent misrepresentation regarding such director's qualifications or credentials, unauthorized disclosure of material confidential information concerning the Company and its Subsidiaries, conversion of corporate funds, acts involving moral turpitude, material violation of any code of conduct adopted by the Company or PAGP or similar acts detrimental to the Company or (ii) with respect to any Independent Director, the occurrence of an event or a change in circumstances that causes such Independent Director to fail to satisfy the applicable "bright-line" independence requirements (i.e., those resulting in automatic disqualification) of the Common Units are listed or admitted for trading, *provided* that such failure results in the Company ceasing to have the minimum number of Independent Directors required under applicable rules, laws or restrictions of the Commission and any National Securities Exchange on which the PAGP Class A Shares or MLP Class A Shares or MLP Class A Shares or more than the minimum number of Independent Directors required under applicable rules, laws or restrictions of the Commission and any National Securities Exchange on which the PAGP Class A Shares or MLP Class A Shares or MLP Common Units are listed or admitted for trading, *provided* that such failure results in the PAGP Class A Shares or MLP Common Units are listed or admitted for trading.

"*Certificate*" means the Certificate of Formation of the Company filed with the Secretary of State of Delaware, as amended or restated from time to time.

"Class" has the meaning set forth in Section 6.2(a).

"Code" means the United States Internal Revenue Code of 1986, as amended.

"Commission" means the United States Securities and Exchange Commission.

"Company" has the meaning set forth in the preamble hereof.

"Company Group" means the Company and its Subsidiaries treated as a single consolidated entity, but excluding the MLP and its Subsidiaries.

"Company Unit" means a fractional part of the Membership Interest having the rights and preferences specified with respect to the Membership Interest.

"Competitor" has the meaning set forth in Section 6.1(b).

"Conflicts Committee" has the meaning set forth in Section 6.6(b).

"Designation Right Termination Event" has the meaning set forth in Section 6.1(d).

"Directors" has the meaning set forth in Section 6.1(a).

"Eligible Directors" means any Director who is not a Series A Designated Director.

"EMG" shall have the meaning set forth in Section 11.1.

"Employees" has the meaning set forth in Section 11.2.

"*Encumbrance*" means any security interest, pledge, mortgage, lien (including, without limitation, environmental and tax liens), charge, encumbrance, adverse claim, any defect or imperfection in title, preferential arrangement or restriction, right to purchase, right of first refusal or other burden or encumbrance of any kind, other than those imposed by this Agreement.

"*Exchange Act*" means the Securities Exchange Act of 1934, as amended, and the rules and regulations promulgated thereunder.

"*Existing Owners*" means the Original Members listed on <u>Schedule 1</u> attached hereto, excluding PAGP.

"Group Member" means a member of the Company Group.

"Indemnitee" means (a) any Existing Owner, (b) any Person who is or was an Affiliate of the Company or any Existing Owner, (c) any Person who is or was a managing member, manager, general partner, shareholder, director, officer, fiduciary, agent or trustee of the Company, any Existing Owner or any Affiliate of the Company or any Existing Owner, (d) any Person who is or was serving at the request of the Company, any Existing Owner or any Affiliate of the Company or any Existing Owner as a member, manager, partner, director, officer, fiduciary, agent or trustee of another Person in furtherance of the business or affairs of any Group Member; *provided*, that a Person shall not be an Indemnitee by reason of providing, on a fee-for-services basis, trustee, fiduciary or custodial services, and (e) any Person the Board designates as an "Indemnitee" for purposes of this Agreement.

"*Independent Director*" means a Director who meets the independence requirements of the National Securities Exchange on which PAGP Class A Shares or MLP Common Units are listed or admitted for trading.

"*Initial Offering*" means the initial offering and sale of the PAGP Class A Shares to the public, as described in the Registration Statement.

"Institutional Investments" has the meaning set forth in Section 11.1.

"Kayne Anderson" has the meaning set forth in Section 11.1.

"Lead Director" has the meaning set forth in Section 6.1(a).

"*Majority in Interest*" means, with respect to the Members, Members owning more than fifty percent (50%) of the outstanding Company Units.

"Member" or "Members" has the meaning set forth in the preamble hereof.

"*Membership Interest*" means a Member's limited liability company interest in the Company which refers to all of a Member's rights and interests in the Company in such Member's capacity as a Member, all as provided in this Agreement and the Act.

"Membership Transfer" has the meaning set forth in Section 8.1(a).

"MLP" means Plains All American Pipeline, L.P., a Delaware limited partnership.

"MLP Common Units" has the meaning given to "Common Units" in the MLP Partnership Agreement.

"*MLP Partnership Agreement*" means the Seventh Amended and Restated Agreement of Limited Partnership of Plains All American Pipeline, L.P., dated as of October 10, 2017, as such may be further amended, modified, supplemented or restated from time to time in accordance with the terms thereof.

"*MLP Redemption Units*" means MLP Common Units received by a Member upon an AAP Redemption.

"National Securities Exchange" means an exchange registered with the Commission under Section 6(a) of the Securities Exchange Act or any successor to such statute.

"Non-Management Directors" means the Independent Directors and any Director who is not currently serving as an Officer of the Company or of Plains All American GP LLC.

"*Notice*" means a writing, containing the information required by this Agreement to be communicated to a party, and shall be deemed to have been received (a) when personally delivered or sent by facsimile, (b) one day following delivery by overnight delivery courier, with all delivery charges pre-paid, or (c) on the third Business Day following the date on which it was sent by United States mail, postage prepaid, to such party at the address or fax number, as the case may be, of such party as shown on the records of the Company.

"Officers" has the meaning set forth in Section 6.9.

"Original Agreement" means the Amended and Restated Limited Liability Company Agreement of the Company, dated as of October 21, 2013.

"Original Members" means each of the owners of limited liability company interests in the Company as of the date of the Original Agreement as set forth in <u>Schedule 1</u> attached hereto.

"PAA GP LLC Agreement" means the Seventh Amended and Restated Limited Liability Company Agreement of Plains All American GP LLC, dated as of November 15, 2016, as such may be further amended, modified, supplemented or restated from time to time in accordance with the terms thereof.

"PAGP" means Plains GP Holdings, L.P., a Delaware limited partnership.

"PAGP Class A Shares" means the Class A shares in PAGP, having the rights and obligations specified in the PAGP Partnership Agreement.

"PAGP Class B Shares" means the Class B shares in PAGP, having the rights and obligations specified in the PAGP Partnership Agreement.

"PAGP Class C Shares" means the Class C shares in PAGP, having the rights and obligations specified in the PAGP Partnership Agreement.

"PAGP Limited Partners" means the Limited Partners of PAGP as such term is given meaning in the PAGP Partnership Agreement.

"**PAGP Partnership Agreement**" means the Second Amended and Restated Agreement of Limited Partnership of PAGP, dated as of November 15, 2016, as such may be further amended, modified, supplemented or restated from time to time in accordance with the terms thereof.

"*PAGP Reverse Stock Split*" has the meaning set forth in that certain Simplification Agreement, dated as of July 11, 2016, by and among the Company, PAGP, AAP, the MLP, PAA GP LLC and Plains All American GP LLC.

"Permitted Transfer" has the meaning set forth in Section 8.1(a).

"*Permitted Transferee*" means any Person who shall have acquired and who shall hold a Company Unit pursuant to a Permitted Transfer.

"*Person*" means any individual, partnership, corporation, limited liability company, trust, incorporated or unincorporated organization or other legal entity of any kind.

"*Property*" means all assets, real or intangible, that the Company may own or otherwise have an interest in from time to time.

"*Registration Statement*" means the Registration Statement on Form S-1 (Registration No. 333-190227) as it has been or as it may be amended or supplemented from time to time, filed by PAGP with the Commission under the Securities Act to register the offering and sale of the PAGP Class A Shares in the Initial Offering.

"Representatives" has the meaning set forth in Section 10.4.

"Second A&R LLC Agreement" has the meaning set forth in the preamble hereof.

"Securities Act" means the Securities Act of 1933, as amended, supplemented or restated from time to time and any successor to such statute.

"Series A Designated Director" has the meaning set forth in Section 6.1(b).

"Subsidiary" means, with respect to any Person, (a) a corporation of which more than 50% of the voting power of shares entitled (without regard to the occurrence of any contingency) to vote in the election of directors or other governing body of such corporation is owned, directly or indirectly, at the date of determination, by such Person, by one or more Subsidiaries of such Person or a combination thereof, (b) a partnership (whether general or limited) in which such Person or a Subsidiary of such Person is, at the date of determination, a general partner of such partnership, but only if such Person, directly or by one or more Subsidiaries of such Person, or a combination thereof, controls such partnership on the date of determination or (c) any other Person in which such Person, one or more Subsidiaries of such Person, or a combination thereof, directly or indirectly, at the date of determination, has (i) at least a majority ownership interest or (ii) the power to elect or direct the election of a majority of the directors or other governing body of such Person.

"Third A&R LLC Agreement" has the meaning set forth in the recitals hereof.

"*Transfer*" or "*Transferred*" means to give, sell, exchange, assign, transfer, pledge, hypothecate, bequeath, devise or otherwise dispose of or encumber, voluntarily or involuntarily, by operation of law or otherwise. When referring to a Company Unit, "Transfer" shall mean the Transfer of such Company Unit whether of record, beneficially, by participation or otherwise.

ARTICLE II GENERAL

2.1 Formation. The name of the Company is PAA GP Holdings LLC. The rights and liabilities of the Members shall be as provided in the Act for Members except as provided herein. To the extent that the rights or obligations of any Member are different by reason of any provision of this Agreement than they would be under applicable law in the absence of such provision, to the extent permitted by the Act, this Agreement shall control.

2.2 <u>**Principal Office**</u>. The principal office of the Company shall be located at 333 Clay Street, Suite 1600, Houston, Texas 77002 or at such other place(s) as the Board may determine from time to time.

2.3 <u>Registered Office and Registered Agent</u>. The location of the registered office and the name of the registered agent of the Company in the State of Delaware shall be as stated in the Certificate or as determined from time to time by the Board.

2.4 <u>Purpose of the Company</u>. The Company's purposes, and the nature of the business to be conducted and promoted by the Company, are (a) to act as the general partner of PAGP in accordance with the terms of the PAGP Partnership Agreement and (b) to engage in any and all activities necessary, advisable, convenient or incidental to the foregoing.

2.5 <u>Date of Dissolution</u>. The Company shall have perpetual existence unless the Company is dissolved pursuant to <u>Article 9</u> hereof. The existence of the Company as a separate legal entity shall continue until cancellation of the Certificate in the manner required by the Act.

2.6 Qualification. The President, Chief Executive Officer, any Vice President, the Secretary and any Assistant Secretary of the Company is hereby authorized to qualify the Company to do business as a foreign limited liability company in any jurisdiction in which the Company may wish to conduct business and each is hereby designated as an authorized person, within the meaning of the Act (or as a "manager" for such limited purposes only, if signature of a manager is required under relevant state regulations) to execute, deliver and file any amendments or restatements of the Certificate and any other certificates and any amendments or restatements thereof necessary for the Company to so qualify to do business in any such state or territory.

2.7 <u>Members</u>.

(a) <u>Powers of Members</u>. Except to the extent waived or limited in a separate written agreement executed by a Member, the Members shall have the power to exercise any and all rights or powers granted to the Members pursuant to the express terms of this Agreement. Except as expressly provided herein, the Members shall have no power to bind the Company and no authority to act on behalf of the Company.

(b) <u>Resignation</u>. Except upon a Transfer of all of its Company Units in accordance with this Agreement, a Member may not resign from the Company prior to the dissolution and winding up of the Company. A Member ceases to be a Member only upon such Member holding no Company Units following: (i) a Permitted Transfer of all of such Member's Company Units (other than a "Permitted Transfer" pursuant to clause (a) of the definition of such term in the AAP Partnership Agreement) and the transferee's admission as a substitute Member, all in accordance with the terms of this Agreement or (ii) completion of dissolution and winding up of the Company pursuant to <u>Article IX</u>.

(c) <u>Ownership</u>. Each Company Unit shall correspond to a "limited liability company interest" as is provided in the Act. The Company shall be the owner of the Property. No Member shall have any ownership interest or right in any Property, including any Property conveyed by a Member to the Company, except indirectly by virtue of a Member's ownership of a Company Unit.

2.8 <u>Reliance by Third Parties</u>. Persons dealing with the Company shall be entitled to rely conclusively upon the power and authority of an Officer.

ARTICLE III CAPITALIZATION OF THE COMPANY

3.1 <u>**Capital Contributions**</u>. No capital was contributed to the Company in connection with its formation.

3.2 <u>Additional Capital Contributions</u>. No Member shall be required to make any capital contribution to the Company.

3.3 <u>Splits</u>. Any distribution, subdivision or combination of the Company Units shall be accompanied by a simultaneous and proportionate distribution, subdivision or combination of the AAP Class A Units and AAP Class B Units pursuant to the AAP Partnership Agreement and the PAGP Class A Shares, PAGP Class B Shares and PAGP Class C Shares pursuant to the PAGP LP Agreement, and vice versa. This provision shall not be amended unless corresponding changes are made to the AAP Partnership Agreement and the PAGP LP Agreement.

ARTICLE IV DISTRIBUTIONS

4.1 <u>**Distributions**</u>. The Board shall have sole discretion to determine the timing, amount and manner of any distribution of cash or property of the Company. Any distribution declared by the Board shall be paid to the Members in proportion to their Company Units.

4.2 <u>Persons Entitled to Distributions</u>. Any distributions to Members pursuant to <u>Section 4.1</u> shall be made to the Members shown on the records of the Company to be entitled thereto as of the record date for any such distributions established by the Board. Notwithstanding any provision of this Agreement to the contrary, no distribution hereunder shall be permitted if such distribution would violate Section 18-607 of the Act or other applicable law.

ARTICLE V MEMBERS' MEETINGS

5.1 <u>Meetings of Members</u>. Meetings of the Members may be held on an annual basis or as otherwise determined by a Majority in Interest. Special meetings of the Members may be held for any purpose or purposes, unless otherwise prohibited by law, and may be called by the Board or by a Majority in Interest. All meetings of the Members shall be held within or outside the State of Delaware as designated from time to time by the Board or by a Majority in Interest and stated in the Notice of the meeting or in a duly executed waiver of the Notice thereof. Members and Authorized Representatives may participate in a meeting of the Members by means of conference telephone or other similar communication equipment whereby all Members or Authorized Representative participating in the meeting can hear each other, and such participation in a meeting shall constitute presence in person at the meeting, except when a Member or Authorized Representative participates for the express purpose of objecting to the transaction of any business on the ground that the meeting was not lawfully called or convened.

5.2 <u>Quorum; Voting Requirement</u>. The presence, in person or by proxy, of a Majority in Interest of the Members shall constitute a quorum for the transaction of business by the Members. The affirmative vote of a Majority in Interest shall constitute a valid decision of the Members, except where a different vote is required by the Act or this Agreement.

5.3 Proxies. Any Member entitled to vote but expecting to be absent from a meeting shall be entitled to designate in writing (or orally; *provided*, that such oral designation is later confirmed in writing) a proxy (an "*Authorized Representative*") to act on behalf of such Member with respect to such meeting (to the same extent and with the same force and effect as the Member who has designated such Authorized Representative). Such Authorized Representative shall have

full power and authority to act and take actions or refrain from taking actions as the Member by whom such Authorized Representative has been designated.

5.4 <u>Action Without Meeting</u>. Any action required or permitted to be taken at any meeting of Members of the Company may be taken without a meeting, without prior Notice and without a vote if a consent in writing setting forth the action so taken is signed by a Majority in Interest, except where a different vote is required by the Act or this Agreement, in which case such consent must be signed by the Members as would be necessary to authorize or take such action at a meeting of the Members. Prompt Notice of the taking of any action taken pursuant to this <u>Section 5.4</u> by less than the unanimous written consent of the Members shall be given to those Members who have not consented in writing. A consent transmitted by electronic transmission by a Member shall be deemed to be written and signed.

5.5 <u>Notice</u>. Notice stating the place, day and hour of the meeting of Members and the purpose for which the meeting is called shall be delivered personally or sent by mail or by facsimile or email not less than one Business Day nor more than 60 days before the date of the meeting by or at the direction of the Board or a representative of a Majority in Interest calling the meeting, to each Member entitled to vote at such meeting.

5.6 <u>Waiver of Notice</u>. When any Notice is required to be given to any Member hereunder, a waiver thereof in writing signed by the Member or its Authorized Representative, whether before, at or after the time stated therein, shall be equivalent to the giving of such Notice. Attendance at a meeting will be deemed a waiver of Notice, except when a Member or Authorized Representative participates for the express purpose of objecting to the transaction of any business on the ground that the meeting was not lawfully called or convened.

ARTICLE VI MANAGEMENT AND CONTROL

6.1 Board of Directors.

Except as otherwise provided hereunder, the business and affairs of the (a) Company shall be managed by or under the direction of the Board, which shall, subject to this Section 6.1(a) and Section 6.2(b), consist of up to thirteen (plus up to one additional Director which may be appointed by the Series A Preferred Unitholders pursuant to Section 6.1(b)) individuals designated as directors of the Company (the "Directors"). One member of the Board shall be designated to serve as Chairman of the Board and will have the duties described in Section 6.1(f) below. In the event that the roles of Chief Executive Officer of the Company and Chairman of the Board are held by the same person, the Non-Management Directors will also designate an Independent Director to serve as Lead Director (the "Lead Director"), who will have the duties described in Section 6.1(g) below, as applicable. Except as otherwise expressly provided herein, the power and authority granted to the Board hereunder shall include all those necessary or convenient for the furtherance of the purposes of the Company and shall include the power to make or delegate to Officers all decisions with regard to the management, operations, assets, financing and capitalization of the Company. The Board will be composed in accordance with the following provisions subject, where applicable, to Section 6.2:

Subject to Section 6.2, the Chief Executive Officer of the Company (i) shall be a Director. Unless otherwise required pursuant to the Exchange Act and the rules and regulations of the Commission thereunder and by the principal National Securities Exchange on which the PAGP Class A Shares or MLP Common Units are listed, the Board shall include at least a majority of Independent Directors; provided, however, that if at any time there shall be fewer than the required number of Independent Directors, the Board shall take such actions as may be necessary to cause the Board to re-establish the required number of Independent Directors; provided, further, that if at any time there shall be fewer than two Independent Directors qualified to serve on the Conflicts Committee of Plains All American GP LLC, the Board may take such actions as may be necessary to cause the Board to have at least two Independent Directors qualified to serve on such Conflicts Committee of Plains All American GP LLC. In connection therewith, the Board may exercise its Director removal and appointment rights hereunder and may, to the extent required, increase the size of the Board and appoint one or more new Independent Directors to fill the resulting vacancies. Each Director shall hold office until his or her successor is elected pursuant to this Article VI or until his or her earlier death, resignation or removal.

In the event of the death, resignation or removal of a Director or (ii) any vacancy relating to a Director, including a vacancy that arises by virtue of the expiration of the term of a Director, a majority of the remaining Directors may designate a replacement Director. In the event a Director serving as an Officer of the Company no longer holds such office for any reason, such individual shall be automatically removed as a Director and (i) in the case of the Chief Executive Officer, the successor to such individual as Chief Executive Officer of the Company shall, by virtue of such appointment, be designated to replace such individual as a Director, and (ii) in the case of any other Officer, the Board shall fill the vacancy by a majority vote of the remaining Directors (it being understood that such former Officer shall be eligible for re-appointment to the Board by such majority vote). In the event of the death, resignation or removal of a Director serving as Chairman of the Board or Lead Director (or the expiration of such Director's term without reappointment), the Board shall designate a new Chairman and the Non-Management Directors shall designate a new Lead Director, who may or may not be the same individual designated to fill the Board vacancy resulting from such death, resignation or removal.

(b) If a Series A Trigger Event (as such term is defined in the MLP Partnership Agreement) occurs, then the Series A Preferred Unitholders (as such term is defined in the MLP Partnership Agreement) shall have the right, upon written notice, to appoint one representative to the Board, as set forth in the MLP Partnership Agreement, but such right shall be subject to the terms set forth in this Agreement. The Board representative identified in the notice delivered by the Series A Preferred Unitholders shall be referred to herein as the "Series A Designated Director." The Series A Designated Director must, in the reasonable judgment of the Board, (i) have the requisite skill and experience to serve as a director pursuant to any rule or regulation of the Commission or the National Securities

Exchange on which the PAGP Class A Shares or MLP Common Units are listed or admitted to trading, and (iii) not be an employee or a director of any Competitor (as defined below); *provided*, that an individual employed by a financial institution, fund or investment vehicle, who serves as a director of a portfolio company of such institution, which portfolio company is a Competitor, shall not be excluded from serving as a Series A Designated Director solely by virtue of such role as a director of such portfolio company. For purposes of the immediately preceding sentence the term "*Competitor*" shall mean any entity that (a) is an operating company (and not a financial institution) and (b) competes with the MLP in the transportation, storage, terminaling or marketing of crude oil or natural gas liquids in the United States or Canada. If the Series A Preferred Unitholders exercise their right to appoint a Series A Designated Director, such Series A Designated Director shall be a member of the Board until such Series A Designated Director is removed pursuant to <u>Section 6.1(c)</u> or <u>Section 6.1(d)</u>. Any Series A Designated Director shall have all the rights and duties of a Director otherwise serving hereunder.

Prior to a Designation Right Termination Event (as defined below), the (c) Series A Designated Director may be removed or replaced by the Series A Purchasers (as defined in the MLP Partnership Agreement) at any time for any reason or by majority vote of the other Directors for "cause" (as defined below); and any vacancy occurring by reason of the death, disability, resignation, removal or other cessation of a person serving as a Series A Designated Director shall be filled by a vote of the Series A Preferred Unitholders holding a majority of the then outstanding Series A Preferred Units and the subsequent delivery of written notice to the Company. As used herein, "cause" means that the Series A Designated Director (i) is prohibited from serving as a director under any rule or regulation of the Commission or the National Securities Exchange on which the PAGP Class A Shares or MLP Common Units are listed; (ii) while serving as the Series A Designated Director, is convicted by a court of competent jurisdiction of a felony; (iii) a court of competent jurisdiction has entered a final, non-appealable judgment finding the Series A Designated Director liable for actual fraud or willful misconduct against PAGP or the MLP (including, but not limited to, intentionally or willfully failing to observe any obligations of confidentiality to PAGP or the MLP); (iv) is determined to have acted intentionally or in bad faith in a manner that results in a material detriment to the assets, business or prospects of PAGP or the MLP; or (v) is terminated, removed or resigns for any reason from his or her position, if any, with any such Series A Preferred Unitholder at which the Series A Designated Director was employed at the time of his or her appointment as the Series A Designated Director. Any action by the Series A Preferred Unitholders to designate, remove or replace a Series A Designated Director shall be evidenced in writing furnished to the Company, shall include a statement that the action has been approved by a vote of the Series A Preferred Unitholders holding a majority of the then outstanding Series A Preferred Units and shall be executed by or on behalf of the Series A Unitholders.

(d) Upon payment by the MLP to the Series A Preferred Unitholders of all accrued but unpaid distributions on the Series A Preferred Units then outstanding following a Series A Trigger Event (a "*Designation Right Termination Event*"), the right of the Series A Preferred Unitholders to designate a Series A Designated Director shall automatically terminate (unless and until another Series A Trigger Event shall have occurred) and the Series A Designated Director then serving as a member of the Board

shall, promptly upon (and in any event within two (2) Business Days following) receipt of a written request from the Board, resign as a member of the Board. If the Series A Designated Director does not resign upon such request, then a majority of the other Directors then serving on the Board may remove the Series A Designated Director as a member of the Board.

(e) Notwithstanding anything herein to the contrary, while a Conflicts Committee of Plains All American GP LLC is empaneled, each Independent Director serving on such conflicts committee shall abstain from all decision-making activities of the Board with respect to matters being considered by, or that have been assigned to, such conflicts committee.

(f) The Chairman of the Board will provide leadership to the Board and coordinate the activities of the Board. Specific responsibilities of the Chairman of the Board will vary as follows depending on whether the roles of CEO and Chairman of the Board are held by the same person:

(i) If and for so long as the roles of CEO and Chairman of the Board are held by the same person, the responsibilities of the Chairman of the Board will include the following:

(A) presiding at regular and special meetings of the Board, and at annual and special meetings of equity holders;

(B) working with the Governance Committee to ensure the perpetuation of a strong Board and effective governance structure;

(C) in consultation with the Lead Director, developing and communicating Board meeting schedules and agendas;

(D) working with the Lead Director to establish parameters for the quality, amount and timeliness of the information flow between management and the Board (it being understood that management is responsible for the preparations of materials for the Board consistent with these parameters);

(E) conferring with the Lead Director regarding the development, implementation and monitoring of near- and long-term strategic plans and major activities of the Company and confirming with the Lead Director that Board decisions and policies have been implemented; and

(F) working cooperatively and collaboratively with the Lead Director as necessary to support and facilitate the discharge by the Lead Director of his or her duties as outlined in Section 6.1(g) below; and

(ii) If and for so long as the roles of CEO and Chairman of the Board are not held by the same person, the responsibilities of the Chairman of the Board will include the following:

(A) presiding at regular and special meetings of the Board, meetings of the Non-Management Directors, and at annual and special meetings of equity holders;

(B) working with the Governance Committee to ensure the perpetuation of a strong Board and effective governance structure;

(C) in consultation with the CEO, developing and communicating Board meeting schedules and agendas;

(D) acting as a liaison between management and the Board;

(E) providing advice and counsel to the CEO on various corporate issues;

(F) establishing parameters for the quality, amount and timeliness of the information flow between management and the Board (it being understood that management is responsible for the preparations of materials for the Board consistent with these parameters);

(G) conferring with the CEO regarding the development, implementation and monitoring of near- and long-term strategic plans and major activities of the Company and confirming with the CEO that Board decisions and policies have been implemented;

(H) assuring that the Board provides resources to both the CEO and management to achieve the Company's stated goals;

(I) guiding the Board in discharging its responsibilities (including with respect to the retention of outside advisors where needed) and directing the Board toward Board matters and away from management matters that are clearly the responsibility of the CEO; and

(J) supporting and promoting business relationships as appropriately requested by management.

(g) If and for so long as a Lead Director is serving, his or her specific responsibilities will include the following:

(i) presiding at regular and special meetings of the Board when the Chairman of the Board is not present or able to do so, and calling and/or presiding at meetings of the Non-Management Directors (and briefing the Chairman of the Board on discussions); (ii) developing and communicating the agenda for executive sessions of the Board and meetings of the Non-Management Directors;

(iii) collaborating with the Chairman of the Board on Board meeting schedules and agendas;

(iv) working with the Chairman of the Board to establish parameters for the quality, amount and timeliness of the information flow between management and the Board (it being understood that management is responsible for the preparations of materials for the Board consistent with these parameters)

(v) ensuring that the Non-Management Directors have proper input into meeting agendas and materials sent to the Board;

(vi) acting as a liaison between the Non-Management Directors and the Chairman of the Board;

(vii) providing advice and counsel to the CEO on various corporate issues;

(viii) conferring with the Chairman of the Board regarding the development, implementation and monitoring of near- and long-term strategic plans and major activities of the Company and confirming with the Chairman of the Board that Board decisions and policies have been implemented;

(ix) together with the chairman of the Governance Committee (if separate), guiding the annual board self-assessment process;

(x) guiding the CEO succession planning process and the Board's consideration of CEO compensation; and

(xi) performing any other function as the Board may direct or request, to the extent consistent with the foregoing.

6.2 Classification of the Board.

(a) The Eligible Directors shall be divided into three classes denominated as Class I, Class II and Class III (each being referred to herein as a "*Class*"). If the size of the Board is increased or decreased in accordance with the terms of this Agreement, or if a Director becomes an Eligible Director and is not otherwise assigned to a Class by virtue of the immediately preceding sentence, the Board shall adjust the makeup of the Classes such that Directors are as evenly distributed among Classes as possible.

(b) Any Series A Designated Director shall continue to be a Director until his or her removal or replacement in accordance with <u>Section 6.1(c)</u> or <u>Section 6.1(d)</u>. Each Eligible Director shall serve for a term of three years following the most recent annual meeting at which such Eligible Director was elected, subject to earlier death, resignation or removal as provided herein. At each annual meeting of PAGP Limited Partners,

successors to the class of Directors whose term expires at that annual meeting shall be elected or designated for a three-year term.

(c) An Eligible Director may be removed with or without Cause upon a vote of a majority of the remaining Directors then in office.

(d) Individuals shall be nominated for election as Eligible Directors, and the election of Eligible Directors shall be conducted, in accordance with the provisions of the PAGP Partnership Agreement.

6.3 Meetings of the Board. The Board may hold meetings, both regular and special, within or outside the State of Delaware. Regular meetings of the Board may be called by the Chairman of the Board, the Lead Director (as appropriate), the Chief Executive Officer or two or more of the Directors upon delivery of written Notice to the remainder of the Board at least five days prior to the date of such meeting. Special meetings of the Board may be called at the request of the Chairman of the Board, the Lead Director (as appropriate), the Chief Executive Officer or any two or more of the Directors upon delivery of written Notice sent to each other Director by the means most likely to reach such Director as may be determined by the Secretary in his or her best judgment so as to be received at least 24 hours prior to the time of such meeting. Notwithstanding anything contained herein to the contrary, such Notice may be telephonic if no other reasonable means are available. Such Notices shall be accompanied by a proposed agenda or general statement of purpose. Advance notice of a meeting may be waived and attendance or participation in a meeting shall be deemed to constitute waiver of any advance notice requirement for such meeting, unless the reason for such participation or attendance is for the express purpose of objecting to the transaction of any business on the basis that the meeting was not lawfully called or convened.

6.4 Quorum and Acts of the Board. A majority of the Directors shall constitute a quorum for the transaction of business at all meetings of the Board, and, except as otherwise provided in this Agreement, the act of a majority of the Directors present at any meeting at which there is a quorum shall be the act of the Board. If a quorum shall not be present at any meeting of the Board, the Directors present thereat may adjourn the meeting from time to time, without notice other than announcement at the meeting, until a quorum shall be present. Any action required or permitted to be taken at any meeting of the Board or of any committee thereof may be taken without a meeting, if all members of the Board or committee, as the case may be, consent thereto in writing (including by electronic transmission), and the writing or writings or electronic transmission or transmissions are filed with the minutes of proceedings of the Board or committee. Such filing shall be in paper form if the minutes are maintained in paper form.

6.5 <u>Communications</u>. Members of the Board, or any committee designated by the Board, may participate in a meeting of the Board or any committee thereof by means of conference telephone or similar communications equipment through which all persons participating in the meeting can hear each other, and such participation in a meeting shall constitute presence in person at the meeting, except when a Director participates for the express purpose of objecting to the transaction of any business on the ground that the meeting was not lawfully called or convened.

6.6 <u>Committees of Directors</u>.

(a) The Board, by unanimous resolution of all Directors present and voting at a duly constituted meeting of the Board or by unanimous written consent, may designate one or more committees, each committee to consist of one (1) or more of the Directors. In the event of the disqualification, resignation or removal of a committee member, the Board may appoint another member of the Board to fill such vacancy. Any such committee, to the extent provided in the Board's resolution, shall have and may exercise all the powers and authority of the Board in the management of the Company's business and affairs subject to any limitations contained herein or in the Act. Such committee or committees shall have such name or names as may be determined from time to time by resolution adopted by the Board. Each committee shall keep (or include as a part of the Board's minutes) regular minutes of its meetings and report the same to the Board when required.

(b) In addition to any other committees established by the Board pursuant to <u>Section 6.6(a)</u>, the Board may, as necessary, convene a "*Conflicts Committee*," which shall be composed of at least two Directors, each of whom shall meet the requirements set forth in the PAGP Partnership Agreement. The Conflicts Committee shall be responsible for (A) approving or disapproving, as the case may be, any matters regarding the business and affairs of the Company, PAGP or AAP submitted to such Conflicts Committee by the Board and (B) performing such other functions as the Board may assign from time to time or as may be specified in a specific delegation to the Conflicts Committee.

(c) In addition to any other committees established by the Board pursuant to <u>Section 6.6(a)</u>, the Board shall maintain an "*Audit Committee*," which shall be composed of at least three Independent Directors at all times, subject to <u>Section 6.1(a)(i)</u>. The Audit Committee shall be responsible for such matters as the Board may assign from time to time or as may be specified in a written charter for the Audit Committee adopted by the Board.

6.7 <u>Compensation of Directors</u>. Each Director shall be entitled to reimbursement from the Company for all reasonable direct out-of-pocket expenses incurred by such Director in connection with attending Board meetings and such other compensation as may be approved by the Board.

6.8 <u>Directors as Agents</u>. The Board, acting as a body pursuant to this Agreement, shall constitute a "manager" for purposes of the Act. No Director, in such capacity, acting singly or with any other Director, shall have any authority or right to act on behalf of or bind the Company other than by exercising the Director's voting power as a member of the Board, unless specifically authorized by the Board in each instance.

6.9 Officers; Agents. The Board shall have the power to appoint any Person or Persons as the Company's officers (the "Officers") to act for the Company and to delegate to such Officers such of the powers as are granted to the Board hereunder. Any decision or act of an Officer within the scope of the Officer's designated or delegated authority shall control and shall bind the Company (and any business entity for which the Company exercises direct or indirect executory authority). The Officers may have such titles as the Board shall deem appropriate, which may include (but need not be limited to) President, Chief Executive Officer, Chief Commercial Officer,

Executive Vice President, Vice President, Chief Operating Officer, Chief Financial Officer, Treasurer, Controller or Secretary. A Director may be an Officer. Unless the authority of an Officer is limited by the Board, any Officer so appointed shall have the same authority to act for the Company as a corresponding officer of a Delaware corporation would have to act for a Delaware corporation in the absence of a specific delegation of authority. The Officers shall hold office until their respective successors are chosen and qualify or until their earlier death, resignation or removal. Any Officer elected or appointed by the Board may be removed at any time by the affirmative vote of a majority of the Board. Any vacancy occurring in any office of the Company shall be filled by the affirmative vote of a majority of the Board.

ARTICLE VII LIABILITY AND INDEMNIFICATION

7.1 Limitation on Liability of Members, Directors and Officers.

Subject to, and as limited by, the provisions of this Agreement, the (a) Members and Directors, in the performance of their duties as such, shall not, to the maximum extent permitted by the Act or other applicable law, owe any duties (including fiduciary duties) as a Member or Director of the Company, notwithstanding anything to the contrary in existing law, in equity or otherwise; provided, however, that for the avoidance of doubt nothing set forth herein shall be deemed to limit the obligations of the "General Partner" under the PAGP Partnership Agreement. Notwithstanding anything to the contrary set forth in this Agreement, no Indemnitee shall be liable for monetary damages to the Company, the Members or any other Persons who have acquired Membership Interests, for losses sustained or liabilities incurred as a result of any act or omission of an Indemnitee in connection with the conduct of the business or affairs of the Company unless there has been a final and non-appealable judgment entered by a court of competent jurisdiction determining that, in respect of the matter in question, the Indemnitee acted in bad faith or engaged in fraud, willful misconduct or, in the case of a criminal matter, acted with knowledge that the Indemnitee's conduct was criminal. Except as required by the Act, the Company's debts, obligations, and liabilities, whether arising in contract, tort or otherwise, shall be solely the debts, obligations and liabilities of the Company, and no Indemnitee shall be personally responsible for any such debt, obligation or liability of the Company solely by reason of being an Indemnitee. No Member shall be responsible for any debts, obligations or liabilities, whether arising in contract, tort or otherwise, of any other Member. The provisions of this Agreement, to the extent that they restrict, eliminate or otherwise modify the duties and liabilities, including fiduciary duties, of any Indemnitee otherwise existing at law or in equity, are agreed by the Members to replace such duties and liabilities of such Indemnitee. To the fullest extent permitted by law, in connection with any action or inaction of, or determination made by, any Indemnitee with respect to any matter relating to the Company, it shall be presumed that the Indemnitee acted in a manner that satisfied the contractual standards set forth in this Agreement, and in any proceeding brought by any Member or by or on behalf of such Member or any other Member or the Company challenging any such action or inaction of, or determination made by, any Indemnitee, the Person bringing or prosecuting such proceeding shall have the burden of overcoming such presumption.

(b) Any Indemnitee may rely and shall be protected in acting or refraining from acting upon any resolution, certificate, statement, instrument, opinion, report, notice, request, consent, order, bond, debenture or other paper or document believed by it to be genuine and to have been signed or presented by the proper party or parties.

(c) No amendment, modification or repeal of this <u>Section 7.1</u> or any provision hereof shall in any manner terminate, reduce or impair the waiver or limitation on liability with respect to any past, present or future Indemnitee under and in accordance with the provisions of this <u>Section 7.1</u> as in effect immediately prior to such amendment, modification or repeal with respect to claims arising from or relating to matters occurring, in whole or in part, prior to such amendment, modification or repeal, regardless of when such claims may arise or be asserted.

7.2 Indemnification.

(a) Notwithstanding anything to the contrary set forth in this Agreement and except as required by the Act, to the fullest extent permitted by law but subject to the limitations expressly provided in this Agreement, the Company shall indemnify and hold harmless the Indemnitees (when not acting in violation of this Agreement or applicable law) from and against any and all losses, claims, demands, costs, damages, liabilities, expenses of any nature (including reasonable attorneys' fees and disbursements), judgments, fines, settlements and other amounts arising from any and all claims, demands, actions, suits or proceedings, civil, criminal, administrative or investigative, in which an Indemnitee may be involved, or threatened to be involved, as a party or otherwise, by reason of his, her or its status as an Indemnitee, if such Indemnitee acted in good faith and in a manner he or she subjectively believed to be in, or not opposed to, the interests of the Company and with respect to any criminal proceeding, had no reason to believe his, her or its conduct was unlawful.

(b) Expenses incurred by an Indemnitee in defending any claim, demand, action, suit or proceeding subject to <u>Section 7.2(a)</u> shall, from time to time, be advanced by the Company prior to the final disposition of such claim, demand, action, suit or proceeding upon receipt by the Company of an undertaking by or on behalf of the Indemnitee to repay such amounts if it is ultimately determined that the Indemnitee is not entitled to be indemnified as authorized in this <u>Section 7.2</u>.

(c) The indemnification provided by this <u>Section 7.2</u> shall be in addition to any other rights to which an Indemnitee may be entitled pursuant to any approval of the Board, as a matter of law or equity, or otherwise, and shall continue as to an Indemnitee who has ceased to hold the status with respect to which it was an Indemnitee and shall inure to the benefit of the heirs, successors, assigns, and administrators of such Indemnitee. The Company shall not be required to indemnify any Member in connection with any losses, claims, demands, actions, disputes, suits or proceedings, of any Member against any other Member.

(d) The Company may purchase and maintain directors and officers insurance or similar coverage for its Directors and Officers in such amounts and with such deductibles or self-insured retentions as determined by the Board.

(e) Any indemnification hereunder shall be satisfied only out of the assets of the Company, and the Members shall not be subject to personal liability by reason of the indemnification provisions under this <u>Section 7.2</u>.

(f) An Indemnitee shall not be denied indemnification in whole or in part under this <u>Section 7.2</u> because the Indemnitee had an interest in the transaction with respect to which the indemnification applies if the transaction was otherwise permitted by the terms of this Agreement and all material facts relating to such Indemnitee's interest were adequately disclosed to the Board at the time the transaction was consummated.

(g) Subject to <u>Section 7.2(c)</u>, the provisions of this <u>Section 7.2</u> are for the benefit of the Indemnitees and the heirs, successors, assigns and administrators of the Indemnitees and shall not be deemed to create any rights for the benefit of any other Persons.

(h) No amendment, modification or repeal of this <u>Section 7.2</u> or any provision hereof shall in any manner terminate, reduce or impair the right of any past, present or future Indemnitee to be indemnified by the Company or any Affiliate of the Company, nor the obligations of the Company or such Affiliate to indemnify any such Indemnitee under and in accordance with the provisions of this <u>Section 7.2</u> as in effect immediately prior to such amendment, modification or repeal with respect to claims arising from or relating to matters occurring, in whole or in part, prior to such amendment, modification or repeal, regardless of when such claims may arise or be asserted.

ARTICLE VIII TRANSFERS OF UNITS

8.1 General Restrictions.

(a) Except for Transfers that are necessary in order to give effect to (i) an exchange of such Member's AAP Class A Units and PAGP Class B Shares for PAGP Class A Shares in accordance with Section 7.9 of the AAP Partnership Agreement; or (ii) a redemption of such Member's AAP Class A Units for MLP Redemption Units in accordance with Section 7.11 of the AAP Partnership Agreement, a Member shall be prohibited from Transferring any of its Company Units (a "*Membership Transfer*") unless such Member simultaneously Transfers to the transferee of such Company Units a corresponding number of AAP Class A Units and PAGP Class B Shares in accordance with the applicable terms of the AAP Partnership Agreement, including in compliance with any transfer restriction or right of first refusal provisions contained therein. A transfer in compliance with such terms is referred to herein as a "*Permitted Transfer*." If for any reason the transfer of such AAP Class A Units or PAGP Class B Shares does not occur simultaneously and proportionately with the Membership Transfer, then the Membership Transfer shall be null and void and of no force and effect.

(b) Notwithstanding any other provision of this Agreement, no Member may pledge, mortgage or otherwise subject its Company Units to any Encumbrance.

8.2 Substitute Members.

(a) Unless and until admitted as a substitute Member pursuant to this <u>Section 8.2</u>, a transferee of a Member's Company Units shall be an assignee with respect to such Transferred Company Units and shall not be entitled to participate in the management of the business and affairs of the Company or to become, or to exercise the rights of, a Member, including the right to appoint Directors, the right to vote, the right to require any information or accounting of the Company's business, or the right to inspect the Company's books and records. Such transferee shall only be entitled to receive, to the extent of the Company Units Transferred to such transferee, the share of distributions and profits, if any, to which the transferor would otherwise be entitled with respect to the Transferred Company Units. The transferor shall have the right to vote such Transferred Company Units until the transferee is admitted to the Company as a substitute Member with respect to the Transferred Company Units.

(b) No transferee of all or any of a Member's Company Units shall become a substitute Member in place of the transferor unless and until:

(i) Such Transfer is in compliance with the terms of <u>Section 8.1</u>;

(ii) the transferee has executed an instrument in form and substance reasonably satisfactory to the Board accepting and adopting, and agreeing to be bound by, the terms and provisions of the Certificate and this Agreement; and

(iii) the transferee has caused to be paid all reasonable expenses of the Company in connection with the admission of the transferee as a substitute Member.

Upon satisfaction of all the foregoing conditions with respect to a particular transferee, the books and records of the Company shall be adjusted to reflect the admission of the transferee as a substitute Member to the extent of the Transferred Company Units held by such transferee.

8.3 <u>Effect of Admission as a Substitute Member</u>. Unless otherwise provided hereunder, a transferee who has become a substitute Member has, to the extent of the Transferred Company Units, all the rights, powers and benefits of, and is subject to the obligations, restrictions and liabilities of a Member under, the Certificate, this Agreement and the Act. Upon admission of a transferee as a substitute Member, the transferor of the Company Units so held by the substitute Member shall cease to be a Member of the Company to the extent of such Transferred Company Units.

8.4 <u>Consent</u>. Each Member hereby agrees that upon satisfaction of the terms and conditions of this <u>Article VIII</u> with respect to any proposed Transfer, the transferee may be admitted as a Member without any further action by a Member hereunder.

8.5 <u>No Dissolution</u>. If a Member Transfers all of its Company Units pursuant to this <u>Article VIII</u> and the transferee of such Company Units is admitted as a Member pursuant to <u>Section 8.2</u>, such Person shall be admitted to the Company as a Member effective on the effective date of the Transfer and the Company shall not dissolve pursuant to <u>Section 9.1</u>.

8.6 <u>Additional Members</u>. Any Person acceptable to the Board may become an additional Member of the Company on terms and conditions as the Board shall determine, *provided* that such additional Member complies with all the requirements of a transferee under <u>Section 8.2(b)(ii) and (b)(iii)</u>.

ARTICLE IX DISSOLUTION AND TERMINATION

9.1 Events Causing Dissolution.

(a) The Company shall be dissolved and its affairs wound up upon the first to occur of the following events:

(i) the consent of at least two-thirds of the members of the Board;

(ii) at any time there are no Members, unless the Company is continued in accordance with the Act or this Agreement; or

(iii) the entry of a decree of judicial dissolution pursuant to Section 18-802 of the Act.

(b) The withdrawal, death, retirement, resignation, expulsion, bankruptcy or dissolution of any Member or the occurrence of any other event that terminates the continued membership of any Member in the Company shall not, in and of itself, cause the Company's dissolution.

9.2 <u>Final Accounting</u>. Upon dissolution and winding up of the Company, an accounting will be made of the accounts of the Company and each Member and of the Company's assets, liabilities and operations from the date of the last previous accounting to the date of such dissolution.

9.3 <u>Distributions Following Dissolution and Termination</u>. Upon dissolution and liquidation of the Company, the assets of the Company shall be applied and distributed in the following order of priority:

(a) to the payment of debts and liabilities of the Company (including to the Members to the extent otherwise permitted by law) and the expenses of liquidation;

(b) next, to the setting up of such reserves as the Person required or authorized by law to wind up the Company's affairs may reasonably deem necessary or appropriate for any disputed, contingent or unforeseen liabilities or obligations of the Company, *provided* that any such reserves shall be paid over by such Person to an escrow agent appointed by the Board, to be held by such agent or its successor for such period as such Person shall deem advisable for the purpose of applying such reserves to the payment of such liabilities or obligations and, at the expiration of such period, the balance of such reserves, if any, shall be distributed as hereinafter provided; and

(c) the remainder to the Members in proportion to their relative ownership of Company Units.

The provisions of this Agreement, including, without limitation, this <u>Section 9.3</u>, are intended solely to benefit the Members and, to the fullest extent permitted by law, shall not be construed as conferring any benefit upon any creditor of the Company, and no such creditor of the Company shall be a third-party beneficiary of this Agreement, and no Member or Director shall have any duty or obligation to any creditor of the Company to issue any call for capital pursuant to this Agreement.

9.4 <u>Termination of the Company</u>. The Company shall terminate when all assets of the Company, after payment or due provision for all debts, liabilities and obligations of the Company, shall have been distributed to the Members in the manner provided for in this <u>Article IX</u>, and the Certificate of Formation of the Company shall have been canceled in the manner required by the Act.

9.5 No Action for Dissolution. The Members acknowledge that irreparable damage would be done to the goodwill and reputation of the Company if any Member should bring an action in court to dissolve the Company under circumstances where dissolution is not required by Section 9.1. Accordingly, except where the Board has failed to cause the liquidation of the Company as required by Section 9.1 and except as specifically provided in Section 18-802 of the Act, each Member hereby to the fullest extent permitted by law waives and renounces his right to initiate legal action to seek dissolution of the Company or to seek the appointment of a receiver or trustee to wind up the affairs of the Company, except in the cases of fraud, violation of law, bad faith, willful misconduct or willful violation of this Agreement.

ARTICLE X ACCOUNTING; BOOKS AND RECORDS

10.1 <u>Fiscal Year and Accounting Method</u>. The fiscal year and taxable year of the Company shall be the calendar year. The Company shall use an accrual method of accounting.

10.2 Books and Records. The Company shall maintain at its principal office, or such other office as may be determined by the Board, all the following:

(a) a current list of the full name and last known business or residence address of each Member, and of each member of the Board;

(b) a copy of the Certificate and this Agreement, including any and all amendments to either thereof, together with executed copies of any powers of attorney pursuant to which the Certificate, this Agreement, or any amendments have been executed; and

(c) the Company's books and records.

10.3 <u>Delivery to Members; Inspection</u>. Upon the request of any Member, for any purpose reasonably related to such Member's interest as a member of the Company, the Board shall cause to be made available to the requesting Member the information required to be maintained by clauses (a) through (c) of <u>Section 10.2</u> and such other information regarding the business and affairs and financial condition of the Company as any Member may reasonably request.

Non-Disclosure. Each Member (other than PAGP) agrees that, except as otherwise 10.4 consented to by the Company in writing, all non-public and confidential information furnished to it pursuant to this Agreement will be kept confidential and will not be disclosed by such Member, or by any of its agents, representatives, or employees, in any manner whatsoever (other than to the Company, another Member or any Person designated by the Company), in whole or in part, except that (a) each Member shall be permitted to disclose such information to those of its agents, representatives, and employees who need to be familiar with such information in connection with such Member's investment in the Company (collectively, "Representatives") and are apprised of the confidential nature of such information, (b) each Member shall be permitted to disclose information to the extent required by law, legal process or regulatory requirements, so long as such Member shall have used its reasonable efforts to first afford the Company with a reasonable opportunity to contest the necessity of disclosing such information, (c) each Member shall be permitted to disclose such information to possible purchasers of all or a portion of the Member's Company Units, provided that such prospective purchaser shall execute a suitable confidentiality agreement in a form approved by the Company containing terms not less restrictive than the terms set forth herein, (d) each Member shall be permitted to disclose information to the extent necessary for the enforcement of any right of such Member arising under this Agreement and (e) each Member shall be permitted to report to its shareholders, limited partners, members or other owners, as applicable, regarding the general status of its investment in the Company (without disclosing specific Confidential Information); provided, however, that information shall not be deemed to be confidential information for purposes of this Section 10.4 or Section 11.1, where such information (i) is already known to such Member (or its Representatives), having been disclosed to such Member (or its Representatives) by a third Person without such third Person having an obligation of confidentiality to the Company (ii) is or becomes publicly known through no wrongful act of such Member (or its Representatives) or (iii) is independently developed by such Member (or its Representatives) without reference to any confidential information disclosed to such Member under this Agreement. Each Member shall be responsible for any breach of this Section 10.4 by its Representatives.

ARTICLE XI NON-COMPETITION AND NON-SOLICITATION

11.1 <u>Non-Competition</u>. Each of the Members (other than PAGP) hereby acknowledges that the Company and its Subsidiaries operate in a competitive business and compete with other Persons operating in the midstream segment of the oil and gas industry for acquisition opportunities. Each of the Members agrees that during the period that it is a Member, it shall not, directly or indirectly, use any of the confidential information it receives as a Member to compete with, or engage in or become interested financially in as a principal, employee, partner, shareholder, agent, manager, owner, advisor, lender, guarantor of any Person that competes in North America with, the business conducted by the Company and its Subsidiaries; *provided*,

however, that when a Member engages in such activities, there shall be no presumption of misuse of such confidential information solely because a Representative of such Member may retain a mental impression of any such confidential information. The Company and the Members acknowledge that a Member may have in conception or development technology or business opportunities which may be very similar or even identical to the Company's confidential information and, so long as such Member abides by Section 10.4, such Member shall have no other restriction on such technology or business opportunities and the Company and the other Members shall have no rights in such technology or business opportunities. The Company and each of the Members also acknowledge and agree that (i) Kayne Anderson Capital Advisors L.P. and its Affiliates ("Kayne Anderson") and EMG Investment, LLC and its Affiliates ("EMG") manage investments in the energy industry in the ordinary course of business (such investments referred to as "Institutional Investments") and that Kayne Anderson and EMG may make Institutional Investments, even if such Institutional Investments are competitive with the Partnership's and its Subsidiaries' business; and (ii) Kayne Anderson and EMG and their respective Affiliates (A) shall not be prohibited, by virtue of its status as a Member, from pursuing or engaging in such Institutional Investments described in clause (i) above or activities or interests described in clause (ii) above, as applicable; (B) shall not be obligated, or have a duty, to inform or present to the Company or any of its Subsidiaries, of any opportunity, relationship or investment (and no other Member will acquire or be entitled to any interest or participation in any such opportunity, relationship or investment) and shall not be bound by the doctrine of corporate opportunity (or any analogous doctrine); and (C) shall not be deemed to have a conflict of interest with, or to have breached this Section 11.1 or any duty (if any), whether express or implied by law, to, the Company or its Affiliates or any other Member by reason of such Member's (or any of its Representative's or equity holder's) involvement in such activities or interests; provided, that in all cases, such Institutional Investments are not in violation of the provisions of Section 10.4 or the second sentence of this Section 11.1. Each of the Members confirms that the restrictions in this Section 11.1 are reasonable and valid and all defenses to the strict enforcement thereof are hereby waived by each of the Members.

11.2 <u>Non-Solicitation</u>. Each of the Members (other than PAGP) undertakes toward the Company and is obligated (absent the prior written consent of the Company), during the period that it is a Member and for a period of one year thereafter, not to solicit or hire, directly or indirectly, in any manner whatsoever (except in response to a general solicitation or a non-directed executive search), in the capacity of employee, consultant or in any other capacity whatsoever, one or more of the employees, directors or officers or other Persons (hereinafter collectively referred to as "*Employees*") who at the time of solicitation or hire, or in the 90-day period prior thereto, are working full-time or part-time for the Company or any of its Subsidiaries and not to endeavor, directly or indirectly, in any manner whatsoever, to encourage any of said Employees to leave his or her job with the Company or any of its Subsidiaries and not to endeavor, directly, and in any manner whatsoever, to incite or induce any client of the Company or any of its Subsidiaries to terminate, in whole or in part, its business relations with the Company or any of its Subsidiaries.

11.3 <u>**Damages**</u>. Each of the Members acknowledges that damages may not be an adequate compensation for the losses which may be suffered by the Company as a result of the breach by such Member of the covenants contained in this <u>Article XI</u> and that the Company shall

be entitled to seek injunctive relief with respect to any such breach in lieu of or in addition to any recourse in damages without the posting of a bond or other security.

11.4 <u>**Limitations**</u>. In the event that a court of competent jurisdiction decides that the limitations set forth in <u>Section 11.1</u> hereof are too broad, such limitations shall be reduced to those limitations that such court deems reasonable.

ARTICLE XII MISCELLANEOUS

12.1 <u>Waiver of Default</u>. No consent or waiver, express or implied, by the Company or a Member with respect to any breach or default by the Company or a Member hereunder shall be deemed or construed to be a consent or waiver with respect to any other breach or default by any party of the same provision or any other provision of this Agreement. Failure on the part of the Company or a Member to complain of any act or failure to act of the Company or a Member or to declare such party in default shall not be deemed or constitute a waiver by the Company or the Member of any rights hereunder.

12.2 Amendment.

(a) Except as otherwise expressly provided elsewhere in this Agreement, this Agreement shall not be altered, modified or changed except by an amendment approved by the Board; *provided, however*, that

(i) no amendment of the terms of this Agreement that (A) increases or extends any financial obligation or liability of a Member or (B) otherwise adversely affects the obligations or rights of a Member (as a Member under this Agreement) in a manner different than a Majority in Interest shall be effective without the prior written consent of such Member;

(ii) no amendment of Sections 6.1, 6.2, 6.3, 6.4, 11.1 or this Section 12.2 that adversely affects the obligations or rights of a Member shall be effective as to any Member without the prior written consent of that Member;

(iii) no amendment of <u>Article VI</u> that would adversely affect the director election rights of holders of PAGP Class A Shares in any material respect shall be effective without the approval of a majority of the Company's Independent Directors; and

(iv) no amendment to Section 6.1(b), Section 6.1(c), Section 6.1(d) or this Section 12.2(a)(iv) shall be effective without the consent of the Series A Preferred Unitholders holding a majority of the then outstanding Series A Preferred Units.

(b) In addition to any amendments otherwise authorized herein, the Board may make any amendments to any of the Schedules to this Agreement from time to time to reflect transfers of Company Units and issuances of additional Company Units. Copies of such amendments shall be delivered to the Members promptly following execution thereof. (c) The Board shall cause to be prepared and filed any amendment to the Certificate that may be required to be filed under the Act as a consequence of any amendment to this Agreement.

(d) Any modification or amendment to this Agreement or the Certificate made in accordance with this <u>Section 12.2</u> shall be binding on all Members and the Board.

12.3 <u>No Third Party Rights</u>. Except for the rights provided to the Series A Preferred Unitholders in <u>Sections 6.1(b)</u>, <u>6.1(c)</u> and <u>6.1(d)</u>, and as provided in <u>Article VII</u>, none of the provisions contained in this Agreement shall be for the benefit of or enforceable by any third parties, including creditors of the Company.

12.4 <u>Severability</u>. In the event any provision of this Agreement is held to be illegal, invalid or unenforceable to any extent, the legality, validity and enforceability of the remainder of this Agreement shall not be affected thereby and shall remain in full force and effect and shall be enforced to the greatest extent permitted by law.

12.5 <u>Nature of Interest in the Company</u>. A Member's Company Units shall be personal property for all purposes.

12.6 <u>Binding Agreement</u>. Subject to the restrictions on the disposition of Company Units herein contained, the provisions of this Agreement shall be binding upon, and inure to the benefit of, the parties hereto and their respective heirs, personal representatives, successors and permitted assigns.

12.7 <u>Headings</u>. The headings of the sections of this Agreement are for convenience only and shall not be considered in construing or interpreting any of the terms or provisions hereof.

12.8 <u>Word Meanings</u>. The words "herein," "hereinafter," "hereof", and "hereunder" refer to this Agreement as a whole and not merely to a subdivision in which such words appear unless the context otherwise requires. The singular shall include the plural, and vice versa, unless the context otherwise requires. Whenever the words "include," "includes" or "including" are used in this Agreement, they shall be deemed to be followed by the words "without limitation." When verbs are used as nouns, the nouns correspond to such verbs and vice versa.

12.9 <u>Counterparts</u>. This Agreement may be executed in several counterparts, all of which together shall constitute one agreement binding on all parties hereto, notwithstanding that all the parties have not signed the same counterpart.

12.10 <u>Entire Agreement</u>. This Agreement contains the entire agreement between the parties hereto and thereto and supersedes all prior writings or agreements with respect to the subject matter hereof.

12.11 <u>Partition</u>. The Members agree that the Property is not and will not be suitable for partition. Accordingly, each of the Members hereby irrevocably waives any and all right such Member may have to maintain any action for partition of any of the Property. No Member shall have any right to any specific assets of the Company upon the liquidation of, or any distribution from, the Company.

12.12 <u>Governing Law; Consent to Jurisdiction and Venue</u>. This Agreement shall be construed according to and governed by the laws of the State of Delaware without regard to principles of conflict of laws. The parties hereby submit to the exclusive jurisdiction and venue of the state courts of Harris County, Texas or to the Court of Chancery of the State of Delaware and the United States District Court for the Southern District of Texas and of the United States District Court for the Delaware, as the case may be, and agree that the Company or Members may, at their option, enforce their rights hereunder in such courts.</u>

[Signature page follows]

IN WITNESS WHEREOF, the Company has caused this Agreement to be duly executed on February 25, 2022 and made effective for all purposes as of August 19, 2021.

PAA GP HOLDINGS LLC

By: <u>/s/ Richard McGee</u> Name: Richard McGee Title: Executive Vice President, General Counsel and Secretary

SIGNATURE PAGE FOR FOURTH AMENDED AND RESTATED LIMITED LIABILITY COMPANY AGREEMENT

SCHEDULE 1 Original Members

Plains GP Holdings L.P. Oxy Holding Company (Pipeline), Inc. EMG Investment, LLC. KAFU Holdings, L.P. KA First Reserve XII, LLC KAFU Holdings II, L.P. Kayne Anderson MLP Investment Company Kayne Anderson Energy Development Company Kayne Anderson Midstream/Energy Fund, Inc. PAA Management, L.P. Mark E. Strome Living Trust Strome PAA, L.P. Windy, L.L.C. Lynx Holdings I, LLC Jay M. Chernosky Kipp PAA Trust Paul N. Riddle Russell T. Clingman David E. Humphreys Philip J. Trinder

Schedule 1

DESCRIPTION OF THE REGISTRANT'S SECURITIES REGISTERED PURSUANT TO SECTION 12 OF THE SECURITIES EXCHANGE ACT OF 1934

As of December 31, 2021, Plains All American Pipeline L.P. has one class of securities registered under Section 12 of the Securities Exchange Act of 1934, as amended (the "Exchange Act"): its common units representing limited partner interests, which are described in this Exhibit. The following definitions are used in this Exhibit:

- "Partnership," "Plains," "PAA," "we," "us," "our," "ours" and similar terms refer to Plains All American Pipeline, L.P. and its subsidiaries; and
- "General partner," refers to, as the context requires, any or all of PAA GP Holdings LLC ("PAGP GP"), Plains GP Holdings, L.P. ("PAGP"), Plains AAP, L.P. ("AAP") and Plains All
 American GP LLC ("GP LLC").

DESCRIPTION OF OUR COMMON UNITS

Generally, our common units represent limited partner interests that entitle the holders to participate in our cash distributions and to exercise the rights and privileges available to limited partners under our partnership agreement. For a description of the relative rights and preferences of holders of common units in and to cash distributions, see "Our Cash Distribution Policy."

Our outstanding common units are listed on the Nasdaq Global Select Market under the symbol "PAA." Any additional common units we issue will also be listed on Nasdaq.

Voting

Each holder of common units is entitled to one vote for each common unit on all matters submitted to a vote of the common unitholders. However, our unitholders are limited partners and do not directly or indirectly participate in our management or operation. Unlike holders of common stock in a corporation, our unitholders have only limited voting rights on matters affecting our business or governance, including the director voting rights described below.

Our general partner manages our day-to-day operations and activities; however, PAGP effectively controls our business and affairs through the exercise of its rights as the sole and managing member of GP LLC. The business and affairs of GP LLC are managed by or under the direction of the board of directors of PAGP GP, which we refer to as our "board of directors" or "board."

Subject to limited exceptions, PAGP GP's Fourth Amended and Restated Limited Liability Company Agreement (as amended, the "PAGP GP LLC Agreement") provides that the Board will consist of up to 13 members, including the CEO and, based on current ownership levels, up to two designated directors. In addition, if PAA fails to make three distributions on its Series A preferred units (whether or not consecutive), the holders of Series A preferred units will have the right to appoint a new member of the Board to serve until such time as all accrued and unpaid distributions on the Series A preferred units have been paid in full.

The Board is divided into three staggered classes. At each annual meeting, only the directors of the class whose term is expiring will be up for election and, upon election, the elected directors in that class will serve for a term of three years, subject to a director's earlier resignation, death or removal. If a director is elected to the board to fill a vacancy, that director will have the same remaining term as his or her predecessor.

PAGP holds annual shareholder meetings for the purpose of electing directors. PAA, which holds all of PAGP's issued and outstanding Class C shares, will hold annual meetings of its limited partners entitled to vote immediately in advance of PAGP's annual meetings. The purpose of our annual meetings is to allow our limited partners, other than AAP and holders of our Series B preferred units, to cast a "pass-through" vote instructing us how to vote the Class C shares that we own in the election of directors at PAGP's annual meeting. We will vote (or refrain from voting) our Class C shares for the election of directors at the directors and belaf of our eligible common and Series A preferred unitholders in the same proportion as the votes received from or withheld by our limited partners. Common units held by AAP will not be voted in the election of directors and will not be counted for purposes of determining whether a quorum exists.

Status as Limited Partner or Assignee

Except as described under "Description of Our Partnership Agreement—Limited Liability," the common units will be fully paid, and common unitholders will not be required to make additional capital contributions to us.

Each purchaser of common units must execute a transfer application whereby the purchaser requests admission as a substituted limited partner and makes representations and agrees to provisions stated in the transfer application. If this action is not taken, a purchaser will not be registered as a record holder of common units on the books of our transfer agent or issued a common unit certificate. Purchasers may hold common units in nominee accounts.

An assignee, pending its admission as a substituted limited partner, is entitled to an interest in us equivalent to that of a limited partner with respect to the right to share in allocations and distributions, including liquidating distributions. Our general partner will vote and exercise other powers attributable to common units owned by an assignee who has not become a substituted limited partner at the written direction of the assignee. A nominee or broker who has executed a transfer application with respect to common units held in street name or nominee accounts will receive distributions and reports pertaining to its common units.

Redemption Right

Each holder of AAP's Class A units (other than PAGP and GP LLC) has the right (a "Redemption Right") to cause AAP to redeem any or all of such holder's AAP Class A units in exchange for the distribution of an equivalent number of our common units held by AAP. In connection with any such redemption, the redeeming holder will transfer the AAP Class A units to AAP and a corresponding number of PAGP Class B shares and general partner units (if any), in each case, to PAGP. The AAP Class A units transferred to AAP will be canceled, the PAGP Class B shares transferred to PAGP will be canceled and the general partner units transferred to PAGP will remain outstanding and increase PAGP's ownership percentage in PAGP GP.

As long as PAGP's Class A shares are publicly traded, a holder of Class B units of AAP (the "AAP management units") will be entitled to convert his or her vested AAP management units into AAP Class A units and a like number of PAGP Class B shares based on a conversion ratio of approximately 0.941 AAP Class A units and PAGP Class B shares for each AAP management unit. Following any such conversion, the holder will have the Redemption Right as a holder of AAP's Class A units. Holders of vested AAP management units who convert such units into AAP Class A units and PAGP Class B shares will not receive general partner units and thus will not need to include any general partner units in a transfer or the exercise of their Redemption Right.

The above mechanisms are subject to customary conversion rate adjustments for equity splits, equity dividends and reclassifications.

OUR CASH DISTRIBUTION POLICY

Distributions of Available Cash

General. We will distribute to our unitholders, on a quarterly basis, all of our available cash in the manner described below.

2

Definition of Available Cash. Available cash generally means, for any quarter ending prior to liquidation, all cash and cash equivalents on hand at the end of that quarter less reserves established in the reasonable discretion of the general partner for future requirements to:

- provide for the proper conduct of our business and the business of our operating partnerships (including reserves for future capital expenditures and for our anticipated future credit needs);
- comply with applicable law or any loan agreement, security agreement, mortgage, debt instrument or other agreement or obligation; or
- provide funds for distributions to our Series A and Series B preferred unitholders or distributions to our common unitholders for of any one or more of the next four quarters.

Our available cash also includes cash on hand resulting from borrowings made after the end of the quarter.

Operating Surplus and Capital Surplus

General. Cash distributions to our common unitholders will be characterized as either operating surplus or capital surplus. We distribute available cash from operating surplus differently than available cash from capital surplus. See "—Quarterly Distributions of Available Cash."

Definition of Operating Surplus. Operating surplus refers generally to:

- our cash balances on the closing date of our initial public offering; plus
- \$25 million; plus
- all of our cash receipts from operations, excluding cash that is capital surplus; less
- all of our operating expenses, debt service payments (but not including payments required with the sale of assets or any refinancing with the proceeds of new indebtedness or an equity
 offering), maintenance capital expenditures and reserves established for future operations.

Definition of Capital Surplus. Capital surplus will generally be generated only by:

- borrowings other than working capital borrowings;
- sales of debt and equity securities; and
- · sales or other dispositions of assets for cash, other than inventory, accounts receivable and other assets in the ordinary course of business.

We will treat all available cash distributed as coming from operating surplus until the sum of all available cash distributed after the closing date of our initial public offering equals the operating surplus as of the end of the quarter prior to the distribution. Any available cash in excess of operating surplus, regardless of its source, will be treated as capital surplus.

If we distribute available cash from capital surplus for each common unit in an aggregate amount per common unit equal to the initial public offering price of the common units, there will not be a distinction between operating surplus and capital surplus, and all distributions of available cash will be treated as operating surplus. We do not anticipate that we will make distributions from capital surplus.

Effect of Issuance of Additional Units

We can issue additional common units or other equity securities for consideration and under terms and conditions approved by our general partner in its sole discretion and without the approval of our unitholders, other than current holders of our Series A preferred units and Series B preferred units in certain circumstances. We may fund acquisitions through the issuance of additional common units or other equity securities.



Holders of any additional common units that we issue will be entitled to share equally with our then-existing common unitholders in distributions of available cash. In addition, the issuance of additional interests may dilute the value of the interests of the then-existing unitholders.

Quarterly Distributions of Available Cash

After making distributions to holders of our outstanding preferred units, we will distribute the remainder of our available cash for each quarter prior to our liquidation to our common unitholders. We expect to make distributions of all available cash within 45 days after the end of each quarter to holders of record on the applicable record date.

Distributions from Operating Surplus

We will make distributions of available cash from operating surplus to all common unitholders, pro rata until we distribute an aggregate amount of available cash equal to the aggregate operating surplus generated by the Partnership from the time of our initial public offering through the end of the quarter in respect of such distribution.

Distributions from Capital Surplus

We will make distributions of available cash from capital surplus to all common unitholders pro rata. We may not make distributions of capital surplus without the approval of (i) holders of at least 75% of the outstanding Series A preferred units and (ii) holders of at least 66²/3% of the outstanding Series B preferred units.

Distribution of Cash upon Liquidation

If we dissolve and liquidate, we will sell or otherwise dispose of our assets and adjust the partners' capital account balances to reflect any resulting gain or loss. We will apply the proceeds of liquidation (i) first to the payment of our creditors in the order of priority provided in our partnership agreement and by law, (ii) second to the holders of outstanding preferred units in accordance with their adjusted capital account balances.

DESCRIPTION OF OUR PARTNERSHIP AGREEMENT

The following is a summary of certain material provisions of our partnership agreement.

Purpose

Our purpose under our partnership agreement is to serve as a partner of our operating partnerships and to engage in any business activities that may be engaged in by our operating partnerships or that are approved by our general partner. The partnership agreements of our operating partnerships provide that they may engage in any activity that was engaged in by our predecessors at the time of our initial public offering or reasonably related thereto and any other activity approved by our general partner.

Applicable Law; Forum, Venue and Jurisdiction

Our partnership agreement is governed by Delaware law. Our partnership agreement requires that any claims, suits, actions or proceedings:

- arising out of or relating in any way to the partnership agreement (including any claims, suits or actions to interpret, apply or enforce the provisions of the partnership agreement or the
 duties, obligations or liabilities among unitholders or of unitholders to us, or the rights or powers of, or restrictions on, the unitholders or us);
- brought in a derivative manner on our behalf;
- · asserting a claim of breach of a fiduciary duty owed by any director, officer or other employee of us or our general partner, or owed by our general partner to us or the unitholders;
- asserting a claim arising pursuant to any provision of the Delaware Revised Uniform Limited Partnership Act (the "Delaware Act"); or

4

• asserting a claim governed by the internal affairs doctrine,

shall be exclusively brought in the Court of Chancery of the State of Delaware (or, if such court does not have subject matter jurisdiction thereof, any other court located in the State of Delaware with subject matter jurisdiction), regardless of whether such claims, suits, actions or proceedings sound in contract, tort, fraud or otherwise, are based on common law, statutory, equitable, legal or other grounds, or are derivative or direct claims. By purchasing a common unit, a unitholder is irrevocably consenting to these limitations and provisions regarding claims, suits, actions or proceedings and submitting to the exclusive jurisdiction of the Court of Chancery of the State of Delaware (or such other Delaware courts) in connection with any such claims, suits, actions or proceedings. The exclusive forum provision would not apply to suits brought to enforce any liability or duty created by the Securities Act of 1933, as amended (the "Securities Act"), or the Exchange Act or any other claim for which the federal courts have exclusive jurisdiction. To the extent any such claims and provision the exclusion 27 of the Exchange Act creates exclusive federal jurisdiction for the federal and state courts over all suits brought to enforce any duty or liability created by the Securities Act or the rules and regulations thereunder. Furthermore, Section 22 of the Securities Act creates concurrent jurisdiction for the federal and state courts over all suits brought to enforce any duty or liability created by the Securities Act or the rules and regulations thereunder.

Power of Attorney

Each limited partner, and each person who acquires a unit from a unitholder and executes and delivers a transfer application, grants to our general partner and, if appointed, a liquidator, a power of attorney to, among other things, execute and file documents required for our qualification, continuance or dissolution. The power of attorney also grants the authority for the amendment of, and to make consents and waivers under, our partnership agreement.

Issuance of Additional Securities

Our partnership agreement authorizes us to issue an unlimited number of additional limited partner interests and other equity securities that are equal in rank with or junior to our common units on terms and conditions established by our general partner in its sole discretion without the approval of any limited partners.

It is likely that we will fund acquisitions through the issuance of additional common units or other equity securities. Holders of any additional common units we issue will be entitled to share equally with the then-existing holders of common units in our cash distributions. In addition, the issuance of additional partnership interests may dilute the value of the interests of the then-existing holders of common units in our net assets.

In accordance with Delaware law and the provisions of our partnership agreement, we may also issue additional partnership interests that, in the sole discretion of our general partner, may have special voting rights to which common units are not entitled.

Our general partner has the right, which it may from time to time assign in whole or in part to any of its affiliates, to purchase common units or other equity securities whenever, and on the same terms that, we issue those securities to persons other than our general partner and its affiliates, to the extent necessary to maintain their percentage interests in us that existed immediately prior to the issuance. The holders of common units will not have preemptive rights to acquire additional common units or other partnership interests in us.

Amendments to Our Partnership Agreement

Amendments to our partnership agreement may be proposed only by our general partner. Any amendment that materially and adversely affects the rights or preferences of any type or class of limited partner interests in relation to other types or classes of limited partner interests or our general partner interests will require the approval of at least a majority of the type or class of limited partner interests or general partner interests so affected. However, in some circumstances, more particularly described in our partnership agreement, our general partner may make amendments to our partnership agreement without the approval of our limited partners or assignees.

Withdrawal or Removal of Our General Partner

Our general partner may withdraw as general partner without obtaining approval of any unitholder by giving 90 days' written notice, and that withdrawal will not constitute a violation of our partnership agreement. In addition, our general partner may withdraw without unitholder approval upon 90 days' notice to our limited partners if at least 50% of our outstanding units are held or controlled by one person and its affiliates other than our general partner and its affiliates.

Upon the voluntary withdrawal of our general partner, the holders of a majority of our outstanding common units and Series A preferred units, excluding any common units and Series A preferred units held by the withdrawing general partner and its affiliates, may elect a successor to the withdrawing general partner. If a successor is not elected, or is elected but an opinion of counsel regarding limited liability and tax matters cannot be obtained, we will be dissolved, wound up and liquidated, unless within 90 days after that withdrawal, the holders of a majority of our outstanding common units and Series A preferred units, excluding the common units and Series A preferred units held by the withdrawing general partner and its affiliates, agree to continue our business and to appoint a successor general partner.

Our general partner may not be removed unless that removal is approved by the vote of the holders of not less than two-thirds of our outstanding units, including units held by our general partner and its affiliates, and we receive an opinion of counsel regarding limited liability and tax matters. Any removal of this kind is also subject to the approval of a successor general partner by the vote of the holders of a majority of our outstanding common units and Series A preferred units, including those held by our general partner and its affiliates.

While our partnership agreement limits the ability of our general partner to withdraw, it allows the general partner interest to be transferred to an affiliate or to a third party in conjunction with a merger or sale of all or substantially all of the assets of our general partner.

In addition, our partnership agreement expressly permits the sale, in whole or in part, of the ownership of our general partner. Our general partner may also transfer, in whole or in part, the common units it owns.

Merger, Sale or Other Disposition of Assets

A merger or consolidation of us requires the prior consent of our general partner. However, our partnership agreement generally prohibits our general partner, without the prior approval of a majority of our outstanding units, from causing us to, among other things, sell, exchange or otherwise dispose of all or substantially all of our assets in a single transaction or a series of related transactions. Our general partner may, however, mortgage, pledge, hypothecate or grant a security interest in all or substantially all of our assets without that approval. Our general partner may also sell all or substantially all of our assets under a foreclosure or other realization upon those encumbrances without that approval.

If conditions specified in our partnership agreement are satisfied, our general partner may merge us or any of our subsidiaries into, or convey some or all of our assets to, a newly formed entity if the sole purpose of that merger or conveyance is to effect a mere change in our legal form into another limited liability entity. Our unitholders are not entitled to dissenters' rights or appraisal rights (and, therefore, will not be entitled to demand payment of a fair price for their units) under our partnership agreement or applicable Delaware law in the event of a merger or consolidation, a sale of substantially all of our assets or any other transaction or event.

Liquidation and Distribution of Proceeds

Upon our dissolution, unless we are reconstituted and continued as a new limited partnership, the person authorized to wind up our affairs (the liquidator) will, acting with all the powers of our general partner that the liquidator deems necessary or desirable in its good faith judgment, liquidate our assets. The proceeds of the liquidation will be applied as follows:

• first, towards the payment of all of our creditors and the creation of a reserve for contingent liabilities;

- next, to all holders of preferred units an aggregate amount equal to the positive balance in their capital accounts distributed in a manner that provides the holders of preferred units with the
 same percentage of their respective liquidation preferences; and
- finally, to all partners in accordance with the positive balance in their respective capital accounts.

Under some circumstances and subject to some limitations, the liquidator may defer liquidation or distribution of our assets for a reasonable period of time. If the liquidator determines that a sale would be impractical or would cause a loss to our partners, our general partner may distribute assets in kind to our partners.

Change of Management Provisions

Our partnership agreement contains the following specific provisions that are intended to discourage a person or group from attempting to remove our general partner or otherwise change management:

- generally, if a person acquires 20% or more of any class of units then outstanding other than from our general partner or its affiliates, the units owned by such person cannot be voted on any matter; and
- provisions limiting the ability of unitholders to call meetings or to acquire information about our operations, as well as other provisions limiting the unitholders' ability to influence the
 manner or direction of management.

Limited Call Right

If at any time our general partner and its affiliates (other than, with respect to the Series A preferred units, such affiliates that originally purchased Series A preferred units) own 80% or more of the issued and outstanding limited partner interests of any class, our general partner will have the right to purchase all, but not less than all, of the outstanding limited partner interests of that class that are held by non-affiliated persons. The record date for determining ownership of the limited partner interests would be selected by our general partner on at least 10 but not more than 60 days' notice. The purchase price in the event of a purchase under these provisions would be the greater of (1) the current market price (as defined in our partnership agreement) of the limited partner interests of the class as of the date three days prior to the date that notice is mailed to the limited partners as provided in our general gartner (2) the highest cash price paid by our general partner or any of its affiliates for any limited partner interest of the class purchase dwithin the 90 days preceding the date our general partner mails notice of its election to purchase the units.

We are authorized to purchase insurance against liabilities asserted against and expenses incurred by persons for our activities, regardless of whether we would have the power to indemnify the person against liabilities under our partnership agreement.

Registration Rights

Under our partnership agreement, we have agreed to register for resale under the Securities Act and applicable state securities laws any common units, or other partnership securities proposed to be sold by our general partner or any of its affiliates or their assignees if an exemption from the registration requirements is not otherwise available. We are obligated to pay all expenses incidental to the registration, excluding underwriting discounts and commissions.

Limited Liability

Assuming that a limited partner does not participate in the control of our business within the meaning of the Delaware Act and that he otherwise acts in conformity with the provisions of our partnership agreement, his liability under the Delaware Act will be limited, subject to some possible exceptions, generally to the amount of capital he is obligated to contribute to us in respect of his units plus his share of any undistributed profits and assets.

Under the Delaware Act, a limited partnership may not make a distribution to a partner to the extent that at the time of the distribution, after giving effect to the distribution, all liabilities of the partnership, other than liabilities to partners on account of their partnership interests and liabilities for which the recourse of creditors is limited to specific property of the partnership, exceed the fair value of the assets of the limited partnership. For the purposes of determining the fair value of the assets of a limited partnership, the Delaware Act provides that the fair value of the property subject to liability of which recourse of creditors is limited shall be included in the assets of the limited partnership only to the extent that the fair value of that property exceeds the nonrecourse liability. The Delaware Act provides that a limited partner who receives a distribution and knew at the time of the distribution was in violation of the Delaware Act is liable to the limited partnership for the amount of the distribution for three years from the date of the distribution.

In addition, our partnership agreement limits any fiduciary duties our general partner might owe to our unitholders. As our general partner, our general partner is liable for all of our debts (to the extent not paid from our assets), except for indebtedness or other obligations that are made specifically non-recourse to it. Our general partner has the sole discretion to incur indebtedness or other obligations on our behalf on a non-recourse basis to the general partner. Our general partner has in the past exercised such discretion, in most instances involving payment liability.

FIRST AMENDMENT TO THIRD AMENDED AND RESTATED EMPLOYMENT AGREEMENT

This First Amendment dated effective December 31, 2021 ("Amendment No. 1") to the Third Amended and Restated Employment Agreement (the "Agreement"), effective January 1, 2020, is by and between Plains All American GP LLC (the "Company") and Greg L. Armstrong ("Armstrong" or the "Employee"). Capitalized terms that are used but not defined in this Amendment No. 1 shall have the meanings ascribed to them in the Agreement.

WITNESSETH

WHEREAS, Armstrong and the Company are parties to the Agreement, which was entered into effective as of January 1, 2020;

WHEREAS, the Agreement provides that the term of Mr. Armstrong's employment shall terminate on December 31, 2021, unless sooner terminated pursuant to the terms of the Agreement;

WHEREAS, Mr. Armstrong was elected at the 2021 Annual Meeting to serve as a director of PAA GP Holdings LLC for a three-year term ending on the date of the 2024 Annual Meeting;

WHEREAS, the Board has approved an extension of the term of Mr. Armstrong's employment until the date of the 2024 Annual Meeting; and

WHEREAS, the Company and Armstrong desire to amend the Agreement by entering into this Amendment No. 1, which sets forth their mutual agreement and understanding related to the continued employment of Armstrong and certain related matters as set forth herein.

NOW, THEREFORE, in consideration of the covenants and conditions herein contained, the Parties agree as follows:

1. <u>Section 1.</u> As amended, Section 2 of the Agreement shall read in full as follows:

"Term. The term of Armstrong's employment with the Company as provided hereunder (the "Term") shall commence on the Effective Date (as defined in the Agreement) and terminate on the date of the 2024 Annual Meeting; provided, however, that (a) Armstrong may terminate his employment with the Company as of any date prior to the date of the 2024 Annual Meeting by giving written notice to the Company at least two weeks prior to the effective date of such termination, (b) at the direction of the Board, the Company may terminate Armstrong's employment with the Company as of any date prior to the date of the 2024 Annual Meeting by giving written notice to Armstrong at least two weeks prior to the effective date of such termination, and (c) Armstrong's employment relationship with the Company shall automatically terminate in the event of his death. The date as of which the

employment relationship terminates shall constitute the "Termination Date" for purposes hereof."

2. <u>Section 2.</u> Except as hereby amended, the Agreement shall remain in full force and effect.

IN WITNESS WHEREOF, the Parties have executed this Amendment No. 1 effective as of December 31, 2021.

/s/ Greg L. Armstrong Greg L. Armstrong

PLAINS ALL AMERICAN GP LLC

By: <u>/s/ Richard McGee</u>

Richard McGee Executive Vice President

SUBSIDIARIES OF PLAINS ALL AMERICAN PIPELINE, L.P. (As of 12/31/2021)

Aurora Pipeline Company Ltd. Bakersfield Crude Terminal LLC Cactus II Pipeline LLC Capline Pipeline Company LLC Eagle Ford Crude Terminal LLC FM Midstream Holdings LLC FM Gathering LLC	Canada Delaware Delaware Delaware Delaware Delaware
Cactus II Pipeline LLC Capline Pipeline Company LLC Eagle Ford Crude Terminal LLC FM Midstream Holdings LLC	Delaware Delaware Delaware
Capline Pipeline Company LLC Eagle Ford Crude Terminal LLC FM Midstream Holdings LLC	Delaware Delaware
Eagle Ford Crude Terminal LLC FM Midstream Holdings LLC	Delaware
FM Midstream Holdings LLC	
J. J	Delaware
FM Gathering LLC	Belaware
The oddition B DD o	Delaware
Niobrara Crude Terminal LLC	Delaware
OMOG JV Holdings LLC	Delaware
Oryx Delaware Oil Transport LLC	Delaware
Oryx Midstream Holdings LLC	Delaware
Oryx Wink Oil Pipeline LLC	Delaware
PAA Finance Corp.	Delaware
PAA Luxembourg S.a.r.l.	Luxembourg
PAA Midstream LLC	Delaware
PAA Natural Gas Storage, L.P.	Delaware
PAA Service Corp.	Texas
PAA/Vulcan Gas Storage, LLC	Delaware
Pacific Pipeline System LLC	Delaware
Plains All American Emergency Relief Fund, Inc.	Texas
Plains Capline LLC	Delaware
Plains Gas Solutions, LLC	Texas
Plains GP LLC	Texas
Plains LPG Services GP LLC	Delaware
Plains LPG Services, L.P.	Texas
Plains Marketing Bondholder, LLC	Delaware
Plains Marketing Canada LLC	Delaware
Plains Marketing, L.P.	Texas
Plains Midstream Canada ULC	British Columbia
Plains Midstream Holdings Canada ULC	British Columbia
Plains Midstream Luxembourg S.a.r.l.	Luxembourg
Plains Midstream Superior LLC	Texas
Plains Oryx Permian Basin LLC	Delaware
Plains Oryx Permian Basin Marketing LLC	Delaware
Plains Oryx Permian Basin Pipeline LLC	Delaware
Plains Pipeline, L.P.	Texas
Plains Pipeline Montana LLC	Delaware
Plains Products Terminals LLC	Delaware
Plains Rail Holdings LLC	Delaware
Plains South Texas Gathering LLC	Texas
PMC (Nova Scotia) Company	Nova Scotia
PMC (Nova Scolla) Company PNGS GP LLC	Delaware

Subsidiary	Jurisdiction of Organization
Rancho LPG Holdings LLC	Delaware
Red River Pipeline Company LLC	Delaware
Rocky Mountain Pipeline Montana LLC	Delaware
St. James Rail Terminal LLC	Delaware
Sunrise Pipeline LLC	Delaware
Van Hook Crude Terminal LLC	Delaware
Western Corridor Pipeline LLC	Delaware

CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

We hereby consent to the incorporation by reference in the Registration Statements on Form S-3 (No. 333-138888, 333-155673, 333-162477, 333-214778, 333-221845, 333-259387 and 333-259390) and on Form S-8 (No. 333-91141, 333-74920, 333-122806, 333-141185, 333-193139, 333-193140 and 333-256507) of Plains All American Pipeline, L.P. of our report dated February 28, 2022 relating to the financial statements and the effectiveness of internal control over financial reporting, which appears in this Form 10-K. /s/ PricewaterhouseCoopers LLP

Houston, Texas February 28, 2022

CERTIFICATION

I, Willie Chiang, certify that:

1. I have reviewed this annual report on Form 10-K of Plains All American Pipeline, L.P. (the "registrant");

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;

4. The registrant's other certifying officer(s) and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:

(a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

(b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

(c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

(d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and

5. The registrant's other certifying officer(s) and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):

(a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and

(b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: February 28, 2022

/s/ Willie Chiang Willie Chiang Chief Executive Officer

CERTIFICATION

I, Al Swanson, certify that:

1. I have reviewed this annual report on Form 10-K of Plains All American Pipeline, L.P. (the "registrant");

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;

4. The registrant's other certifying officer(s) and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:

(a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

(b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

(c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

(d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and

5. The registrant's other certifying officer(s) and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):

(a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and

(b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: February 28, 2022

/s/ Al Swanson Al Swanson Chief Financial Officer

CERTIFICATION OF CHIEF EXECUTIVE OFFICER OF PLAINS ALL AMERICAN PIPELINE, L.P. PURSUANT TO 18 U.S.C. 1350

I, Willie Chiang, Chief Executive Officer of Plains All American Pipeline, L.P. (the "Company"), hereby certify that:

(i) the accompanying report on Form 10-K for the period ended December 31, 2021 and filed with the Securities and Exchange Commission on the date hereof (the "Report") by the Company fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934, as amended; and

(ii) the information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

/s/ Willie Chiang

Name: Willie Chiang Date: February 28, 2022

CERTIFICATION OF CHIEF FINANCIAL OFFICER OF PLAINS ALL AMERICAN PIPELINE, L.P. PURSUANT TO 18 U.S.C. 1350

I, Al Swanson, Chief Financial Officer of Plains All American Pipeline, L.P. (the "Company"), hereby certify that:

(i) the accompanying report on Form 10-K for the period ended December 31, 2021 and filed with the Securities and Exchange Commission on the date hereof (the "Report") by the Company fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934, as amended; and

(ii) the information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

/s/ Al Swanson

Name: Al Swanson Date: February 28, 2022