

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 1-36132

PLAINS GP HOLDINGS, L.P.

(Exact name of registrant as specified in its charter)

Delaware
(State or other jurisdiction of incorporation or organization)

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

90-1005472
(I.R.S. Employer Identification No.)

77002
(Zip Code)

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

Title of Each Class	Securities registered pursuant to Section 12(b) of the Act: Trading Symbol(s)	Name of Each Exchange on Which Registered
Class A Shares, Representing Limited Partner Interests	PAGP	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

Non-accelerated filer

Accelerated filer

Smaller reporting company

Emerging growth company

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 189.1 million Class A shares held by non-affiliates of the registrant (treating all executive officers and directors of the registrant and holders of 10% or more of the Class A shares outstanding, for this purpose, as if they are affiliates of the registrant) on June 30, 2021 was approximately \$2.3 billion, based on a closing price of \$11.94 per Class A share as reported on the Nasdaq Global Select Market on such date.

As of February 22, 2022, there were 194,192,777 Class A shares 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 Shareholders 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 GP HOLDINGS, L.P. AND SUBSIDIARIES
FORM 10-K—2021 ANNUAL REPORT
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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 forward-looking statements. The most important of these factors include, but are not limited to:

- our ability to pay distributions to our Class A shareholders;
- our expected receipt of, and amounts of, distributions from Plains AAP, L.P.;
- 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 PAA’s credit rating and ability to receive open credit from its 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 PAA's customers or counterparties to perform their obligations under their contracts with PAA (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;
- PAA's inability to perform its obligations under its contracts, whether due to non-performance by third parties, including PAA's 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 PAA's units at the time of vesting under its 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.

PART I

Items 1 and 2. *Business and Properties*

General

Plains GP Holdings, L.P. is a publicly traded Delaware limited partnership that has elected to be taxed as a corporation for United States federal income tax purposes. PAGP's Class A shares are listed on the Nasdaq Global Select Market ("Nasdaq") under the ticker symbol "PAGP." PAGP does not directly own any operating assets; as of December 31, 2021, its principal sources of cash flow are derived from an indirect investment in Plains All American Pipeline, L.P. ("PAA"), a publicly traded Delaware limited partnership, through its 100% managing member interest in Plains All American GP LLC ("GP LLC") and its limited partner interest in Plains AAP, L.P. ("AAP").

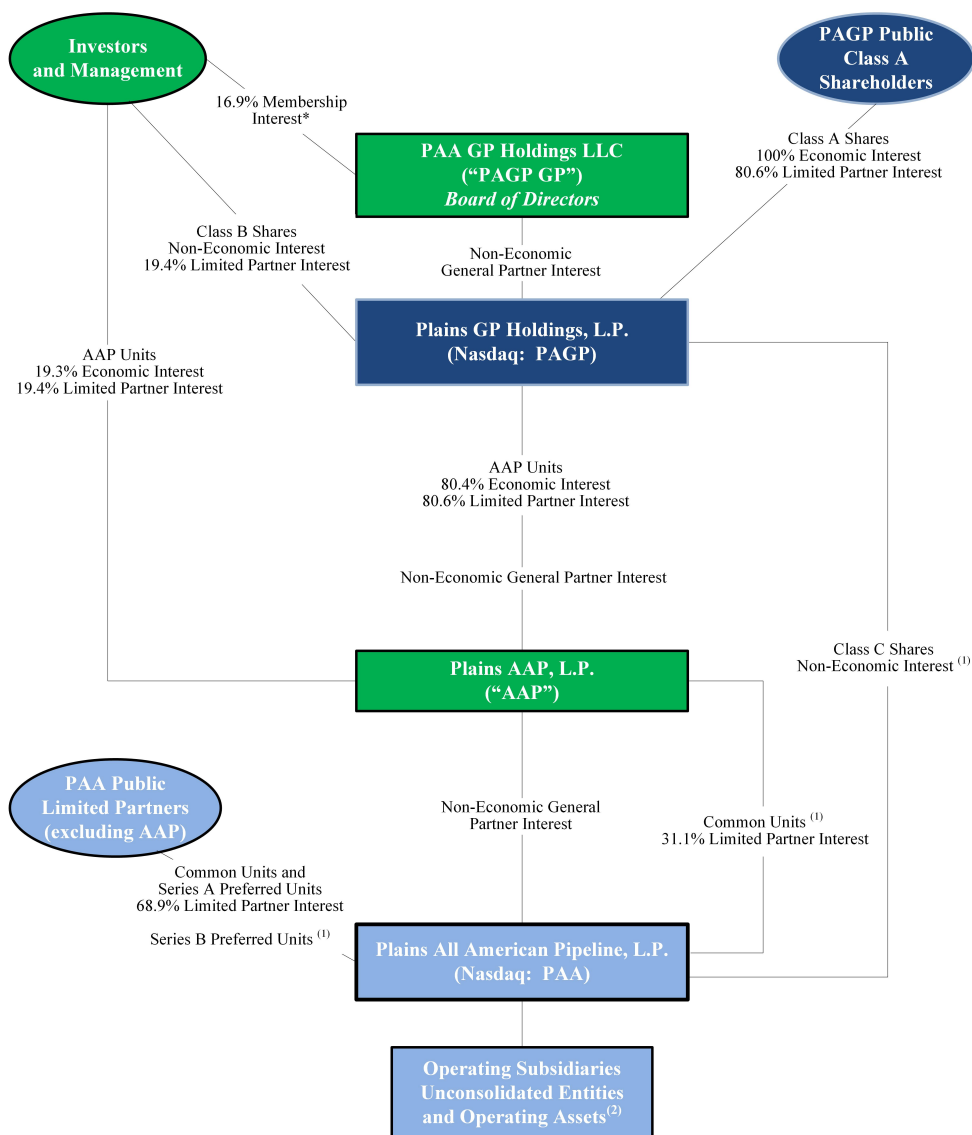
PAA's business model integrates large-scale supply aggregation capabilities with the ownership and operation of critical midstream infrastructure systems that connect major producing regions to key demand centers and export terminals. As one of the largest midstream service providers in North America, PAA owns 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. PAA's assets and the services it provides are primarily focused on crude oil and NGL.

PAA's 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 emerging energy and energy transition initiatives. As a result, we believe that midstream energy infrastructure will remain critical and valuable.

PAA's operations are conducted directly and indirectly through its primary operating subsidiaries, which comprise 100% of the assets and operations affiliated with PAA and its subsidiaries. As used in this Form 10-K and unless the context indicates otherwise (taking into account the fact that PAGP has no operating activities apart from those conducted by PAA and its subsidiaries), the terms "Partnership," "Plains," "we," "us," "our," "ours" and similar terms refer to PAGP and its subsidiaries.

Organizational Structure

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



* 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 us. The number of Class C shares that PAA owns is equal to the number of outstanding PAA common units and Series A Preferred units (“PAA Common Unit Equivalents”) that are entitled to vote, pro rata with the holders of our 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 PAA votes at the direction of and as proxy for the PAA common unitholders and Series A preferred unitholders in such director elections. PAA common units held by AAP and PAA Series B preferred units are not entitled to vote in the election of directors.
- (2) PAA 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.

Our Business Strategy

Unless we directly acquire and hold assets or businesses in the future, our cash flows will be generated solely from the cash distributions we receive on the Class A units of AAP (“AAP units”) we directly and indirectly own. AAP currently receives all of its cash flows from distributions on the PAA common units it owns.

Accordingly, our primary business objective is to increase our cash available for distribution to our Class A shareholders through the execution by PAA of its business strategy. In addition, we may facilitate PAA’s growth activities through various means, including, but not limited to, making loans, purchasing equity interests or providing other forms of financial support to PAA.

We maintain a one-to-one relationship between our Class A shares and the underlying PAA common units in which we have an indirect economic interest through our ownership interests in AAP and GP LLC (referred to as “Economic Parity”), such that the number of our outstanding Class A shares equals the number of AAP units we directly and indirectly own, which in turn equals the number of PAA common units held by AAP attributable to our direct and indirect ownership interest in AAP.

PAA’s Business Strategy

PAA’s principal business strategy is to provide competitive and efficient midstream infrastructure and logistics services to producers, refiners and other customers. PAA strives 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 its transportation, terminalling, storage, processing and fractionation assets with its commercial expertise. PAA intends to execute its strategy by:

- Focusing on operational excellence, continuous improvement and running a safe, reliable, environmentally and socially responsible operation;
- Using its well positioned network of midstream infrastructure in conjunction with its commercial capabilities to provide its 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 its 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 PAA’s successful execution of this strategy will enable it to generate sustainable earnings and cash flow, and will position PAA to reduce leverage and maintain an investment grade credit profile while increasing returns to equity holders over time.

PAA’s Competitive Strengths

We believe that the following competitive strengths position PAA to successfully execute its principal business strategy:

- *PAA owns a strategically located, geographically diverse and interconnected large-scale asset base that provides operational flexibility and commercial optionality.* The majority of PAA's primary transportation assets are in crude oil service, are located in well-established crude oil producing regions (with PAA's largest asset presence in the Permian Basin) and other transportation corridors and are connected, directly or indirectly, with PAA's terminals and facilities assets. The majority of PAA's terminal 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 PAA has strong business relationships. In addition, PAA's pipeline, rail, truck and storage assets provide PAA's customers and PAA with significant flexibility and optionality to satisfy demand and balance markets, and participate in emerging energy opportunities.
- *PAA's full-service integrated model and long-term focus attracts broad, diverse and high-quality customer base that supports sustainable fee-based cash flow generation.* PAA's strategically located and interconnected asset base enables it to provide its customers with a wide variety of services, including supply aggregation, quality segregation, flow assurance and market access. PAA focuses on building long-term relationships and alignment of interests with its customers. PAA believes this approach has helped it 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 its assets and, in turn, support long-term fee-based cash flow generation from its assets.
- *PAA possesses specialized crude oil and NGL market knowledge.* We believe PAA's business relationships with participants in various phases of the crude oil and NGL distribution chain, from producers to refiners, as well as PAA's own industry expertise (including PAA's knowledge of North American crude oil and NGL flows), provide PAA with extensive market insight and an understanding of the North American physical crude oil and NGL markets that enables PAA to provide value chain solutions for its customers.
- *PAA's merchant activities provide it with the opportunity to realize incremental margins.* We believe the variety of its merchant activities provides PAA 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).
- *PAA has the financial, strategic and technical skills needed to execute strategic transactions that support its business and financial objectives, including joint ventures, joint ownership arrangements, acquisitions and divestitures.* Since 2016, PAA has 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 PAA's current capital allocation priorities, since the completion of its initial public offering in 1998, PAA has 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.
- *PAA has an experienced management team whose interests are aligned with those of its unitholders.* PAA's 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 PAA or its predecessors and affiliates. In addition, through their ownership of PAA common units and grants of phantom units, PAA's management team has a vested interest in PAA's continued success.

Our Financial Strategy

Our financial strategy is designed to be complementary to PAA's financial and business strategies. Our only cash-generating assets consist of our direct and indirect limited partner interests in AAP, which currently receives all of its cash flows from distributions on the PAA common units it owns.

We have entered into an Omnibus Agreement with the Plains Entities which provides for (i) our ability 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 PAA common units from PAA and (ii) our ability to lend proceeds of any future indebtedness we incur to AAP, and AAP's corresponding ability to lend such proceeds to PAA, in each case on substantially the same terms as we incur.

Accordingly, we may access the equity capital markets from time to time to enhance the financial position of PAA and its ability to compete for incremental capital opportunities (including organic investments and third-party acquisitions) to drive future growth. We currently do not intend to incur any indebtedness in the near term. We would expect to fund direct acquisitions made by us, if any, with a combination of debt and equity.

PAA's Financial Strategy

Targeted Credit Profile

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

In that regard, PAA intends to maintain a credit profile that it believes is consistent with investment grade credit ratings. PAA targets 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, PAA's publicly-traded senior notes comprised approximately 99% of its long-term debt. Additionally, PAA also routinely incurs short-term debt primarily in connection with its 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. PAA also incurs 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 PAA's working capital borrowings, these borrowings are self-liquidating. PAA does not consider the working capital borrowings or margin requirements associated with these activities to be part of its long-term capital structure.

Values and Sustainability

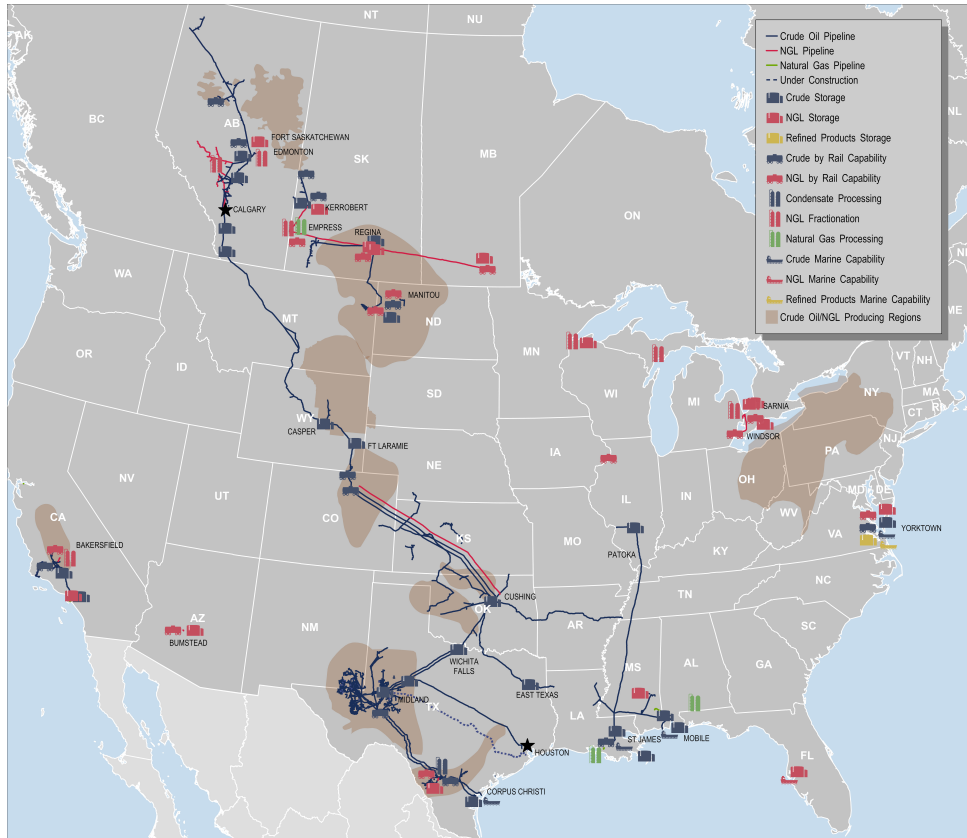
Our Core Values include Safety and Environmental Stewardship, Accountability, Ethics and Integrity and Respect and Fairness. Our Code of Business Conduct sets forth the ways in which these Core Values govern how we conduct ourselves and engage in business relationships. Our approach to sustainability 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 leveraging 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 objectives. Performance against such targets is also a factor in determining annual bonus compensation for our employees, which further incentivizes desired behaviors and outcomes. In addition, in 2021 we established a new Health, Safety, Environmental and Sustainability ("HSES") Board Committee to provide additional oversight and perspectives with respect to HSES and ESG matters. Additional information regarding our Core Values 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

Under GAAP, we consolidate GP LLC, AAP and PAA and its subsidiaries. We currently have no separate operating activities apart from those conducted by PAA. As such, our segment analysis, presentation and discussion is the same as that of PAA, which conducts its operations through two segments—Crude Oil and Natural Gas Liquids (“NGL”). Accordingly, any references to “we,” “us,” “our,” and similar terms describing assets, business characteristics or other related matters are references to assets, business characteristics or other matters involving PAA’s assets and operations.

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

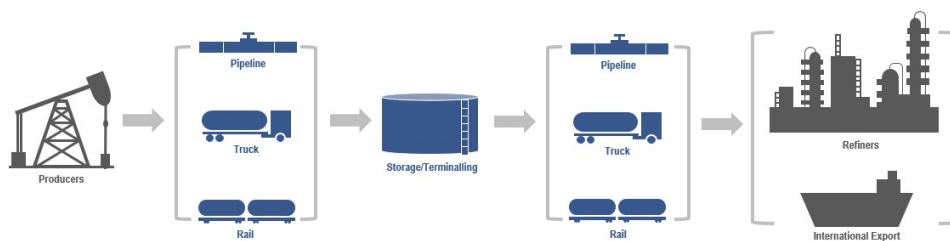
Crude oil is a global commodity that serves as feedstock for many of the world's essential refined products such as transportation fuels (gasoline, diesel, jet fuel) and heating oil, among others. While commodities are typically considered unspecialized, mass-produced and fungible, crude oil is neither 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 System Miles ⁽¹⁾	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)
<i>Cushing</i>	27
<i>St. James</i>	15
<i>Patoka</i>	7
<i>Permian Basin Area</i>	8
<i>Mobile and Ten Mile</i>	5
<i>Corpus Christi</i> ⁽¹⁾	1
<i>Other</i> ⁽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.

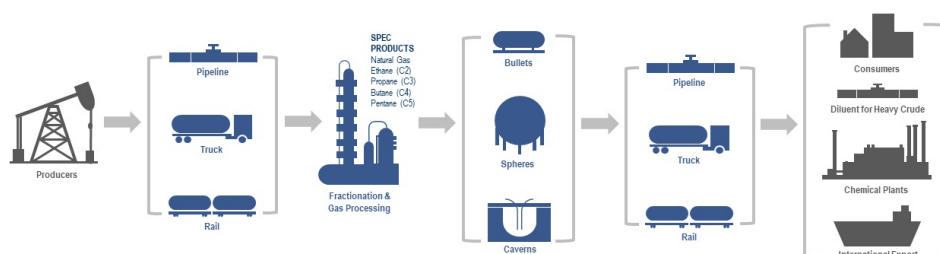
Natural Gas Liquids (“NGL”) Segment

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 third-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)
<i>Empress</i>	66-100%	5.5	2.7

NGL Fractionation Facilities	Ownership Interest	Fractionation Capacity (Bbls/d) ⁽¹⁾	Average Volume ⁽²⁾ (Bbls/d)
<i>Empress</i>	100 %	23,300	22,200
<i>Fort Saskatchewan</i>	21-100%	61,700	41,400
<i>Sarnia</i>	62-84%	75,000	52,500
<i>Other</i>	82-100%	40,100	13,400
		200,100	129,500

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

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

	Ownership Interest	Number of Rack Spots	Number of Storage Spots
<i>NGL Rail Facilities</i>	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 Samia 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 Samia 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 function that has direct responsibility and authority for our risk policies, related controls around commercial activities and procedures and certain other aspects of corporate 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, 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. 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 PAA’s Business—Divestitures and acquisitions involve risks that may adversely affect PAA’s 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 PAA's 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 Impacting PAA's Business—PAA's 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 it to significant costs and liabilities. The current laws and regulations affecting PAA's business are subject to change and in the future PAA may be subject to additional laws, executive orders and regulations, which could adversely impact PAA's 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 could also result in negative public perception of our operations or the industry in general, which may adversely impact our ability to conduct our business. Environmental and safety 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 summary of some of the environmental, health and safety laws and regulations to which our operations are subject.

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 ("PIPES") Act of 2020. Each of these laws imposed increased pipeline 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 review 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 units or processes would have to comply with specific standards of performance that may include leak detection using optical gas imaging and subsequent repair requirements, reduction of 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 rulemaking in 2022 that will contain additional requirements that were not included in the November 2021 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 together 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 development. In furtherance of this agreement, the Governor signed legislation, AB 525, in September 2021 that will require the California Energy Commission to establish 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-duration energy storage projects, pursuing grid hardening and resiliency projects to make transmission and distribution lines more fire resistant and enhance strategic placement of remote grids in vulnerable communities, and increasing the electrification of state transportation systems, homes and businesses.

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 supervisory authorities. While we cannot predict what policies may result from these announcements, a material reduction in the capital available to the fossil fuel industry could make it more difficult to secure funding for exploration, development, production, transportation, and processing activities, which could impact our business and operations.

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 legally-binding, 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 certification or waiver under the 2020 rule. However, in November 2021, after a temporary pause on permit decisions reliant on a Section 401 water quality certification or waiver completed under the vacated regulations, 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 obtain coverage under NWP 12 or other general permits may result in increased costs and project delays if we are forced to seek individual permits from the Corps.

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 an 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 could delay, restrict or halt permitting or development of projects, result in longer permitting timelines, or increased compliance expenditures or mitigation costs for our and our customers’ operations, which may reduce the rate of production from operators.

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 (“EPAAct”), 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 EPAAct, liquids pipeline rates in effect for the 365-day period ending on the date of enactment of EPAAct 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 EPAAct in either the economic circumstances of the liquids pipeline or in the nature of the services provided that were a basis for the rate. EPAAct 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 Impacting PAA’s Business—PAA’s assets are subject to federal, state and provincial regulation. Rate regulation or a successful challenge to the rates PAA charges on its U.S. and Canadian pipeline systems may reduce the amount of cash it generates.” 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 reservation, the ruling has significant potential implications for civil law within the Muscogee (Creek) Nation reservation, as well as other 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 title 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 and exportation 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.

Neither we nor our general partner have officers or employees. All of our officers and other personnel necessary for our business to function are employed by GP LLC or 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 U.S. federal income tax consequences and tax considerations related to the purchase, ownership and disposition of our Class A shares by a taxpayer that holds our Class A shares as a “capital asset” (generally property held for investment). 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 or differing interpretations, 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. In addition, this summary does not address tax considerations applicable to investors that may be subject to special treatment under the U.S. federal income tax laws. The tax consequences of ownership of Class A shares depends in part on the owner’s individual tax circumstances. It is the responsibility of each shareholder, either individually or through a tax advisor, to investigate the legal and tax consequences of the shareholder’s investment in us under applicable U.S. federal, state and local law, as well as Canada and the Canadian provinces, of the shareholder’s investment in us. Further, it is the responsibility of each shareholder to file all U.S. federal, Canadian, state, provincial and local tax returns that may be required of the shareholder. Also see Item 1A. “Risk Factors—Tax Risks.”

Corporate Status

Although we are a Delaware limited partnership, we have elected to be treated as a corporation for U.S. federal income tax purposes. As a result, we are subject to tax as a corporation and distributions on our Class A shares will be treated as distributions on corporate stock for U.S. federal income tax purposes. No Schedule K-1 will be issued with respect to our Class A shares. Instead, holders of Class A shares will receive a Form 1099 from us or a broker with respect to distributions received on our Class A shares.

Consequences to U.S. Holders

The discussion in this section is addressed to holders of our Class A shares who are U.S. holders for U.S. federal income tax purposes. For the purposes of this discussion, a “U.S. holder” is a beneficial owner of our Class A shares that, for U.S. federal income tax purposes, is:

- an individual who is a citizen or resident of the United States;
- a corporation (or other entity treated as a corporation for U.S. federal income tax purposes) created or organized in or under the laws of the United States, any state thereof or the District of Columbia;
- an estate the income of which is subject to U.S. federal income tax regardless of its source; or
- a trust (i) the administration of which is subject to the primary supervision of a U.S. court and which has one or more United States persons who have the authority to control all substantial decisions of the trust or (ii) which has made a valid election under applicable U.S. Treasury regulations to be treated as a United States person.

Distributions

Distributions with respect to our Class A shares will constitute dividends for U.S. federal income tax purposes to the extent paid from our current or accumulated earnings and profits, as determined under U.S. federal income tax principles. To the extent that the amount of a distribution with respect to our Class A shares exceeds our current and accumulated earnings and profits, such distribution will be treated first as a tax-free return of capital to the extent of the U.S. holder’s adjusted tax basis in such Class A shares, which reduces such basis dollar-for-dollar, and thereafter as capital gain from the sale or exchange of such Class A shares. See “—Gain on Disposition of Class A Shares.” Non-corporate holders that receive distributions on our Class A shares that are treated as dividends for U.S. federal income tax purposes generally will be subject to U.S. federal income tax at a reduced rate (currently at a maximum rate of 20%) provided certain holding period requirements are met.

Both AAP and PAA have made elections permitted by Section 754 of the Code. As a result, our acquisition of AAP units in connection with our initial public offering (“IPO”) and in connection with exchanges since the IPO by the holders of our Class B shares and the AAP units not held by us (“Legacy Owners”) and their permitted transferees of their AAP units and Class B shares for Class A shares have resulted in basis adjustments with respect to our interest in the assets of AAP (and indirectly in PAA). Such adjustments have resulted in depreciation and amortization deductions that we anticipate will offset a substantial portion of our taxable income for an extended period of time. In addition, future exchanges of AAP units and Class B shares for our Class A shares will result in additional basis adjustments with respect to our interest in the assets of AAP (and indirectly in PAA). We expect to benefit from additional tax deductions resulting from those adjustments, the amount of which will vary depending on the value of the Class A shares at the time of the exchange.

As a result of the basis adjustments described above, we may not have sufficient earnings and profits for distributions on our Class A shares to qualify as dividends for U.S. federal income tax purposes. If a distribution on our Class A shares fails to qualify as a dividend for U.S. federal income tax purposes, such distribution will be treated first as a tax-free return of capital to the extent of the U.S. holder’s adjusted tax basis in our Class A shares and thereafter as capital gain from the sale or exchange of our Class A shares. As a result, U.S. corporate holders will be unable to utilize the corporate dividends-received deduction with respect to such distribution.

Investors in our Class A shares are encouraged to consult their tax advisors as to the tax consequences of receiving distributions on our Class A shares that do not qualify as dividends for U.S. federal income tax purposes, including, in the case of corporate investors, the inability to claim the corporate dividends received deduction with respect to such distributions.

Gain on Disposition of Class A Shares

A U.S. holder generally will recognize capital gain or loss on a sale, exchange, certain redemptions, or other taxable disposition of our Class A shares equal to the difference, if any, between the amount realized upon the disposition of such Class A shares and the U.S. holder’s adjusted tax basis in those shares. A U.S. holder’s tax basis in our shares generally will be equal to the amount paid for such shares reduced (but not below zero) by distributions received on such shares that are not treated as dividends for U.S. federal income tax purposes. Such capital gain or loss generally will be long-term capital gain or loss if the U.S. holder’s holding period for the shares sold or disposed of is more than one year. Long-term capital gains of individuals generally are subject to U.S. federal income tax at a reduced rate (currently at a maximum rate of 20%). The deductibility of net capital losses is subject to limitations.

Backup Withholding and Information Reporting

Information returns generally will be filed with the IRS with respect to distributions on our Class A shares and the proceeds from a disposition of our Class A shares. U.S. holders may be subject to backup withholding on distributions with respect to our Class A shares and on the proceeds of a disposition of our Class A shares unless such U.S. holders furnish the applicable withholding agent with a taxpayer identification number, certified under penalties of perjury, and certain other information, or otherwise establish, in the manner prescribed by law, an exemption from backup withholding. Penalties apply for failure to furnish correct information and for failure to include reportable payments in income.

Backup withholding is not an additional tax. Any amounts withheld under the backup withholding rules will be creditable against a U.S. holder's U.S. federal income tax liability, and the U.S. holder may be entitled to a refund, provided the U.S. holder timely furnishes the required information to the IRS. U.S. holders are urged to consult their own tax advisors regarding the application of the backup withholding rules to their particular circumstances and the availability of, and procedure for, obtaining an exemption from backup withholding.

Consequences to Non-U.S. Holders

The discussion in this section is addressed to holders of our Class A shares who are non-U.S. holders for U.S. federal income tax purposes. For purposes of this discussion, a "non-U.S. holder" is a beneficial owner of our Class A shares that is an individual, corporation, estate or trust that is not a U.S. holder as defined above.

Distributions

Distributions with respect to our Class A shares will constitute dividends for U.S. federal income tax purposes to the extent paid from our current or accumulated earnings and profits, as determined under U.S. federal income tax principles. To the extent those distributions exceed our current and accumulated earnings and profits, the distributions will be treated as a non-taxable return of capital to the extent of the non-U.S. holder's tax basis in our common stock and thereafter as capital gain from the sale or exchange of such common stock. See "—Gain on Disposition of Class A Shares." Subject to the withholding requirements under FATCA (as defined below) and with respect to effectively connected dividends, each of which is discussed below, any distribution made to a non-U.S. holder on our Class A shares generally will be subject to U.S. withholding tax at a rate of 30% of the gross amount of the distribution unless an applicable income tax treaty provides for a lower rate. To the extent a distribution exceeds our current and accumulated earnings and profits, such distribution will reduce the non-U.S. holder's adjusted tax basis in its Class A shares (but not below zero). The amount of any such distribution in excess of the non-U.S. holder's adjusted tax basis in its Class A shares will be treated as gain from the sale of such shares and will have the tax consequences described below under "Gain on Disposition of Class A Shares." The rules applicable to distributions by a United States real property holding corporation (a "USRPHC") to non-U.S. persons that exceed current and accumulated earnings and profits are not clear. As a result, it is possible that U.S. federal income tax at a rate not less than 15% (or such lower rate as specified by an applicable income tax treaty for distributions from a USRPHC) may be withheld from distributions received by non-U.S. holders that exceed our current and accumulated earnings and profits. To receive the benefit of a reduced treaty rate, a non-U.S. holder must provide the applicable withholding agent with an IRS Form W-8BEN or IRS Form W-8BEN-E (or other applicable or successor form) certifying qualification for the reduced rate.

Non-U.S. holders are encouraged to consult their tax advisors regarding the withholding rules applicable to distributions on our Class A shares, the requirement for claiming treaty benefits, and any procedures required to obtain a refund of any overwithheld amounts.

Distributions treated as dividends that are paid to a non-U.S. holder and that are effectively connected with a trade or business conducted by the non-U.S. holder in the United States (and, if required by an applicable income tax treaty, are treated as attributable to a permanent establishment maintained by the non-U.S. holder in the United States) generally will be taxed on a net income basis at the rates and in the manner generally applicable to United States persons (as defined under the Code). Such effectively connected dividends will not be subject to U.S. withholding tax if the non-U.S. holder satisfies certain certification requirements by providing the applicable withholding agent with a properly executed IRS Form W-8ECI certifying eligibility for exemption. If the non-U.S. holder is a corporation for U.S. federal income tax purposes, it may also be subject to a branch profits tax (at a 30% rate or such lower rate as specified by an applicable income tax treaty) on its effectively connected earnings and profits (as adjusted for certain items), which will include effectively connected dividends.

Gain on Disposition of Class A Shares

Subject to the discussion below under “—Backup Withholding and Information Reporting,” a non-U.S. holder generally will not be subject to U.S. federal income or withholding tax on any gain realized upon the sale or other disposition of our Class A shares unless:

- the non-U.S. holder is an individual who is present in the United States for a period or periods aggregating 183 days or more during the calendar year in which the sale or disposition occurs and certain other conditions are met;
- the gain is effectively connected with a trade or business conducted by the non-U.S. holder in the United States (and, if required by an applicable income tax treaty, is attributable to a permanent establishment maintained by the non-U.S. holder in the United States); or
- our Class A shares constitute a United States real property interest by reason of our status as a USRPHC for U.S. federal income tax purposes and as a result such gain is treated as effectively connected with a trade or business conducted by the non-U.S. holder in the United States.

A non-U.S. holder described in the first bullet point above will be subject to U.S. federal income tax at a rate of 30% (or such lower rate as specified by an applicable income tax treaty) on the amount of such gain, which generally may be offset by U.S. source capital losses.

A non-U.S. holder whose gain is described in the second bullet point above or, subject to the exceptions described in the next paragraph, the third bullet point above, generally will be taxed on a net income basis at the rates and in the manner generally applicable to United States persons (as defined under the Code) unless an applicable income tax treaty provides otherwise. If the non-U.S. holder is a corporation for U.S. federal income tax purposes whose gain is described in the second bullet point above, then such gain would also be included in its effectively connected earnings and profits (as adjusted for certain items), which may be subject to a branch profits tax (at a 30% rate or such lower rate as specified by an applicable income tax treaty).

Generally, a corporation is a USRPHC if the fair market value of its United States real property interests equals or exceeds 50% of the sum of the fair market value of its worldwide real property interests and its other assets used or held for use in a trade or business. We believe that we currently are, and expect to remain for the foreseeable future, a USRPHC for U.S. federal income tax purposes. However, as long as our Class A shares continue to be “regularly traded on an established securities market” (within the meaning of the U.S. Treasury Regulations), only a non-U.S. holder that actually or constructively owns, or owned at any time during the shorter of the five-year period ending on the date of the disposition or the non-U.S. holder’s holding period for the Class A shares, more than 5% of our Class A shares will be treated as disposing of a United States real property interest and will be taxable on gain realized on the disposition of our Class A shares as a result of our status as a USRPHC. If our Class A shares were not considered to be regularly traded on an established securities market, such non-U.S. holder (regardless of the percentage of our Class A shares owned) would be treated as disposing of a United States real property interest and would be subject to U.S. federal income tax on a taxable disposition of our Class A shares (as described in the preceding paragraph), and a 15% withholding tax would apply to the gross proceeds from such disposition.

Non-U.S. holders should consult their tax advisors with respect to the application of the foregoing rules to their ownership and disposition of our Class A shares, including regarding potentially applicable income tax treaties that may provide for different rules.

Backup Withholding and Information Reporting

Any distributions paid to a non-U.S. holder must be reported annually to the IRS and to each non-U.S. holder. Copies of these information returns may be made available to the tax authorities in the country in which the non-U.S. holder resides or is established. Payments of distributions to a non-U.S. holder generally will not be subject to backup withholding if the non-U.S. holder establishes an exemption by properly certifying its non-U.S. status on an IRS Form W-8BEN, or IRS Form W-8BEN-E (or other applicable or successor form).

Payments of the proceeds from a sale or other disposition by a non-U.S. holder of our Class A shares effected by or through a U.S. office of a broker generally will be subject to information reporting and backup withholding (at the applicable rate) unless the non-U.S. holder establishes an exemption by properly certifying its non-U.S. status on an IRS Form W-8BEN or IRS Form W-8BEN-E (or other applicable or successor form) and certain other conditions are met. Information reporting and backup withholding generally will not apply to any payment of the proceeds from a sale or other disposition of our Class A shares effected outside the United States by a non-U.S. office of a broker. However, unless such broker has documentary

evidence in its records that the non-U.S. holder is not a United States person and certain other conditions are met, or the non-U.S. holder otherwise establishes an exemption, information reporting will apply to a payment of the proceeds of the disposition of our Class A shares effected outside the United States by such a broker if it has certain relationships within the United States.

Backup withholding is not an additional tax. Rather, the U.S. federal income tax liability (if any) of persons subject to backup withholding will be reduced by the amount of tax withheld. If backup withholding results in an overpayment of taxes, a refund may be obtained, provided that the required information is timely furnished to the IRS.

Additional Withholding Requirements under FATCA

Sections 1471 through 1474 of the Code, and the U.S. Treasury regulations and administrative guidance issued thereunder (“FATCA”), impose a 30% withholding tax on any dividends paid on our Class A shares if paid to a “foreign financial institution” or a “non-financial foreign entity” (each as defined in the Code) (including, in some cases, when such foreign financial institution or non-financial foreign entity is acting as an intermediary), unless (i) in the case of a foreign financial institution, such institution enters into an agreement with the U.S. government to withhold on certain payments, and to collect and provide to the U.S. tax authorities substantial information regarding U.S. account holders of such institution (which includes certain equity and debt holders of such institution, as well as certain account holders that are non-U.S. entities with U.S. owners), (ii) in the case of a non-financial foreign entity, such entity certifies that it does not have any “substantial United States owners” (as defined in the Code) or provides the applicable withholding agent with a certification identifying the direct and indirect substantial United States owners of the entity (in either case, generally on an IRS Form W-8BEN-E), or (iii) the foreign financial institution or non-financial foreign entity otherwise qualifies for an exemption from these rules and provides appropriate documentation (such as an IRS Form W-8BEN-E). Foreign financial institutions located in jurisdictions that have an intergovernmental agreement with the United States governing these rules may be subject to different rules. Under certain circumstances, a holder might be eligible for refunds or credits of such taxes. Non-U.S. holders are encouraged to consult their own tax advisors regarding the effects of FATCA on an investment in our Class A shares.

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, GP LLC, AAP and PAA GP LLC (“PAA GP”). References to the “Plains Entities” include the PAGP Entities and PAA and its subsidiaries.

Summary of Risk Factors

Risks Inherent in an Investment in Us

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

- our cash flow will be entirely dependent upon the ability of PAA to make cash distributions to AAP, and the ability of AAP to make cash distributions to us;
- the distributions AAP is entitled to receive may fluctuate, which may reduce cash distributions to our Class A shareholders;
- if distributions on our Class A shares are not paid with respect to any fiscal quarter, our Class A shareholders will not be entitled to receive that quarter’s payments in the future;
- the amount of cash that we and PAA distribute each quarter may limit our ability to grow;
- the Class B shareholders own a significant number of shares, which may make the removal of our general partner difficult; and
- Our general partner may cause us to issue additional Class A shares or other equity securities, including equity securities that are senior to our Class A shares, or cause AAP to issue additional securities, in each case without shareholder approval, which may adversely affect our shareholders.

Risks Related to Conflicts of Interest

Our existing organizational structure and the relationships among us, PAA, our respective general partners, the Legacy Owners and affiliated entities present the potential for conflicts of interest. Moreover, additional conflicts of interest may arise in the future among us and the entities affiliated with any general partner or similar interests we acquire or among PAA and such entities.

Risks Related to PAA’s Business

PAA’s 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 PAA’s facilities, which can be negatively impacted by a variety of factors outside of its control;
- competition in PAA’s industry, including recontracting and other risks associated with the general capacity overbuild of midstream energy infrastructure in some of the areas where PAA operates;
- pandemics, epidemics or other public health emergencies, such as the COVID-19 pandemic;
- changes in supply and demand for the products PAA handles, which can be caused by a variety of factors outside of its 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 PAA’s electronic and computer systems, could interrupt its operations, hinder PAA’s ability to fulfil its contractual obligations and/or result in severe personal injury, property damage and environmental damage;
- cybersecurity attacks, data breaches and other disruptions affecting PAA or its service providers could materially and adversely affect its business, operations, reputation and financial results;
- societal and political pressures from various groups, including opposition to the development or operation of PAA’s pipelines and facilities;
- increased scrutiny from institutional investors with respect to the perceived social and environmental cost of PAA’s industry and its 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 PAA's investment grade credit rating or the ability to receive open credit;
- the credit risk of PAA's customers and other counterparties it transacts with in the ordinary course of business activities;
- tightened capital markets or other factors that increase PAA's cost of capital or otherwise limit its access to capital;
- the insufficiency of, or non-compliance with, PAA's risk policies;
- PAA's insurance coverage may not fully cover its losses and it may in the future encounter increased costs related to, and lack of availability of, insurance;
- PAA's 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 PAA's 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 PAA's assets have been in service for many years and require significant expenditures to maintain them. As a result, PAA's maintenance or repair costs may increase in the future;
- PAA does not own all of the land on which its pipelines and facilities are located, which could result in disruptions to its operations; and
- failure to obtain materials or commodities in the quantity and the quality PAA needs, and at commercially acceptable prices, whether due to supply disruptions, inflation, tariffs, quotas or other factors.

Risks Related to Laws and Regulations Impacting PAA's Business

PAA's 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 PAA

PAA's partnership structure carries inherent risks, including but not limited to:

- cost reimbursements due to PAA's general partner may be substantial and will reduce PAA's cash available for distribution to its unitholders;
- cash distributions are not guaranteed and may fluctuate with PAA's performance and the establishment of financial reserves; and
- PAA's preferred units have rights, preferences and privileges that are not held by, and are preferential to the rights of, holders of PAA's common units.

Tax Risks

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

- the tax treatment of PAA depends on its status as a partnership for U.S. federal income tax purposes and not being subject to a material amount of entity-level taxation. The cash available for distribution to us from PAA may be substantially reduced if PAA were to become subject to entity-level taxation as a result of the Internal Revenue Service ("IRS") treating PAA as a corporation or legislative, judicial or administrative changes, and may also be reduced by any audit adjustments if imposed directly on PAA. Additionally, the treatment of PAA as a corporation would increase the portion of our distributions treated as taxable dividends; and
- our current tax treatment may change, which could affect the value of our Class A shares or reduce our cash available for distribution, and any decrease in our Class A share price could adversely affect our amount of cash available for distribution.

Risks Inherent in an Investment in Us

Our cash flow will be entirely dependent upon the ability of PAA to make cash distributions to AAP, and the ability of AAP to make cash distributions to us.

The source of our earnings and cash flow currently consists exclusively of cash distributions from AAP, which currently consist exclusively of cash distributions from PAA. The amount of cash that PAA will be able to distribute to its partners, including AAP, each quarter principally depends upon the amount of cash it generates from its business. For a description of certain factors that can cause fluctuations in the amount of cash that PAA generates from its business, please read “—Risks Related to PAA’s Business”, “—Risks Related to Laws and Regulations Impacting PAA’s Business”, “—Risks Inherent in an Investment in PAA” and Item 7. “Management’s Discussion and Analysis of Financial Condition and Results of Operations.” PAA may not have sufficient available cash each quarter to continue paying distributions at its current level or at all. If PAA reduces its per unit distribution, either because of reduced operating cash flow, higher expenses, capital requirements or otherwise, we will have less cash available for distribution and would likely be required to reduce our per share distribution. The amount of cash PAA has available for distribution depends primarily upon PAA’s cash flow, including cash flow from the release of financial reserves as well as borrowings, and is not solely a function of profitability, which will be affected by non-cash items. As a result, PAA may make cash distributions during periods when it records losses and may not make cash distributions during periods when it records profits.

Furthermore, AAP’s ability to distribute cash to us and our ability to distribute cash received from AAP to our Class A shareholders is limited by a number of factors, including:

- our payment of any income taxes;
- restrictions on distributions contained in PAA’s credit facilities and any future debt agreements entered into by AAP, PAA or us; and
- reserves our general partner establishes for the proper conduct of our business, to comply with applicable law or any agreement binding on us or our subsidiaries (exclusive of PAA and its subsidiaries), which reserves are not subject to a limit pursuant to our partnership agreement.

A material increase in amounts paid or reserved with respect to any of these factors could restrict our ability to pay quarterly distributions to our Class A shareholders.

The distributions AAP is entitled to receive may fluctuate, which may reduce cash distributions to our Class A shareholders.

At December 31, 2021, we directly and indirectly owned an approximate 81% limited partner interest in AAP, which owned approximately 241.5 million PAA common units. All of the cash flow we receive from AAP is derived from its ownership of these PAA common units. Because distributions on PAA common units are dependent on the amount of cash PAA generates, distributions may fluctuate based on PAA’s 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 PAA. Cash distributions are dependent primarily on cash flow, including cash flow from financial reserves and working capital borrowings, and not solely on profitability, which is affected by non-cash items. Therefore, PAA’s cash distributions might be made during periods when PAA records losses and might not be made during periods when PAA record profits.

If distributions on our Class A shares are not paid with respect to any fiscal quarter, our Class A shareholders will not be entitled to receive that quarter’s payments in the future.

Our distributions to our Class A shareholders are not cumulative. Consequently, if distributions on our Class A shares are not paid with respect to any fiscal quarter, our Class A shareholders will not be entitled to receive that quarter’s payments in the future.

The amount of cash that we and PAA distribute each quarter may limit our ability to grow.

Because we distribute all of our available cash, our growth may not be as fast as the growth of businesses that reinvest their available cash to expand ongoing operations. In fact, because currently our cash flow is generated solely from distributions we receive from AAP, which are derived from AAP's partnership interests in PAA, our growth will initially be completely dependent upon PAA. The amount of distributions received by AAP is based on PAA's per unit distribution paid on each PAA common unit and the number of PAA common units that AAP owns. If we issue additional Class A shares or we were to incur debt or are required to pay taxes, the payment of distributions on those additional Class A shares, or interest on such debt or payment of such taxes could increase the risk that we will be unable to maintain or increase our cash distribution levels.

Restrictions in PAA's credit facilities could limit AAP's ability to make distributions to us, thereby limiting our ability to make distributions to our Class A shareholders.

PAA's credit facilities contain various operating and financial restrictions and covenants. PAA's ability to comply with these restrictions and covenants may be affected by events beyond its control, including prevailing economic, financial and industry conditions. If PAA is unable to comply with these restrictions and covenants, any indebtedness under these credit facilities may become immediately due and payable and PAA's lenders' commitment to make further loans under these credit facilities may terminate. PAA might not have, or be able to obtain, sufficient funds to make these accelerated payments.

For more information regarding PAA's credit facilities, please read "Management's Discussion and Analysis of Financial Condition and Results of Operations—Liquidity and Capital Resources." For information regarding risks related to PAA's credit facilities, please see "—Risks Related to PAA's Business—The terms of PAA's indebtedness may limit its ability to borrow additional funds or capitalize on business opportunities. In addition, PAA's future debt level may limit its future financial and operating flexibility."

The Class B shareholders own a significant number of shares, which may make the removal of our general partner difficult.

Our shareholders have only limited voting rights on matters affecting our business and, therefore, limited ability to influence management's decisions regarding our business. If our Class A shareholders are dissatisfied with the performance of our general partner, they may be unable to remove our general partner. Our general partner may only be removed by vote of the holders of at least 66 2/3% of our outstanding shares (including both Class A and Class B shares). At December 31, 2021, the Legacy Owners owned approximately 19% of our outstanding Class A and Class B shares. This ownership level may make it difficult for our Class A shareholders to remove our general partner without the support of the Legacy Owners.

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

Our general partner may cause us to issue additional Class A shares or other equity securities, including equity securities that are senior to our Class A shares, or cause AAP to issue additional securities, in each case without shareholder approval, which may adversely affect our shareholders.

Our general partner may cause us to issue an unlimited number of additional Class A shares or other equity securities of equal rank with the Class A shares, or cause AAP to issue additional securities, in each case without shareholder approval. In addition, we may issue an unlimited number of shares that are senior to our Class A shares in right of distribution, liquidation and voting. Except for Class A shares issued in connection with the exercise of an Exchange Right, which will result in the cancellation of an equivalent number of Class B shares and therefore have no effect on the total number of outstanding shares, the issuance of additional Class A shares or our other equity securities of equal or senior rank, or the issuance by AAP of additional securities, will have the following effects:

- each shareholder's proportionate ownership interest in us may decrease;
- the amount of cash available for distribution on each Class A share may decrease;
- the relative voting strength of each previously outstanding Class A share may be diminished;
- the ratio of taxable income to distributions may increase; and
- the market price of the Class A shares may decline.

If PAA's unitholders remove PAA GP, AAP may be required to sell or exchange its indirect general partner interest and we would lose the ability to manage and control PAA.

We currently manage our investment in PAA through our membership interest in GP LLC, the general partner of AAP. PAA's partnership agreement, however, gives unitholders of PAA the right to remove PAA GP upon the affirmative vote of holders of 66 2/3% of PAA's outstanding units. If PAA GP withdraws as general partner in compliance with PAA's partnership agreement or is removed as general partner of PAA where cause (as defined in PAA's partnership agreement) does not exist and a successor general partner is elected in accordance with PAA's partnership agreement, AAP will receive cash in exchange for its general partner interest. If PAA GP withdraws in circumstances other than those described in the preceding sentence and a successor general partner is elected in accordance with PAA's partnership agreement, the successor general partner will purchase the general partner interest for its fair market value. If PAA GP's interests are not purchased in accordance with the foregoing theory, they would be converted into common units based on an independent valuation. In each case, PAA GP would also lose its ability to manage PAA.

In addition, if PAA GP is removed as general partner of PAA, we would face an increased risk of being deemed an investment company. Please read "—If in the future we cease to manage and control PAA, we may be deemed to be an investment company under the Investment Company Act of 1940."

Shareholders may not have limited liability if a court finds that shareholder action constitutes control of our business.

Under Delaware law, our shareholders could be held liable for our obligations to the same extent as a general partner if a court determined that the right or the exercise of the right by our shareholders as a group to remove or replace our general partner, to approve some amendments to the partnership agreement or to take other action under our partnership agreement constituted participation in the "control" of our business. Additionally, the limitations on the liability of holders of limited partner interests for the liabilities of a limited partnership have not been clearly established in many jurisdictions.

Furthermore, Section 17-607 of the Delaware Revised Uniform Limited Partnership Act provides that, under some circumstances, a shareholder may be liable to us for the amount of a distribution for a period of three years from the date of the distribution.

If in the future we cease to manage and control PAA, we may be deemed to be an investment company under the Investment Company Act of 1940.

If we cease to indirectly manage and control PAA and are deemed to be an investment company under the Investment Company Act of 1940, we would either have to register as an investment company under the Investment Company Act of 1940, obtain exemptive relief from the SEC or modify our organizational structure or our contractual rights to fall outside the definition of an investment company. Registering as an investment company could, among other things, materially limit our ability to engage in transactions with affiliates, including the purchase and sale of certain securities or other property to or from our affiliates, restrict the ability of PAA and us to borrow funds or engage in other transactions involving leverage, require us to add additional directors who are independent of us and our affiliates, and adversely affect the price of our Class A shares.

Our partnership agreement restricts the rights of shareholders owning 20% or more of our shares.

Our shareholders' voting rights are restricted by the provision in our partnership agreement generally providing that any shares held by a person or group that owns 20% or more of any class of shares then outstanding, other than our general partner, the Legacy Owners (or certain transferees in private, non-exchange transactions), their respective affiliates and persons who acquired such shares with the prior approval of our general partner's board of directors, 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 directors. In addition, our partnership agreement contains provisions limiting the ability of our shareholders to call meetings or to acquire information about our operations, as well as other provisions limiting our shareholders' ability to influence the manner or direction of our management. As a result, the price at which our Class A shares will trade may be lower because of the absence or reduction of a takeover premium in the trading price.

If PAA's general partner, which is owned by AAP, is not fully reimbursed or indemnified for obligations and liabilities it incurs in managing the business and affairs of PAA, its value, and, therefore, the value of our Class A shares, could decline.

AAP, GP LLC and their affiliates may make expenditures on behalf of PAA for which PAA GP will seek reimbursement from PAA. Under Delaware partnership law, PAA GP has unlimited liability for the obligations of PAA, such as its debts and environmental liabilities, except for those contractual obligations of PAA that are expressly made without recourse to the general partner. To the extent PAA GP incurs obligations on behalf of PAA, it is entitled to be reimbursed or indemnified by PAA. If PAA is unable or unwilling to reimburse or indemnify PAA GP, PAA GP may be required to satisfy those liabilities or obligations, which would reduce AAP's cash flows to us.

The price of our Class A shares may be volatile, and holders of our Class A shares could lose a significant portion of their investments.

The market price of our Class A shares could be volatile, and our shareholders may not be able to resell their Class A shares at or above the price at which they purchased such Class A shares due to fluctuations in the market price of the Class A shares, including changes in price caused by factors unrelated to our operating performance or prospects or the operating performance or prospects of PAA. The following factors, among others, could affect our Class A share price:

- PAA's operating and financial performance and prospects and the trading price of its common units;
- the level of PAA's quarterly distributions and our quarterly distributions;
- quarterly variations in the rate of growth of our financial indicators, such as distributable cash flow per Class A share, net income and revenues;
- changes in revenue or earnings and distribution estimates or publication of research reports by analysts;
- speculation by the press or investment community;
- sales of our Class A shares by our shareholders;
- the exercise by the Legacy Owners of their exchange rights with respect to any retained AAP units;
- announcements by PAA or its competitors of significant contracts, acquisitions, strategic partnerships, joint ventures, securities offerings or capital commitments;
- general market conditions, including conditions in financial markets;
- changes in accounting standards, policies, guidance, interpretations or principles;
- adverse changes in tax laws or regulations;
- domestic and international economic, legal and regulatory factors related to PAA's performance; and
- other factors described in these "Risk Factors."

An increase in interest rates may cause the market price of our shares to decline.

Like all equity investments, an investment in our Class A shares is subject to certain risks. In exchange for accepting these risks, investors may expect to receive a higher rate of return than would otherwise be obtainable from lower-risk investments. Accordingly, as interest rates rise, the ability of investors to obtain higher risk-adjusted rates of return by purchasing government-backed debt securities may cause a corresponding decline in demand for riskier investments generally, including yield-based equity investments such as publicly traded limited partnership interests. Reduced demand for our Class A shares resulting from investors seeking other more favorable investment opportunities may cause the trading price of our Class A shares to decline.

Future sales of our Class A shares in the public market could reduce our Class A share price, and any additional capital raised by us through the sale of equity or convertible securities may have a dilutive effect on our shareholders.

Subject to certain limitations and exceptions, holders of AAP units may exchange their AAP units (together with a corresponding number of Class B shares) for Class A shares (on a one-for-one basis, subject to customary conversion rate adjustments for equity splits and reclassification and other similar transactions) and then sell those Class A shares. We may also issue additional Class A shares or convertible securities in subsequent public or private offerings.

We cannot predict the size of future issuances of our Class A shares or securities convertible into Class A shares or the effect, if any, that future issuances and sales of our Class A shares will have on the market price of our Class A shares. Sales of substantial amounts of our Class A shares (including shares issued in connection with an acquisition), or the perception that such sales could occur, may adversely affect prevailing market prices of our Class A shares.

The Legacy Owners hold a significant portion of the combined voting power of our Class A and Class B shares.

At December 31, 2021, through their ownership of Class B shares, the Legacy Owners held approximately 19% of the combined voting power of our Class A and Class B shares. The Legacy Owners are entitled to act separately in their own respective interests with respect to their partnership interests in us, and collectively they currently have the ability to influence (i) the outcome of all matters requiring shareholder approval, including certain mergers and other material transactions and (ii) a change in the composition of our board of directors or a change in control of our company that could deprive our shareholders of an opportunity to receive a premium for their Class A shares as part of a sale of our company. So long as the Legacy Owners continue to own a significant amount of our outstanding shares, even if such amount is less than 50%, they will continue to be able to strongly influence all matters requiring shareholder approval, regardless of whether or not other shareholders believe that such matters are in their own best interests.

A valuation allowance on our deferred tax asset could reduce our earnings.

As of December 31, 2021, we had a gross deferred tax asset of approximately \$1.5 billion. Generally accepted accounting principles in the United States (“GAAP”) requires that a valuation allowance must be established for deferred tax assets when it is more likely than not that they will not be realized. We believe that the deferred tax asset we recorded through 2021 will be realized and that a valuation allowance is not required. However, if we were to determine that a valuation allowance was appropriate for our deferred tax asset, we would be required to take an immediate charge to earnings with a corresponding reduction of partners’ capital and increase in balance sheet leverage as measured by debt-to-total capitalization. In light of the Tax Cuts and Jobs Act of 2017, a valuation allowance will not be required for any U.S. federal deferred tax asset created after 2017.

We may incur liability as a result of our ownership of our and PAA’s general partner.

Under Delaware law, a general partner of a limited partnership is generally liable for the debts and liabilities of the partnership for which it serves as general partner, subject to the terms of any indemnification agreements contained in the partnership agreement and except to the extent the partnership’s contracts are non-recourse to the general partner. As a result of our structure, we indirectly own and control the general partner of PAA and own a portion of our general partner’s membership interests. Our percentage ownership of our general partner is expected to increase over time as the Legacy Owners exercise their exchange rights. To the extent the indemnification provisions in the applicable partnership agreement or non-recourse provisions in our contracts are not sufficient to protect us from such liability, we may in the future incur liabilities as a result of our ownership of these general partner entities.

Risks Related to Conflicts of Interest

Our existing organizational structure and the relationships among us, PAA, our respective general partners, the Legacy Owners and affiliated entities present the potential for conflicts of interest. Moreover, additional conflicts of interest may arise in the future among us and the entities affiliated with any general partner or similar interests we acquire or among PAA and such entities.

Conflicts of interest may arise as a result of our organizational structure and the relationships among us, PAA, our respective general partners, the Legacy Owners and affiliated entities.

Our partnership agreement defines the duties of our general partner (and, by extension, its officers and directors). Our general partner’s board of directors or its conflicts committee will have authority on our behalf to resolve any conflict involving us and they have broad latitude to consider the interests of all parties to the conflict.

Conflicts of interest may arise between us and our shareholders, on the one hand, and our general partner and its owners and affiliated entities, on the other hand, or between us and our shareholders, on the one hand, and PAA and its unitholders, on the other hand. The resolution of these conflicts may not always be in our best interest or that of our shareholders.

Our partnership agreement defines our general partner's duties to us and contains provisions that reduce the remedies available to our shareholders for actions that might otherwise be challenged as breaches of fiduciary or other duties under state law.

Our partnership agreement contains provisions that substantially reduce the standards to which our general partner would otherwise be held by state fiduciary duty law. For example, our partnership agreement:

- permits our general partner to make a number of decisions in its individual capacity, as opposed to in its capacity as our general partner. This entitles our general partner to consider only the interests and factors that it desires, and it has no duty or obligation to give any consideration to any interest of, or factors affecting, us, the Legacy Owners, our affiliates or any limited partner. Examples include its right to vote membership interests in our general partner held by us, the exercise of its limited call right, its rights to transfer or vote any shares it may own, and its determination whether or not to consent to any merger or consolidation of our partnership or amendment to our partnership agreement;
- generally provides that our general partner will not have any liability to us or our shareholders for decisions made in its capacity as a general partner so long as it acted in good faith which, pursuant to our partnership agreement, requires a subjective belief that the determination, or other action or anticipated result thereof is in, or not opposed to, our best interests;
- generally provides that any resolution or course of action adopted by our general partner and its affiliates in respect of a conflict of interest will be permitted and deemed approved by all of our partners, and will not constitute a breach of our partnership agreement or any duty stated or implied by law or equity if the resolution or course of action in respect of such conflict of interest is:
 - approved by a majority of the members of our general partner's conflicts committee after due inquiry, based on a subjective belief that the course of action or determination that is the subject of such approval is fair and reasonable to us;
 - approved by majority vote of our Class A shares and Class B shares (excluding Class C shares and excluding shares owned by our general partner and its affiliates, but including shares owned by the Legacy Owners) voting together as a single class;
 - determined by our general partner (after due inquiry) to be on terms no less favorable to us than those generally being provided to or available from unrelated third parties; or
 - determined by our general partner (after due inquiry) to be fair and reasonable to us, which determination may be made taking into account the circumstances and the relationships among the parties involved (including our short-term or long-term interests and other arrangements or relationships that could be considered favorable or advantageous to us).
- provides that, to the fullest extent permitted by law, in connection with any action or inaction of, or determination made by, our general partner or the conflicts committee of our general partner's board of directors with respect to any matter relating to us, it shall be presumed that our general partner or the conflicts committee of our general partner's board of directors acted in a manner that satisfied the contractual standards set forth in our partnership agreement, and in any proceeding brought by any limited partner or by or on behalf of such limited partner or any other limited partner or our partnership challenging any such action or inaction of, or determination made by, our general partner, the person bringing or prosecuting such proceeding shall have the burden of overcoming such presumption; and
- provides that our general partner and its officers and directors will not be liable for monetary damages to us, our limited partners or assignees for any acts or omissions unless there has been a final and non-appealable judgment entered by a court of competent jurisdiction determining that our general partner or those other persons acted in bad faith or engaged in fraud or willful misconduct or, in the case of a criminal matter, acted with knowledge that such person's conduct was criminal.

The Legacy Owners may have interests that conflict with holders of our Class A shares.

At December 31, 2021, the Legacy Owners owned approximately 19% of our outstanding Class A and Class B shares and approximately 19% of the AAP units. As a result, the Legacy Owners may have conflicting interests with holders of Class A shares. For example, the Legacy Owners may have different tax positions from us which could influence their decisions regarding whether and when to cause us to dispose of assets.

Furthermore, conflicts of interest could arise in the future between us, on the one hand, and the Legacy Owners, on the other hand, concerning among other things, potential competitive business activities or business opportunities. These conflicts of interest may not be resolved in our favor.

If we are presented with business opportunities, PAA has the first right to pursue such opportunities.

Pursuant to the administrative agreement, we have agreed to certain business opportunity arrangements to address potential conflicts with respect to business opportunities that may arise among us, our general partner, PAA, PAA GP, AAP and GP LLC. If a business opportunity is presented to us, our general partner, PAA, PAA GP, AAP or GP LLC, then PAA will have the first right to pursue such business opportunity. We have the right to pursue and/or participate in such business opportunity if invited to do so by PAA, or if PAA abandons the business opportunity and GP LLC so notifies our general partner. Accordingly, the terms of the administrative agreement limit our ability to pursue business opportunities.

Our general partner's affiliates and the Legacy Owners may compete with us.

Our partnership agreement provides that our general partner will be restricted from engaging in any business activities other than acting as our general partner and those activities incidental to its ownership of interests in us. The restrictions contained in our general partner's limited liability company agreement are subject to a number of exceptions. Affiliates of our general partner and the Legacy Owners will not be prohibited from engaging in other businesses or activities that might be in direct competition with us except to the extent they compete using our confidential information.

Our general partner has a call right that may require our shareholders to sell their Class A shares at an undesirable time or price.

If at any time more than 80% of our outstanding Class A shares and Class B shares on a combined basis (including Class A shares issuable upon the exchange of Class B shares) are owned by our general partner, the Legacy Owners (or certain transferees in private, non-exchange transactions) or their respective affiliates, our general partner will have the right (which it may assign to any of its affiliates, the Legacy Owners or us), but not the obligation, to acquire all, but not less than all, of the remaining Class A shares held by public shareholders at a price equal to the greater of (x) the current market price of such shares as of the date three days before notice of exercise of the call right is first mailed and (y) the highest price paid by our general partner, the Legacy Owners (or certain transferees in private, non-exchange transactions) or their respective affiliates for such shares during the 90 day period preceding the date such notice is first mailed. As a result, holders of our Class A shares may be required to sell such Class A shares at an undesirable time or price and may not receive any return of or on their investment. Class A shareholders may also incur a tax liability upon a sale of their Class A shares. At December 31, 2021, the Legacy Owners owned approximately 19% of the Class A shares and Class B shares on a combined basis.

Risks Related to PAA's Business

PAA's 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 its facilities, which can be negatively impacted by a variety of factors outside of its 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 PAA offers and the commercial opportunities that are available to it. Future declines in demand, whether due to the continued pandemic or other factors, may have an adverse impact on PAA's 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 PAA's pipelines and at its other facilities, which, depending on the level of production declines, could have a material adverse effect on PAA's business.

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

To maintain the volumes of crude oil PAA purchases in connection with its operations, PAA 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 PAA's ability to secure additional supplies of crude oil.

PAA's profitability can be negatively affected by a variety of factors stemming from competition in its industry, including risks associated with the general capacity overbuild of midstream energy infrastructure in some of the areas where it operates.

PAA faces competition in all aspects of its business and can give no assurances that it will be able to compete effectively against its 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 PAA's competitors have capital resources many times greater than PAA's 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 PAA to attract new customers and expose PAA to increased contract renewal and customer retention risk with respect to its existing customers.

A significant driver of competition in some of the markets where PAA operates (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 PAA, many of the areas where PAA operates have become overbuilt, resulting in an excess of midstream energy infrastructure capacity. In addition, as an established participant in some markets, PAA also faces 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, PAA's crude oil and NGL merchant activities utilize many of its pipelines and facilities. Competition that impacts PAA's merchant activities could result in a reduction in the use of its transportation and facilities assets. All of these competitive effects put downward pressure on PAA's throughput and margins and, together with other adverse competitive effects, could have a significant adverse impact on PAA's financial position, cash flows and ability to pay or increase distributions to its unitholders.

With respect to PAA's crude oil activities, its 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. PAA competes 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 PAA's NGL operations, it competes with large oil, natural gas and natural gas liquids companies that may, relative to PAA, 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.

PAA's 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.

PAA's 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 PAA's 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 PAA's 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 PAA's ability to operate and maintain its assets, and may adversely impact the supply chain to source goods and services required for its 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 PAA's 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, PAA is 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 PAA handles, which can be caused by a variety of factors outside of its control, can negatively affect its operating results.

Supply and demand for crude oil and other hydrocarbon products PAA handles 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 PAA's transportation assets to satisfy their demand by deliveries through those assets. Decreases in demand for the products PAA handles, whether at a global level or in areas its assets serve, can negatively affect its 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 PAA's operating results by decreasing the price of crude oil and making production and transportation less profitable in areas PAA services.

Fluctuations in demand for crude oil, such as those caused by refinery downtime or shutdowns, can have a negative effect on PAA's operating results. Specifically, reduced demand in an area serviced by PAA's transportation systems will negatively affect the throughput on such systems. Although the negative impact may be mitigated or overcome by PAA's 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 PAA handles or a reduction of the fees it charges for its services. Also, increased supply of NGL products could reduce the value of NGL PAA handles and reduce the margins realized by it.

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 PAA accesses for any of the reasons stated above could adversely affect demand for the services PAA provides as well as NGL prices, which could negatively impact its 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 PAA's electronic and computer systems, could interrupt its operations, hinder its ability to fulfil its contractual obligations and/or result in severe personal injury, property damage and environmental damage, which could have a material adverse effect on its financial position, results of operations and cash flows.

Some of PAA's operations involve risks of personal injury, property damage and environmental damage that could curtail its operations and otherwise materially adversely affect its cash flow. Virtually all of PAA's 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 PAA's assets and its customers' assets in the U.S. Gulf Coast region makes them particularly vulnerable to hurricane or tropical storm risk. PAA's 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 PAA's physical facilities and hackers may attack its electronic and computer systems.

If one or more of PAA's pipelines or other facilities, including electronic and computer systems, or any facilities or businesses that deliver products, supplies or services to PAA or that it relies on in order to operate its business, are damaged by severe weather or any other disaster, accident, catastrophe, terrorist attack or event, its operations could be significantly interrupted. In addition, PAA's 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 could involve significant damage or injury to people, property or the environment, and repairs could take from a week or less for minor incidents to six months or more for major interruptions. Any such event that interrupts the revenues generated by its operations, hinders its ability to fulfil its contractual obligations or which causes PAA to make significant expenditures not covered by insurance, could reduce its profitability, cash flows and cash available for paying distributions to its partners and, accordingly, adversely affect its financial condition and the market price of its securities.

PAA 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 PAA's operations and/or make it more difficult for PAA to obtain the approvals, permits, licenses or real property interests PAA needs in order to operate its assets or complete planned growth projects or other transactions.

Cybersecurity attacks, data breaches and other disruptions affecting PAA, or its service providers, could materially and adversely affect PAA's business, operations, reputation and financial results.

PAA is reliant on the continuous and uninterrupted operation of its various technology systems. User access to PAA's sites and information technology systems are critical elements of its operations, as is cloud security and protection against cyber security incidents. In the ordinary course of its business, PAA collects and stores sensitive data in its data centers and on its networks, including intellectual property, proprietary business information, critical operating information and data, information regarding its customers, suppliers, royalty owners and business partners, and personally identifiable information of its employees. PAA also engages third parties, such as service providers and vendors, who provide a broad array of software, technologies, tools and other products, services and functions that enables it to conduct, monitor and/or protect its business, operations systems and data assets. The secure processing, maintenance and transmission of this information is critical to PAA's operations and business strategy. Despite PAA's security measures, the information technology and infrastructure it relies on may be vulnerable to attacks by hackers or breached due to employee error, malfeasance or other disruptions. Any such breach could compromise PAA's networks and the information stored there could be accessed, publicly disclosed, lost or stolen. Any such access, disclosure 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 PAA's operations, damage to its reputation, and loss of confidence in its services, which could adversely affect its business.

The information technology infrastructure PAA uses is critical to the efficient operation of its business and essential to its ability to perform day-to-day operations. Risks to PAA's 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 PAA's information technology infrastructure or physical facilities, or other disruptions, could result in damage to its 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 its operations, financial position and results of operations. In addition, PAA may be required to invest significant additional resources to enhance our information security and controls or to comply with evolving cybersecurity laws or regulations.

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

PAA may face opposition from various groups to the development or operation of its pipelines and facilities and PAA's business may be subject to societal and political pressures.

PAA may face opposition to the development or operation of its 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 PAA's operations, intervention in regulatory or administrative proceedings involving its assets, or lawsuits or other actions designed to prevent, disrupt or delay the development or operation of PAA's assets and business. For example, repairing PAA's pipelines often involves securing consent from individual landowners to access their property; one or more landowners may resist PAA's 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 eco-terrorism could cause significant damage or injury to people, property or the environment or lead to extended interruptions of PAA's operations. Any such event that interrupts the revenues generated by PAA's operations, or which causes PAA to make significant expenditures not covered by insurance, could reduce PAA's cash available for paying distributions to its partners and, accordingly, adversely affect PAA's financial condition and the market price of its securities.

PAA's 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 PAA operates 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 PAA's 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 PAA's services and directly affect PAA's ability to fund construction or other capital projects and its ongoing operations.

PAA is subject to increased scrutiny from institutional investors with respect to the perceived social and environmental cost of its industry and its governance structure, which may adversely impact its 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 PAA's ability to raise capital. Any material limitations on its ability to access capital as a result of such scrutiny could limit its 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 PAA's unit price, limiting its ability to raise capital through equity issuances or debt financing, or could negatively affect its ability to engage in, expand or pursue its business activities, and could also prevent us from engaging in certain transactions that might otherwise be considered beneficial to PAA.

PAA's 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 its results.

The profitability of PAA's 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 PAA's merchant activities. During periods where midstream infrastructure is over-built and/or there is a lack of volatility in the pricing structure, PAA's results may be negatively impacted. Depending on the overall duration of these transition periods, how PAA has allocated its assets to particular strategies and the time length of its crude oil purchase and sale contracts and storage agreements, these periods may have either an adverse or beneficial effect on the profitability of PAA's 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 PAA may not be able to fully implement or realize synergies, expected returns or other anticipated benefits associated with such projects.

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

PAA is undertaking, or is 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 its control, including the following:

- PAA may be unable to realize its forecasted commercial, operational or administrative synergies in connection with its 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 PAA's business;
- PAA may construct pipelines, facilities or other assets in anticipation of market demand that dissipates or market growth that never materializes;
- Despite the fact that PAA 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;
- PAA may face opposition to its planned projects from environmental groups, landowners, local groups and other advocates, including lawsuits or other actions designed to disrupt or delay PAA's planned projects;
- PAA may not be able to obtain, or PAA may be significantly delayed in obtaining, all of the rights of way or other real property interests it needs to complete such projects, or the costs PAA incurs in order to obtain such rights of way or other interests may be greater than PAA 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 PAA 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 PAA's projects may depend on the completion or success of third-party facilities over which PAA has no control.

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

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

PAA's business is dependent on its ability to maintain an attractive credit rating and continue to receive open credit from its suppliers and trade counterparties. PAA's 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 its borrowing costs, reduce its borrowing capacity and cause its counterparties to reduce the amount of open credit it receives from them. This could negatively impact PAA's ability to capitalize on market opportunities. For example, PAA's ability to utilize its 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 PAA to finance the storage of the crude oil from the time it completes the purchase of the crude oil until the time it completes the sale of the crude oil. Accordingly, loss of PAA's investment grade credit ratings could adversely impact its cash flows, its ability to make distributions and the value of its outstanding equity and debt securities.

PAA is exposed to the credit risk of its customers and other counterparties it transacts with in the ordinary course of its business activities.

Risks of nonpayment and nonperformance by customers or other counterparties are a significant consideration in PAA's 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 PAA has credit risk management policies and procedures that are designed to mitigate and limit its exposure in this area, there can be no assurance that PAA has adequately assessed and managed the creditworthiness of its 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 PAA's cash flow and its ability to pay or increase its cash distributions to its partners.

PAA has a number of minimum volume commitment contracts that support its pipelines. In addition, certain of the pipelines in which PAA owns 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 PAA's profitability and earnings.

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

Further, to the extent one or more of PAA's 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 PAA's revenue and cash flows and its ability to make cash distributions to its unitholders.

PAA has 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, PAA often receives 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 PAA's earnings and returns.

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

Divestitures and acquisitions involve risks that may adversely affect PAA's business.

PAA's ability to execute its financial strategy is in part dependent on its ability to complete strategic transactions, including acquisitions, divestitures or sales of interests to strategic partners. For example, if PAA is 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 PAA to achieve its desired leverage levels, increase returns to equity holders or otherwise accomplish its financial goals. In addition, in connection with its divestitures, PAA may agree to retain responsibility for certain liabilities that relate to PAA's period of ownership, which could adversely impact its future financial performance.

Acquisitions also involve potential risks, including:

- performance from the acquired businesses or assets that is below the forecasts PAA used in evaluating the acquisition;
- a significant increase in PAA's 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 PAA is either not fully insured or indemnified, including liabilities arising from the operation of the acquired businesses or assets prior to PAA's acquisition;
- risks associated with operating in lines of business that are distinct and separate from PAA's 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 PAA's ability to achieve anticipated levels of cash flows or other benefits from its acquisitions, pay distributions to its partners or meet its debt service requirements.

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

Any limitations on PAA's access to capital or increase in the cost of that capital could significantly impair the implementation of its strategy. PAA's inability to maintain its targeted credit profile, including maintaining its credit ratings, could adversely affect PAA's cost of capital as well as its ability to execute its strategy. In addition, a variety of factors beyond its 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, PAA cannot be certain that funding for its 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, PAA may be unable to implement its development plans, enhance its 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 its cash flows and results of operations.

PAA's risk policies cannot eliminate all risks and the insufficiency of, or non-compliance with its risk policies could result in significant financial losses.

Generally, it is PAA's policy to establish a margin for crude oil or other products it purchases 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, PAA seeks to maintain a position that is substantially balanced between purchases on the one hand, and sales or future delivery obligations on the other hand. PAA's 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 PAA's anticipated physical supply of crude oil or other products could expose it

to risk of loss resulting from price changes. PAA is also exposed to basis risk when crude oil or other products are purchased against one pricing index or benchmark and sold against a different index or benchmark. PAA may also face disruptions to futures markets for crude oil, NGL and other petroleum products, which may impair its ability to execute its commercial or hedging strategies. Margin requirements due to spikes or crashes in commodity prices may require us to exit hedge strategies at inopportune times. PAA is also exposed to some risks that are not hedged, including risks on certain of its inventory, such as linefill, which must be maintained in order to transport crude oil on its 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 PAA's risk management function, it exposes PAA to commodity price risks within these limits.

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

PAA's insurance coverage may not fully cover its losses and it may in the future encounter increased costs related to, and lack of availability of, insurance.

While PAA maintains insurance coverage at levels that it believes to be reasonable and prudent, PAA can provide no assurance that its current levels of insurance will be sufficient to cover any losses that it has 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 PAA's 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 PAA has experienced several incidents in the past, premiums and deductibles for certain insurance policies have increased substantially. Accordingly, PAA can give no assurance that it will be able to maintain adequate insurance in the future at rates or on other terms PAA considers commercially reasonable. In addition, although PAA believes that it currently maintains adequate insurance coverage, insurance will not cover many types of interruptions or events that might occur and will not cover all risks associated with its operations. In addition, the proceeds of any such insurance may not be paid in a timely manner and may be insufficient if such an event were to occur. The occurrence of 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 PAA's financial position, results of operations and cash flows.

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

As of December 31, 2021, the face value of PAA's 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, PAA had over \$3 billion of liquidity available, including cash and cash equivalents and available borrowing capacity under its senior unsecured revolving credit facility and its senior secured hedged inventory facility, subject to continued covenant compliance. Lower Adjusted EBITDA could increase PAA's leverage ratios and effectively reduce its ability to incur additional indebtedness.

The amount of PAA's current or future indebtedness could have significant effects on its operations, including, among other things:

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

PAA's 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 PAA's 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 its assets or enter into a merger or consolidation. PAA's credit facilities treat a change of control as an event of default and also requires PAA to maintain a certain debt coverage ratio. PAA's senior notes do not restrict distributions to unitholders, but a default under its 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."

PAA's ability to access capital markets to raise capital on favorable terms will be affected by its debt level, its operating and financial performance, the amount of its current maturities and debt maturing in the next several years, and by prevailing market conditions. In addition, if the rating agencies were to downgrade PAA's credit ratings, then it could experience an increase in its borrowing costs, face difficulty accessing capital markets or incurring additional indebtedness, be unable to receive open credit from its 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 its common units. If PAA is unable to access the capital markets on favorable terms at the time a debt obligation becomes due in the future, it might be forced to refinance some of its 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 PAA 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 PAA's leverage may adversely affect its future financial and operating flexibility and thereby impact its ability to execute its capital allocation strategies and priorities.

Increases in interest rates could adversely affect PAA's business and the trading price of its units.

As of December 31, 2021, the face value of PAA's 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. PAA is exposed to market risk due to the short-term nature of its commercial paper borrowings and the floating interest rates on its credit facilities. PAA's 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 PAA's merchant activities by increasing interest costs associated with the storage of hedged crude oil and NGL inventory. Further, the trading price of PAA's 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 PAA's operating results.

Because PAA is a U.S. dollar reporting company and also conducts operations in Canada, it is exposed to currency fluctuations and exchange rate risks that may adversely affect the U.S. dollar value of its 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 PAA's Canadian dollar denominated earnings is reduced for U.S. reporting purposes.

PAA's business requires the retention and recruitment of a skilled workforce, and difficulties recruiting and retaining its workforce could result in a failure to implement PAA's business plans.

PAA's operations and management require the retention and recruitment of a skilled workforce, including engineers, technical personnel and other professionals. PAA and its 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 PAA is unable to (i) retain current employees; and/or (ii) recruit new employees of comparable knowledge and experience, PAA's business could be negatively impacted. In addition, PAA could experience increased costs to retain current employees and recruit new employees.

An impairment of long-term assets could reduce PAA's earnings.

At December 31, 2021, PAA 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 its 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 PAA was to determine that any of its property and equipment, linefill, intangibles or equity method investments was impaired, it could be required to take an immediate charge to earnings, which could adversely impact its 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, PAA 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.

PAA is dependent on the use or availability of third-party assets for certain of its operations.

Certain of PAA's business activities require the use or availability of third-party assets over which it 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 PAA's business, results of operations and cash flow.

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

From time to time in connection with its business, PAA 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 it generates through the use of such assets will be greater than the fixed costs it incurs pursuant to the applicable leases or other arrangements. However, when such assets are not utilized or are under-utilized, PAA's profitability could be negatively impacted because the revenues it earns are either non-existent or reduced, but it remains 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 PAA leases or otherwise secures the right to use in connection with its business could have a significant negative impact on PAA's profitability and cash flows.

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

PAA's 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 its assets could result in increased maintenance or repair expenditures in the future. Any significant increase in these expenditures could adversely affect PAA's results of operations, financial position or cash flows, as well as its ability to make cash distributions to its unitholders.

PAA does not own all of the land on which its pipelines and facilities are located, which could result in disruptions to its operations.

PAA does not own all of the land on which its pipelines and facilities have been constructed, and therefore is potentially subject to more onerous terms and/or increased costs to retain necessary land use if PAA does not have valid rights-of-way or if such rights-of-way lapse or terminate. In some instances, PAA obtains the rights to construct and operate its 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 PAA's 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." PAA cannot guarantee that it will always be able to renew existing rights-of-way or obtain new rights-of-way on favorable terms without experiencing significant delays and costs. Any loss of rights with respect to real property, through PAA's inability to renew right-of-way contracts or otherwise, could have a material adverse effect on its business, results of operations, and financial position.

If PAA fails to obtain materials or commodities in the quantity and the quality it needs, and at commercially acceptable prices, whether due to supply disruptions, inflation, tariffs, quotas or other factors, PAA's results of operations, financial condition and cash flows could be materially and adversely affected.

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

PAA's business also depends on having access to significant amounts of electricity and other commodities. If PAA is unable to obtain commodities sufficient to operate and maintain its assets, or only able to do so at commercially unreasonable prices, it could materially and adversely affect its 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 PAA is unable to source such materials, it could materially and adversely affect its ability to construct new infrastructure and operate and maintain its existing assets.

In addition, some of the materials used in PAA's business are imported. Existing and future import duties and quotas could materially increase PAA's costs of procuring imported or domestic steel and/or create shortages or difficulties in procuring sufficient quantities of steel meeting PAA's required technical specifications. A material increase in PAA's costs of construction and maintenance or any significant delays in its ability to complete its infrastructure projects could have a material adverse effect on PAA's financial position, results of operations and cash flows.

Risks Related to Laws and Regulations Impacting PAA's Business

PAA's 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 it to significant costs and liabilities. The current laws and regulations affecting PAA's business are subject to change and in the future PAA may be subject to additional laws, executive orders and regulations, which could adversely impact PAA's business.

PAA's 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. PAA's 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 its overall cost of doing business, including its 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 PAA's operations could trigger new permitting requirements applicable to its operations, which could result in increased costs or delays of, or denial of rights to conduct, PAA's 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 PAA 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 PAA's operations are subject to change and interpretation by the relevant governmental agency, including the possibility that exemptions it currently qualifies for may be modified or changed in ways that require PAA to incur significant additional compliance costs. PAA's 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 PAA could have a material adverse effect on its operations, revenues, expenses and profitability.

PAA has a history of making incremental additions to the miles of pipelines it owns, both through acquisitions and investment capital projects. PAA has also increased its terminal and storage capacity and operates several facilities on or near navigable waters and domestic water supplies. Although PAA has implemented programs intended to maintain the integrity of its assets (discussed below), as it increases the capacity of its existing assets or acquires additional assets it is at risk for an increase in the number of releases of liquid hydrocarbons into the environment. These releases expose PAA 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. PAA's 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 released, 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 PAA's results of operations.

PAA currently devotes 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 PAA to install new or modified safety controls, pursue new capital projects, or conduct maintenance programs on an accelerated basis, all of which could require PAA to incur increased operational costs that could be significant.

Although PAA continues 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. PAA has an internal review process pursuant to which it examines various aspects of its 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, PAA may elect (as a result of its own internal initiatives) to spend substantial sums to enhance the integrity of and upgrade its pipeline systems to maintain environmental compliance and, in some cases, PAA may take pipelines out of service if it believes the cost of upgrades will exceed the value of the pipelines. PAA cannot provide any assurance as to the ultimate amount or timing of future pipeline integrity expenditures but any such expenditures could be significant. See "Environmental — General" in Note 19 to our Consolidated Financial Statements. In addition, despite PAA's pipeline and facility integrity management efforts, it can provide no assurance that its pipelines and facilities will not experience leaks or releases or that PAA will be able to fully comply with all of the federal, state and local laws and regulations applicable to the operation of PAA's pipelines or facilities; any such leaks or releases could be material and could have a significant adverse impact on PAA's reputation, financial position, cash flows and ability to pay or increase distributions to its unitholders.

PAA's assets are subject to federal, state and provincial regulation. Rate regulation or a successful challenge to the rates PAA charges on its U.S. and Canadian pipeline systems may reduce the amount of cash it generates.

PAA's 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. PAA is also subject to the Pipeline Safety Regulations of the DOT. PAA's intrastate pipeline transportation activities are subject to various state laws and regulations as well as orders of state regulatory bodies.

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

In addition, PAA routinely monitors 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 its business. Under certain circumstances PAA may choose to intervene in such third-party proceedings in order to express its support for, or its opposition to, various issues raised by the parties to such proceedings. For example, if PAA believes that a petition filed with, or order issued by, the FERC

is improper, overbroad or otherwise flawed, PAA 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, PAA can provide no assurance that the FERC and other agencies that regulate its business will not issue future orders or declarations that increase its costs or otherwise adversely affect its operations.

PAA's 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 PAA to change its rates, provide access to other shippers, or change its terms of service. A provincial authority could, on the application of a shipper or other interested party, investigate the tariff rates or PAA's terms and conditions of service relating to its provincially-regulated proprietary pipelines. If it found PAA's 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 PAA to change its rates, provide access to other shippers, or otherwise alter its terms of service. Any reduction in PAA's tariff rates would result in lower revenue and cash flows.

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

PAA's cross border activities subject it 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.

PAA's purchases and sales of crude oil, natural gas and NGL, and hedging activities, expose it 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 PAA's physical purchases and sales of crude oil, natural gas or NGL and any related hedging activities that it undertakes, PAA is required to observe the market-related regulations enforced by these agencies, which hold substantial enforcement authority. PAA's purchases and sales may also be subject to certain reporting and other requirements. Additionally, to the extent that PAA enters into transportation contracts with pipelines that are subject to FERC regulation, it is subject to FERC requirements related to the use of such capacity. Any failure on PAA's 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 PAA's business, results of operations, financial condition and its ability to make cash distributions to its unitholders.

The enactment and implementation of derivatives legislation could have an adverse impact on PAA's ability to use derivative instruments to reduce the effect of commodity price, interest rate and other risks associated with its 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 PAA, 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 PAA 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 PAA, 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. PAA does not utilize credit default swaps and PAA qualifies for, and expects to continue to qualify for, the end-user exception from the mandatory clearing requirements for swaps entered into to hedge its interest rate risks. Should the CFTC designate commodity derivatives for mandatory clearing, PAA would expect to qualify for an end-user exception from the mandatory clearing requirements for swaps entered into to hedge its commodity price risk. However, the majority of PAA's 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 PAA qualifies for the end-user exception from margin requirements for swaps entered into to hedge commercial risks, if any of PAA's swaps do not qualify for the commercial end-user exception, or if PAA is otherwise required to post additional cash margin or collateral it could reduce PAA's ability to execute hedges necessary to reduce commodity price exposures and protect cash flows. Posting of additional cash margin or collateral could affect PAA's liquidity (defined as unrestricted cash on hand plus available capacity under its credit facilities) and reduce PAA's ability to use cash for capital expenditures or other partnership purposes.

Even if PAA itself is not required to post additional cash margin or collateral for its derivative contracts, the banks and other derivatives dealers who are PAA's 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 PAA, thus decreasing the benefits to PAA of hedging transactions or reducing its 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 PAA utilizes in connection with its business, which could expose PAA to additional risks or limit the opportunities PAA is able to capture by limiting the extent to which PAA is able to execute its 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. PAA's 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 PAA's 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 PAA encounters, reduce PAA's ability to monetize or restructure its existing derivative contracts. If PAA reduces its use of derivatives as a result of the Dodd-Frank Act and regulations implementing the Dodd-Frank Act, PAA's results of operations may become more volatile and its cash flows may be less predictable. Any of these consequences could have a material adverse effect on PAA, its financial condition and its 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. PAA does not perform hydraulic fracturing, but many of the producers using its 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 2024. 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 PAA's transportation, terminalling and storage services as well as its merchant activities.

PAA's and its 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 PAA's services.

PAA's and its 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 PAA's customers produce and, in turn, the services it provides. The potential impact of changing demand for crude oil and natural gas services and products may have a material adverse effect on PAA's 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 PAA's business, financial condition and results of operations.

Risks Inherent in an Investment in PAA

Cost reimbursements due to PAA's general partner may be substantial and will reduce PAA's cash available for distribution to its unitholders.

Prior to making any distribution on its common units, PAA will reimburse its general partner and its affiliates, including officers and directors of its general partner, for all expenses incurred on PAA's behalf. In addition, PAA is 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 PAA's ability to make distributions. PAA's general partner has sole discretion to determine the amount of these expenses. In addition, PAA's general partner and its affiliates may provide PAA with services for which PAA will be charged reasonable fees as determined by its general partner.

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

Because distributions on PAA's common units are dependent on the amount of cash it generates, distributions may fluctuate based on PAA's performance, which will result in fluctuations in the amount of distributions ultimately received by AAP. The actual amount of cash that is available to be distributed each quarter will depend on numerous factors, some of which are beyond PAA's control and the control of PAA's 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. PAA's levels of financial reserves are established by its general partner and include reserves for the proper conduct of PAA's business (including future capital expenditures and anticipated credit needs), compliance with law or contractual obligations and funding of future distributions to its Series A and Series B preferred unitholders. Therefore, cash distributions might be made during periods when PAA records losses and might not be made during periods when it records profits.

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

PAA's Series A preferred units and PAA's Series B preferred units (together, "PAA's preferred units") rank senior to all of PAA's 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 PAA's common units, or could make it more difficult for PAA to sell its common units in the future.

In addition, distributions on PAA's preferred units accrue and are cumulative, at the rate of 8% per annum with respect to PAA's Series A preferred units and 6.125% with respect to PAA's Series B preferred units on the original issue price. PAA's Series A preferred units are convertible into PAA common units by the holders of such units or by PAA in certain circumstances. PAA's Series B preferred units are not convertible into PAA common units, but are redeemable by PAA in certain circumstances. PAA's obligation to pay distributions on PAA's preferred units, or on the PAA common units issued following the conversion of PAA's Series A preferred units, could impact its liquidity and reduce the amount of cash flow available for working capital, capital expenditures, growth opportunities, acquisitions, and other general partnership purposes. PAA's obligations to the holders of PAA's preferred units could also limit its ability to obtain additional financing or increase its borrowing costs, which could have an adverse effect on PAA's financial condition.

Tax Risks

As our only cash-generating assets consist of our partnership interest in AAP and its related direct and indirect interests in PAA, our tax risks are primarily derivative of the tax risks associated with an investment in PAA.

The tax treatment of PAA depends on its status as a partnership for U.S. federal income tax purposes, as well as it not being subject to a material amount of additional entity-level taxation by individual states. If the IRS were to treat PAA as a corporation for federal income tax purposes or if PAA becomes subject to additional amounts of entity-level taxation for state or foreign tax purposes, it would reduce the amount of cash available for distribution to us and increase the portion of our distributions treated as taxable dividends.

At December 31, 2021, we owned an approximate 81% limited partner interest in AAP, which directly owned a limited partner interest in PAA through its ownership of approximately 241.5 million PAA common units (approximately 31% of PAA's Series A preferred units and common units combined). Accordingly, the value of our indirect investment in PAA, as well as the anticipated after-tax economic benefit of an investment in our Class A shares, depends largely on PAA being treated as a partnership for federal income tax purposes, which requires that 90% or more of PAA's gross income for every taxable year consist of qualifying income, as defined in Section 7704 of the Internal Revenue Code of 1986, as amended (the "Code"). Based on PAA's current operations, and current Treasury Regulations, PAA believes that it is treated as a partnership rather than a corporation for such purposes; however, a change in PAA's business could cause it to be treated as a corporation for federal income tax purposes.

Current law may change, causing PAA to be treated as a corporation for federal income tax purposes or otherwise subjecting PAA to additional entity-level taxation. 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. Imposition of any new or increased federal or state taxes on PAA may result in a decrease in the amount of distributions AAP receives from PAA and our resulting cash flows could be reduced substantially, which would adversely affect our ability to pay distributions to our shareholders.

If PAA were treated as a corporation for federal income tax purposes, it would pay federal income tax on its taxable income at the corporate tax rate and would likely pay state income taxes at varying rates. Distributions to PAA's partners, including AAP, would generally be taxed again as corporate distributions, and no income, gains, losses or deductions would flow through to PAA's partners. Because a tax would be imposed upon PAA as a corporation, its cash available for distribution would be substantially reduced. Therefore, treatment of PAA as a corporation would result in a material reduction in the anticipated cash flow and after-tax return to us, likely causing a substantial reduction in the value of our Class A shares.

Moreover, if PAA were treated as a corporation we would not be entitled to the deductions associated with our initial acquisition of interests in AAP or subsequent exchanges of retained AAP interests and Class B shares for our Class A shares. As a result, if PAA were treated as a corporation, (i) our liability for taxes would likely be higher, further reducing our cash available for distribution, and (ii) a greater portion of the cash we are able to distribute will be treated as a taxable dividend.

The tax treatment of publicly traded partnerships or an investment in PAA common 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 PAA, or an investment in PAA common 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 PAA's 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 PAA's 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 PAA 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 our indirect investment in PAA.

If the IRS makes audit adjustments to PAA's 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 PAA, in which case PAA's cash distribution to AAP and our cash available for distribution to our shareholders 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 PAA's 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 PAA. To the extent possible under these rules, PAA's general partner may elect to either pay the taxes (including any applicable penalties and interest) directly to the IRS or, if PAA is eligible, issue a revised information statement to each unitholder and former unitholder with respect to an audited and adjusted return. Although PAA's general partner may elect to have PAA's 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 PAA 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, PAA's current unitholders, including us through AAP, may bear some or all of the tax liability resulting from such audit adjustment, even if such unitholders did not own units in PAA during the tax year under audit. If, as a result of any such audit adjustment, PAA or AAP is required to make payments of taxes, penalties and interest, then the amount of distributions we receive from AAP could be substantially reduced, which would adversely affect our ability to pay distributions to our shareholders. These rules are not applicable for tax years beginning on or prior to December 31, 2017.

Taxable gain or loss on the sale of our Class A shares could be more or less than expected.

If a holder sells our Class A shares, the holder will recognize gain or loss equal to the difference between the amount realized and the holder's tax basis in those Class A shares. To the extent that the amount of our distributions exceeds our current and accumulated earnings and profits, the distributions will be treated as a tax free return of capital and will reduce a holder's tax basis in the Class A shares. We did not have any earnings and profits in 2021 and we do not expect to have any earnings and profits for an extended period of time. Because our distributions in excess of our earnings and profits decrease a holder's tax basis in Class A shares, such excess distributions will result in a corresponding increase in the amount of gain, or a corresponding decrease in the amount of loss, recognized by the holder upon the sale of the Class A shares.

Our current tax treatment may change, which could affect the value of our Class A shares or reduce our cash available for distribution.

Our expectation that tax deductions associated with our initial and subsequent acquisitions of interests in AAP (as a result of the exercise by Legacy Owners of their exchange rights) will offset all of our current taxable income for an extended period of time, and thus result in our distributions not constituting taxable dividends for an extended period of time, is based on current law with respect to the amortization of basis adjustments associated with our acquisition of interests in AAP. Changes in federal income tax law relating to such tax treatment could result in (i) our being subject to additional taxation at the entity level with the result that we would have less cash available for distribution, and (ii) a greater portion of our distributions being treated as taxable dividends. Moreover, we are subject to tax in numerous jurisdictions. Changes in current law in these jurisdictions, particularly relating to the treatment of deductions attributable to acquisitions of interests in AAP, could result in our being subject to additional taxation at the entity level with the result that we would have less cash available for distribution.

Any decrease in our Class A share price could adversely affect our amount of cash available for distribution.

Changes in certain market conditions may cause our Class A share price to decrease. If our Legacy Owners exchange their retained interests in AAP and Class B shares in us for our Class A shares at a point in time when our Class A share price is below the price at which Class A shares were sold in our initial public offering or in any subsequent exchange, the ratio of our income tax deductions to gross income would decline. This decline could result in our being subject to tax sooner than expected, our tax liability being greater than expected, or a greater portion of our distributions being treated as taxable dividends.

The IRS Forms 1099-DIV that our shareholders receive from their brokers may over-report dividend income with respect to our shares for U.S. federal income tax purposes, which may result in a shareholder's overpayment of tax. In addition, failure to report dividend income in a manner consistent with the IRS Forms 1099-DIV may cause the IRS to assert audit adjustments to a shareholder's U.S. federal income tax return. For non-U.S. holders of our shares, brokers or other withholding agents may overwithhold taxes from dividends paid, in which case a shareholder generally would have to timely file a U.S. tax return or an appropriate claim for refund in order to claim a refund of the overwithheld taxes.

Distributions we pay with respect to our shares will constitute "dividends" for U.S. federal income tax purposes only to the extent of our current and accumulated earnings and profits. Distributions we pay in excess of our earnings and profits will not be treated as "dividends" for U.S. federal income tax purposes; instead, they will be treated first as a tax-free return of capital to the extent of a shareholder's tax basis in their shares and then as capital gain realized on the sale or exchange of such shares. We may be unable to timely determine the portion of our distributions that is a "dividend" for U.S. federal income tax purposes, which may result in a shareholder's overpayment of tax with respect to distribution amounts that should have been classified as a tax-free return of capital. In such a case, a shareholder generally would have to timely file an amended U.S. tax return or an appropriate claim for refund in order to obtain a refund of the overpaid tax.

For a U.S. holder of our shares, the IRS Forms 1099-DIV may not be consistent with our determination of the amount that constitutes a "dividend" for U.S. federal income tax purposes or a shareholder may receive a corrected IRS Form 1099-DIV (and may therefore need to file an amended federal, state or local income tax return). We will attempt to timely notify our shareholders of available information to assist with income tax reporting (such as posting the correct information on our website). However, the information that we provide to our shareholders may be inconsistent with the amounts reported by a broker on IRS Form 1099-DIV, and the IRS may disagree with any such information and may make audit adjustments to a shareholder's tax return.

For a non-U.S. holder of our shares, "dividends" for U.S. federal income tax purposes will be subject to withholding of U.S. federal income tax at a 30% rate (or such lower rate as specified by an applicable income tax treaty) unless the dividends are effectively connected with conduct of a U.S. trade or business. In the event that we are unable to timely determine the portion of our distributions that is a "dividend" for U.S. federal income tax purposes, or a shareholder's broker or withholding agent chooses to withhold taxes from distributions in a manner inconsistent with our determination of the amount that constitutes a "dividend" for such purposes, a shareholder's broker or other withholding agent may overwithhold taxes from distributions paid. In such a case, a shareholder generally would have to timely file a U.S. tax return or an appropriate claim for refund in order to obtain a refund of the overwithheld tax.

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 Shares, Related Shareholder Matters and Issuer Purchases of Equity Securities

Market Information, Holders and Distributions

Our Class A shares are listed and traded on The Nasdaq Global Select Market under the symbol “PAGP.” As of February 22, 2022, there were 194,192,777 Class A shares outstanding and approximately 38,000 record holders and beneficial owners (held in street name).

The following table presents cash distributions per Class A share 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):

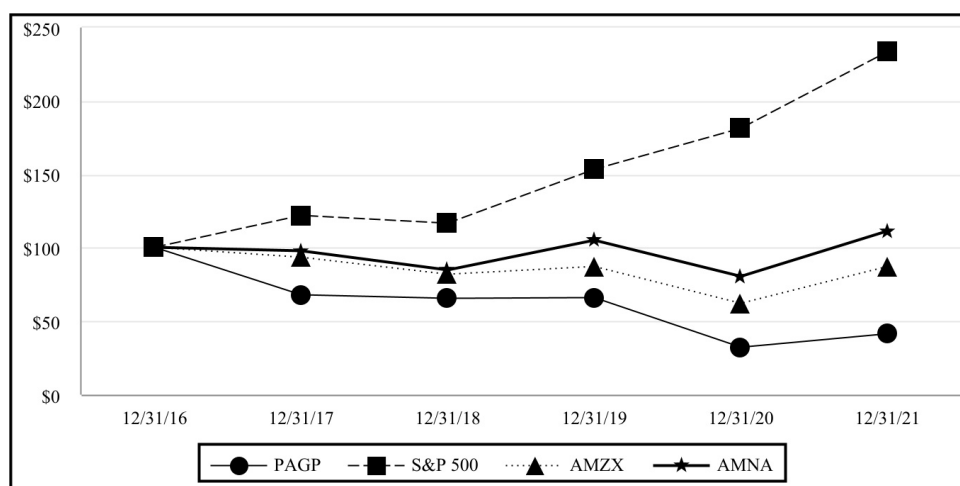
	First Quarter		Second Quarter		Third Quarter		Fourth Quarter	
2021	\$	0.18	\$	0.18	\$	0.18	\$	0.18
2020	\$	0.18	\$	0.18	\$	0.18	\$	0.18

Our Class A shares are also used as a form of compensation to our directors. See Note 18 to our Consolidated Financial Statements for additional information regarding our equity-indexed compensation plans.

Our Class B shares and Class C shares are not listed or traded on any stock exchange.

Performance Graph

The following graph compares the total unitholder return performance of our Class A shares 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 Class A shares 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
PAGP	\$ 100.00	\$ 67.87	\$ 65.51	\$ 65.69	\$ 32.07	\$ 41.34
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

In connection with our IPO and related transactions, the Legacy Owners acquired the following interests (collectively, the “Stapled Interests”): (i) AAP units representing an economic limited partner interest in AAP; (ii) general partner units representing a non-economic membership interest in our general partner; and (iii) Class B shares representing a non-economic limited partner interest in us. The Legacy Owners and any permitted transferees of their Stapled Interests have the right to exchange (the “Exchange Right”) all or a portion of such Stapled Interests for an equivalent number of Class A shares. In connection with the exercise of the Exchange Right, the Stapled Interests are transferred to us and the applicable Class B shares are canceled. Although we issue one Class A share for each Stapled Interest that is exchanged, we also receive one AAP unit and one general partner unit. As a result, the exercise by Legacy Owners of the Exchange Right is not dilutive. During the three months ended December 31, 2021, certain Legacy Owners or their permitted transferees exercised the Exchange Right, which resulted in the issuance of 50,362 Class A shares. The issuance of Class A shares in connection with the exercise of the Exchange Rights was exempt from the registration requirements of the Securities Act of 1933, as amended, pursuant to Section 4(a) (2) thereof.

Issuer Purchases of Equity Securities

None.

Cash Distribution Policy

Our partnership agreement requires that, within 55 days following the end of each quarter, we distribute all of our available cash to Class A shareholders of record on the applicable record date. Available cash generally means, for any quarter ending prior to liquidation, all cash on hand at the date of determination of available cash for the distribution in respect of such quarter (including expected distributions from AAP in respect of such quarter), less the amount of cash reserves established by our general partner, which will not be subject to a cap, to:

- comply with applicable law or any agreement binding upon us or our subsidiaries (exclusive of PAA and its subsidiaries);
- provide funds for distributions to shareholders;
- provide for future capital expenditures, debt service and other credit needs as well as any federal, state, provincial or other income tax that may affect us in the future; or
- provide for the proper conduct of our business, including with respect to the matters described under our partnership agreement.

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

Our principal sources of cash flow are derived from our indirect investment in PAA. As of December 31, 2021, we directly and indirectly owned approximately 194.2 million AAP units, which represented an approximate 81% limited partner interest in AAP. AAP currently receives all of its cash flows from its ownership of PAA common units. Therefore, our cash flow and resulting ability to make distributions is dependent upon the ability of PAA to make distributions to AAP in respect of the common units AAP owns. As of December 31, 2021, AAP owned approximately 241.5 million PAA common units. The actual amount of cash that PAA, and correspondingly AAP, will have available for distribution will primarily depend on the amount of cash PAA generates from its operations. Also, under the terms of the agreements governing PAA's debt, PAA is 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."

Our general partner owns a non-economic general partner interest in us, which does not entitle it to receive cash distributions.

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. Unless the context otherwise requires, references to "we," "us," "our," and "PAGP" are intended to mean the business and operations of PAGP and its consolidated subsidiaries.

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

We are a Delaware limited partnership formed in 2013 that has elected to be taxed as a corporation for United States federal income tax purposes. As of December 31, 2021, our sole cash-generating assets consisted of (i) a 100% managing member interest in GP LLC, an entity that has also elected to be taxed as a corporation for United States federal income tax purposes and (ii) an approximate 81% limited partner interest in AAP through our direct ownership of approximately 193.2 million AAP units and indirect ownership of approximately 1.0 million AAP units through GP LLC. GP LLC is a Delaware limited liability company that also holds the non-economic general partner interest in AAP. AAP is a Delaware limited partnership that, as of December 31, 2021, directly owned a limited partner interest in PAA through its ownership of approximately 241.5 million PAA common units (approximately 31% PAA's total outstanding common units and Series A preferred units combined). AAP is the sole member of PAA GP, a Delaware limited liability company that directly holds the non-economic general partner interest in PAA.

PAA's 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, PAA owns 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. PAA's assets and the services it provides are primarily focused on crude oil and NGL.

Segment Changes

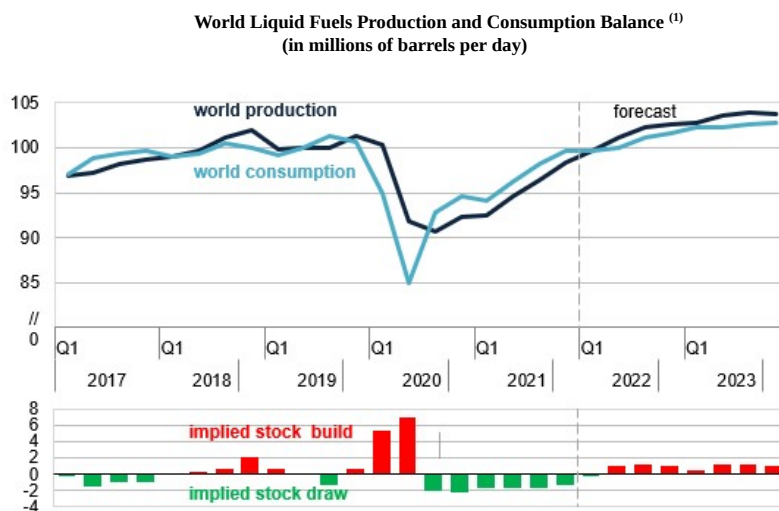
During the fourth quarter of 2021, we reorganized our historical operating segments: Transportation, Facilities and Supply and Logistics into two operating segments: Crude Oil and Natural Gas Liquids (“NGL”). The change in our segments stems primarily from (i) a multi-year transition in the midstream 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 consolidated joint ventures. 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:



⁽¹⁾ Barrels produced and consumed per quarter.

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 PAA’s Business” in Item 1A.

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 of \$600 million for the year ended December 31, 2021 compared to a net loss of \$2.440 billion for the year ended December 31, 2020 and net income of \$2.062 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 share amounts):

	Year Ended December 31,			Variance			
				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	(298)	(276)	(302)	(22)	(8)%	26	9 %
Depreciation and amortization	(777)	(656)	(604)	(121)	(18)%	(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	(112)	167	(176)	(279)	(167)%	343	195 %
Net income/(loss)	600	(2,440)	2,062	3,040	125 %	(4,502)	(218)%
Net (income)/loss attributable to noncontrolling interests	(540)	1,872	(1,731)	(2,412)	(129)%	3,603	208 %
Net income/(loss) attributable to PAGP	\$ 60	\$ (568)	\$ 331	\$ 628	111 %	\$ (899)	(272)%
Basic net income/(loss) per Class A share	\$ 0.31	\$ (3.06)	\$ 1.97	\$ 3.37	**	\$ (5.03)	**
Diluted net income/(loss) per Class A share	\$ 0.31	\$ (3.07)	\$ 1.96	\$ 3.38	**	\$ (5.03)	**
Basic weighted average Class A shares outstanding	194	186	168	8	**	18	**
Diluted weighted average Class A shares outstanding	194	246	170	(52)	**	76	**

** 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):

During the Year Ended December 31,	NYMEX WTI Crude Oil Price		
	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) transaction-related 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 equity-based 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 PAA’s 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 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 Ended December 31,		
	2021	2020	2019
Gain related to mark-to-market adjustment of PAA's Preferred Distribution Rate Reset Option ⁽¹⁾	\$ 14	\$ 20	\$ 2
Net gain on foreign currency revaluation ⁽²⁾	3	13	15
Other	2	6	7
	\$ 19	\$ 39	\$ 24

⁽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 due to the impact of higher earnings.

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 (i) lower taxable earnings from our Canadian operations, (ii) the impact of lower earnings at PAA on income attributable to PAGP and (iii) lower year-over-year income as impacted by fluctuations in the derivative mark-to-market valuations in our Canadian operations, partially offset by (iv) 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.

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.

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”) and Adjusted EBITDA attributable to PAA, which excludes the portion of Adjusted EBITDA attributable to noncontrolling interests in consolidated joint venture entities.

Our definition and calculation of certain non-GAAP financial measures may not be comparable to similarly-titled measures of other companies. Adjusted EBITDA and Adjusted EBITDA attributable to PAA are reconciled to Net Income/(Loss), 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.

Management believes that the presentation of such additional financial measures 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, (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 that are related to investing activities (such as the purchase of linefill) and inventory valuation adjustments, as applicable, (iii) long-term inventory costing adjustments, (iv) items that are not indicative 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 to be non-recurring, infrequent or unusual, but we believe that an understanding of these 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 and Adjusted EBITDA attributable to PAA from Net Income/(Loss) (in millions):

	Year Ended December 31,			Variance			
				2021-2020		2020-2019	
	2021	2020	2019	\$	%	\$	%
Net income/(loss)	\$ 600	\$ (2,440)	\$ 2,062	\$ 3,040	125 %	\$ (4,502)	(218)%
Interest expense, net	425	436	425	(11)	(3)%	11	3 %
Income tax expense/(benefit)	112	(167)	176	279	167 %	(343)	(195)%
Depreciation and amortization	777	656	604	121	18 %	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 %
Unallocated general and administrative expenses ⁽²⁾	6	5	5	1	20 %	—	— %
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 ⁽³⁾	(326)	617	163	(943)	**	454	**
Gains from derivative activities ⁽⁴⁾	(14)	(20)	(2)	6	**	(18)	**
Net gain on foreign currency revaluation ⁽⁵⁾	(3)	(13)	(15)	10	**	2	**
Net gain on early repayment of senior notes ⁽⁶⁾	—	(3)	—	3	**	(3)	**
Selected Items Impacting Comparability - Adjusted EBITDA ⁽⁷⁾	(343)	581	146	(924)	**	435	**
Adjusted EBITDA ⁽⁷⁾	\$ 2,290	\$ 2,560	\$ 3,237	\$ (270)	(11)%	\$ (677)	(21)%
Adjusted EBITDA attributable to noncontrolling interests in consolidated joint ventures ⁽⁸⁾	(94)	(14)	(10)	(80)	**	(4)	(40)%
Adjusted EBITDA attributable to PAA	\$ 2,196	\$ 2,546	\$ 3,227	\$ (350)	(14)%	\$ (681)	(21)%

** 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) Represents general and administrative expenses incremental to those of PAA, which are not allocated to our reporting segments in determining Segment Adjusted EBITDA and are excluded in the non-GAAP financial performance measures utilized by management.
- (3) 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.
- (4) The Preferred Distribution Rate Reset Option of PAA's 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.

- (5) 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.
- (6) 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.
- (7) 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.
- (8) Reflects amounts attributable to noncontrolling interests in the Permian JV and Red River Pipeline LLC. See Note 12 to our Consolidated Financial Statements for additional information regarding these noncontrolling interests.

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 in consolidated joint venture entities ("Adjusted EBITDA attributable to noncontrolling interests in consolidated joint ventures"). See Note 20 to our Consolidated Financial Statements for a reconciliation of Segment Adjusted EBITDA to Net income/(loss) attributable to PAGP.

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:

Operating Results ⁽¹⁾ (in millions, except per barrel data)	Year Ended December 31,			Variance			
				2021-2020		2020-2019	
	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 in consolidated joint ventures	(94)	(14)	(10)	(80)	**	(4)	**
Segment Adjusted EBITDA	\$ 1,909	\$ 2,216	\$ 2,753	\$ (307)	(14)%	\$ (537)	(20)%
Maintenance capital	\$ 100	\$ 171	\$ 248	\$ (71)	(42)%	\$ (77)	(31)%

Average Volumes	Year Ended December 31,			Variance			
				2021-2020		2020-2019	
	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:

Operating Results ⁽¹⁾ (in millions, except per barrel data)	Year Ended December 31,			Variance			
				2021-2020		2020-2019	
	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 %
Average Volumes (in thousands of barrels per day) ⁽⁴⁾	Year Ended December 31,			Variance			
	2021	2020	2019	2021-2020		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 PAA’s 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 long-term debt and (v) distributions to our Class A shareholders and noncontrolling interests. 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 PAA’s 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 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 \$94 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 PAA senior unsecured revolving credit facility ^{(1) (2)}	\$ 1,296
Availability under PAA senior secured hedged inventory facility ^{(1) (2)}	1,306
Amounts outstanding under PAA commercial paper program	—
Subtotal	2,602
Cash and cash equivalents	452
Total	\$ 3,054

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

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

Usage of PAA's credit facilities, which provide the financial backstop for PAA's commercial paper program, is subject to ongoing compliance with covenants, as discussed further below. PAA's borrowing capacity and borrowing costs are also impacted by its credit rating. See Item 1A. "Risk Factors—Risks Related to PAA's Business—Loss of PAA's investment grade credit rating or the ability to receive open credit could negatively affect its 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 PAA's 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 PAA's 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

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

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 the PAA 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 the PAA 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 the PAA 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)}	\$ 237	\$ 921	\$ 1,340
Maintenance capital ⁽¹⁾	168	216	287
Acquisition capital ⁽³⁾	32	310	50
	<u>\$ 437</u>	<u>\$ 1,447</u>	<u>\$ 1,677</u>

⁽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):

Projects	Year Ended December 31,		
	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):

Proceeds from divestitures ^{(1) (2)}	Year Ended December 31,		
	2021	2020	2019
	\$ 875	\$ 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 PAA's Business—Divestitures and acquisitions involve risks that may adversely affect PAA's business."

Financing Activities

Our financing activities primarily relate to funding investment capital projects, acquisitions and refinancing of 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 the PAA 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 the PAA 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 the PAA 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 PAA Senior Notes. PAA did not issue any senior unsecured notes during 2021. During 2020 and 2019, PAA issued senior unsecured notes as summarized in the table below (in millions):

Year	Description	Maturity	Face Value	Gross Proceeds ⁽¹⁾	Net Proceeds ⁽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⁾ Face value of notes less the applicable premium or discount, initial purchaser discounts, commissions and offering expenses.

⁽³⁾ PAA used the net proceeds from the offering to repay the principal amounts of its 5.00% senior notes due February 2021.

⁽⁴⁾ PAA used the net proceeds from the offering to partially repay the principal amounts of its 2.60% senior notes due December 2019 and 5.75% senior notes due January 2020 and for general partnership purposes.

Repayments of PAA Senior Notes. PAA did not repay any senior unsecured notes during 2021. During 2020 and 2019, PAA 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) PAA repaid these senior notes with proceeds from its 3.80% senior notes issued in June 2020 and cash on hand.
- (2) PAA repaid these senior notes with proceeds from its 3.55% senior notes issued in September 2019 and cash on hand.

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

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

Registration Statements

PAGP Registration Statements. We have filed with the SEC a shelf registration statement that, subject to effectiveness at the time of use, allows us to issue up to an aggregate of \$939 million of equity securities (“PAGP Traditional Shelf”). At December 31, 2021, we had approximately \$939 million of unsold securities available under the PAGP Traditional Shelf. We also have access to a universal shelf registration statement (“PAGP WKSIF Shelf”), which provides us with the ability to offer and sell an unlimited amount of equity securities, subject to market conditions and its capital needs. We did not conduct any offerings under the PAGP Traditional Shelf or PAGP WKSIF Shelf during the years ended December 31, 2021, 2020 or 2019.

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

Common Equity Repurchase Program

In November 2020, the board of directors of our general partner 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 PAA’s common units and/or our 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, PAA’s financial performance and flexibility, PAA’s actual and expected Free Cash Flow after distributions, the absolute and relative equity prices of PAA’s common units and our Class A shares, and the extent to which PAA is positioned to achieve and maintain its 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 PAA or us to acquire a particular number of common units or Class A shares. Any PAA common units or Class A shares that are repurchased will be canceled.

PAA 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 Class A Shareholders

We distribute 100% of our available cash to our Class A shareholders of record within 55 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 shareholders. See Item 5. “Market for Registrant’s Shares, Related Shareholder Matters and Issuer Purchases of Equity Securities—Cash Distribution Policy” for additional discussion regarding distributions.

On February 14, 2022, we paid a quarterly distribution of \$0.18 per Class A share (\$0.72 per Class A share on an annualized basis). The distribution was paid to Class A shareholders 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) limited partner interests in PAA including a 69% interest in PAA's common units and PAA's Series A preferred units combined and 100% of PAA's Series B preferred units, (ii) an approximate 19% limited partner interest in AAP, (iii) a 35% interest in the Permian JV and (iv) a 33% interest in Red River Pipeline LLC. See Note 12 to our Consolidated Financial Statements for details of distributions paid to noncontrolling interests 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 PAA 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.

Distributions to PAA's Series A preferred unitholders. Holders of PAA's 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 PAA's 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 PAA's Series B preferred unitholders. Holders of PAA's Series B preferred units are entitled to receive, when, as and if declared by PAA's 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 PAA's Series B preferred units, including distribution rates and payment dates after November 15, 2022.

Distributions to PAA's common unitholders. On February 14, 2022, PAA 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.

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:

• Crude oil

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.

• Natural gas

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.

• NGL and other

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	<u>\$ (143)</u>		

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 PAA's 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 PAA's Series A preferred units is an embedded derivative that must be bifurcated from the related host contract, PAA's partnership agreement, and recorded at fair value in our Consolidated Balance Sheets. The valuation model utilized for this embedded derivative contains inputs including PAA's common unit price, ten-year United States treasury rates, default probabilities and timing estimates to ultimately calculate the fair value of PAA's 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

⁽¹⁾ Executive officer (for purposes of Item 401(b) of Regulation S-K)

⁽²⁾ 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 Shareholder 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.

PART IV

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 PAA's 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 PAA's Current Report on Form 8-K filed October 12, 2017).
3.2	— 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).
3.3	— 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).
3.4	— 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).
3.5	— 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).
3.6	— Limited Liability Company Agreement of PAA GP LLC dated December 28, 2007 (incorporated by reference to Exhibit 3.3 to PAA's Current Report on Form 8-K filed January 4, 2008).
3.7	— Certificate of Limited Partnership of Plains GP Holdings, L.P. (incorporated by reference to Exhibit 3.1 to our Registration Statement on Form S-1 (333-190227) filed July 29, 2013).
3.8	— 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 our Current Report on Form 8-K filed November 21, 2016).
3.9	— 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 our Current Report on Form 8-K filed April 9, 2020).
3.10	— Certificate of Formation of PAA GP Holdings LLC (incorporated by reference to Exhibit 3.3 to our Registration Statement on Form S-1 (333-190227) filed July 29, 2013).

- 3.11 † — [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 \(incorporated by reference to Exhibit 4.1 to PAA's Quarterly Report on Form 10-Q for the quarter ended September 30, 2002\).](#)
- 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 \(incorporated by reference to Exhibit 4.1 to PAA's Current Report on Form 8-K filed May 12, 2006\).](#)
- 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 \(incorporated by reference to Exhibit 4.2 to PAA's Current Report on Form 8-K filed October 30, 2006\).](#)
- 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 \(incorporated by reference to Exhibit 4.1 to PAA's Current Report on Form 8-K filed March 26, 2012\).](#)
- 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 \(incorporated by reference to Exhibit 4.3 to PAA's Current Report on Form 8-K filed March 26, 2012\).](#)
- 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 \(incorporated by reference to Exhibit 4.1 to PAA's Current Report on Form 8-K filed December 12, 2012\).](#)
- 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 \(incorporated by reference to Exhibit 4.3 to PAA's Current Report on Form 8-K filed December 12, 2012\).](#)
- 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 \(incorporated by reference to Exhibit 4.1 to PAA's Current Report on Form 8-K filed August 26, 2015\).](#)
- 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 \(incorporated by reference to Exhibit 4.1 to PAA's Current Report on Form 8-K filed November 29, 2016\).](#)
- 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 \(incorporated by reference to Exhibit 4.1 to PAA's Current Report on Form 8-K filed September 17, 2019\).](#)

- 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 \(incorporated by reference to Exhibit 4.1 to PAA's Current Report on Form 8-K filed June 11, 2020\).](#)
- 4.16 — [Shareholder and Registration Rights Agreement dated October 21, 2013 by and among Plains GP Holdings, L.P. and the other parties signatory thereto \(incorporated by reference to Exhibit 4.1 to our Current Report on Form 8-K filed October 25, 2013\).](#)
- 4.17 † — [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 \(incorporated by reference to Exhibit 10.2 to PAA's Current Report on Form 8-K filed January 4, 2008\).](#)
- 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 \(incorporated by reference to Exhibit 10.1 to PAA's Quarterly Report on Form 10-Q for the quarter ended September 30, 2001\).](#)
- 10.7** — [First Amendment to Amended and Restated Employment Agreement dated December 4, 2008 between Plains All American GP LLC and Greg L. Armstrong \(incorporated by reference to Exhibit 10.49 to PAA's Annual Report on Form 10-K for the year ended December 31, 2008\).](#)
- 10.8** — [Waiver Agreement dated as of December 23, 2010 between Plains All American GP LLC and Greg L. Armstrong \(incorporated by reference to Exhibit 10.31 to PAA's Annual Report on Form 10-K for the year ended December 31, 2010\).](#)
- 10.9** — [Waiver Agreement dated October 21, 2013 to the Amended and Restated Employment Agreement dated June 30, 2001 of Greg L. Armstrong \(incorporated by reference to Exhibit 10.4 to our Current Report on Form 8-K filed October 25, 2013\).](#)
- 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 \(incorporated by reference to Exhibit 10.2 to PAA's Quarterly Report on Form 10-Q for the quarter ended September 30, 2001\).](#)
- 10.14** — [First Amendment to Amended and Restated Employment Agreement dated December 4, 2008 between Plains All American GP LLC and Harry N. Pefanis \(incorporated by reference to Exhibit 10.50 to PAA's Annual Report on Form 10-K for the year ended December 31, 2008\).](#)
- 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 \(incorporated by reference to Exhibit 10.32 to PAA's Annual Report on Form 10-K for the year ended December 31, 2010\).](#)
- 10.17** — [Waiver Agreement dated October 21, 2013 to the Amended and Restated Employment Agreement dated June 30, 2001 of Harry N. Pefanis \(incorporated by reference to Exhibit 10.5 to our Current Report on Form 8-K filed October 25, 2013\).](#)
- 10.18** — [Employment Agreement between Plains All American GP LLC and Willie Chiang dated July 10, 2015 \(incorporated by reference to Exhibit 10.53 to PAA's Annual Report on Form 10-K for the year ended December 31, 2015\).](#)
- 10.19** — [Amended and Restated Employment Agreement dated effective October 1, 2018 between Plains All American GP LLC and Willie Chiang \(incorporated by reference to Exhibit 10.7 to our Quarterly Report on Form 10-Q for the quarter ended September 30, 2018\).](#)
- 10.20** — [First Amendment to Plains AAP, L.P. Class B Restricted Units Agreement dated August 25, 2016 \(Willie Chiang\) \(incorporated by reference to Exhibit 10.8 to PAA's Quarterly Report on Form 10-Q for the quarter ended September 30, 2016\).](#)
- 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 \(incorporated by reference to Exhibit A to PAA's Definitive Proxy Statement filed on April 12, 2021\).](#)
- 10.24** — [Plains All American 2013 Long-Term Incentive Plan \(incorporated by reference to Exhibit A to PAA's Definitive Proxy Statement filed on October 3, 2013\).](#)
- 10.25** — [Plains All American PNG Successor Long-Term Incentive Plan \(incorporated by reference to Exhibit 4.4 to PAA's 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, \(incorporated by reference to Exhibit 10.3 to our Current Report on Form 8-K filed October 25, 2013\).](#)
- 10.28** — [Form of Plains AAP, L.P. Class B Restricted Units Agreement \(incorporated by reference to Exhibit 10.1 to PAA's Current Report on Form 8-K filed January 4, 2008\).](#)
- 10.29** — [Form of Amendment to the Plains AAP, L.P. Class B Restricted Units Agreement, dated October 18, 2013 \(incorporated by reference to Exhibit 10.6 to our Current Report on Form 8-K filed October 25, 2013\).](#)
- 10.30** — [Form of Amendment to Plains AAP, L.P. Class B Restricted Units Agreement dated August 25, 2016 \(incorporated by reference to Exhibit 10.6 to PAA's Quarterly Report on Form 10-Q for the quarter ended September 30, 2016 filed November 8, 2016\).](#)

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 10.66 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).
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 10.2 to our Quarterly Report on Form 10-Q for the quarter ended September 30, 2020).
10.39	—	Contribution Agreement dated October 21, 2013, by and among Plains GP Holdings, L.P., PAA GP Holdings LLC and the other parties signatory thereto (incorporated by reference to Exhibit 10.2 to our Current Report on Form 8-K filed October 25, 2013).
10.40**	—	Form of Special Retention LTIP Grant Letter dated November 20, 2019 (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 December 21, 2017 (Goebel) (incorporated by reference to Exhibit 10.55 to our Annual Report on Form 10-K for the year ended December 31, 2020).
10.42**	—	Form of LTIP Grant Letter dated May 1, 2018 (Chandler) (incorporated by reference to Exhibit 10.57 to our Annual Report on Form 10-K for the year ended December 31, 2020).
10.43**	—	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 quarter ended September 30, 2021).
10.44**	—	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 GP Holdings, 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. INST†	—	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.

PLAINS GP HOLDINGS, L.P.

By: PAA GP HOLDINGS LLC,
its general partner

By: /s/ Willie Chiang
Willie Chiang,
Chairman of the Board and Chief Executive Officer of PAA GP Holdings LLC
(Principal Executive Officer)

February 28, 2022

By: /s/ Al Swanson
Al Swanson,
Executive Vice President and Chief Financial Officer
of PAA GP Holdings LLC
(Principal Financial Officer)

February 28, 2022

By: /s/ Chris Herbold
Chris Herbold,
Senior Vice President, Finance and Chief Accounting Officer of PAA GP Holdings LLC
(Principal Accounting Officer)

February 28, 2022

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.

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

PLAINS GP HOLDINGS, L.P. AND SUBSIDIARIES
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MANAGEMENT'S REPORT ON INTERNAL CONTROL OVER FINANCIAL REPORTING

Plains GP Holdings, 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 was effective as of December 31, 2021.

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

*Chairman of the Board and Chief Executive Officer of PAA GP Holdings LLC
(Principal Executive Officer)*

/s/ Al Swanson

Al Swanson

*Executive Vice President and Chief Financial Officer of PAA GP Holdings 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 Shareholders of Plains GP Holdings, L.P.

Opinions on the Financial Statements and Internal Control over Financial Reporting

We have audited the accompanying consolidated balance sheets of Plains GP Holdings, 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 audit of internal control over financial reporting included obtaining an understanding 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, debt-free 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 \$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 the Partnership's 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 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 gathered and transported was also a key assumption in the DCF approach and was based on projected rig activity on the associated acreage. The fair value of the intangible assets was determined by applying a discounted cash flow approach. Such approach utilized a discount rate based on the estimate of the risk that a theoretical market participant would assign to the respective intangible assets. The projection of future crude 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 with an assigned value of \$1.247 billion.

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 and the customer relationships. Evaluating the reasonableness 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 2013.

PLAINS GP HOLDINGS, L.P. AND SUBSIDIARIES
CONSOLIDATED BALANCE SHEETS
(in millions, except share data)

	December 31, 2021	December 31, 2020
ASSETS		
CURRENT ASSETS		
Cash and cash equivalents	\$ 452	\$ 25
Restricted cash	4	38
Trade accounts receivable and other receivables, net	4,705	2,553
Inventory	783	647
Other current assets	196	405
Total current assets	<u>6,140</u>	<u>3,668</u>
PROPERTY AND EQUIPMENT		
	19,292	18,620
Accumulated depreciation	(4,383)	(4,000)
Property and equipment, net	<u>14,909</u>	<u>14,620</u>
OTHER ASSETS		
Investments in unconsolidated entities	3,805	3,764
Intangible assets, net	1,960	805
Deferred tax asset	1,362	1,444
Linefill and base gas	907	982
Long-term operating lease right-of-use assets, net	393	378
Long-term inventory	253	130
Other long-term assets, net	249	160
Total assets	<u>\$ 29,978</u>	<u>\$ 25,951</u>
LIABILITIES AND PARTNERS' CAPITAL		
CURRENT LIABILITIES		
Trade accounts payable	\$ 4,811	\$ 2,425
Short-term debt	822	831
Other current liabilities	601	999
Total current liabilities	<u>6,234</u>	<u>4,255</u>
LONG-TERM LIABILITIES		
Senior notes, net	8,329	9,071
Other long-term debt, net	69	311
Long-term operating lease liabilities	339	317
Other long-term liabilities and deferred credits	830	807
Total long-term liabilities	<u>9,567</u>	<u>10,506</u>
COMMITMENTS AND CONTINGENCIES (NOTE 19)		
PARTNERS' CAPITAL		
Class A shareholders (194,192,777 and 194,051,436 shares outstanding, respectively)	1,533	1,464
Noncontrolling interests	12,644	9,726
Total partners' capital	<u>14,177</u>	<u>11,190</u>
Total liabilities and partners' capital	<u>\$ 29,978</u>	<u>\$ 25,951</u>

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

PLAINS GP HOLDINGS, L.P. AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF OPERATIONS
(in millions, except per share data)

	Year Ended December 31,		
	2021	2020	2019
REVENUES			
Product sales revenues	\$ 40,883	\$ 22,058	\$ 32,272
Services revenues	1,195	1,232	1,397
Total revenues	42,078	23,290	33,669
COSTS AND EXPENSES			
Purchases and related costs	38,504	20,431	29,452
Field operating costs	1,065	1,076	1,303
General and administrative expenses	298	276	302
Depreciation and amortization	777	656	604
(Gains)/losses on asset sales and asset impairments, net (Note 6, Note 7)	592	719	28
Goodwill impairment losses (Note 8)	—	2,515	—
Total costs and expenses	41,236	25,673	31,689
OPERATING INCOME/(LOSS)	842	(2,383)	1,980
OTHER INCOME/(EXPENSE)			
Equity earnings in unconsolidated entities	274	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)	(425)	(436)	(425)
Other income, net	19	39	24
INCOME/(LOSS) BEFORE TAX	712	(2,607)	2,238
Current income tax expense	(50)	(51)	(112)
Deferred income tax (expense)/benefit	(62)	218	(64)
NET INCOME/(LOSS)	600	(2,440)	2,062
Net (income)/loss attributable to noncontrolling interests	(540)	1,872	(1,731)
NET INCOME/(LOSS) ATTRIBUTABLE TO PAGP	<u>\$ 60</u>	<u>\$ (568)</u>	<u>\$ 331</u>
Basic weighted average Class A shares outstanding	194	186	168
Basic net income/(loss) per Class A share	<u>\$ 0.31</u>	<u>\$ (3.06)</u>	<u>\$ 1.97</u>
Diluted weighted average Class A shares outstanding	194	246	170
Diluted net income/(loss) per Class A share	<u>\$ 0.31</u>	<u>\$ (3.07)</u>	<u>\$ 1.96</u>

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

PLAINS GP HOLDINGS, L.P. AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME/(LOSS)
(in millions)

	Year Ended December 31,		
	2021	2020	2019
Net income/(loss)	\$ 600	\$ (2,440)	\$ 2,062
Other comprehensive income	65	15	97
Comprehensive income/(loss)	665	(2,425)	2,159
Comprehensive (income)/loss attributable to noncontrolling interests	(588)	1,863	(1,805)
Comprehensive income/(loss) attributable to PAGP	\$ 77	\$ (562)	\$ 354

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

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

	Derivative Instruments	Translation Adjustments	Other	Total
Balance at December 31, 2018	\$ (177)	\$ (853)	\$ —	\$ (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)	\$ —	\$ (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)	\$ (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)	\$ (853)

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

PLAINS GP HOLDINGS, L.P. AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF CASH FLOWS
(in millions)

	Year Ended December 31,		
	2021	2020	2019
CASH FLOWS FROM OPERATING ACTIVITIES			
Net income/(loss)	\$ 600	\$ (2,440)	\$ 2,062
Reconciliation of net income/(loss) to net cash provided by operating activities:			
Depreciation and amortization	777	656	604
(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	24	16	35
Inventory valuation adjustments (Note 5)	—	233	11
Deferred income tax expense/(benefit)	62	(218)	64
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	1,991	1,510	2,500
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 PAA commercial paper program (Note 11)	(545)	456	93
Net borrowings/(repayments) under PAA senior secured hedged inventory facility (Note 11)	(167)	(160)	325
Repayment of PAA GO Zone term loans (Note 11)	(200)	—	—
Proceeds from the issuance of PAA senior notes (Note 11)	—	748	998
Repayments of PAA senior notes (Note 11)	—	(617)	(1,000)
Repurchase of common units by a subsidiary (Note 12)	(178)	(50)	—
Distributions paid to Class A shareholders (Note 12)	(140)	(166)	(231)
Distributions paid to noncontrolling interests (Note 12)	(589)	(697)	(977)
Sale of noncontrolling interest in a subsidiary (Note 12)	—	—	128
Other financing activities	(160)	56	(53)
Net cash used in financing activities	(1,979)	(430)	(717)
Effect of translation adjustment	(5)	(8)	(3)
Net increase/(decrease) in cash and cash equivalents and restricted cash	393	(21)	15
Cash and cash equivalents and restricted cash, beginning of period	63	84	69
Cash and cash equivalents and restricted cash, end of period	\$ 456	\$ 63	\$ 84
Cash paid for:			
Interest, net of amounts capitalized	\$ 401	\$ 428	\$ 397
Income taxes, net of amounts refunded	\$ 76	\$ 111	\$ 136

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

PLAINS GP HOLDINGS, L.P. AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF CHANGES IN PARTNERS' CAPITAL
(in millions)

	Class A Shareholders	Noncontrolling Interests	Total Partners' Capital
Balance at December 31, 2018	\$ 1,846	\$ 11,473	\$ 13,319
Net income	331	1,731	2,062
Distributions (Note 12)	(231)	(977)	(1,208)
Deferred tax asset (Note 15)	86	—	86
Change in ownership interest in connection with Exchange Right exercises (Note 12)	101	(101)	—
Other comprehensive income (Note 12)	23	74	97
Equity-indexed compensation expense	5	13	18
Sale of noncontrolling interest in a subsidiary (Note 12)	—	128	128
Other	(6)	(11)	(17)
Balance at December 31, 2019	\$ 2,155	\$ 12,330	\$ 14,485
Net loss	(568)	(1,872)	(2,440)
Distributions (Note 12)	(166)	(697)	(863)
Deferred tax asset (Note 15)	16	—	16
Change in ownership interest in connection with Exchange Right exercises (Note 12)	10	(10)	—
Other comprehensive income (Note 12)	6	9	15
Equity-indexed compensation expense	6	14	20
Repurchase of common units by a subsidiary (Note 12)	4	(54)	(50)
Contributions from noncontrolling interests (Note 12)	—	12	12
Other	1	(6)	(5)
Balance at December 31, 2020	\$ 1,464	\$ 9,726	\$ 11,190
Net income	60	540	600
Distributions (Note 12)	(140)	(589)	(729)
Deferred tax asset (Note 15)	(42)	—	(42)
Other comprehensive income (Note 12)	17	48	65
Equity-indexed compensation expense	6	14	20
Repurchase of common units by a subsidiary (Note 12)	2	(180)	(178)
Contributions from noncontrolling interests (Note 12)	—	1	1
Plains Oryx Permian Basin LLC joint venture formation (Note 7)	166	3,090	3,256
Other	—	(6)	(6)
Balance at December 31, 2021	\$ 1,533	\$ 12,644	\$ 14,177

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

PLAINS GP HOLDINGS, L.P. AND SUBSIDIARIES
NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS

Note 1—Organization and Basis of Consolidation and Presentation

Organization

Plains GP Holdings, L.P. (“PAGP”) is a Delaware limited partnership formed in 2013 that has elected to be taxed as a corporation for United States federal income tax purposes. PAGP does not directly own any operating assets; as of December 31, 2021, its principal sources of cash flow are derived from an indirect investment in Plains All American Pipeline, L.P. (“PAA”), a publicly traded Delaware limited partnership. As used in this Form 10-K and unless the context indicates otherwise (taking into account the fact that PAGP has no operating activities apart from those conducted by PAA and its subsidiaries), the terms “Partnership,” “we,” “us,” “our,” “ours” and similar terms refer to PAGP and its subsidiaries.

As of December 31, 2021, PAGP owned (i) a 100% managing member interest in Plains All American GP LLC (“GP LLC”), an entity that has also elected to be taxed as a corporation for United States federal income tax purposes and (ii) an approximate 81% limited partner interest in Plains AAP, L.P. (“AAP”) through our direct ownership of approximately 193.2 million Class A units of AAP (“AAP units”) and indirect ownership of approximately 1.0 million AAP units through GP LLC. GP LLC is a Delaware limited liability company that also holds the non-economic general partner interest in AAP. AAP is a Delaware limited partnership that, as of December 31, 2021, directly owned a limited partner interest in PAA through its ownership of approximately 241.5 million PAA common units (approximately 31% of PAA’s total outstanding common units and Series A preferred units combined). AAP is the sole member of PAA GP LLC (“PAA GP”), a Delaware limited liability company that directly holds the non-economic general partner interest in PAA.

PAA’s 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, PAA owns 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. PAA’s assets and the services it provides are primarily focused on and conducted through two operating segments: Crude Oil and NGL. See Note 20 for further discussion of our operating segments.

PAA GP Holdings LLC, a Delaware limited liability company, is our general partner. Our general partner manages our operations and activities and is responsible for exercising on our behalf any rights we have as the sole and managing member of GP LLC, including responsibility for conducting the business and managing the operations of AAP and PAA. GP LLC employs our domestic officers and personnel involved in the operation and management of AAP and PAA. PAA’s Canadian officers and personnel are employed by our subsidiary, Plains Midstream Canada ULC.

References to the “Plains Entities” include us, our general partner, GP LLC, AAP, PAA GP and PAA and its subsidiaries.

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

PLAINS GP HOLDINGS, L.P. AND SUBSIDIARIES
NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS

ICE	=	Intercontinental Exchange
ISDA	=	International Swaps and Derivatives Association
LIBOR	=	London Interbank Offered Rate
LTIP	=	Long-term incentive plan
Mcf	=	Thousand cubic feet
MMbbls	=	Million barrels
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 PAGP 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.

Management judgment is required to evaluate whether PAGP controls an entity. Key areas of that evaluation include (i) determining whether an entity is a variable interest entity ("VIE"); (ii) determining whether PAGP is the primary beneficiary of a VIE, including evaluating which activities of the VIE most significantly impact its economic performance and the degree of power that PAGP and its related parties have over those activities through variable interests; and (iii) identifying events that require reconsideration of whether an entity is a VIE and continuously evaluating whether PAGP is a VIE's primary beneficiary.

We have determined that our subsidiaries, PAA and AAP, are VIEs and should be consolidated by PAGP because:

- The limited partners of PAA and AAP lack (i) substantive "kick-out rights" (i.e., the right to remove the general partner) based on a simple majority or lower vote and (ii) substantive participation rights and thus lack the ability to block actions of the general partner that most significantly impact the economic performance of PAA and AAP, respectively.
- AAP is the primary beneficiary of PAA because it has the power to direct the activities that most significantly impact PAA's performance and the right to receive benefits, and obligation to absorb losses, that could be significant to PAA.
- PAGP is the primary beneficiary of AAP because it has the power to direct the activities that most significantly impact AAP's performance and the right to receive benefits, and obligation to absorb losses, that could be significant to AAP.

PLAINS GP HOLDINGS, L.P. AND SUBSIDIARIES
NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS

With the exception of a deferred tax asset of \$1.362 billion and \$1.444 billion as of December 31, 2021 and 2020, respectively, substantially all assets and liabilities presented on PAGP's Consolidated Balance Sheets are those of PAA. Only the assets of each respective VIE can be used to settle the obligations of that individual VIE, and the creditors of each/either of those VIEs do not have recourse against the general credit of PAGP. PAGP did not provide any financial support to PAA or AAP during the years ended December 31, 2021, 2020 or 2019. See Note 17 for information regarding the Omnibus Agreement entered into by the Plains Entities on November 15, 2016.

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" and "Facilities 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.

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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	\$ 452	\$ 25
Restricted cash	4	38
Total cash and cash equivalents and restricted cash	\$ 456	\$ 63

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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.

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Other Significant Accounting Policies

See the respective footnotes for our accounting policies regarding (i) revenues and accounts receivable, (ii) net income/(loss) per Class A share, (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) derivatives and risk management activities, (x) leases, (xi) income taxes, (xii) equity-indexed compensation and (xiii) 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.

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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 Ended 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 Ended 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
Total NGL segment revenues from contracts with customers	\$ 2,399	\$ 1,475	\$ 2,323

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.

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):

	December 31,	
	2021	2020
Other current assets	\$ —	\$ 229
Deferred revenue ⁽¹⁾	\$ —	\$ 361

⁽¹⁾ Included in “Other current liabilities” on our Consolidated Balance Sheet.

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.

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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

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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):

Counterparty Deficiencies	Financial Statement Classification	December 31,	
		2021	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):

	Contract 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.

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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.

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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 Class A Share

Basic net income/(loss) per Class A share is determined by dividing net income/(loss) attributable to PAGP by the weighted average number of Class A shares outstanding during the period. Our Class B and Class C shares do not share in the earnings of the Partnership; accordingly, basic and diluted net income/(loss) per Class B and Class C share has not been presented.

Diluted net income/(loss) per Class A share is determined by dividing net income/(loss) attributable to PAGP by the diluted weighted average number of Class A shares outstanding during the period. For purposes of calculating diluted net income/(loss) per Class A share, both the net income/(loss) attributable to PAGP and the diluted weighted average number of Class A shares outstanding consider the impact of possible future exchanges of (i) AAP units and the associated Class B shares into our Class A shares and (ii) certain Class B units of AAP (referred to herein as “AAP Management Units”) into our Class A shares. In addition, the calculation of the diluted weighted average number of Class A shares outstanding considers the effect of potentially dilutive awards under the Plains GP Holdings, L.P. Long-Term Incentive Plan (the “PAGP LTIP”).

All AAP Management Units that have satisfied the applicable performance conditions are considered potentially dilutive. Exchanges of potentially dilutive AAP units and AAP Management Units are assumed to have occurred at the beginning of the period and the incremental income attributable to PAGP resulting from the assumed exchanges is representative of the incremental income that would have been attributable to PAGP if the assumed exchanges occurred on that date. See Note 12 for information regarding exchanges of AAP units and AAP Management Units. PAGP LTIP awards that are deemed to be dilutive are reduced by a hypothetical share repurchase based on the remaining unamortized fair value, as prescribed by the treasury stock method in guidance issued by the FASB. See Note 18 for information regarding PAGP LTIP awards.

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On a weighted-average basis, for the years ended December 31, 2021 and 2019, the possible exchange of 50 million and 99 million AAP units, respectively, would not have had a dilutive effect on basic net income per Class A share. For each of the years ended December 31, 2021 and 2020, the possible exchange of 1 million AAP Management Units would not have had a dilutive effect on basic net income/(loss) per Class A share on a weighted-average basis. For the year ended December 31, 2020, our PAGP LTIP awards were antidilutive. For the years ended December 31, 2021 and 2019 our PAGP LTIP awards were dilutive; however, there were less than 0.1 million dilutive LTIP awards for each period, which did not change the presentation of weighted average Class A shares outstanding or net income per Class A share.

The following table sets forth the computation of basic and diluted net income/(loss) per Class A share (in millions, except per share data):

	Year Ended December 31,		
	2021	2020	2019
Basic Net Income/(Loss) per Class A Share			
Net income/(loss) attributable to PAGP	\$ 60	\$ (568)	\$ 331
Basic weighted average Class A shares outstanding	194	186	168
Basic net income/(loss) per Class A share	<u>\$ 0.31</u>	<u>\$ (3.06)</u>	<u>\$ 1.97</u>
Diluted Net Income/(Loss) per Class A Share			
Net income/(loss) attributable to PAGP	\$ 60	\$ (568)	\$ 331
Incremental net income/(loss) attributable to PAGP resulting from assumed exchange of AAP units and AAP Management Units	—	(189)	2
Net income/(loss) attributable to PAGP including incremental net income/(loss) from assumed exchange of AAP units and AAP Management Units	<u>\$ 60</u>	<u>\$ (757)</u>	<u>\$ 333</u>
Basic weighted average Class A shares outstanding	194	186	168
Dilutive shares resulting from assumed exchange of AAP units and AAP Management Units	—	60	2
Diluted weighted average Class A shares outstanding	<u>194</u>	<u>246</u>	<u>170</u>
Diluted net income/(loss) per Class A share	<u>\$ 0.31</u>	<u>\$ (3.07)</u>	<u>\$ 1.96</u>

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.

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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				December 31, 2020			
	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			<u>783</u>				<u>647</u>	
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			<u>907</u>				<u>982</u>	
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			<u>253</u>				<u>130</u>	
Total			<u>\$ 1,943</u>				<u>\$ 1,759</u>	

⁽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.

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Property and equipment, net is stated at cost and consisted of the following (in millions):

	Estimated Useful Lives (Years)	December 31,	
		2021	2020
Pipelines and related facilities ⁽¹⁾⁽²⁾	10 - 50	\$ 12,800	\$ 11,147
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		19,292	18,620
Accumulated depreciation		(4,383)	(4,000)
Property and equipment, net		<u>\$ 14,909</u>	<u>\$ 14,620</u>

⁽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 \$655 million, \$566 million and \$528 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 in net income attributable to PAGP of approximately \$15 million and to both basic and diluted net income per Class A share of approximately \$0.08 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.

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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 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 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.

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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 such amount and the fair value of Oryx Midstream's assets acquired and liabilities assumed was recorded as an increase to partners' capital attributable to our Class A shareholders and noncontrolling interests in PAA and AAP in proportion to their respective ownership interests.

The following table presents the amounts recognized in partners' capital associated with this transaction (in millions):

	Recognized Amount
Oryx Midstream's 35% interest in the Permian JV	\$ 2,651
Increase to partners' capital attributable to noncontrolling interests in PAA and AAP	439
Noncontrolling interests	\$ 3,090
Class A shareholders	166
Total partners' capital	\$ 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 ranging from 9.5 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.

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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 PAA 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 PAA. 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):

Tier	Available Cash Annualized	Distributions Percentages	
		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 PAA’s outstanding Series A preferred units, which equates to less than 1% of PAA’s outstanding common units and Series A preferred units (PAA’s “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 PAGP 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):

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	Year ended December 31,	
	2021	2020
Total revenues	\$ 42,359	\$ 23,536
Net income/(loss) attributable to PAGP	\$ 37	\$ (629)
Basic net income/(loss) per Class A Share	\$ 0.19	\$ (3.38)
Diluted net income/(loss) per Class A Share	\$ 0.19	\$ (3.41)

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.

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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 units is determined using significant unobservable inputs, or Level 3 inputs in the fair value hierarchy. When the fair value is greater than book value, then 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.

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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 each reporting 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 flow calculations based on differing potential market scenarios, but for each of the reporting units, the ultimate outcome of the impairment test was unchanged by the various points within the range of 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 entire goodwill balance for each reporting unit. Prior to the year ended December 31, 2020, we did not recognize any impairments of goodwill.

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.

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Our investments in unconsolidated entities consisted of the following (in millions, except percentage data):

Entity ⁽¹⁾	Type of Operation	Ownership Interest at December 31, 2021	Investment Balance December 31,	
			2021	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.

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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.

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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
Revenues	\$ 1,320	\$ 1,360	\$ 1,469
Operating income	\$ 505	\$ 828	\$ 994
Net income	\$ 506	\$ 826	\$ 995

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Note 10—Intangible Assets, Net

Intangible assets, net of accumulated amortization, consisted of the following (in millions):

	Estimated Useful Lives (Years)	December 31, 2021			December 31, 2020		
		Cost	Accumulated 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
2026	\$	187

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Note 11—Debt

Debt consisted of the following (in millions):

	December 31, 2021	December 31, 2020
SHORT-TERM DEBT		
PAA commercial paper notes, bearing a weighted-average interest rate of 0.7% ⁽¹⁾	\$ —	\$ 547
PAA senior secured hedged inventory facility, bearing a weighted-average interest rate of 1.2% ⁽¹⁾	—	167
PAA senior notes:		
3.65% senior notes due June 2022 ⁽²⁾	750	—
Other	72	117
Total short-term debt	822	831
LONG-TERM DEBT		
PAA 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)
PAA senior notes, net of unamortized discounts and debt issuance costs	8,329	9,071
Other long-term debt:		
PAA 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 PAA 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, PAA provided notice of its 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.

PLAINS GP HOLDINGS, L.P. AND SUBSIDIARIES
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- (4) The GO Zone term loans were initially assumed by a subsidiary of PAA 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) PAA's 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. PAA's 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 PAA's 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 the PAA 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.

PAA Commercial Paper Program

PAA has a commercial paper program under which it 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 the PAA senior unsecured revolving credit facility and the PAA senior secured hedged inventory facility; as such, any borrowings under the PAA commercial paper program reduce the available capacity under these facilities.

Credit Agreements

PAA senior secured hedged inventory facility. In August 2021, PAA entered into an amended credit agreement which replaced its \$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.

PAA senior unsecured revolving credit facility. In August 2021, PAA 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 its 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.

PAA GO Zone term loans. In August 2018, PAA entered into an agreement for two \$100 million term loans (the "GO Zone term loans") from the remarketing of its \$100 million Mississippi Business Finance Corporation Gulf Opportunity Zone Industrial Development Revenue Bonds (PAA Natural Gas Storage, L.P. Project), Series 2009 and its \$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.

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PAA Senior Notes

PAA's 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. PAA may, at its 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. PAA's senior notes are not guaranteed by any of its subsidiaries.

PAA Senior Notes Issuances. The table below summarizes PAA's 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

PAA Senior Notes Repayments. During the three years ended December 31, 2021, PAA 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) These senior notes were repaid with proceeds from PAA's 3.80% senior notes issued in June 2020 and cash on hand.

(2) These senior notes were repaid with proceeds from PAA's 3.55% senior notes issued in September 2019 and cash on hand.

Maturities

The weighted average maturity of PAA's 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

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Covenants and Compliance

The credit agreements for PAA's revolving credit facilities (which impact the ability to access the PAA commercial paper program because they provide the financial backstop that supports PAA's short-term credit ratings) and the indentures governing PAA's senior notes contain cross-default provisions. PAA's 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, PAA's agreements contain various covenants limiting PAA's ability to, among other things:

- grant liens on certain property;
- incur indebtedness, including finance leases;
- sell substantially all of its assets or enter into a merger or consolidation;
- engage in certain transactions with affiliates; and
- enter into certain burdensome agreements.

The credit agreements for the PAA senior unsecured revolving credit facility and senior secured hedged inventory facility treat a change of control as an event of default and also require PAA 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 PAA's credit agreements or indentures would permit the lenders to accelerate the maturity of the outstanding debt. As long as PAA is in compliance with the provisions contained in its credit agreements, PAA's ability to make distributions of available cash is not restricted. As of December 31, 2021, PAA was in compliance with the covenants contained in its credit agreements and indentures.

Borrowings and Repayments

Total borrowings under PAA's 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 PAA's 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 PAA's senior unsecured revolving credit facility and 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.

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Note 12—Partners’ Capital and Distributions

Our Shares

Our Class A shares, Class B shares and Class C shares represent limited partner interests in us. The holders of our Class A and Class B shares are entitled to exercise the rights or privileges available to limited partners under our partnership agreement, but only holders of Class A shares are entitled to participate in our distributions.

Our Class C shares are non-economic and provide PAA, as the sole holder of such Class C shares, the right to vote, pro rata with the holders of our Class A and Class B shares, in the election of eligible PAGP GP directors. Pursuant to the Omnibus Agreement entered into on November 15, 2016, the number of Class C shares that PAA owns will at all times equal the number of outstanding PAA common units, excluding common units held by AAP, and Series A preferred units. Thus, the Class C shares function as a “pass-through” voting mechanism through which PAA votes at the direction of and as proxy for the PAA common unitholders, other than AAP, and Series A preferred unitholders in such director elections.

Exchange and Redemption Rights

Holders of AAP units and their permitted transferees each have the right to exchange all or a portion of their AAP units for Class A shares at an exchange ratio of one Class A share for each AAP unit exchanged (referred to herein as their “Exchange Right”). This Exchange Right may be exercised only if, simultaneously therewith, an equal number of our Class B shares and general partner units are transferred by the exercising party to us. Additionally, a holder of vested AAP Management Units is entitled to convert his or her AAP Management Units into AAP units and a like number of our Class B shares based on a conversion ratio of approximately 0.941 AAP units for each AAP Management Unit. Following any such conversion, the holder will have the Exchange Right for our Class A shares. Holders of AAP Management Units who convert such units into AAP units and 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 Exchange Right. See Note 15 for information regarding the recognition of deferred tax assets associated the transfer of ownership resulting from Exchange Right exercises.

Additionally, subject to certain limitations, a holder of AAP units (other than us and GP LLC) has the right (a “Redemption Right”) to cause AAP to redeem any or all of such holder’s AAP units in exchange for the distribution of an equivalent number of PAA common units held by AAP (“AAP Unit Redemption”). In connection with any AAP Unit Redemption, the redeeming holder will transfer the AAP units to AAP and a corresponding number of our Class B shares and general partner units (if any), in each case, to us. The AAP units transferred to AAP will be canceled, the Class B shares transferred to us will be canceled and the general partner units transferred to us will remain outstanding and increase our ownership percentage in our general partner. Additionally, we will issue a corresponding number of Class C shares to PAA.

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Shares Outstanding

The following table presents the activity for our Class A shares, Class B shares and Class C shares:

	Class A Shares	Class B Shares	Class C Shares
Outstanding at December 31, 2018	159,485,588	119,604,338	516,938,280
Exchange Right exercises ⁽¹⁾	22,637,818	(22,637,818)	—
Redemption Right exercises ⁽¹⁾	—	(31,180,818)	31,180,818
Other	15,186	—	1,419,041
Outstanding at December 31, 2019	182,138,592	65,785,702	549,538,139
Conversion of AAP Management Units	—	595,117	—
Exchange Right exercises	11,858,457	(11,858,457)	—
Redemption Right exercises	—	(3,882,170)	3,882,170
Repurchase and cancellation of common units by a subsidiary	—	—	(6,222,748)
Other	54,387	—	520,201
Outstanding at December 31, 2020	194,051,436	50,640,192	547,717,762
Conversion of AAP Management Units	—	414,608	—
Exchange Right exercises	122,795	(122,795)	—
Redemption Right exercises	—	(4,286,491)	4,286,491
Repurchase and cancellation of common units by a subsidiary	—	—	(18,061,583)
Other	18,546	—	654,161
Outstanding at December 31, 2021	194,192,777	46,645,514	534,596,831

⁽¹⁾ Includes exercises by Occidental Petroleum Corporation or its subsidiaries (“Oxy”) and an affiliate of The Energy & Minerals Group (“EMG”). See Note 17 for additional information.

Distributions

We distribute 100% of our available cash within 55 days following the end of each quarter to Class A shareholders of record. Available cash is generally defined as all cash on hand at the date of determination of available cash for the distribution in respect to such quarter (including expected distributions from AAP in respect of such quarter), less reserves established by our general partner for future requirements.

The following table details distributions paid to our Class A shareholders during the years presented (in millions, except per share data):

Year	Distributions to Class A Shareholders		Distributions per Class A Share	
2021	\$	140	\$	0.72
2020	\$	166	\$	0.90
2019	\$	231	\$	1.38

On January 10, 2022, we declared a cash distribution of \$0.18 per outstanding Class A share. This distribution of \$35 million was paid on February 14, 2022 to shareholders of record at the close of business on January 31, 2022, for the period October 1, 2021 through December 31, 2021.

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Other Comprehensive Income/(Loss)

Other comprehensive income/(loss) attributable to our Class A shareholders is comprised solely of their proportionate share of PAA's other comprehensive income/(loss) based on our indirect ownership interest in PAA during the period.

Consolidated Subsidiaries

Noncontrolling Interests in Subsidiaries

As of December 31, 2021, noncontrolling interests in our subsidiaries consisted of (i) limited partner interests in PAA including a 69% interest in PAA's common units and PAA's Series A preferred units combined and 100% of PAA's Series B preferred units, (ii) an approximate 19% limited partner interest in AAP, (iii) a 35% interest in the Permian JV, as discussed further below, and (iv) a 33% interest in Red River Pipeline Company LLC ("Red River LLC"), as discussed further 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 \$3.1 billion and an increase to partners' capital attributable to our Class A shareholders of \$166 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.

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.

Repurchases of Units by Subsidiary

Common Equity Repurchase Program. In November 2020, the board of directors of our general partner 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 PAA common units and/or our 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 PAA or us to acquire a particular number of PAA common units or Class A shares. Any PAA common units or Class A shares that are repurchased will be canceled. Class C shares held by PAA associated with any publicly held common units that are repurchased will also be canceled.

PAA 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 PAA common units was \$178 million and \$50 million, respectively, including commissions and fees. The repurchased common units were canceled immediately upon acquisition, as were the Class C shares held by PAA associated with the repurchased common units. We did not repurchase any Class A shares under the Program during the year ended December 31, 2021. At December 31, 2021, the remaining available capacity under the program was \$272 million.

PAA's capital attributable to AAP was adjusted, in accordance with ASC 810, to reflect the accretion of its interest in PAA as a result of the repurchase of common units from public unitholders. Such adjustment is recognized by PAGP in proportion to its ownership interest in AAP, which results in a net increase in partners' capital attributable to PAGP. See Note 15 for additional information regarding the associated impact to the deferred tax asset.

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Subsidiary Distributions

PAA Preferred Unit Distributions. The following table details distributions paid to PAA's preferred unitholders during the years presented (in millions, except unit data):

Year	Cash Distributions	
	Series A Preferred Unitholders	Series B Preferred Unitholders
2021	\$ 149	\$ 49
2020	\$ 149	\$ 49
2019	\$ 149	\$ 49

On February 14, 2022, PAA paid a cash distribution of \$37 million to its 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 PAA's Series B preferred unitholders was included in "Other current liabilities" on our Consolidated Balance Sheet.

PAA Common Unit Distributions. PAA distributes 100% of its available cash within 45 days following the end of each quarter to common unitholders of record, including AAP. Available cash is generally defined as all of PAA's cash and cash equivalents on hand at the end of each quarter, less reserves established in the reasonable discretion of its general partner for future requirements.

The following table details distributions paid by PAA during the years presented (in millions, except per unit data):

Year	Distributions Paid			Distributions per common unit
	Public	AAP	Total	
2021	\$ 341	\$ 176	\$ 517	\$ 0.72
2020	\$ 432	\$ 223	\$ 655	\$ 0.90
2019	\$ 632	\$ 372	\$ 1,004	\$ 1.38

On January 10, 2022, PAA declared a cash distribution of \$0.18 per unit on its 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.

AAP Distributions. AAP distributes all of the cash received from PAA distributions on a quarterly basis, less reserves established in the discretion of its general partner for future requirements. Generally, distributions are paid to its partners in proportion to their percentage interest in AAP. The following table details the distributions to AAP's partners paid during the years presented from distributions received from PAA (in millions):

Year	Distributions to AAP's Partners		
	Noncontrolling Interests	PAGP	Total Cash Distributions
2021	\$ 36	\$ 140	\$ 176
2020	\$ 57	\$ 166	\$ 223
2019	\$ 141	\$ 231	\$ 372

On February 14, 2022, AAP distributed \$43 million to its partners from distributions received from PAA. Of this amount, \$8 million was distributed to noncontrolling interests and \$35 million was distributed to us.

Other Distributions. 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.

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The initial distribution from the Permian JV was paid during the first quarter of 2022, with approximately \$54 million paid to noncontrolling interests in the Permian JV. 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 non-cleared 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.

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- 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) MMbbls	December 2023
Butane sales	(3.3) MMbbls	December 2023
Condensate sales	(1.5) MMbbls	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	<u>\$ (639)</u>	<u>\$ (297)</u>	<u>\$ 324</u>

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):

	December 31,	
	2021	2020
Initial margin	\$ 133	\$ 91
Variation margin posted/(returned)	173	290
Letters of credit	(47)	(63)
Net broker receivable/(payable)	<u>\$ 259</u>	<u>\$ 318</u>

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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, 2021				December 31, 2020			
	Commodity Derivatives		Effect of Collateral Netting	Net Carrying Value Presented on the Balance Sheet	Commodity Derivatives		Effect of Collateral Netting	Net Carrying Value Presented on the Balance Sheet
	Assets	Liabilities			Assets	Liabilities		
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."

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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 the PAA Series A preferred units is an embedded derivative that must be bifurcated from the related host contract, the PAA 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):

Recurring Fair Value Measures ⁽¹⁾	Fair Value as of December 31, 2021				Fair Value as of December 31, 2020			
	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.

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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	<u>\$ (2)</u>	<u>\$ (29)</u>
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 and 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.

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The following table presents components of lease cost, including both amounts recognized in income and amounts capitalized (in millions):

Lease Cost	Year Ended December 31,		
	2021	2020	2019
Operating lease cost	\$ 96	\$ 111	\$ 125
Short-term lease cost	19	31	35
Other ⁽¹⁾⁽²⁾	14	8	—
Total lease cost	<u>\$ 129</u>	<u>\$ 150</u>	<u>\$ 160</u>

⁽¹⁾ Includes finance lease costs, variable lease costs and sublease income.

⁽²⁾ 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:

	December 31,	
	2021	2020
Weighted-average remaining lease term (in years):		
Operating leases	11	12
Finance leases	9	9
Weighted-average discount rate:		
Operating leases	4.2 %	4.5 %
Finance leases	11.6 %	11.1 %

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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):

Leases	Balance Sheet Location	December 31,	
		2021	2020
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
Total lease right-of-use assets		\$ 492	\$ 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	59	70
Total finance lease liabilities		\$ 71	\$ 81
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

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- (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,		
	2021	2020	2019
Operating lease revenue ⁽¹⁾	\$ 28	\$ 19	\$ 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.

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U.S. Federal and State Taxes

Although we are organized as a limited partnership, we have elected to be treated as a corporation for U.S. federal income tax purposes and are therefore subject to both U.S. federal and state income taxes.

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):			
Federal income tax	\$ 16	\$ (149)	\$ 89
State income tax	23	1	21
Canadian federal and provincial income tax	23	(70)	(46)
Total deferred income tax expense/(benefit)	\$ 62	\$ (218)	\$ 64
Total income tax expense/(benefit)	\$ 112	\$ (167)	\$ 176

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	\$ 712	\$ (2,607)	\$ 2,238
Net (income)/loss attributable to noncontrolling interests	(540)	1,872	(1,731)
Income taxes attributable to noncontrolling interests	(73)	19	(66)
	\$ 99	\$ (716)	\$ 441
Federal statutory income tax rate	21 %	21 %	21 %
Income tax expense/(benefit) at statutory rate	\$ 21	\$ (150)	\$ 93
Deferred tax rate adjustment	17	11	10
State income tax, net of federal benefit	1	(9)	7
Income taxes attributable to noncontrolling interests:			
Canadian federal and provincial income tax	71	(19)	63
State income tax	2	—	3
Total income tax expense/(benefit)	\$ 112	\$ (167)	\$ 176

The Canadian federal and provincial income tax for the year ended December 31, 2020 reflects the impact of permanent differences primarily related to an impairment of goodwill that was recognized during the year. A portion of the

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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):

	December 31,	
	2021	2020
Deferred tax assets:		
Investment in partnerships	\$ 729	\$ 917
Net operating losses	633	527
Derivative instruments	39	45
Lease liabilities	48	39
Other	17	16
Total deferred tax assets	1,466	1,544
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 assets	\$ 885	\$ 1,028
Balance sheet classification of deferred tax assets/(liabilities):		
Deferred tax asset	\$ 1,362	\$ 1,444
Other long-term liabilities and deferred credits	(477)	(416)
	\$ 885	\$ 1,028

As a result of the exchange of the ownership interest in AAP in connection with our IPO and all subsequent exchanges, a deferred tax asset was created. These transfers of ownership were accounted for at the historical carrying basis for GAAP accounting purposes, but were recorded at the fair market value of the Class A shares at the time of exchange for U.S. federal income tax purposes. These transfers were transactions among shareholders, with the basis differences resulting in a deferred tax asset that was recorded as a component of partners' capital. Also, other equity transactions, including the repurchase of common units by PAA, and the associated adjustment to partners' capital attributable to PACP resulted in a corresponding change to the deferred tax asset balance that was recorded as a component of partners' capital. See Note 12 for additional information regarding exchanges and the repurchase of common units by PAA. The deferred tax asset is amortized to deferred income tax expense as the associated basis step-up is realized on our tax returns.

As of December 31, 2021, our federal, state, and foreign net operating loss carryforwards for income tax purposes were approximately \$2,832 million, \$797 million and \$9 million, respectively. If not utilized, the state and foreign net operating losses will begin to expire in 2022 and 2034, respectively, and a portion of our federal net operating losses will begin to expire in 2033. Under the Tax Act, U.S. federal NOLs generated after 2017 will have an indefinite carryforward period but may only reduce up to 80% of taxable income in any given year. Our U.S. federal NOLs generated prior to 2018 will not be subject to the taxable income limitation and will remain subject to a 20 year carryforward period.

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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

PAA’s Ownership of our Class C Shares

As of December 31, 2021 and 2020, PAA owned 534,596,831 and 547,717,762, respectively, Class C shares. See Note 12 for additional information regarding our Class C shares.

Omnibus Agreement

The Plains Entities entered into an Omnibus Agreement on November 15, 2016, which, among other things, provides for the following:

- our ability 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 PAA common units; and
- our ability to lend proceeds of any future indebtedness incurred by us to AAP, and AAP’s corresponding ability to lend such proceeds to PAA, in each case on substantially the same terms as incurred by us.

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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 in PAA.

Through various transactions by an affiliate of 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 our general partner (the "Board"). Additionally, as a result of various transactions by 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. Following these transactions, we no longer recognize EMG or Oxy as a principal owner.

In August 2021, the Board approved and adopted an amendment to our general partner'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 Board without being subject to public election. The Amendment also eliminated all previously negotiated rights, including Kayne Anderson's right, to appoint a 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):

	December 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.

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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 our Class A shares or 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 Class A share or 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 PAGP share or PAA unit at each balance sheet date and adjusted for the present value of any distributions that are estimated to occur on the underlying shares or 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 GP Holdings, L.P. Long-Term Incentive Plan	3.8
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⁾	47.3

⁽¹⁾ Of the 47.3 million total awards authorized, 26.0 million awards are currently available. The remaining balance has already vested or is currently outstanding.

As of December 31, 2021, 10.7 million PAA LTIP awards and 0.3 million PAGP LTIP awards were outstanding. Of the awards outstanding, 7.6 million PAA LTIP awards and 0.3 million PAGP LTIP awards 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 \$46 million.

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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):

	2022	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.

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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 current 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 receivables 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.

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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 to be complete, and 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 incident.

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 concluded a series of hearings on the issue of whether there were any “direct victims” of the spill that are entitled to restitution under applicable criminal law. Through a series of final orders issued at the trial 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.

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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 PAA against PAGP and certain of PAA'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.

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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. Therefore, as of December 31, 2021, we have recognized a receivable of approximately \$105 million for the portion of the release costs that we believe is probable of recovery from insurance, net of deductibles and amounts already collected. Such amount is recognized as a current asset in “Trade accounts receivable 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.

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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 in consolidated joint venture entities (“Adjusted EBITDA attributable to noncontrolling interests in consolidated joint ventures”).

During the fourth quarter of 2021, we modified our definition of Segment Adjusted EBITDA to exclude amounts attributable to noncontrolling interests in consolidated joint ventures. 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 in consolidated joint ventures for periods prior have been recast to reflect this modification.

Segment Adjusted EBITDA excludes depreciation and amortization. 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 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, 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.

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The following tables reflect certain financial data for each segment (in millions):

	Crude Oil	NGL	Intersegment Revenues Elimination	Total
Year Ended December 31, 2021				
Revenues ⁽¹⁾ :				
Product sales	\$ 39,395	\$ 1,829	\$ (341)	\$ 40,883
Services	1,075	139	(19)	1,195
Total revenues	<u>\$ 40,470</u>	<u>\$ 1,968</u>	<u>\$ (360)</u>	<u>\$ 42,078</u>
Equity earnings in unconsolidated entities	\$ 274	\$ —		\$ 274
Segment Adjusted EBITDA	<u>\$ 1,909</u>	<u>\$ 285</u>		<u>\$ 2,194</u>
Investment and acquisition capital expenditures ^{(2) (3)}	<u>\$ 212</u>	<u>\$ 57</u>		<u>\$ 269</u>
Maintenance capital expenditures ⁽³⁾	<u>\$ 100</u>	<u>\$ 68</u>		<u>\$ 168</u>
As of December 31, 2021				
Investments in unconsolidated entities	<u>\$ 3,805</u>	<u>\$ —</u>		<u>\$ 3,805</u>
	Crude Oil	NGL	Intersegment Revenues Elimination	Total
Year Ended December 31, 2020				
Revenues ⁽¹⁾ :				
Product sales	\$ 21,089	\$ 1,218	\$ (249)	\$ 22,058
Services	1,110	142	(20)	1,232
Total revenues	<u>\$ 22,199</u>	<u>\$ 1,360</u>	<u>\$ (269)</u>	<u>\$ 23,290</u>
Equity earnings in unconsolidated entities	\$ 355	\$ —		\$ 355
Segment Adjusted EBITDA	<u>\$ 2,216</u>	<u>\$ 327</u>		<u>\$ 2,543</u>
Investment and acquisition capital expenditures ^{(2) (3)}	<u>\$ 1,182</u>	<u>\$ 49</u>		<u>\$ 1,231</u>
Maintenance capital expenditures ⁽³⁾	<u>\$ 171</u>	<u>\$ 45</u>		<u>\$ 216</u>
As of December 31, 2020				
Investments in unconsolidated entities	<u>\$ 3,764</u>	<u>\$ —</u>		<u>\$ 3,764</u>
	Crude Oil	NGL	Intersegment Revenues Elimination	Total
Year Ended December 31, 2019				
Revenues ⁽¹⁾ :				
Product sales	\$ 30,375	\$ 2,302	\$ (405)	\$ 32,272
Services	1,280	137	(20)	1,397
Total revenues	<u>\$ 31,655</u>	<u>\$ 2,439</u>	<u>\$ (425)</u>	<u>\$ 33,669</u>
Equity earnings in unconsolidated entities	\$ 388	\$ —		\$ 388
Segment Adjusted EBITDA	<u>\$ 2,753</u>	<u>\$ 467</u>		<u>\$ 3,220</u>
Investment and acquisition capital expenditures ^{(2) (3)}	<u>\$ 1,332</u>	<u>\$ 58</u>		<u>\$ 1,390</u>
Maintenance capital expenditures ⁽³⁾	<u>\$ 248</u>	<u>\$ 39</u>		<u>\$ 287</u>
As of December 31, 2019				
Investments in unconsolidated entities	<u>\$ 3,683</u>	<u>\$ —</u>		<u>\$ 3,683</u>

PLAINS GP HOLDINGS, L.P. AND SUBSIDIARIES
NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS

- (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 PAGP (in millions):

	Year Ended December 31,		
	2021	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 in consolidated joint ventures ⁽¹⁰⁾	94	14	10
Unallocated general and administrative expenses ⁽¹¹⁾	(6)	(5)	(5)
Depreciation and amortization	(777)	(656)	(604)
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	712	(2,607)	2,238
Income tax (expense)/benefit	(112)	167	(176)
Net income/(loss)	600	(2,440)	2,062
Net (income)/loss attributable to noncontrolling interests	(540)	1,872	(1,731)
Net income/(loss) attributable to PAGP	\$ 60	\$ (568)	\$ 331

(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.

PLAINS GP HOLDINGS, L.P. AND SUBSIDIARIES
NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS

- (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 PAA common units and awards that will be settled in cash. The awards that will be settled in PAA common units are included in PAA's 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 PAA's 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. See Note 12 for additional information regarding these noncontrolling interests.
- (11) Represents general and administrative expenses incremental to those of PAA, which are not allocated to our reporting segments in determining Segment Adjusted EBITDA.

PLAINS GP HOLDINGS, L.P. AND SUBSIDIARIES
NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS

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):

Revenues ⁽¹⁾	Year Ended December 31,		
	2021	2020	2019
United States	\$ 34,458	\$ 17,942	\$ 27,162
Canada	7,620	5,348	6,507
	<u>\$ 42,078</u>	<u>\$ 23,290</u>	<u>\$ 33,669</u>

⁽¹⁾ Revenues are primarily attributed to each region based on where the services are provided or the product is shipped.

Long-Lived Assets ⁽¹⁾	December 31,	
	2021	2020
United States	\$ 18,279	\$ 16,896
Canada	4,094	3,892
	<u>\$ 22,373</u>	<u>\$ 20,788</u>

⁽¹⁾ Excludes long-term derivative assets, long-term deferred tax assets and goodwill.

**FOURTH AMENDED AND RESTATED
LIMITED LIABILITY COMPANY AGREEMENT
OF
PAA GP HOLDINGS LLC
effective as of August 19, 2021**

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**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 “*Member*”).

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 Commission and any National Securities Exchange on which the PAGP Class A Shares or MLP 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 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 Schedule 1 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 Schedule 1 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 Principal Office. 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 Registered Office and Registered Agent. 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 Purpose of the Company. 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 Date of Dissolution. The Company shall have perpetual existence unless the Company is dissolved pursuant to Article 9 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 Members.

(a) Powers of Members. 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) Resignation. 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 Article IX.

(c) Ownership. 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 Reliance by Third Parties. 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 Capital Contributions. No capital was contributed to the Company in connection with its formation.

3.2 Additional Capital Contributions. No Member shall be required to make any capital contribution to the Company.

3.3 Splits. 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 Distributions. 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 Persons Entitled to Distributions. Any distributions to Members pursuant to Section 4.1 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 Meetings of Members. 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 Representatives 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 Quorum; Voting Requirement. 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 Action Without Meeting. 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 Section 5.4 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 Notice. 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 Waiver of Notice. 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.

(a) Except as otherwise provided hereunder, the business and affairs of the 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:

(i) Subject to Section 6.2, the Chief Executive Officer of the Company 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.

(ii) In the event of the death, resignation or removal of a Director or 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 of a public company in the energy sector, (ii) not be prohibited from serving 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 Section 6.1(c) or Section 6.1(d). Any Series A Designated Director shall have all the rights and duties of a Director otherwise serving hereunder.

(c) Prior to a Designation Right Termination Event (as defined below), the 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 Section 6.1(c) or Section 6.1(d). 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 and shall be in electronic form if the minutes are maintained in electronic form.

6.5 Communications. 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 Committees of Directors.

(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 Section 6.6(a), 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 Section 6.6(a), the Board shall maintain an "**Audit Committee**," which shall be composed of at least three Independent Directors at all times, subject to Section 6.1(a)(i). 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 Compensation of Directors. 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 Directors as Agents. 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.

(a) Subject to, and as limited by, the provisions of this Agreement, the 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 Section 7.1 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 Section 7.1 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 Section 7.2(a) 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 Section 7.2.

(c) The indemnification provided by this Section 7.2 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 Section 7.2.

(f) An Indemnitee shall not be denied indemnification in whole or in part under this Section 7.2 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 Section 7.2(c), the provisions of this Section 7.2 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 Section 7.2 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 Section 7.2 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 Section 8.2, 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 Section 8.1;

(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 Effect of Admission as a Substitute Member. 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 Consent. Each Member hereby agrees that upon satisfaction of the terms and conditions of this Article VIII with respect to any proposed Transfer, the transferee may be admitted as a Member without any further action by a Member hereunder.

8.5 No Dissolution. If a Member Transfers all of its Company Units pursuant to this Article VIII and the transferee of such Company Units is admitted as a Member pursuant to Section 8.2, 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 Section 9.1.

8.6 Additional Members. 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 Section 8.2(b)(ii) and (b)(iii).

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 Final Accounting. 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 Distributions Following Dissolution and Termination. 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 Section 9.3, 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 Termination of the Company. 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 Article IX, 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 Fiscal Year and Accounting Method. 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 Delivery to Members; Inspection. 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 Section 10.2 and such other information regarding the business and affairs and financial condition of the Company as any Member may reasonably request.

10.4 Non-Disclosure. Each Member (other than PAGP) agrees that, except as otherwise 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 Non-Competition. 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 Non-Solicitation. 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 or indirectly, 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 Damages. 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 Article XI 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 Limitations. In the event that a court of competent jurisdiction decides that the limitations set forth in Section 11.1 hereof are too broad, such limitations shall be reduced to those limitations that such court deems reasonable.

ARTICLE XII **MISCELLANEOUS**

12.1 Waiver of Default. 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 Article VI 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 Section 12.2 shall be binding on all Members and the Board.

12.3 No Third Party Rights. Except for the rights provided to the Series A Preferred Unitholders in Sections 6.1(b), 6.1(c) and 6.1(d), and as provided in Article VII, 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 Severability. 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 Nature of Interest in the Company. A Member's Company Units shall be personal property for all purposes.

12.6 Binding Agreement. 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 Headings. 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 Word Meanings. 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 Counterparts. 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 Entire Agreement. 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 Partition. 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 Governing Law; Consent to Jurisdiction and Venue. 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 District of Delaware, as the case may be, and agree that the Company or Members may, at their option, enforce their rights hereunder in such courts.

[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: /s/ Richard McGee
Name: Richard McGee
Title: Executive Vice President, General
Counsel and Secretary

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

**DESCRIPTION OF THE REGISTRANT'S SECURITIES
REGISTERED PURSUANT TO SECTION 12 OF THE
SECURITIES EXCHANGE ACT OF 1934**

As of December 31, 2021, Plains GP Holdings, L.P. has one class of securities registered under Section 12 of the Securities Exchange Act of 1934, as amended (the "Exchange Act"): its Class A shares representing limited partner interests, which are described in this Exhibit. The following definitions are used in this Exhibit:

- "our," "we," "us," "the Partnership" or "Plains GP Holdings, L.P." refers to Plains GP Holdings, L.P., the registrant itself, or to Plains GP Holdings, L.P. and its operating subsidiaries collectively, as the context requires (we currently have no operating activities apart from those of PAA; accordingly, any references in this prospectus to "we," "our" and similar terms describing assets, business characteristics or other related matters refer to PAA's assets, business characteristics or other matters involving PAA's assets and operating activities);
- "PAA" refers to Plains All American Pipeline, L.P. (Nasdaq: PAA), individually, or to Plains All American Pipeline, L.P. and its operating subsidiaries collectively, as the context requires;
- "PAA GP" refers to PAA GP LLC, the general partner of PAA;
- "AAP" refers to Plains AAP, L.P., which owns a 100% membership interest in PAA GP;
- "GP LLC" refers to Plains All American GP LLC, the general partner of AAP;
- our "general partner" refers to PAA GP Holdings LLC;
- our "partnership agreement" refers to the Second Amended and Restated Agreement of Limited Partnership of Plains GP Holdings, L.P., as it may be amended from time to time;
- "Legacy Owners" refers to owners of AAP immediately prior to our initial public offering (our "IPO");
- our "Simplification Agreement" refers to the Simplification Agreement entered into on July 11, 2016 with our general partner, GP LLC, AAP, PAA GP and PAA, pursuant to which the parties agreed to, among other things, eliminate PAA's incentive distribution rights and the economic rights associated with PAA's general partner interest;
- our "Omnibus Agreement" refers to the Omnibus Agreement entered into on November 15, 2016 with our general partner, GP LLC, AAP, PAA GP and PAA in connection with the closing of the transactions contemplated by the Simplification Agreement, pursuant to which the parties agreed to, among other things, the maintenance of a one-to-one relationship between the number of our outstanding Class A shares and the number of PAA common units we indirectly own through AAP and the payment by PAA or reimbursement of our general partner, us and our subsidiaries (other than PAA and its subsidiaries) for all direct and indirect expenses incurred (other than income taxes incurred by us or our subsidiaries (other than PAA and its subsidiaries)); and
- "affiliates" of our general partner do not include the Legacy Owners.

DESCRIPTION OF OUR SHARES

Our Share Structure

Our partnership agreement provides for three classes of shares, Class A shares, Class B shares and Class C shares, each of which represents limited partner interests in us. The holders of our Class A and Class B shares are entitled to exercise the rights or privileges available to limited partners under our partnership agreement, but only holders of our Class A shares are entitled to participate in our distributions. The Class C shares are a non-economic interest and provide a pass-through voting mechanism through which PAA, as the sole holder of the Class C shares, votes at the direction and on behalf of PAA common and Series A preferred unitholders in director elections. For a description of the rights and preferences of holders of our Class A shares in and to our distributions, please read "Our Cash Distribution Policy." For a description of the rights and privileges of limited partners under our partnership agreement, including voting rights, please read "Description of Our Partnership Agreement."

Our Class A shares are listed on the Nasdaq Global Select Market under the symbol "PAGP"; we do not intend to list the Class B shares or the Class C shares on any stock exchange. All of our Class B shares are owned by the Legacy Owners, including holders of Class B units of AAP (the "AAP management units") who have converted such AAP management units into AAP Class A units and a like number of Class B shares, or their permitted transferees. All of the Class C shares are owned by PAA.

Exchange Right

Each holder of AAP Class A units (other than us and GP LLC) has the right to exchange (the "Exchange Right") all or a portion of their AAP Class A units for Class A shares at an exchange ratio of one Class A share for each AAP Class A unit exchanged. The Exchange Right may be exercised only if, simultaneously therewith, an equal number of our Class B shares and general partner units, if applicable, are transferred by the exercising party to us.

For purposes of any transfer or exchange of AAP Class A units, the AAP partnership agreement, our general partner's limited liability company agreement and our partnership agreement contain provisions linking each such AAP Class A unit with one of our Class B shares and a general partner unit, if applicable. Our Class B shares and general partner units, if applicable, cannot be transferred without transferring an equal number of AAP Class A units and vice versa.

As long as the Class A shares are publicly traded, a holder of vested AAP management units will be entitled to convert his or her AAP management units into AAP Class A units and a like number of Class B shares based on a conversion ratio of approximately 0.941 AAP Class A units and Class B shares for each AAP management unit. Following any such conversion, the holder will have the Exchange Right for our Class A shares. Holders of AAP management units who convert such units into AAP Class A units and 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 Exchange Right.

The above mechanisms are subject to customary conversion rate adjustments for equity splits, equity dividends and reclassifications.

Transfer of Class A Shares, Class B Shares and Class C Shares

By transfer of our Class A shares and Class B shares in accordance with our partnership agreement, each transferee of our Class A shares and Class B shares will be admitted as a shareholder with respect to the class of shares transferred when such transfer and admission is reflected in our books and records. Additionally, each transferee of our Class A shares and Class B shares:

- represents that the transferee has the capacity, power and authority to become bound by our partnership agreement;
- automatically agrees to be bound by the terms and conditions of, and is deemed to have executed, our partnership agreement; and

- gives the consents and approvals contained in our partnership agreement.

A transferee will become a substituted limited partner for the transferred shares automatically upon the recording of the transfer on our books and records. Our general partner will cause any transfers to be recorded on our books and records no less frequently than quarterly.

We may, at our discretion, treat the nominee holder of a Class A share or Class B share as the absolute owner. In that case, the beneficial holder's rights are limited solely to those that it has against the nominee holder as a result of any agreement between the beneficial owner and the nominee holder.

Class A shares and Class B shares are securities and are transferable according to the laws governing transfers of securities. In addition to other rights acquired upon transfer, the transferor gives the transferee the right to become a substituted limited partner in our partnership for the transferred shares.

Until a Class A share or Class B share has been transferred on our books, we and the transfer agent, notwithstanding any notice to the contrary, may treat the record holder of the share as the absolute owner for all purposes, except as otherwise required by law or stock exchange regulations.

For purposes of any transfer or exchange of AAP Class A units and our Class B shares, the AAP partnership agreement, our general partner's limited liability company agreement and our partnership agreement contain provisions linking each AAP Class A unit with one of our Class B shares and a general partner unit, if applicable. Please read "—Exchange Right" above.

Pursuant to the Omnibus Agreement, PAA may not transfer the Class C shares without our prior consent.

OUR CASH DISTRIBUTION POLICY

Our Cash Distribution Policy

Our partnership agreement requires that, within 55 days after the end of each quarter, we distribute all of our available cash to Class A shareholders of record on the applicable record date.

Available cash generally means, for any quarter ending prior to liquidation, all cash and cash equivalents on hand at the date of determination of available cash for the distribution in respect of such quarter (including expected distributions from AAP in respect of such quarter), less the amount of cash reserves established by our general partner, which will not be subject to a cap, to:

- comply with applicable law or any agreement binding upon us or our subsidiaries (exclusive of PAA and its subsidiaries);
- provide funds for distributions to shareholders;
- provide for future capital expenditures, debt service and other credit needs as well as any federal, state, provincial or other income tax that may affect the Partnership in the future; or
- provide for the proper conduct of our business, including with respect to the matters described under "Description of Our Partnership Agreement."

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

Our Sources of Available Cash

Our principal sources of cash flow are derived from our indirect investment in PAA through our ownership of limited partner interests in AAP, which owns common units of PAA. Therefore, our cash flow and resulting ability to make distributions will be completely dependent upon the ability of PAA to make distributions to AAP in respect of the common units AAP owns. The actual amount of cash that PAA, and correspondingly AAP, will have available for distribution will primarily depend on the amount of cash PAA generates from its operations. Also, under the terms of the agreements governing PAA's debt, PAA is prohibited from declaring or paying any distribution to unitholders if a default or event of default (as defined in such agreements) exists.

General Partner Interest

Our general partner owns a non-economic general partner interest in us, which does not entitle it to receive cash distributions.

Distributions of Cash Upon Liquidation

If we dissolve in accordance with the partnership agreement, we will sell or otherwise dispose of our assets in a process called liquidation. We will first apply the proceeds of liquidation to the payment of our creditors and, thereafter, holders of our Class A shares would be entitled to share ratably in the distribution of any remaining proceeds.

DESCRIPTION OF OUR PARTNERSHIP AGREEMENT

The following is a summary of certain material provisions of our partnership agreement.

Purpose

Under our partnership agreement, we are permitted to engage, directly or indirectly, in any business activity that is approved by our general partner and that lawfully may be conducted by a limited partnership organized under Delaware law.

Although our general partner has the ability to cause us, our affiliates and our subsidiaries to engage in activities other than the indirect ownership of partnership interests in PAA, our general partner has no current plans to do so and may decline to do so free of any fiduciary duty or obligation whatsoever to us or our shareholders, including any duty to act in good faith or in the best interest of us or our shareholders. Our general partner is authorized in general to perform all acts it determines to be necessary or appropriate to carry out our purposes and to conduct our business, including, but not limited to, the following:

- the making of expenditures and the incurrence of debt and other obligations;
- the acquisition, disposition, mortgage, pledge, encumbrance, hypothecation or exchange of any or all of our assets or the merger or other combination of us with or into another person;
- the negotiation, execution and performance of contracts;
- the distribution of our cash;
- the purchase, sale or other acquisition or disposition of our partnership securities or the issuance of partnership securities or options or other rights relating thereto; and
- any action in connection with our participation and management of PAA.

Capital Contributions

Our shareholders are not obligated to make additional capital contributions, except as described below under “—Limited Liability.”

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 shareholders or of shareholders to us, or the rights or powers of, or restrictions on, the shareholders 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 shareholders;
- asserting a claim arising pursuant to any provision of the Delaware Revised Uniform Limited Partnership Act (the “Delaware Act”); or
- 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 Class A share, a shareholder 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 may be based upon federal law claims, Section 27 of the Exchange Act creates exclusive federal jurisdiction over all suits brought to enforce any duty or liability created by the Exchange 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.

Limited Liability

Assuming that a shareholder 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 possible exceptions, to the amount of capital he is obligated to contribute to us for his shares plus his share of any undistributed profits and assets. If it were determined, however, that the right, or exercise of the right, by the shareholders as a group:

- to remove or replace our general partner,
- to approve some amendments to our partnership agreement, or
- to take other action under our partnership agreement,

constituted “participation in the control” of our business for the purposes of the Delaware Act, then our shareholders could be held personally liable for our obligations under the laws of Delaware, to the same extent as our general partner. This liability would extend to persons who transact business with us who reasonably believe that the shareholder is a general partner. Neither our partnership agreement nor the Delaware Act specifically provides for legal recourse against our general partner if a shareholder were to lose limited liability through any fault of our general partner. Although this does not mean that a shareholder could not seek legal recourse, we know of no precedent for this type of a claim in Delaware case law.

Under the Delaware Act, a limited partnership may not make a distribution to a partner if, after the distribution, all liabilities of the limited 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, would exceed the fair value of the assets of the limited partnership. For the purpose of determining the fair value of the assets of a limited partnership, the Delaware Act provides that the fair value of property subject to liability for which recourse of creditors is limited will 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 that the distribution was in violation of the Delaware Act will be liable to the limited partnership for the amount of the distribution for three years. Under the Delaware Act, a substituted limited partner of a limited partnership is liable for the obligations of his assignor to make contributions to the partnership, except that such person is not obligated for liabilities unknown to him at the time he became a limited partner and that could not be ascertained from the partnership agreement.

Limitations on the liability of limited partners for the obligations of a limited partner (or in our case, a shareholder) have not been clearly established in many jurisdictions. Although we currently have no operations distinct from PAA, if in the future, by our ownership in an operating company or otherwise, it were determined that we were conducting business in any state without compliance with the applicable limited partnership or limited liability company statute, or that the right or exercise of the right by the shareholders as a group to remove or replace our general partner, to approve some amendments to our partnership agreement, or to take other action under our partnership agreement constituted “participation in the control” of our business for purposes of the statutes of any relevant jurisdiction, then the shareholder could be held personally liable for our obligations under the law of that jurisdiction to the same extent as our general partner under the circumstances. We operate in a manner that our general partner considers reasonable and necessary or appropriate to preserve the limited liability of the shareholders.

Limited Voting Rights

Our general partner manages us and our operations. Our shareholders will have only limited voting rights on matters affecting our business. Our shareholders will not have the right to elect our general partner or, except as described below under “—Public Election of Directors,” its directors on an annual or other continuing basis.

Our Class C shares are only entitled to vote on the election of directors and on certain amendments to our partnership agreement that would enlarge the obligations of holders of Class C shares thereunder or that would have a material adverse effect on the rights or preferences of the Class C shares relative our other classes of limited partner interests. On such matters, PAA votes the Class C shares on behalf of, and as instructed by, the PAA common and Series A preferred unitholders. Because of the limited voting rights of our Class C shares, except as otherwise indicated, references in this section to requisite shareholder approvals and “outstanding shares” refer to requisite approvals by holders of Class A shares and Class B shares and outstanding Class A shares and Class B shares, respectively, in each case voting together as a single class.

The following is a summary of the shareholder vote required for the matters specified below. On all matters where our shareholders are entitled to vote (other than the election of directors of our general partner as described below under “—Public Election of Directors”), the Class A shares and Class B shares will vote together as a single class and will be entitled to one vote per share. The holders of a majority of the outstanding shares, represented in person or by proxy, will constitute a quorum unless any action by the shareholders requires approval by holders of a greater percentage of the shares, in which case the quorum will be the greater percentage. In voting any shares it owns, our general partner will have no fiduciary duty or obligation whatsoever to us or the shareholders, including any duty to act in good faith or in the best interests of us or the shareholders.

Issuance of additional shares (or other partnership securities)	No approval right.
Amendment of our partnership agreement	Amendments to our partnership agreement may be proposed only by or with the consent of our general partner. Certain amendments may be made by our general partner without the approval of our shareholders. Other amendments generally require the approval of a majority of our outstanding shares (including under certain circumstances, our Class C shares). Please read “—Amendments to Our Partnership Agreement.”
Merger of our partnership or the sale of all or substantially all of our assets	A majority of our outstanding shares in certain circumstances. Please read “—Merger, Sale or Other Disposition of Assets.”
Dissolution	A majority of our outstanding shares. Please read “—Termination or Dissolution.”
Reconstitution upon dissolution	A majority of our outstanding shares. Please read “—Termination or Dissolution.”
Withdrawal of our general partner	No approval right. Please read “—Withdrawal or Removal of the General Partner.”
Removal of our general partner	Not less than 66 2/3% of our outstanding shares, including shares held by our general partner, the Legacy Owners and their respective affiliates. Please read “—Withdrawal or Removal of the General Partner.”
Transfer of the general partner interest	No approval right.

Issuance of Additional Securities

Our partnership agreement authorizes us to issue an unlimited number of additional limited partner interests and other equity securities for the consideration and on the terms and conditions established by our general partner in its sole discretion without the approval of our shareholders.

Holders of any additional shares we issue will be entitled to share equally with the then-existing shareholders 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 shares in our net assets.

In accordance with Delaware law and the provisions of our partnership agreement, we may also issue additional partnership interests that have special voting rights to which the Class A shares, Class B shares and Class C Shares are not entitled.

Amendments to Our Partnership Agreement

General

Amendments to our partnership agreement may be proposed only by or with the consent of our general partner. However, our general partner will have no duty or obligation to propose any amendment and may decline to do so free of any fiduciary duty or obligation whatsoever to us or our shareholders, including any duty to act in good faith or in the best interests of us or our shareholders. To adopt a proposed amendment, other than the amendments discussed below, our general partner must seek written approval of the holders of the number of shares required to approve the amendment or call a meeting of our shareholders to consider and vote upon the proposed amendment. Except as described below, an amendment must be approved by a majority of our outstanding shares.

Prohibited Amendments

No amendment may be made that would:

- (1) enlarge the obligations of any shareholder without its consent (including the Class C shareholder), unless approved by at least a majority of the type or class of shareholder interests so affected; or
- (2) enlarge the obligations of, restrict in any way any action by or rights of, or reduce in any way the amounts distributable, reimbursable or otherwise payable by us to our general partner or any of its affiliates without the consent of our general partner, which may be given or withheld in its sole discretion.

The provision of our partnership agreement preventing amendments having the effects described in clauses (1) or (2) above can be amended upon the approval of the holders of at least 90% of the outstanding shares.

No Shareholder Approval

Our general partner may generally make amendments to our partnership agreement without the approval of any shareholder or assignee to reflect:

- (1) any change in our name, the location of our principal place of business, our registered agent or its registered office;
- (2) the admission, substitution, withdrawal or removal of partners in accordance with our partnership agreement;
- (3) a change that our general partner determines to be necessary or appropriate to qualify or continue the qualification of our partnership as a limited partnership or a partnership in which the limited partners have limited liability under the laws of any state;
- (4) an amendment that is necessary, in the opinion of our counsel, to prevent us or our general partner or its directors, officers, agents or trustees, from in any manner being subjected to the provisions of the Investment Company Act of 1940, the Investment Advisors Act of 1940, or "plan asset" regulations adopted under the Employee Retirement Income Security Act of 1974, whether or not substantially similar to plan asset regulations currently applied or proposed;
- (5) an amendment that our general partner determines to be necessary or appropriate for the authorization of additional partnership securities or rights to acquire partnership securities;
- (6) any amendment expressly permitted in our partnership agreement to be made by our general partner acting alone;

- (7) an amendment effected, necessitated or contemplated by a merger agreement that has been approved under the terms of our partnership agreement;
- (8) an amendment that our general partner determines to be necessary or appropriate for the formation by us, or our investment in, any corporation, partnership or other entity, as otherwise permitted by our partnership agreement;
- (9) a change in our fiscal year or taxable year and related changes;
- (10) a merger with or conveyance to another limited liability entity that is newly formed and has no assets, liabilities or operations at the time of the merger or conveyance other than those it receives by way of the merger or conveyance, provided that the sole purpose of such merger is to effect a legal change into a different form of limited liability entity;
- (11) an amendment effected, necessitated or contemplated by an amendment to PAA's partnership agreement that requires PAA unitholders to provide a statement, certificate or other proof of evidence to PAA regarding whether such unitholder is subject to United States federal income tax on the income generated by PAA; or
- (12) any other amendments substantially similar to any of the matters described in (1) through (11) above.

In addition, our general partner may make amendments to our partnership agreement without the approval of any shareholder or assignee if those amendments, in the discretion of our general partner:

- (1) do not adversely affect our shareholders (or any particular class of holders of partnership interests, including our Class C shares) in any material respect;
- (2) are necessary or appropriate to satisfy any requirements, conditions or guidelines contained in any opinion, directive, order, ruling or regulation of any federal or state agency or judicial authority or contained in any federal or state statute;
- (3) are necessary or appropriate to facilitate the trading of our shares or to comply with any rule, regulation, guideline or requirement of any securities exchange on which our shares are or will be listed for trading;
- (4) are necessary or appropriate for any action taken by our general partner relating to splits or combinations of shares under the provisions of our partnership agreement; or
- (5) are required to effect the intent of the provisions of our partnership agreement or as are otherwise contemplated by our partnership agreement.

Opinion of Counsel and Shareholder Approval

Any amendment described as requiring shareholder approval will require an opinion of counsel to the effect that the amendment will not affect the limited liability under applicable law of any of our shareholders. Our general partner will not be required to obtain such an opinion of counsel for any of the amendments described above under “—No Shareholder Approval.” In the absence of such an opinion where required, the approval of 90% of the outstanding shares is required for an amendment to become effective.

In addition to the above restrictions, any amendment that would have a material adverse effect on the rights or preferences of any type or class of outstanding shares in relation to other classes of shares will require the approval of at least a majority of the type or class of shares so affected. Also, any amendment that reduces the voting percentage required to take any action must be approved by the affirmative vote of shareholders whose aggregate outstanding shares constitute not less than the voting requirement sought to be reduced.

Merger, Sale or Other Disposition of Assets

Our partnership agreement generally prohibits our general partner, without the prior approval of a majority of our outstanding shares, 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.

A merger, consolidation or conversion of us requires the prior consent of our general partner. In addition, our partnership agreement provides that, to the maximum extent permitted by law, our general partner will have no duty or obligation to consent to any merger, consolidation or conversion of us and may decline to do so free of any fiduciary duty or obligation whatsoever to us, or any of our shareholders. Further, in declining to consent to a merger, consolidation or conversion, our general partner will not be required to act in good faith or pursuant to any other standard imposed by our partnership agreement, any other agreement, under the Delaware Act or any other law, rule or regulation or at equity.

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 shareholders are not entitled to dissenters' rights or appraisal rights (and, therefore, will not be entitled to demand payment of a fair price for their shares) 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.

Termination or Dissolution

We will continue as a limited partnership until terminated under our partnership agreement. We will dissolve upon:

- (1) the election of our general partner to dissolve us, if approved by a majority of our outstanding shares;
- (2) there being no holders of partnership interests, unless we are continued without dissolution in accordance with applicable Delaware law;
- (3) the entry of a decree of judicial dissolution of us; or
- (4) the withdrawal or removal of our general partner or any other event that results in its ceasing to be our general partner other than by reason of a transfer of its general partner interest in accordance with our partnership agreement or withdrawal or removal of our general partner following approval and admission of a successor.

Upon a dissolution under clause (4) above, the holders of a majority of our outstanding shares may also elect, within specific time limitations, to continue our business on the same terms and conditions described in our partnership agreement by appointing as a successor general partner an entity approved by the holders of a majority of the outstanding shares, subject to our receipt of an opinion of counsel to the effect that the action would not result in the loss of limited liability of any limited partner.

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 of the powers of our general partner that the liquidator deems necessary or appropriate, liquidate our assets. The proceeds of the liquidation will be applied as follows:

- *first*, towards the payment of all of our creditors and the settlement of or creation of a reserve for contingent liabilities; and

- *then*, to all partners in accordance with the positive balance in the respective capital accounts.

If the liquidator determines that a sale would be impractical or would cause a loss to our partners, it may defer liquidation of our assets for a reasonable period of time or distribute assets to partners in kind if it determines that a sale would be impractical or would cause undue loss to the partners.

Withdrawal or Removal of the General Partner

Our general partner may withdraw as general partner in compliance with our partnership agreement after giving 90 days' written notice to our shareholders, and that withdrawal will not constitute a violation of our partnership agreement.

Upon the voluntary withdrawal of our general partner, the holders of a majority of our outstanding shares may elect a successor to that withdrawing general partner. If a successor is not elected, or is elected but an opinion of counsel regarding limited liability cannot be obtained, we will be dissolved, wound up and liquidated, unless within 180 days after that withdrawal, the holders of a majority of the outstanding shares agree in writing to continue our business and to appoint a successor general partner. Please read "—Termination or Dissolution" above.

Our general partner may not be removed unless that removal is approved by the vote of the holders of not less than 66 2/3% of our outstanding shares, including shares held by our general partner, the Legacy Owners and their respective affiliates, and we receive an opinion of counsel regarding limited liability. Any removal of our general partner is also subject to the approval of a successor general partner by the vote of the holders of a majority of the outstanding shares. The ownership of more than 33 1/3% of our outstanding shares by any person or group would give such persons the practical ability to prevent our general partner's removal.

In addition, we will be required to reimburse the departing general partner for all amounts due the departing general partner, including, without limitation, all employee-related liabilities, including severance liabilities, incurred for the termination of any employees employed by the departing general partner or its affiliates for our benefit.

Change of Management Provision

Our partnership agreement contains specific provisions that are intended to discourage a person or group from attempting to remove our general partner as general partner or otherwise change management. If any person or group other than our general partner, the Legacy Owners and their permitted transferees or their respective affiliates acquires beneficial ownership of 20% or more of any class of our shares, that person or group loses voting rights on all of its shares other than with regards to the nomination of persons to serve as members of our general partner's board of directors; provided, however that such holders shall be entitled to vote in an election for the directors of our general partner an amount of their shares constituting up to 19.9% of our outstanding Class A, Class B and Class C shares. This loss of voting rights does not apply to (i) any person or group that acquires the shares directly from us, our general partner, any of the Legacy Owners, any Qualifying Interest Holder (as defined in our partnership agreement) or their respective affiliates, (ii) any transferees that acquired the shares from a person or group described in clause (i), or (iii) any person or group that acquires 20% of any class of shares with the prior approval of the board of directors of our general partner.

Limited Call Right

If at any time more than 80% of our outstanding Class A shares and Class B shares on a combined basis (including Class A shares issuable upon the exchange of Class B shares and including any other additional limited partner interests we may issue in the future) are owned by our general partner, the Legacy Owners (or their permitted transferees) or their respective affiliates, our general partner will have the right (which it may assign to us or any other designee), but not the obligation, to acquire all, but not less than all, of the remaining Class A shares held by public shareholders at a price equal to the greater of (x) the current market price of such shares as of the date three days before notice of exercise of the call right is first mailed and (y) the highest price paid by our general partner, the Legacy Owners or their respective affiliates for such shares during the 90 day period preceding the date such notice is first mailed.

As a result of our general partner's right to purchase outstanding limited partner interests, a holder of limited partner interests may have his limited partner interests purchased at an undesirable time or price. The tax consequences to a shareholder of the exercise of this call right are the same as a sale by that shareholder of his shares in the market.

Public Election of Directors

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. In addition, if PAA fails to make three distributions on its Series A preferred units (whether or not consecutive), the holders of PAA's 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 such 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 of directors of our general partner to fill a vacancy, that director will have the same remaining term as his or her predecessor.

We hold annual shareholder meetings for the purpose of electing directors. Voting at any such shareholder meetings will be non-cumulative. The presence in person or by proxy of the holders of a majority of our outstanding Class A shares, Class B shares and Class C shares, voting together as a single class, will constitute a quorum; *provided* that 19.9% of the outstanding Class A shares, Class B shares and Class C shares beneficially owned by a greater than 20% owner will be counted for purposes of determining a quorum for the election of our general partner's board of directors. Directors will be elected by a plurality of the votes cast.

The individuals to stand for election as elected directors will be nominated by a majority of the directors of our general partner's board of directors, except that any director whose term is about to expire will not be eligible to vote on such nomination. In addition, any shareholder or common unitholder of PAA (other than AAP) that owns of record at least 10% of the combined Class A shares, Class B shares and Class C shares, or, in the case of a PAA common unitholder (other than AAP), a number of common units of PAA representing a number of Class C shares equal to at least 10% of the combined Class A shares, Class B shares and Class C shares, will have the right to nominate a single director for inclusion on the ballot at the applicable shareholder meeting. In order for a shareholder to make such nomination, it must provide notice of the nomination to our general partner not earlier than 120 days or later than 90 days prior to the anniversary of the preceding year's annual meeting and comply with certain other requirements set forth in our partnership agreement.

In addition to the provisions described above and in our partnership agreement, a shareholder must also comply with all applicable requirements of the Exchange Act and the rules and regulations thereunder; provided, however, that any references in our partnership agreement to the Exchange Act or the rules promulgated thereunder are not intended to and do not limit any requirements applicable to nominations pursuant to our partnership agreement, and compliance with our partnership agreement is the exclusive means for a shareholder to make nominations.

An elected director may be removed only for cause by vote of a majority of other elected directors. Any vacancies in elected directors (whether due to death, resignation or removal of an elected director or an increase in the total number of elected directors) may be filled, until the next annual meeting at which the term of such class expires, by a majority of the remaining directors then in office.

Status as Limited Partner

By transfer of shares in accordance with our partnership agreement, each transferee of shares shall be admitted as a limited partner with respect to the shares transferred when such transfer and admission is reflected in our books and records. Except as described under “—Limited Liability” above, the shares will be fully paid, and shareholders will not be required to make additional contributions.

Non-Citizen Assignees; Redemption

If we are or become subject to federal, state or local laws or regulations that, in the reasonable determination of our general partner, create a substantial risk of cancellation or forfeiture of any property that we have an interest in because of the nationality, citizenship or other related status of any shareholder, we may redeem the shares held by the limited partner or assignee at their current market price. To avoid any cancellation or forfeiture, our general partner may require each shareholder or assignee to furnish information about his nationality, citizenship or related status. If a shareholder or assignee fails to furnish information about his nationality, citizenship or other related status within 30 days after a request for the information or our general partner determines after receipt of the information that the limited partner or assignee is not an eligible citizen, the shareholder or assignee may be treated as a non-citizen assignee. In addition to other limitations on the rights of an assignee that is not a substituted limited partner, a non-citizen assignee does not have the right to direct the voting of his shares and may not receive distributions in kind upon our liquidation.

**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. Section 1. 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. Section 2. 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: /s/ Richard McGee
Richard McGee
Executive Vice President

**SUBSIDIARIES OF
PLAINS GP HOLDINGS, L.P.**
(As of 12/31/2021)

Subsidiary	Jurisdiction of Organization
Aurora Pipeline Company Ltd.	Canada
Bakersfield Crude Terminal LLC	Delaware
Cactus II Pipeline LLC	Delaware
Capline Pipeline Company LLC	Delaware
Eagle Ford Crude Terminal LLC	Delaware
FM Midstream Holdings LLC	Delaware
FM Gathering LLC	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 GP LLC	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 AAP, L.P.	Delaware
Plains All American Emergency Relief Fund, Inc.	Texas
Plains All American GP LLC	Delaware
Plains All American Pipeline, L.P.	Delaware
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

Subsidiary	Jurisdiction of Organization
PNGS GP LLC	Delaware
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. 333-200596, 333-210067, 333-218463, 333-235481 and 333-235482) and on Form S-8 (No. 333-193141) of Plains GP Holdings, 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 GP Holdings, 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 GP Holdings, 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 GP HOLDINGS, L.P.
PURSUANT TO 18 U.S.C. 1350**

I, Willie Chiang, Chief Executive Officer of Plains GP Holdings, 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 GP HOLDINGS, L.P.
PURSUANT TO 18 U.S.C. 1350**

I, Al Swanson, Chief Financial Officer of Plains GP Holdings, 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