

UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, D.C. 20549

FORM 10-K

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

For the fiscal year ended December 31, 2019

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

For the transition period from _____ to _____
Commission file number: 001-37712

ROSEHILL RESOURCES INC.

(Exact Name of Registrant as Specified in its Charter)

Delaware

(State or Other Jurisdiction of Incorporation or Organization)

90-1184262

(IRS Employer Identification No.)

16200 Park Row, Suite 300

Houston, Texas 77084

(Address of principal executive offices)

(281) 675-3400

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

Title of each class	Trading Symbol(s)	Name of each exchange on which registered
Class A Common Stock	ROSE	The Nasdaq Capital Market
Class A Common Stock Public Warrants	ROSEW	The Nasdaq Capital Market
Class A Common Stock Public Units	ROSEU	The Nasdaq Capital Market

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 (§232.405 of this chapter) 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 is a shell company (as defined in Rule 12b-2 of the Securities Exchange Act of 1934). Yes ☐ No ☒

The aggregate market value of the voting and non-voting common equity held by non-affiliates of the registrant as of June 30, 2019, the last business day of the registrant's most recently completed second fiscal quarter, was approximately \$39.9 million based on the last sales price of the shares as reported on the Nasdaq market on that date.

As of March 27, 2020, 28,811,078 shares of Class A common stock, par value \$0.0001 per share, and 15,707,692 shares of Class B common stock, par value \$0.0001 per share, were issued and outstanding.

Documents Incorporated by Reference

Portions of the Definitive Proxy Statement for the registrant's 2020 Annual Meeting of Stockholders, filed with the commission on April 7, 2020, are incorporated by reference into Part III of this report.

ROSEHILL RESOURCES INC.
FORM 10-K FOR THE YEAR ENDED DECEMBER 31, 2019

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GLOSSARY OF TERMS

The following are abbreviations and definitions of certain terms commonly used in the oil and natural gas industry and in this Annual Report on Form 10-K.

3-D seismic. Geophysical data that depict the subsurface strata in three dimensions. 3-D seismic typically provides a more detailed and accurate interpretation of the subsurface strata than 2-D, or two-dimensional, seismic.

Acquisition of properties. Costs incurred to purchase, lease or otherwise acquire a property, including costs of lease bonuses and options to purchase or lease properties, the portion of costs applicable to minerals when land including mineral rights is purchased in fee, brokers' fees, recording fees, legal costs and other costs incurred in acquiring properties.

Basin. A large depression on the earth's surface in which sediments accumulate.

Bbl. One stock tank barrel or 42 U.S. gallons liquid volume used in reference to crude oil or other liquid hydrocarbons.

Bbls/d. Barrels per day.

Boe. One barrel of oil equivalent determined using a ratio of six thousand cubic feet (Mcf) of natural gas being equivalent to one Bbl of crude oil, condensate or natural gas liquids.

Boe/d. Barrels of oil equivalent per day.

Btu. British thermal unit, which is the heat required to raise the temperature of a one-pound mass of water from 58.5 to 59.5 degrees Fahrenheit.

Completion. The process of treating a drilled well followed by the installation of permanent equipment for the production of natural gas or oil, or in the case of a dry hole, the reporting of abandonment to the appropriate agency.

Condensate. Condensate is a mixture of hydrocarbons that exists in the gaseous phase at original reservoir temperature and pressure, but that, when produced, is in the liquid phase at surface pressure and temperature. For additional information, see the SEC's definition in Rule 4-10(a)(4) of Regulation S-X, a link for which is available at the SEC's website.

Crude oil. Liquid hydrocarbons retrieved from geological structures underground to be refined into fuel sources.

Developed acreage. The number of acres that are allocated or assignable to productive wells or wells capable of production.

Development costs. Costs incurred to obtain access to proved reserves and to provide facilities for extracting, treating, gathering and storing the oil and gas.

Development project. A development project is the means by which petroleum resources are brought to the status of economically producible. As examples, the development of a single reservoir or field, an incremental development in a producing field, or the integrated development of a group of several fields and associated facilities with a common ownership may constitute a development project.

Development well. A well drilled within the proved area of an oil or natural gas reservoir to the depth of a stratigraphic horizon known to be productive.

Differential. An adjustment to the price of oil or natural gas from an established spot market price to reflect differences in the quality or location of oil or natural gas.

Dry hole or well. A well found to be incapable of producing hydrocarbons in sufficient quantities such that proceeds from the sale of such production would exceed production expenses and taxes.

Economically producible. The term economically producible, as it relates to a resource, means a resource which generates revenue that exceeds, or is reasonably expected to exceed, the costs of the operation.

Exploitation. A development or other project which may target proven or unproven reserves (such as probable or possible reserves), but which generally has a lower risk than that associated with exploration projects.

Exploratory well. A well drilled to find and produce oil or natural gas reserves not classified as proved, to find a new reservoir in a field previously found to be productive of natural gas or oil in another reservoir or to extend a known reservoir.

Field. An area consisting of a single reservoir or multiple reservoirs all grouped on or related to the same individual geological structural feature or stratigraphic condition.

Formation. A layer of rock that has distinct characteristics that differs from nearby rock.

Fracturing. The process of creating and preserving a fracture or system of fractures in a reservoir rock typically by injecting a fluid under pressure through a wellbore and into the targeted formation.

Gross acres or gross wells The total acres or wells, as the case may be, in which a working interest is owned.

Henry Hub. A distribution hub of natural gas pipelines used as a benchmark in natural gas pricing and the underlying commodity of NYMEX natural gas futures contracts.

Horizontal drilling. A drilling technique used in certain formations where a well is drilled vertically to a certain depth and then drilled at a right angle with a specified interval.

Horizontal wells. Wells drilled directionally horizontal to allow for development of structures not reachable through traditional vertical drilling mechanisms.

Hydrocarbons. Oil, NGLs and natural gas are all collectively considered hydrocarbons.

Liquids. Natural gas that contains significant heavy hydrocarbons, such as ethane, propane, butane, pentane and isobutane.

MBbls. One thousand barrels of crude oil or other liquid hydrocarbons.

MBoe. One thousand barrels of crude oil equivalent, using a ratio of six Mcf of natural gas to one Bbl of crude oil, condensate or natural gas liquids.

Mcf. One thousand cubic feet.

Mcf/d. One thousand cubic feet of natural gas per day.

Mineral interests. The interests in ownership of the resource and mineral rights, giving an owner the right to profit from the extracted resources.

MMBbls. One million barrels of crude oil or other liquid hydrocarbons.

MMBoe. One million barrels of crude oil equivalent, using a ratio of six Mcf of natural gas to one Bbl of crude oil, condensate or NGLs.

MMBtu. One million British thermal units.

MMcf/d. One million cubic feet of natural gas per day

Net acres. The sum of the fractional working interest owned in gross acres.

Net production. Production that is owned by the Company less royalties and production due others.

Net revenue interest. An owner's interest in the revenues of a well after deducting proceeds allocated to royalty and overriding interests.

Net wells. The sum of the fractional working interest owned in gross wells.

NGLs. The combination of ethane, propane, butane, pentane and isobutane that when removed from natural gas become liquid under various levels of higher pressure and lower temperature.

NYMEX. New York Mercantile Exchange.

Oil. Crude oil and condensate.

Oil and natural gas properties. Tracts of land consisting of properties to be developed for oil and natural gas resource extraction.

Operating interest. An interest in natural gas and oil that is burdened with the cost of development and operation of the property.

Operator. The individual or company responsible for the exploration or production of an oil or natural gas well or lease.

Play. A set of discovered or prospective oil or natural gas accumulations sharing similar geologic, geographic and temporal properties, such as source rock, reservoir structure, timing, trapping mechanism and hydrocarbon type.

Plugging and abandonment. Refers to the sealing off of fluids in the strata penetrated by a well so that the fluids from one stratum will not escape into another or to the surface. Regulations of all states require plugging of abandoned wells.

Productive well. A well that is found to be capable of producing hydrocarbons in sufficient quantities such that proceeds from the sale of such production exceed production expenses and taxes.

Proved developed reserves. Reserves that can be expected to be recovered through: (i) existing wells with existing equipment and operating methods or in which the cost of the required equipment is relatively minor compared to the cost of a new well; and (ii) through installed extraction equipment and infrastructure operational at the time of the reserves estimate if the extraction is by means not involving a well.

Proved developed non-producing. Proved oil and natural gas reserves that are developed behind pipe or shut-in or that can be recovered through improved recovery only after the necessary equipment has been installed, or when the costs to do so are relatively minor. Shut-in reserves are expected to be recovered from (1) completion intervals which are open at the time of the estimate but which have not started producing, (2) wells that were shut-in for market conditions or pipeline connections, or (3) wells not capable of production for mechanical reasons. Behind-pipe reserves are expected to be recovered from zones in existing wells that will require additional completion work or future recompletion prior to the start of production.

Proved reserves. Proved oil and natural gas reserves are those quantities of oil and gas, which, by analysis of geoscience and engineering data, can be estimated with reasonable certainty to be economically producible—from a given date forward, from known reservoirs and under existing economic conditions, operating methods and government regulations—prior to the time at which contracts providing the right to operate expire, unless evidence indicates that renewal is reasonably certain, regardless of whether deterministic or probabilistic methods are used for the estimation.

Proved undeveloped reserves (“PUDs”). Proved undeveloped oil and gas reserves that are expected to be recovered from new wells on undrilled acreage, or from existing wells where a relatively major expenditure is required for recompletion.

(i) Proved reserves on undrilled acreage shall be limited to those directly offsetting development spacing areas that are reasonably certain of production when drilled, unless evidence using reliable technology exists that establishes reasonable certainty of economic producibility at greater distances.

(ii) Proved undrilled locations can be classified as having undeveloped reserves only if a development plan has been adopted indicating that they are scheduled to be drilled within five years, unless the specific circumstances, justify a longer time.

(iii) Under no circumstances shall estimates for proved undeveloped reserves be attributable to any acreage for which an application of fluid injection or other improved recovery technique is contemplated, unless such techniques have been proved effective by actual projects in the same reservoir or an analogous reservoir or by other evidence using reliable technology establishing reasonable certainty.

PV-10. When used with respect to natural gas, oil and NGL reserves, PV-10 means the present value of the estimated future net revenue to be generated from the production of proved reserves, net of estimated production and future development costs, using prices and costs in effect as of the date of the report or estimate, without giving effect to non-property related expenses such as general and administrative expenses, debt service and future income tax expense or to depreciation, depletion and amortization, discounted using an annual discount rate of 10%. Also referred to as “present value.” After-tax PV-10 is also referred to as “standardized measure” and is net of future income tax expense.

Realized price. The cash market price less all expected quality, transportation and demand adjustments.

Recompletion. The completion for production of an existing wellbore in another formation from that which the well has been previously completed.

Reserves. Reserves are estimated remaining quantities of oil and natural gas and related substances anticipated to be economically producible, as of a given date, by application of development projects to known accumulations. In addition, there must exist, or there must be a reasonable expectation that there will exist, the legal right to produce or a revenue interest in the production, installed means of delivering oil and natural gas or related substances to the market and all permits and financing required to implement the project. Reserves should not be assigned to adjacent reservoirs isolated by major, potentially sealing, faults until those reservoirs are penetrated and evaluated as economically producible. Reserves should not be assigned to areas that are clearly separated from a known accumulation by a non-productive reservoir (i.e., absence of reservoir, structurally low reservoir or negative test results). Such areas may contain prospective resources (i.e., potentially recoverable resources from undiscovered accumulations).

Reservoir. A porous and permeable underground formation containing a natural accumulation of producible oil or natural gas that is confined by impermeable rock or water barriers and is individual and separate from other reserves.

Royalty interest. An interest that gives an owner the right to receive a portion of the resources or revenues without having to carry any costs of development or operations.

SEC. United States Securities and Exchange Commission.

Spacing. The distance between wells producing from the same reservoir. Spacing is often expressed in terms of acres (e.g., 40-acre spacing) and is often established by regulatory agencies.

Standardized measure. The present value of estimated future net revenues to be generated from the production of proved reserves, determined in accordance with assumptions required by the Financial Accounting Standards Board and the Securities and Exchange Commission (using current costs and the average annual prices based on the unweighted arithmetic average of the first-day-of-the-month price for each month) without giving effect to non-property related expenses such as general and administrative expenses, debt service and future income tax expenses or to depreciation, depletion and amortization, and discounted using an annual discount rate of 10%. Federal income taxes have not been deducted from future production revenues in the calculation of standardized measure. In addition, Texas margin taxes and the federal income taxes associated with a corporate subsidiary have not been deducted from future production revenues in the calculation of the standardized measure as the impact of these taxes would not have a significant effect on the calculated standardized measure. Standardized measure does not give effect to commodity derivative transactions.

Tight formation. A formation with low permeability that produces natural gas with very low flow rates for long periods of time.

Undeveloped acreage. Lease acreage on which wells have not been drilled or completed to a point that would permit the production of commercial quantities of oil and natural gas regardless of whether such acreage contains proved reserves.

Undeveloped oil, natural gas and NGL reserves. Undeveloped oil, natural gas and NGL reserves are reserves of any category that are expected to be recovered from new wells on undrilled acreage, or from existing wells where a relatively major expenditure is required for recompletion. Also referred to as “undeveloped reserves.”

Working interest. The operating interest that gives the owner the right to drill, produce and conduct operating activities on the property and the right to a share of production.

Workover. Operations on a producing well to restore or increase production.

West Texas Intermediate (“WTI”). A type of crude oil used as a benchmark in oil pricing and the underlying commodity of NYMEX oil futures contracts.

CAUTIONARY STATEMENT CONCERNING FORWARD-LOOKING STATEMENTS

This Annual Report on Form 10-K includes “forward-looking statements” within the meaning of Section 27A of the Securities Act of 1933, as amended (the “Securities Act”) and Section 21E of the Securities Exchange Act of 1934, as amended (the “Exchange Act”). All statements, other than statements of historical fact included in this report, including those regarding our strategy, future operations, financial position, estimated revenues and losses, projected costs, prospects, plans and objectives of management, are forward-looking statements. When used in this Annual Report on Form 10-K, the words “could,” “believe,” “anticipate,” “intend,” “estimate,” “expect,” “project” and similar expressions are intended to identify forward-looking statements, although not all forward-looking statements contain such identifying words. These forward-looking statements are based on management’s current expectations and assumptions about future events and are based on currently available information. When considering forward-looking statements, you should keep in mind the risk factors and other cautionary statements described under “Risk Factors” in Item 1A of Part 1 of this Annual Report on Form 10-K. Such statements speak only as of the date of this report.

Forward-looking statements may include statements about:

- our future financial performance;
- our ability to realize the anticipated benefits of acquired mineral rights and other associated assets and interests in the Southern Delaware Basin in December 2017 (the “White Wolf Acquisition”);
- our business strategy;
- our reserves;
- our liquidity and capital resources;
- our ability to comply with covenants and obligations under our financing agreements;
- the future of our operations;
- our drilling prospects, inventories, projects and programs;
- our ability to replace the reserves we produce through drilling and property acquisitions;
- our financial strategy, liquidity and capital required for our development program;
- our realized oil, natural gas and NGL prices;
- the timing and amount of our future production of oil, natural gas and NGLs;
- our hedging strategy and results;
- our future drilling plans;
- our expansion plans and future opportunities;
- our competition and government regulations;
- our ability to obtain permits and governmental approvals;
- our pending legal or environmental matters;
- our marketing of oil, natural gas and NGLs;
- our leasehold or business acquisitions;
- our costs of developing our properties;
- general economic conditions;
- credit markets;
- the impact of the COVID-19 pandemic;
- our ability to continue as a going concern;
- our ability to successfully complete strategic initiatives, including potential refinancings, restructuring or deleveraging;
- uncertainty regarding our future operating results; and
- our plans, objectives, expectations and intentions contained in the Annual Report on Form 10-K that are not historical.

You should not place undue reliance on these forward-looking statements. These forward-looking statements are subject to a number of risks, uncertainties and assumptions, including but not limited to those risks described under “Risk Factors” in Item 1A of Part 1 of this Annual Report on Form 10-K. Moreover, we operate in a very competitive and rapidly changing environment. New risks emerge from time to time. It is not possible for our management to predict all risks, nor can we assess the impact of all factors on our business or the extent to which any factor, or combination of factors, may cause actual results to differ materially from those contained in any forward-looking statements we may make.

Reserve engineering is a process of estimating underground accumulations of oil and natural gas that cannot be measured in an exact way. The accuracy of any reserve estimate depends on the quality of available data, the interpretation of such data and price and cost assumptions made by reserve engineers. In addition, the results of drilling, testing and production activities may justify revisions of estimates that were made previously. If significant, such revisions would change the schedule of any further production and development drilling. Accordingly, reserve estimates may differ significantly from the quantities of oil and natural gas that are ultimately recovered.

Although we believe that our plans, intentions and expectations reflected in or suggested by the forward-looking statements we make in this Annual Report on Form 10-K are reasonable, we can give no assurance that these plans, intentions or expectations will be achieved or occur, and actual results could differ materially and adversely from those anticipated or implied by the forward-looking statements.

All forward-looking statements, expressed or implied, included in this Annual Report on Form 10-K are expressly qualified in their entirety by this cautionary statement. This cautionary statement should also be considered in connection with any subsequent written or oral forward-looking statements that we or persons acting on our behalf may issue.

Except as otherwise required by applicable law, we disclaim any duty to update any forward-looking statements, all of which are expressly qualified by the statements in this section, to reflect events or circumstances after the date of this Annual Report on Form 10-K.

PART I

ITEM 1. BUSINESS

Overview

Rosehill Resources Inc. (the “Company,” “Rosehill Resources,” “we,” “us,” or “our”) is an independent oil and natural gas company focused on the acquisition, exploration, development and production of unconventional oil and associated liquids-rich natural gas reserves in the Permian Basin. Our assets are concentrated in the Delaware Basin, a sub-basin of the Permian Basin, and we divide our operations into two core areas: Northern Delaware Basin and the Southern Delaware Basin.

Our goal is to build a premier development and acquisition company focused on horizontal drilling in the Delaware Basin. Our objective is to be a returns-oriented pure-play Delaware Basin company focusing on (i) acreage with reduced development risk as a result of being in proven areas within the vicinity of other successful wells, (ii) stacked pay zones, including Brushy Canyon, Upper Avalon, LowerAvalon/1st Bone Spring, 2nd Bone Spring Shale, 2nd Bone Spring Sand, 3rd Bone Spring Shale, 3rd Bone Spring Sand, Upper Wolfcamp A (X/Y), Lower Wolfcamp A and Wolfcamp B and (iii) application of geology, optimizing well process improvements and well returns. We believe these characteristics have the potential to enhance our horizontal production capabilities, recoveries and economic results.

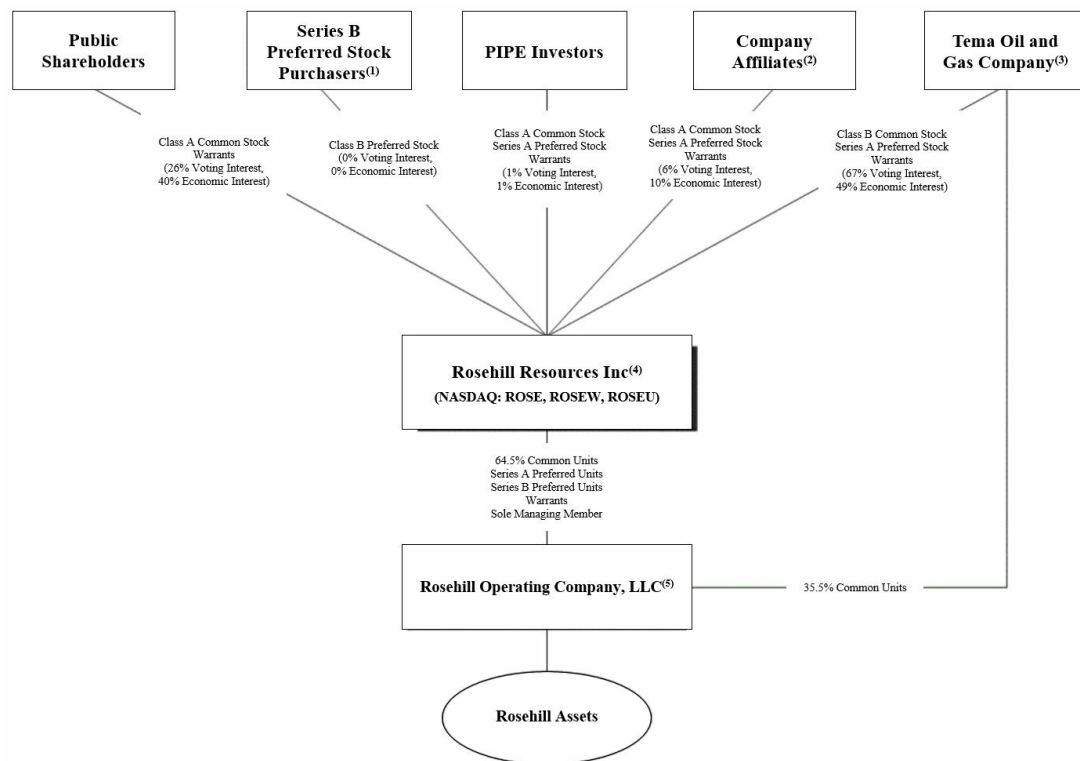
We have no direct operations and no significant assets other than our ownership interest in Rosehill Operating Company, LLC (“Rosehill Operating”), an entity for which we act as the sole managing member and of whose common units we currently own approximately 64.5% (or 70.6% assuming the conversion of Rosehill Operating Series A preferred units into Rosehill Operating common units). As the sole managing member of Rosehill Operating, we, through our officers and directors, are responsible for all operational, management and administrative decisions relating to Rosehill Operating’s business without the approval of any other member, unless otherwise specified in the Second Amended and Restated Limited Liability Company Agreement of Rosehill Operating (the “Second Amended LLC Agreement”).

Presentation of Financial and Operating Data

On April 27, 2017, KLR Energy Acquisition Corporation (“KLRE”) acquired a portion of the equity interests of Rosehill Operating, an entity into which Tema Oil & Gas Company (“Tema”), a wholly owned subsidiary of Rosemore, Inc. (“Rosemore”), contributed certain assets and liabilities (the “Transaction”). Following the Transaction, KLRE changed its name to Rosehill Resources Inc. and became the sole managing member of Rosehill Operating. The consolidated financial statements included in this report were derived from the audited carve-out historical financial statements of Tema and reflects the operating results of Rosehill Operating for the periods up to the Transaction and the combined results of the Company and Rosehill Operating following the Transaction.

Organizational Structure

The following diagram illustrates the ownership structure of the company as of December 31, 2019:



(1) “Series B Preferred Stock Purchasers” refers to certain private funds and accounts managed by EIG Global Energy Partners, LLC.

(2) “Company Affiliates” refers to KLR Energy Sponsor, LLC, KLR Group Investments, LLC and our current directors and officers.

(3) Includes Class B Common Stock, Class A Common Stock, Series A Preferred Stock and warrants held by Tema.

(4) The economic and voting interests set forth above do not take into account (i) the exercise of outstanding warrants for shares of Class A Common Stock, (ii) the future issuance of shares of Class A Common Stock under the Amended and Restated 2017 Long-Term Incentive Plan or (iii) the conversion of Series A Preferred Stock into shares of Class A Common Stock or the redemption of Rosehill Operating Common Units (and corresponding shares of Class B Common Stock) for shares of Class A Common Stock.

(5) In connection with the conversion of our remaining Series A Preferred Stock into Class A Common Stock, the Rosehill Operating Series A Preferred Units owned by us will convert into Rosehill Operating Common Units and, on an as-converted basis, we will own approximately 71% of the Rosehill Operating Common Units.

Our Operations

We operate in one industry segment, which is the exploration, development and production of oil and natural gas, and all of our operations are conducted in the United States. Consequently, we currently report a single reportable segment. See the notes to our consolidated financial statements for financial information about this reportable segment. Our future development will be focused predominately on horizontal development drilling in our core acreage areas in the Delaware Basin.

Since 2012, we have drilled 89 gross horizontal wells in the Northern Delaware Basin and 17 gross horizontal wells in the Southern Delaware Basin. In 2019, our production was approximately 20,786 net Boe/d. As of December 31, 2019, our portfolio included 83 gross operated producing horizontal wells in the Northern Delaware Basin and 17 gross operated producing horizontal wells in the Southern Delaware Basin, as well as working interests in approximately 4,625 gross acres in the Northern Delaware Basin and 11,160 gross acres in the Southern Delaware Basin.

As of December 31, 2019, we have identified 605 gross operated potential horizontal drilling locations in the Northern and Southern Delaware Basin, including 48 locations associated with proved undeveloped reserves, in up to ten formations from Brushy Canyon down through the Wolfcamp B. As of December 31, 2019, we had 5 drilled uncompleted wells (“DUCs”).

Our locations

Historically, our horizontal drilling has been widespread across the majority of our lease acreage. We have established commercial production in eight distinct formations in the Northern Delaware Basin in the Upper Avalon, Lower Avalon, 2nd Bone Spring Shale, 2nd Bone Spring Sand, 3rd Bone Spring Sand, Upper Wolfcamp A (X/Y), Lower Wolfcamp A and Wolfcamp B. In addition, offset operators have drilled and are producing in all ten formations, from Brushy Canyon down through the Wolfcamp B, enabling us to evaluate our acreage across various geographic areas and stratigraphic formations. As of December 31, 2019, approximately 77.7% of our total net operated acreage was either held by production or under continuous drilling provisions. Offset operator activity within the 2nd and 3rd Bone Spring Sands and the Wolfcamp formations as well as our recent successful Bone Spring and Wolfcamp drilling program has been a catalyst for our development program focused on the 2nd and 3rd Bone Spring Sands, Upper Wolfcamp A (X/Y), Lower Wolfcamp A and Wolfcamp B formations in the Northern Delaware. If our development program recommences, our near-term development program in the Southern Delaware will focus largely on the 2nd Bone Spring and Wolfcamp A formations. We will closely monitor this offset activity and adjust our future development plans with information and best practices learned from other operators.

Based on our evaluation of applicable geologic and engineering data, we currently have approximately 605 gross (569 net) identified potential operated horizontal drilling locations in multiple horizons on our acreage. If we recommence our drilling program, we intend to continue to develop our reserves through development drilling and exploitation and exploration activities on this multi-year project inventory of identified potential drilling locations and through additional acquisitions that meet our strategic and financial objectives, targeting oil-weighted reserves.

Operational facilities

Historically, our development plan included the development of necessary infrastructure to lower our costs and support our drilling schedule. We expect to accomplish this goal primarily through contractual arrangements with third-party service providers. Our facilities are generally in close proximity to our well locations and include storage tank batteries, oil/natural gas/water separation equipment and artificial lift equipment. We have sufficient gathering systems and pipeline takeaway capacity to continue ongoing and planned operations. We have agreements in place with third-party natural gas and crude oil purchasers and processors to benefit from existing downstream infrastructure. We expect to continue to evaluate the marketplace to obtain additional transportation and gathering options and capacity in the form of new pipeline tie-ins.

Major customers

We sell our production to a relatively small number of customers, as is customary in the industry. We sell all of our natural gas and NGLs under contracts with terms generally greater than twelve months and all of our oil under contracts with terms generally less than twelve months. The following table shows the percentage of sales to each of our major customers that accounted for 10% or more of our total oil, natural gas and NGL sales for each year presented.

Customer	Year Ended December 31,		
	2019	2018	2017
Major customer #1	63%	17%	—%
Major customer #2	19	13	—
Major customer #3	12	—	—
Major customer #4	—	60	80
Major customer #5	—	—	10
Other	6	10	10
Total	100%	100%	100%

The loss of any one or all of our significant customers as a purchaser could materially and adversely affect our revenues.

The typical oil and natural gas lease agreement covering our properties provides for the payment of royalties to the mineral owner for all oil, NGLs and natural gas produced from any wells drilled on the leased premises. The lessor royalties and other leasehold burdens on our properties generally range from 12.5% to 25.0%, resulting in a net revenue interest to us generally ranging from 75.0% to 87.5%.

Gathering and Transportation

The majority of our crude oil production is sold at or near the lease as it enters third-party gathering pipelines and revenue is recognized based upon an index price less any applicable differentials. Because the majority of the purchasers of our crude oil production either owns or controls our crude oil production through the third-party pipelines used to transport our crude oil production, transportation costs related to moving our crude oil production are deducted from the price received.

Our natural gas production is sold at various delivery points to midstream processors and revenue is recognized based upon an appropriate index pricing for the extracted NGLs and remaining residue natural gas less applicable fees and differentials. If the midstream processor owns or controls our natural gas production through the gas gathering system that transports our natural gas production from the wellhead to the inlet of the midstream processor, transportation costs related to moving our natural gas production are deducted from the price received for our NGLs and residue gas. If the midstream processor takes possession of our natural gas production at the inlet to the midstream processor, transportation costs related to moving our natural gas production from the wellhead to the inlet of the midstream processor is recognized as transportation expense. We have long-term contracts in place to transport our natural gas production from the wellhead to various delivery points.

Competition

The oil and natural gas industry is intensely competitive and we compete with other companies that have greater resources. Many of these companies not only explore for and produce oil and natural gas, but also carry on midstream and refining operations and market petroleum and other products on a regional, national or worldwide basis. These companies may be able to pay more for productive oil and natural gas properties and exploratory prospects or to define, evaluate, bid for and purchase a greater number of properties and prospects than our financial or human resources permit. In addition, these companies may have a greater ability to continue exploration activities during periods of low oil and natural gas market prices. Our larger or more integrated competitors may be able to absorb the burden of existing, and any changes to, federal, state and local laws and regulations more easily than we can, which would adversely affect our competitive position. Our ability to acquire additional properties and to discover reserves in the future will be dependent upon our ability to evaluate and select suitable properties and to consummate transactions in a highly competitive environment. In addition, because we have fewer financial and human resources than many companies in our industry, we may be at a disadvantage in bidding for exploratory prospects and producing oil and natural gas properties.

There is also competition between oil and natural gas producers and other industries producing energy and fuel, primarily based on price. Changes in the availability or price of oil and natural gas or other forms of energy, as well as business conditions, conservation and the ability to convert to alternate fuels and other forms of energy may affect the demand for oil and natural gas. Furthermore, competitive conditions may be substantially affected by various forms of energy legislation or regulation considered from time to time by the governments of the United States and the jurisdictions in which we operate. It is not possible to predict the nature of any such legislation or regulation that may ultimately be adopted or its effects upon our future operations. Such laws and regulations may substantially increase the costs of developing oil and natural gas and may prevent or delay the commencement or continuation of a given operation. Our larger competitors may be able to absorb the burden of existing and future federal, state and local laws and regulations more easily than we can, which would adversely affect our competitive position. Please see “Risk Factors - Risks Related to Our Operations - Competition in the oil and natural gas industry is intense, making it more difficult for us to acquire properties, market oil or natural gas and secure trained personnel.”

Seasonality of business

Demand for oil and natural gas generally decreases during the spring and fall months and increases during the summer and winter months. However, seasonal anomalies such as mild winters or mild summers sometimes lessen this fluctuation. Weather conditions affect the demand for and prices of, oil, natural gas and NGLs. Due to these and other seasonal fluctuations, results of operations for quarterly periods may not be indicative of the results that may be realized on an annual basis. Such seasonal anomalies can also pose challenges for meeting our well drilling objectives and may increase competition for equipment, supplies and personnel during the spring and summer months, which could lead to shortages and increase costs or delay or temporarily halt our operations.

Operational hazards and insurance

The oil and natural gas industry involves a variety of operating risks, including, but not limited to, the risk of fire, explosions, blow outs, pipe failures and, in some cases, abnormally high-pressure formations which could lead to environmental hazards such as oil spills, natural gas leaks and the discharge of toxic gases. If any of these should occur, we could incur legal defense costs and could be required to pay amounts due to injury, loss of life, damage or destruction to property, natural resources and equipment, pollution or environmental damage, regulatory investigation and penalties and suspension of operations.

In accordance with what we believe to be industry practice, we maintain insurance against some, but not all, of the operating risks to which our business is exposed. We currently have insurance policies for certain property damages, control of well protection, commercial general liability, business automobile liability, workers compensation, excess umbrella liability and other coverages.

Our insurance is subject to exclusion and limitations, and there is no assurance that such coverage will fully or adequately protect us against liability from all potential consequences, damages and losses. Any of these operational hazards could cause a significant disruption to our business. A loss not fully covered by insurance could have a material adverse effect on our financial position, results of operations and cash flows. See Item 1A. “Risk Factors - Risks Related to Our Operations - We may incur substantial losses and be subject to substantial liability claims as a result of our operations. Additionally, we may not be insured for, or the insurance may be inadequate to protect us against, these risks.”

We reevaluate the purchase of insurance, policy terms and limits annually. Future insurance coverage for our industry could increase in cost and may include higher deductibles or retentions. In addition, some forms of insurance may become unavailable in the future or unavailable on terms that we believe are economically acceptable. No assurance can be given that we will be able to maintain insurance in the future at rates that we consider reasonable and we may elect to maintain minimal or no insurance coverage. We may not be able to secure additional insurance or bonding that might be required by new governmental regulations. This may cause us to restrict our operations, which might severely impact our financial position. The occurrence of a significant event, not fully insured against, could have a material adverse effect on our financial condition and results of operations.

Generally, we also require our third-party vendors to sign master service agreements in which they agree to indemnify us for injuries and deaths of the service provider’s employees as well as contractors and subcontractors hired by the service provider.

Regulation of the Oil and Natural Gas Industry

Our operations are substantially affected by federal, state and local laws and regulations. Failure to comply with these laws and regulations can result in substantial penalties. The regulatory burden on the industry increases the cost of doing business and affects profitability. Although we believe we are in substantial compliance with all applicable laws and regulations, and that continued substantial compliance with existing requirements will not have a material adverse effect on our financial position, cash flows or results of operations, such laws and regulations are frequently amended or reinterpreted. Therefore, we are unable to predict the future costs or impacts of compliance. Proposals and proceedings that could affect the oil and natural gas industry are regularly considered by the United States Congress ("Congress"), the states, the Federal Energy Regulatory Commission ("FERC"), the U.S. Environmental Protection Agency ("EPA"), other federal agencies and the courts. We cannot predict when or whether any such proposals may become effective. However, we do not believe that we would be affected by any such action materially differently than similarly situated competitors.

Regulation of oil and natural gas production

The production of oil and natural gas is subject to regulation under a wide range of local, state and federal statutes, rules, orders and regulations. We own property interests in jurisdictions that regulate drilling and operating activities by requiring, among other things, permits for the drilling of wells, bonding requirements to drill or operate wells, reports concerning operations and regulating the location of wells, the method of drilling and casing wells, the source and disposal of water used in the drilling and completion process, and the surface use and restoration of properties upon which wells are drilled and the plugging and abandonment of wells. Our operations are also subject to various conservation laws and regulations, including the size of drilling and spacing units or proration units, the number of wells which may be drilled in an area and the unitization or pooling of crude oil or natural gas wells, as well as regulations that limit or prohibit the venting or flaring of natural gas and impose certain requirements regarding the ratable or fair apportionment of production from fields and individual wells. These laws also govern various conservation matters, including provisions for the unitization or pooling of oil and natural gas properties, the establishment of maximum allowable rates of production from oil and natural gas wells, the regulation of well spacing or density and plugging and abandonment of wells. The effect of these regulations may limit the amount of oil and natural gas that we can produce from our wells and limit the number of wells or the locations at which we can drill, although we can apply for exceptions to such regulations or to have reductions in well spacing or density. Moreover, many jurisdictions impose a production or severance tax with respect to the production and sale of oil, natural gas and NGLs within its jurisdiction. The failure to comply with these rules and regulations can result in substantial penalties. Our competitors in the oil and natural gas industry are subject to the same regulatory requirements and restrictions that affect our operations.

Regulation of oil sales and transportation

Sales of oil, condensate and NGLs are not currently regulated and are made at negotiated prices. Nevertheless, Congress could reenact price controls in the future. Our sales of oil are affected by the availability, terms and cost of transportation. The transportation of oil in common carrier pipelines is also subject to rate and access regulation. FERC regulates interstate oil pipeline transportation rates under the Interstate Commerce Act. In general, interstate oil pipeline rates must be cost-based, although settlement rates agreed to by all shippers are permitted and market based rates may be permitted in certain circumstances. Intrastate oil pipeline transportation rates are subject to regulation by state regulatory commissions. The basis for intrastate oil pipeline regulation, and the degree of regulatory oversight and scrutiny given to intrastate oil pipeline rates, varies from state to state. Insofar as effective interstate and intrastate rates and regulations regarding access are equally applicable to all comparable shippers, we believe that the regulation of oil transportation will not affect our operations in any way that is of material difference from those of our competitors who are similarly situated. In December 2015, H.R. 2029 was signed into law which lifted a ban on the export of crude oil from the United States. This will enable U.S. oil producers the flexibility to seek new markets and export oil into the global marketplace.

Regulation of natural gas sales and transportation

In the past, the federal government has regulated the prices at which natural gas could be sold. While sales by producers of natural gas can currently be made at uncontrolled market prices, Congress could reenact price controls in the future.

The transportation and sale for resale of natural gas in interstate commerce is regulated by FERC primarily under the Natural Gas Act of 1938, as amended ("NGA") and by regulations and orders promulgated under the NGA by FERC. In certain limited circumstances, intrastate transportation and wholesale sales of natural gas may also be affected directly or indirectly by laws enacted by Congress and by FERC regulations.

The Energy Policy Act of 2005 (“EP Act of 2005”) amended the NGA to add an anti-market manipulation provision that makes it unlawful for any entity to engage in prohibited behavior prescribed by FERC Pursuant to the EP Act of 2005, FERC promulgated regulations that make it unlawful to: (i) in connection with the purchase or sale of natural gas subject to the jurisdiction of FERC, or the purchase or sale of transportation services subject to the jurisdiction of FERC, for any entity, directly or indirectly, use, or employ any device, scheme, or artifice to defraud; (ii) make any untrue statement of material fact or omit to make any such statement necessary to make the statements made not misleading; or (iii) engage in any act or practice that operates as a fraud or deceit upon any person. The anti-market manipulation rule does not apply to activities that relate only to intrastate or other non-jurisdictional sales or gathering, but does apply to activities of gas pipelines and storage companies that provide interstate services, as well as otherwise non-jurisdictional entities to the extent the activities are conducted “in connection with” gas sales, purchases or transportation subject to FERC jurisdiction, which now includes the Annual Reporting requirements described below.

The EP Act of 2005 also provided FERC with the power to assess civil penalties of up to \$1,000,000 per day for violations of the NGA and increased FERC’s civil penalty authority under the NGA from \$5,000 per violation per day to \$1,000,000 per violation per day. Effective February 2019, to account for inflation, FERC’s civil penalty authority was increased to \$1,269,500 per violation per day. The civil penalty provisions are applicable to entities that engage in the sale of natural gas for resale in interstate commerce. Under FERC’s regulations, wholesale buyers and sellers of more than 2.2 million MMBtus of physical natural gas in the previous calendar year, including natural gas producers, gatherers and marketers, are now required to report, on May 1 of each year, aggregate volumes of natural gas purchased or sold at wholesale in the prior calendar year to the extent such transactions utilize, contribute to or may contribute to the formation of price indices, and whether they report prices to any index publishers, and if so, whether their reporting complies with FERC’s policy statement on price reporting.

Gathering service, which occurs upstream of jurisdictional transmission services, is regulated by the states onshore and in state waters. Section 1(b) of the NGA exempts natural gas gathering facilities from regulation by FERC under the NGA. Although FERC has set forth a general test for determining whether facilities perform a non-jurisdictional gathering function or a jurisdictional transmission function, FERC’s determinations as to the classification of facilities are done on a case-by-case basis. To the extent that FERC issues an order that reclassifies certain non-jurisdictional gathering facilities as jurisdictional transmission facilities, our costs of transporting gas to point of sale locations could increase. We believe that the third-party natural gas pipelines on which our gas is gathered meet the traditional tests FERC has used to establish a pipeline’s status as a gatherer not subject to regulation under the NGA. However, the distinction between FERC-regulated transmission services and federally unregulated gathering services is the subject of ongoing litigation, so the classification and regulation of those gathering facilities are subject to change based on future determinations by FERC, the courts or Congress. State regulation of natural gas gathering facilities generally includes various occupational safety, environmental and, in some circumstances, nondiscriminatory-take requirements. Although such regulation has not generally been affirmatively applied by state agencies, natural gas gathering may receive greater regulatory scrutiny in the future.

For physical sales of these energy commodities, we are required to observe anti-market manipulation laws and related regulations enforced by FERC under the EP Act of 2005 and under the Commodity Exchange Act (“CEA”) and regulations promulgated thereunder by the U.S. Commodity Futures Trading Commission. The CEA prohibits any person from manipulating or attempting to manipulate the price of any commodity in interstate commerce or futures or derivative contracts on such commodity. The CEA also prohibits knowingly delivering or causing to be delivered false or misleading or knowingly inaccurate reports concerning market information or conditions that affect or tend to affect the price of a commodity, as well as any manipulative or deceptive device or contrivance in connection with any contract of sale of any commodity in interstate commerce or futures or derivative contract on such commodity. Should we violate the anti-market manipulation laws and regulations, they could also be subject to related third-party damage claims by, among others, sellers, royalty owners and taxing authorities.

Intrastate natural gas transportation is also subject to regulation by state regulatory agencies. The basis for intrastate regulation of natural gas transportation and the degree of regulatory oversight and scrutiny given to intrastate natural gas pipeline rates and services varies from state to state. Insofar as such regulation within a particular state will generally affect all intrastate natural gas shippers within the state on a comparable basis, we believe that the regulation of similarly situated intrastate natural gas transportation in any states in which we operate and ship our natural gas on an intrastate basis will not affect our operations in any way that is of material difference from those of our competitors. Like the regulation of interstate transportation rates, the regulation of intrastate transportation rates affects the marketing of natural gas that we produce, as well as the revenue we receive for sales of our natural gas.

Changes in law and to FERC or state policies and regulations may adversely affect the availability and reliability of firm or interruptible transportation service on interstate and intrastate pipelines, and we cannot predict what future action FERC or state regulatory bodies will take. We do not believe, however, that any regulatory changes will affect our operations in a way that materially differs from the way they will affect other natural gas producers and marketers with which we compete.

Regulation of Environmental and Occupational Safety and Health Matters

Our oil and natural gas exploration, development and production operations are subject to stringent federal, regional, state and local laws and regulations governing the discharge of materials into the environment or otherwise relating to occupational health and safety, or the protection of the environment and natural resources. Numerous federal, state and local governmental agencies, such as the EPA, issue regulations that often require difficult and costly compliance measures that carry substantial administrative, civil and criminal penalties and may result in injunctive obligations for non-compliance. These laws and regulations may require the acquisition of a permit before drilling commences, restrict the types, quantities and concentrations of various substances that can be released into the environment in connection with drilling and production activities, limit or prohibit construction or drilling activities on certain lands lying within wilderness, wetlands, ecologically or seismically sensitive areas and other protected areas, require action to prevent or remediate pollution from current or former operations, such as plugging abandoned wells or closing pits, result in the suspension or revocation of necessary permits, licenses and authorizations, require that additional pollution controls be installed and impose substantial liabilities for pollution resulting from our operations or related to our owned or operated facilities. Liability under such laws and regulations is often strict (i.e., no showing of “fault” is required) and can be joint and several. Moreover, it is not uncommon for neighboring landowners and other third parties to file claims for personal injury and property damage allegedly caused by the release of hazardous substances, hydrocarbons or other waste products into the environment. Changes in environmental laws and regulations occur frequently, and any changes that result in more stringent and costly pollution control or waste handling, storage, transport, disposal or cleanup requirements could materially adversely affect our operations and financial position, as well as the oil and natural gas industry in general. Our management believes that we are in substantial compliance with applicable environmental laws and regulations and we have not experienced any material adverse effect from compliance with these environmental requirements. This trend, however, may not continue in the future.

Regulation of hazardous substances and waste handling

The Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (“CERCLA”), also known as the “Superfund” law, and comparable state laws, impose liability without regard to fault or the legality of the original conduct, on certain classes of persons that are considered to have contributed to the release of a “hazardous substance” into the environment. These persons include the current and past owner or operator of the disposal site or the site where the release occurred and companies that disposed or arranged for the disposal of the hazardous substances at the site where the release occurred. Under CERCLA, such persons may be subject to joint and several strict liability for the costs of cleaning up the hazardous substances that have been released into the environment and for damages to natural resources. Although petroleum substances such as crude oil and natural gas are excluded from the definition of hazardous substances under CERCLA, various substances used in drilling and production operations are not covered by this exclusion and releases of these non-excluded substances or petroleum substances could give rise to CERCLA liability. In addition, it is not uncommon for neighboring landowners and other third parties to file claims for personal injury and property damage allegedly caused by the hazardous substances or petroleum released into the environment. We are only able to directly control the operation of those wells for which we act as operator. Notwithstanding our lack of direct control over wells operated by others, the liability of an operator other than us for releases may, in certain circumstances, be attributed to us. We generate materials in the course of our operations that may be regulated as hazardous substances, but we are unaware of any liabilities for which we may be held responsible that would materially and adversely affect us.

The Resource Conservation and Recovery Act (“RCRA”) and analogous state laws impose detailed requirements for the generation, handling, storage, treatment and disposal of nonhazardous and hazardous solid wastes. RCRA specifically excludes drilling fluids, produced waters and other wastes associated with the development or production of crude oil, natural gas or geothermal energy from regulation as hazardous wastes. However, in the course of our operations, we may generate some amounts of ordinary industrial wastes, such as paint wastes, waste solvents, laboratory wastes and waste compressor oils that may be regulated as hazardous wastes if such wastes have hazardous characteristics or are listed hazardous wastes. In addition, even wastes excluded from the definition of hazardous waste may be regulated by the EPA or state agencies under state laws or other federal laws. Moreover, it is possible that those particular oil and natural gas development and production wastes now excluded from the definition of hazardous wastes could be classified as hazardous wastes in the future. For example, from time to time various environmental groups have challenged the EPA’s exclusion of certain oil and gas wastes from regulations RCRA. In one such challenge, the U.S. District Court for the District of Columbia entered a consent decree requiring EPA to evaluate the exclusion of oil and gas wastes, and by March 2019, to either sign a notice of proposed rulemaking revising the regulations excluding oil and gas wastes or sign a determination that revision of the exclusion is not necessary. In April 2019, the EPA concluded that revisions to RCRA was not necessary the time. A loss of the RCRA exclusion for drilling fluids, produced waters and related wastes, if the EPA were to eliminate the exclusion, could result in an increase in our costs to manage and dispose of generated wastes, which could have a material adverse effect on our results of operations and financial position. Although the costs of managing hazardous waste may be significant, we do not believe that our costs in this regard are materially more burdensome than those for similarly situated companies.

We currently own, lease, or operate numerous properties that have been used for oil and natural gas development and production activities for many years. Although we believe that we have utilized operating and waste disposal practices that were standard in the industry at the time, hazardous substances, wastes or petroleum hydrocarbons may have been released on, under or from the properties owned or leased by us, or on, under or from other locations, including off-site locations, where such substances have been taken for recycling or disposal. In addition, some of our properties have been operated by third parties or by previous owners or operators whose treatment and disposal of hazardous substances, wastes or petroleum hydrocarbons was not under our control. These properties and the substances disposed or released on, under or from them may be subject to CERCLA, RCRA and analogous state laws. Under such laws, we could be required to undertake response or corrective measures, which could include removal of previously disposed substances and wastes, cleanup of contaminated property, or performance of remedial plugging or pit closure operations to prevent future contamination.

Regulation of water discharges

The Clean Water Act and comparable state laws impose restrictions and strict controls regarding the discharge of pollutants, including produced waters and other oil and natural gas wastes, into or near navigable waters. The discharge of pollutants into regulated waters is prohibited, except in accordance with the terms of a permit issued by the EPA or the state. The discharge of dredge and fill material into regulated waters, including wetlands, is also prohibited, unless authorized by a permit issued by the U.S. Army Corps of Engineers (the "Corps"). In September 2015, the EPA and the Corps issued new rules defining the scope of the EPA's and the Corps' jurisdiction under the Clean Water Act with respect to certain types of waterbodies and classifying these waterbodies as regulated wetlands. However, in October 2019, the EPA and the Corps published a final rule to repeal the 2015 rule and recodified the jurisdiction to that which existed under the Clean Water Act prior to the 2015 rule; this final rule became effective in December and is currently subject to litigation which challenges the repeal. In January 2020, the EPA finalized a replacement rule clarifying the scope of regulated waters which widely is viewed as less expansive than the 2015 rule; the rule will be effective 60 days after publication in the Federal Register and is likely to be subject to legal challenges. As a result of these recent developments, the final determination of the scope of the EPA's and the Corp's jurisdiction is uncertain. To the extent any revised rule expands the scope of the Clean Water Act's jurisdiction, we could face increased costs and delays with respect to obtaining permits for dredge and fill activities in wetland areas. Obtaining permits has the potential to delay the development of oil and natural gas projects. These laws and any implementing regulations provide for administrative, civil and criminal penalties for any unauthorized discharges of pollutants in reportable quantities and may impose substantial potential liability for the costs of removal, remediation and damages.

In addition, pursuant to these laws and regulations, we may be required to obtain and maintain approvals or permits for the discharge of wastewater or storm water and are required to develop and implement spill prevention, control and countermeasure plans, also referred to as "SPCC plans," for on-site storage of significant quantities of oil. We believe that we maintain all required discharge permits necessary to conduct our operations and further believe we are in substantial compliance with the terms thereof.

The primary federal law related specifically to oil spill liability is the Oil Pollution Act of 1990 ("OPA"), which amends and augments the oil spill provisions of the Clean Water Act and imposes certain duties and liabilities on certain "responsible parties" related to the prevention of oil spills and damages resulting from such spills in or threatening waters of the United States or adjoining shorelines. For example, operators of certain oil and natural gas facilities must develop, implement and maintain facility response plans, conduct annual spill training for certain employees and provide varying degrees of financial assurance. Owners or operators of a facility, vessel or pipeline that is a source of an oil discharge or that poses the substantial threat of discharge is one type of "responsible party" who is liable. The OPA applies joint and several liability, without regard to fault, to each liable party for oil removal costs and a variety of public and private damages. Although defenses exist, they are limited. As such, a violation of the OPA has the potential to adversely affect our operations.

Regulation of air emissions

The federal Clean Air Act and comparable state laws restrict the emission of air pollutants from many sources, such as, for example, compressor stations, through air emissions standards, construction and operating permitting programs and the imposition of other compliance requirements. These laws and regulations may require us to obtain pre-approval for the construction or modification of certain projects or facilities expected to produce or significantly increase air emissions, obtain and strictly comply with stringent air permit requirements or utilize specific equipment or technologies to control emissions of certain pollutants. Over the next several years, we may be required to incur certain capital expenditures for air pollution control equipment or other air emissions related issues. For example, in October 2015, the EPA lowered the National Ambient Air Quality Standards ("NAAQS") for ozone from 75 to 70 parts per billion. In November 2017, the EPA published a list of areas that are in compliance with the new ozone standard and, separately in December 2017, issued responses to state recommendations for designating non-attainment areas. States had the opportunity to submit new air quality monitoring to the EPA prior to the EPA finalizing its non-attainment designations. The EPA issued final attainment status designations in April 2018 and July 2018. State implementation of the revised

NAAQS could result in stricter permitting requirements or could delay or limit our ability to obtain such permits and result in increased expenditures for pollution control equipment, the costs of which could be significant.

In addition, the EPA has adopted new rules under the Clean Air Act that require the reduction of volatile organic compound emissions from certain fractured and refractured natural gas wells for which well completion operations are conducted and further require that most wells use reduced emission completions, also known as “green completions.” These regulations also establish specific new requirements regarding emissions from production-related wet seal and reciprocating compressors, and from pneumatic controllers and storage vessels. More recently, in June 2016, the EPA finalized rules regarding criteria for aggregating multiple small surface sites into a single source for air-quality permitting purposes applicable to the oil and gas industry. This rule could cause small facilities, on an aggregate basis, to be deemed a major source, thereby triggering more stringent air permitting processes and requirements. Compliance with these and other air pollution control and permitting requirements has the potential to delay the development of oil and natural gas projects and increase our costs of development, which costs could be significant. However, we do not believe that compliance with such requirements will have a material adverse effect on our operations.

Regulation of greenhouse gas emissions (“GHG”)

In response to findings that emissions of carbon dioxide, methane and other GHG present an endangerment to public health and the environment, the EPA has adopted regulations pursuant to the federal Clean Air Act that, among other things, require preconstruction and operating permits for GHG emissions from certain large stationary sources that otherwise require such permits for non-GHG emissions. Facilities required to obtain preconstruction permits for their GHG emissions are also required to meet “best available control technology” standards that are being established by the states or, in some cases, by the EPA on a case-by-case basis. These regulatory requirements could adversely affect our operations and restrict or delay our ability to obtain air permits for new or modified sources. In addition, the EPA has adopted rules requiring the monitoring and reporting of GHG emissions from specified onshore and offshore oil and natural gas production sources in the United States on an annual basis, which include certain of our operations. Furthermore, in June 2016, the EPA finalized rules that establish new controls for emissions of methane from new, modified or reconstructed sources in the oil and natural gas source category (the “2016 NSPS Rules”), including production, processing, transmission and storage activities. The rule includes first-time standards to address emissions of methane from equipment and processes across the source category, including hydraulically fractured oil and natural gas well completions. In September 2018, the EPA proposed amendments to the 2016 rules that would reduce the 2016 rules’ fugitive emissions monitoring requirements and expand exceptions to controlling methane emissions from pneumatic pumps, among other changes and is in the process of finalizing the targeted amendments. Separately, on August 28, 2019, the EPA proposed amendments to the NSPS Rules which would remove all sources in the transmission and storage segment of the oil and natural gas industry from regulation under the rules and rescind the methane requirements in the 2016 rules that apply to sources in the production and processing segments of the industry. As an alternative, EPA also is proposing to rescind the methane requirements that apply to all sources in the oil and natural gas industry, without removing any sources from the current source category. Various industry and environmental groups have separately challenged the 2016 NSPS rules and the proposed revisions to the rules will likely be subject to legal challenge after finalization. As a result of these developments, future implementation of the standards is uncertain at this time. To the extent implemented, compliance with these rules would require enhanced record-keeping practices, the purchase of new equipment such as optical gas imaging instruments to detect leaks and increased frequency of maintenance and repair activities to address emissions leakage. The rules would also likely require hiring additional personnel to support these activities or the engagement of third-party contractors to assist with and verify compliance. New rules related to the reduction of methane and other GHG emissions could result in increased compliance costs on our operations.

There have not been significant legislative proposals to reduce GHG emissions at the federal level in recent years. In the absence of such federal climate legislation, a number of state and regional programs and initiatives have been enacted or are being considered that are aimed at tracking or reducing GHG emissions by means of cap and trade programs, direct taxation of carbon emissions, or that promote the use of less carbon-intensive fuels. These programs typically require major sources of GHG emissions to acquire and surrender emission allowances in return for emitting those GHGs. At the international level, the United States joined the international community at the 21st Conference of the Parties of the United Nations Framework Convention on Climate Change in Paris, France (“Paris Agreement”) that requires member countries to review and “represent a progression” in their intended nationally determined contributions, which set GHG emission reduction goals every five years beginning in 2020. The Paris Agreement entered into force in November 2016. Although this agreement does not create any binding obligations for nations to limit their GHG emissions, it does include pledges from participating nations to voluntarily limit or reduce future emissions. In June 2017, President Trump stated that the United States would withdraw from the Paris Agreement, but may enter into a future international agreement related to GHGs. The Paris Agreement provides for a four-year exit process beginning when it took effect in November 2016 and a formal withdrawal could not begin until three years after the Paris Agreement went into effect. In November 2019, the United States began the process to withdraw from the Paris Agreement by submitting formal notifications to the United Nations but the withdrawal will not take effect until one year from delivery of the notification, which would result in an effective

exit date of November 2020. The United States' adherence to the exit process is uncertain or the terms on which the United States may reenter the Paris Agreement or a separately negotiated agreement are unclear at this time.

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 imposing reporting obligations on, or limiting emissions of GHGs from, our equipment and operations could require us to incur costs to reduce emissions of GHGs associated with our operations. Substantial limitations on GHG emissions could adversely affect demand for the oil and natural gas we produce and lower the value of our reserves. Recently, activists concerned about the potential effects of climate change have directed their attention at sources of funding for fossil-fuel energy companies, which has resulted in certain financial institutions, funds and other sources of capital restricting or eliminating their investment in oil and natural gas activities. Ultimately, this could make it more difficult to secure funding for exploration and production activities. Notwithstanding potential risks related to climate change, the International Energy Agency estimates that global energy demand will continue to rise and will not peak until after 2040 and that oil and gas will continue to represent a substantial percentage of global energy use over that time. Finally, it should be noted that some scientists have concluded that 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, floods, droughts and other climatic events. Our operations are onshore and not located in coastal or flood-prone regions of the United States, but if any such effects were to occur at our locations, these effects have the potential to cause physical damage to our assets or affect the availability of water for our operations and thus could have a material adverse effect on our operations.

Regulation of hydraulic fracturing

Hydraulic fracturing is an important common practice that is used to stimulate production of hydrocarbons, particularly natural gas, from tight formations, including shales. The process, which involves the injection of water, sand and chemicals under pressure into formations to fracture the surrounding rock and stimulate production, is typically regulated by state oil and natural gas commissions. However, legislation has been proposed in recent sessions of Congress to amend the Safe Drinking Water Act ("SDWA") to repeal the exemption for hydraulic fracturing from the definition of "underground injection," to require federal permitting and regulatory control of hydraulic fracturing, and to require disclosure of the chemical constituents of the fluids used in the fracturing process. Furthermore, several federal agencies have asserted regulatory authority over certain aspects of the process. For example, the EPA has recently taken the position that hydraulic fracturing with fluids containing diesel fuel is subject to regulation under the Underground Injection Control program, specifically as "Class II" Underground Injection Control wells under the Safe Drinking Water Act. Also, in June 2016, the EPA published a final rule prohibiting the discharge of wastewater from onshore unconventional oil and gas extraction facilities to publicly owned wastewater treatment plants.

The EPA has issued final regulations under the federal Clean Air Act that establish air emission controls for oil and natural gas production and natural gas processing operations. Specifically, the EPA's rule package includes New Source Performance Standards to address emissions of sulfur dioxide and volatile organic compounds and a separate set of emission standards to address hazardous air pollutants frequently associated with oil and natural gas production and processing activities. These rules require a 95% reduction in volatile organic compounds emitted from these activities by requiring the use of reduced emission completions or "green completions" on new hydraulically-fractured wells. The rules also establish specific new requirements regarding emissions from compressors, controllers, dehydrators, storage tanks and other production equipment. These standards, as well as any future laws and their implementing regulations, may require us to obtain pre-approval for the expansion or modification of existing facilities or the construction of new facilities expected to produce air emissions, impose stringent air permit requirements, or mandate the use of specific equipment or technologies to control emissions.

The EPA has also released a study examining the potential for hydraulic fracturing activities to impact drinking water resources, finding that, under some circumstances, the use of water in hydraulic fracturing activities can impact drinking water resources. Also, on February 6, 2015, the EPA released a report with findings and recommendations related to public concern about induced seismic activity from disposal wells. The report recommends strategies for managing and minimizing the potential for significant injection-induced seismic events.

Several states, including Texas, and local jurisdictions, have adopted, or are considering adopting, regulations that could restrict or prohibit hydraulic fracturing in certain circumstances, impose more stringent operating standards or require the disclosure of the composition of hydraulic fracturing fluids. For example, the Texas Railroad Commission has adopted rules governing well casing, cementing and other standards for ensuring that hydraulic fracturing operations do not contaminate nearby water resources. The Texas Railroad Commission has also adopted disposal well rule amendments designed, among other things, to require applicants for new disposal wells that will receive non-hazardous produced water and hydraulic fracturing flowback fluid to conduct seismic activity searches utilizing the U.S. Geological Survey. The searches are intended to determine the potential for earthquakes within a circular area of 100 square miles around a proposed new disposal well. The disposal well rule amendments also clarify the Texas Railroad Commission's authority to modify, suspend or terminate a disposal well permit if scientific data indicates a disposal well is likely to contribute to seismic activity. The Texas Railroad Commission has used this authority to deny permits for waste disposal wells.

There has been increasing public controversy regarding hydraulic fracturing with regard to the use of fracturing fluids, induced seismic activity, impacts on drinking water supplies, use of water and the potential for impacts to surface water, groundwater and the environment generally. A number of lawsuits and enforcement actions have been initiated across the country implicating hydraulic fracturing practices. If new laws or regulations that significantly restrict hydraulic fracturing are adopted, such laws could make it more difficult or costly for us to perform fracturing to stimulate production from tight formations as well as make it easier for third parties opposing the hydraulic fracturing process to initiate legal proceedings based on allegations that specific chemicals used in the fracturing process could adversely affect groundwater. In addition, if hydraulic fracturing is further regulated at the federal, state or local level, our fracturing activities could become subject to additional permitting and financial assurance requirements, more stringent construction specifications, increased monitoring, reporting and recordkeeping obligations, plugging and abandonment requirements and also to attendant permitting delays and potential increases in costs. Such legislative changes could cause us to incur substantial compliance costs, and compliance or the consequences of any failure to comply by us could have a material adverse effect on our financial condition and results of operations. At this time, it is not possible to estimate the impact on our business of newly enacted or potential federal, state or local laws governing hydraulic fracturing.

ESA and migratory birds

The Endangered Species Act ("ESA") and (in some cases) comparable state laws were established to protect endangered and threatened species. Pursuant to the ESA, if a species is listed as threatened or endangered, restrictions may be imposed on activities adversely affecting that species' habitat. Similar protections are offered to migratory birds under the Migratory Bird Treaty Act. We may conduct operations on oil and natural gas leases in areas where certain species that are listed as threatened or endangered or proposed for listing are known to exist. The U.S. Fish and Wildlife Service may designate critical habitat and suitable habitat areas that it believes are necessary for survival of a threatened or endangered species. A critical habitat or suitable habitat designation could result in further material restrictions to federal land use and may materially delay or prohibit land access for oil and natural gas development. Moreover, as a result of a settlement approved by the U.S. District Court for the District of Columbia in September 2011, the U.S. Fish and Wildlife Service was required to make a determination on listing of more than 250 species as endangered or threatened under the ESA by no later than completion of the Agency's 2017 fiscal year. The agency missed this deadline and continues to review species for listing under the ESA. Also, in the past, the federal government has issued indictments under the Migratory Bird Treaty Act to several oil and natural gas companies after dead migratory birds were found near reserve pits associated with drilling activities. However, in December 2017, the Department of Interior issued a new opinion revoking its prior enforcement policy and concluded that an incidental take is not a violation of the Migratory Bird Treaty Act. The identification or designation of previously unprotected species as threatened or endangered in areas where underlying property operations are conducted could cause us to incur increased costs arising from species protection measures or could result in limitations on our development activities that could have an adverse impact on our ability to develop and produce reserves. If we were to have a portion of our leases designated as a critical or suitable habitat, it could adversely impact the value of our leases.

OSHA

We are subject to the requirements of the Occupational Safety and Health Act ("OSHA") and comparable state statutes whose purpose is to protect the health and safety of workers. In addition, the OSHA hazard communication standard, the Emergency Planning and Community Right-to-Know Act and comparable state statutes and any implementing regulations require that we organize or disclose information about hazardous materials used or produced in our operations and that this information be provided to employees, state and local governmental authorities and citizens.

Related Permits and Authorizations

Many environmental laws require us to obtain permits or other authorizations from state or federal agencies before initiating certain drilling, construction, production, operation, or other oil and natural gas activities and to maintain these permits and compliance with their requirements for ongoing operations. These permits are generally subject to protest, appeal, or litigation, which, in certain cases, can delay or halt projects and cease production or operation of wells, pipelines and other operations.

Employees

As of December 31, 2019, we had 89 full-time employees. None of our employees are represented by labor unions or covered by collective bargaining agreements, and we have not experienced any strikes or work stoppages. In light of the ongoing impact of current uncertainty in the global markets and commodity prices, the Company announced on March 19, 2020 that it halted drilling and completions activity and announced on March 27, 2020 that it eliminated 52 full-time employee positions.

Offices

Our principal executive offices are located at 16200 Park Row, Suite 300, Houston, Texas 77084, and our telephone number at that address is (281) 675-3400. We also have office space in Midland, Texas.

Available information

We are required to file quarterly and annual reports, current reports, proxy statements and other information with the SEC. You may read and copy any documents filed by us with the SEC at the SEC's Public Reference Room at 100 F Street, N.E., Washington, D.C. 20549. Our filings with the SEC are also available to the public at the SEC's website at <http://www.sec.gov>. Our Class A Common Stock is listed and traded on the Nasdaq Capital Market under the symbol "ROSE."

We also make available on our website (<http://www.rosehillresources.com>) all documents that we file with the SEC, free of charge, as soon as reasonably practicable after we electronically file such material with the SEC. Our Code of Ethics and Corporate Governance Guidelines and the charters of our audit committee, compensation committee and nominating and governance committee are also available on our website and in print free of charge to any stockholder who requests them. Requests should be sent by mail to our corporate secretary at our corporate offices at 16200 Park Row, Suite 300, Houston, Texas 77084. Information contained on our website is not incorporated by reference into this Annual Report on Form 10-K. We intend to disclose on our website any amendments or waivers to our Code of Ethics that are required to be disclosed pursuant to Item 5.05 of Form 8-K.

ITEM 1A. RISK FACTORS

The nature of our business activities subjects us to certain risks as discussed in this report. These risks and uncertainties are not the only ones we face. Additional risks and uncertainties presently unknown to us or currently deemed immaterial also may impair our business operations. The occurrence of one or more of these risks or uncertainties could materially and adversely affect our business, our financial condition, our cash flows and the results of our operations, which in turn could negatively impact the value of our securities.

Risks Related to Our Operations

The Company may be adversely affected by the recent decrease in demand and oversupply of oil and natural gas as a result of the coronavirus pandemic and actions by Saudi Arabia and Russia.

The spread of the COVID-19 coronavirus has caused severe disruptions in the worldwide economy, including the global demand for oil and natural gas, the movement of people and services in the United States and the visibility into future conditions, which could in turn disrupt our business and operations. Moreover, recent actions by Saudi Arabia and Russia have caused a worldwide oversupply in oil and natural gas. The continued spread of the COVID-19 coronavirus, related government and other restrictions and oversupply of oil and natural gas are expected to result in a significant decrease in business or cause our oil and natural gas purchasers to be unable to meet existing payment or other obligations to us, including the ability to purchase produced oil, natural gas, and NGLs from us. In mid-March, we suspended all drilling and completion programs. We do not currently have plans to recommence the program. The loss of any one or all of our significant customers as a purchaser could materially and adversely affect our revenues and may require us to shut-in a portion or all of our wells. In such an event, restarting our wells may require significant cost, and we cannot guarantee that we would be able to restart at the same level. Moreover, due to the unprecedented nature of the current pandemic and market conditions, we are unable to predict the degree or duration of any adverse impact on our operations and financial condition and other risks described in this report may be enhanced by such conditions.

Oil, natural gas and NGL prices are volatile. A reduction or sustained decline in oil, natural gas and NGL prices could adversely affect our business, financial condition, cash flows and results of operations and our ability to meet our capital expenditure obligations and financial commitments and result in an impairment on the value of our assets.

Our revenues, profitability, cash flows and future growth, as well as liquidity and ability to access additional sources of capital, depends substantially on prevailing prices for oil, natural gas and NGLs. A reduction in or sustained lower prices will reduce the amount of oil, natural gas and NGLs that we can economically produce and may result in impairments of our proved reserves or reduction of our proved undeveloped reserves. Oil, natural gas and NGL prices also affect the amount of cash flow available for capital expenditures and ability to borrow and raise additional capital.

The markets for oil, natural gas and NGLs have historically been volatile and recently reached multi-year low levels. For example, since 2014, the WTI spot price for oil declined from a high of \$107.95 per barrel in June 2014 to a low of \$26.19 per barrel in February 2016 and was \$61.14 per barrel on December 31, 2019 and \$21.84 on March 27, 2020. The NYMEX Henry Hub spot price for natural gas declined from a high of \$8.15 per MMBtu in February 2014 to a low of \$1.49 per MMBtu in March 2016 and ended at \$2.09 per MMBtu on December 31, 2019. Likewise, NGLs, which are made up of ethane, propane, isobutane, normal butane and natural gasoline, each of which have different uses and different pricing characteristics, have been volatile.

The market prices for oil, natural gas and NGLs depend on factors beyond our control. Some, but not all, of the factors that can cause fluctuation include:

- worldwide and regional economic conditions impacting the global supply and demand for oil, natural gas and NGLs;
- the price and quantity of foreign imports of oil, natural gas, and NGLs;
- political and economic conditions in, or affecting, other producing regions or countries, including the Middle East, Africa, South America and Russia;
- actions of the Organization of the Petroleum Exporting Countries (“OPEC”), its members and other state-controlled oil companies, including the ability of members of OPEC and other state controlled oil companies to agree to and maintain price and production controls;
- the level of global exploration, development and production;
- the level of global inventories;
- the extent to which U.S. shale producers become “swing producers” adding or subtracting to the world supply;
- prevailing prices on local price indexes in the area in which we operate;
- the proximity, capacity, cost and availability of gathering and transportation facilities;
- localized and global supply and demand fundamentals and transportation availability;
- the cost of exploring for, developing, producing and transporting reserves;
- weather conditions, other natural disasters and climate change;
- world health events, including the COVID-19 pandemic, and their related impact on the economy and demand for oil and gas;
- technological advances affecting energy consumption;
- the price and availability of alternative fuels;
- worldwide conservation measures;
- domestic and foreign governmental relations, regulation and taxes;

- worldwide governmental regulation and taxes;
- U.S. and foreign trade restrictions, regulations, tariffs, agreements and treaties;
- the level and effect of trading in commodity futures markets, including commodity price speculators and others;
- political conditions or hostilities and unrest in oil producing regions; and
- market perceptions of future prices, whether due to the foregoing factors or others.

Lower commodity prices will reduce our cash flows and borrowing ability and have caused us to cease our development program in March 2020. We may be unable to obtain needed capital or financing on satisfactory terms, which could lead to a decline in the present value of our reserves and our ability to develop future reserves. Lower commodity prices may also reduce the amount of oil, natural gas and NGLs that we can produce economically and may impact our ability to satisfy our water disposal agreement.

Using lower prices in estimating proved reserves would likely result in a reduction in proved reserve volumes due to economic limits. While it is difficult to project future economic conditions and whether such conditions will result in impairment of proved property costs, we consider several variables including specific market factors and circumstances at the time of prospective impairment reviews, and the continuing evaluation of development plans, production data, economics and other factors. Current 2020 forward pricing will more than likely result in impairments of our properties during the first quarter of 2020 and may materially and adversely affect our future business, financial condition, results of operations, operating cash flows, liquidity, or ability to finance planned capital expenditures. Lower oil, natural gas and NGL prices may also result in a reduction in the borrowing base under our Amended and Restated Credit Agreement, which may be redetermined at the discretion of the lenders and is based on the collateral value of our proved reserves that have been mortgaged to the lenders.

Because we have elected to suspend our drilling program in light of recent market conditions and commodity prices, we expect to be unable to continue to hold certain leases that are scheduled to expire, which will further reduce our reserves. As a result, a substantial or extended decline in commodity prices is expected to materially and adversely affect our future business, financial condition, results of operations, liquidity or ability to finance planned capital expenditures.

Concerns over economic, business or industry conditions may have a material adverse effect on our results of operations, liquidity and financial condition.

Concerns over global economic conditions, energy costs, geopolitical issues (include price wars between Saudi Arabia and Russia), inflation, the availability and cost of credit, the decline in the European, Asian and the United States financial markets and the COVID-19 pandemic have contributed to increased economic uncertainty and diminished expectations for the global economy. In addition, continued hostilities in the Middle East and the occurrence or threat of terrorist attacks in the United States or other countries could adversely affect the global economy. Concerns about global economic growth have had a significant adverse impact on global financial markets and commodity prices. If the economic climate in the United States or abroad deteriorates, worldwide demand for petroleum products could diminish further, which could impact the price at which we can sell our production, affect the ability of our vendors, suppliers and customers to continue operations and ultimately adversely impact our results of operations, liquidity and financial condition.

Our development and acquisition projects require substantial capital expenditures. We may be unable to obtain required capital or financing on satisfactory terms, which could lead to a decline in our ability to access or grow production and reserves.

The oil and natural gas industry is capital-intensive. We have historically made substantial capital expenditures related to development and acquisition projects. We expect to fund our capital expenditures with cash generated by operations and, if needed, borrowings under the Company's Amended and Restated Credit Agreement, dated as of March 28, 2018, by and among Rosehill Operating, Rosehill and JPMorgan Chase Bank, N.A., as administrative agent and issuing bank, and each of the lenders from time to time party thereto (the "Amended and Restated Credit Agreement"). However, as of March 19, 2020, we had no availability under the Amended and Restated Credit Agreement. Any financing needs may require an alteration or increase in our capitalization substantially through the issuance of debt or equity or the sale of assets. Our current debt and preferred equity securities require that a substantial portion of the cash flow from our operations be used for the payment of interest and dividends, thereby reducing our ability to use cash flow from operations to fund working capital, capital expenditures and acquisitions. The issuance of additional equity securities may not be an available source of capital under current conditions and would be dilutive to stockholders. The actual amount and timing of our future capital expenditures may differ materially from our estimates as a result of, among other

things: oil, natural gas and NGL prices; actual drilling results; the availability and cost of drilling rigs and other services and equipment; and regulatory, technological and competitive developments.

If cash flow from operations or available borrowings under our Amended and Restated Credit Agreement decrease as a result of lower oil, natural gas and NGL prices, operational difficulties, declines in reserves or for any other reason, we may have limited ability to obtain the capital necessary to sustain operations at current levels. If additional capital is needed, we may not be able to obtain financing on acceptable terms, if at all. If cash flow from operations or available under existing or anticipated credit facilities are insufficient to meet our capital requirements, the failure to obtain additional financing could result in a curtailment of the development of our properties, which in turn could lead to a decline in our reserves and production and could materially and adversely affect our business, financial condition and results of operations. Please read “ - Risks Related to Our Indebtedness.”

Drilling for oil and natural gas involves numerous and significant risks and uncertainties.

Risks that we face while drilling wells or maintaining producing wells include:

- effects of weather, floods, snowstorms, ice storms and similar natural conditions, on the drilling location and delivery of materials to the wellsite;
- unforeseen water flows;
- lost circulation of drilling fluids;
- unexpected oil and gas flows into the wellbore;
- drill pipe, casing and equipment failure, or loss of equipment in the well;
- failure or inaccuracies of directional drilling measurement devices;
- excessive hole washouts in the salt/anhydrite zones resulting in poor surface cement jobs;
- inability to reach the desired drilling zone with conventional bits and drilling techniques;
- failure to land a wellbore in the desired drilling zone;
- inability to stay in the desired drilling zone or being able to run tools and other equipment consistently while drilling horizontally through the formation; and
- difficulties in running casing the entire length of the wellbore.

Risks that we face while completing wells include:

- the ability to fracture stimulate the planned number of stages;
- the ability to run tools the entire length of the wellbore during completion operations; and
- the ability to successfully clean out the wellbore after completion of the final fracture stimulation stage.

In addition, certain of the new techniques we have adopted may cause irregularities or interruptions in production due to offset wells being shut in and the time required to drill and complete multiple wells before any such wells begin producing. Furthermore, the results of our drilling that we may complete in new or emerging formations are more uncertain initially than drilling results in areas that are more developed and have a longer history of established production. Newer or emerging formations and areas have limited or no production history and, consequently, we are more limited in assessing future drilling results in these areas. If we recommence our drilling program and our drilling results are less than anticipated, the return on our investment for a particular project may not be as attractive as anticipated, and we could incur material write-downs of unevaluated properties and a decline in the value of our undeveloped acreage.

Costs and uncertainties associated with drilling, completing, and operating wells could adversely affect our business, financial condition or results of operations.

Our future financial condition and results of operations will depend on the success of our development, acquisition and production activities, which are subject to numerous risks beyond our control. On March 19, 2020, we announced that we halted future drilling and completions activity, which is expected to negatively impact our financial condition, results of operations and anticipated production.

Other factors may curtail, delay or cancel our operations, production and future drilling projects, including the following:

- delays imposed by or resulting from compliance with regulatory requirements, including limitations resulting from wastewater disposal, emissions of GHGs and limitations on hydraulic fracturing;
- pressure or irregularities in geological formations;
- shortages of or delays in obtaining equipment and qualified personnel, including as a result of the COVID-19 outbreak;
- shortages or delays in obtaining water for hydraulic fracturing activities;
- equipment failures, accidents or other unexpected operational events;
- lack of available gathering facilities or delays in construction of gathering facilities;
- lack of available capacity on interconnecting transmission pipelines;
- adverse weather conditions, including such conditions which are possibly connected to climate change;
- drought conditions limiting the availability of water for hydraulic fracturing, including such conditions as possibly connected to climate change;
- issues related to compliance with environmental regulations, including protections for threatened or endangered species;
- environmental hazards, such as oil and natural gas leaks, oil spills, pipeline and tank ruptures and unauthorized discharges of brine, well stimulation and completion fluids, toxic gases or other pollutants into the surface and subsurface environment;
- declines in oil and natural gas prices;
- limited availability of financing at acceptable terms;
- title problems; and
- limitations in the market for oil and natural gas.

Hedging transactions may limit our potential gains and increase our potential losses.

In order to manage our exposure to price risks in the marketing of our oil, natural gas and natural gas liquids production, we have entered into oil, natural gas and natural gas liquids price hedging arrangements with respect to a portion of our anticipated production and we may enter into additional hedging transactions in the future. While intended to reduce the effects of volatile commodity prices, such transactions may limit our potential gains and increase our potential losses if commodity prices were to rise substantially over the price established by the hedge. In addition, such transactions may expose us to the risk of loss in certain circumstances, including instances in which:

- our production is less than expected;
- there is a widening of price differentials between delivery points for our production; or
- the counterparties to our hedging agreements fail to perform under the contracts.

The adoption of derivatives legislation by Congress could have an adverse impact on our ability to use derivative instruments to reduce the effects of commodity prices, interest rates and other risks associated with our business.

Historically, we have entered into a number of commodity derivative contracts in order to hedge a portion of our oil and natural gas production. The Dodd-Frank Wall Street Reform and Consumer Protection Act, or the Dodd-Frank Act, requires the SEC and the Commodity Futures Trading Commission (“CFTC”), along with other federal agencies, to promulgate regulations implementing the new legislation.

The CFTC has finalized other regulations implementing the Dodd-Frank Act’s provisions regarding trade reporting, margin, clearing and trade execution; however, some regulations remain to be finalized and it is not possible at this time to predict when the CFTC will adopt final rules. For example, the CFTC has re-proposed regulations setting position limits for certain futures and option contracts in the major energy markets and for swaps that are their economic equivalents. Certain bona fide hedging transactions are expected to be made exempt from these limits. Also, it is possible that under recently adopted margin rules, some registered swap dealers may require us to post initial and variation margins in connection with certain swaps not subject to central clearing.

The Dodd-Frank Act and any additional implementing regulations could significantly increase the cost of some commodity derivative contracts (including through requirements to post collateral, which could adversely affect our available liquidity), materially alter the terms of some commodity derivative contracts, limit our ability to trade some derivatives to hedge risks, reduce the availability of some derivatives to protect against risks we encounter and reduce our ability to monetize or restructure our existing commodity derivative contracts. If we reduce our use of derivatives as a consequence, our results of operations may become more volatile and our cash flows may be less predictable, which could adversely affect our ability to plan for and fund capital expenditures. Increased volatility may make us less attractive to certain types of investors. Finally, the Dodd-Frank Act was intended, in part, to reduce the volatility of oil and natural gas prices, which some legislators attributed to speculative trading in derivatives and commodity instruments related to oil and natural gas. If the implementing regulations result in lower commodity prices, our revenues could be adversely affected. Any of these consequences could adversely affect our business, financial condition and results of operations.

Our derivative activities could result in financial losses or could reduce our earnings.

A portion of our oil and natural gas production has historically been hedged in order to protect cash flow from falling prices; however, in our three-way collars, we are not protected against falling prices once prices fall below our sold put options. The use of these arrangements limits our ability to benefit from increases in the prices of natural gas and oil. As of December 31, 2019, we had open commodity derivative contracts for the months of January 2020 through December 2022 covering a total of 0.5 million barrels of oil and 4.9 million MMBtus of natural gas. We also had crude oil basis swaps covering a total of 15.0 million barrels of oil and natural gas basis swaps covering a total of 2.1 million MMBtus of natural gas. Accordingly, our earnings may fluctuate significantly as a result of changes in fair value of our commodity derivative.

A portion of our outstanding borrowings under our Amended and Restated Credit Agreement has been hedged in order to protect cash flow from rising interest rates. As of December 31, 2019, we had interest rate swaps covering a total of \$150,000,000 of our outstanding borrowings under our Amended and Restated Credit Agreement at a fixed rate of 1.721%. Accordingly, our reported interest expense may fluctuate significantly as a result of changes in fair value of our interest rate derivatives.

Commodity or interest rate derivatives may also expose us to the risk of financial loss in some circumstances, including when:

- production and sales are insufficient to offset losses under the commodity derivatives;
- the counterparty to the derivatives defaults on its contractual obligations;
- there is an increase in the differential between the underlying price in the derivative contracts and actual prices received;
- issues arise with regard to legal enforceability of such instruments;
or
- applicable laws or regulations regarding such instruments are changed.

The use of derivatives may, in some cases, require the posting of cash collateral with counterparties. If we enter into derivatives that require cash collateral, particularly if commodity prices or interest rates change in a manner averse to us, our cash otherwise available for use in our operations would be reduced, which could limit our ability to make future capital expenditures and make

payments on our indebtedness, and which could also limit the size of our borrowing base. Future collateral requirements will depend on arrangements with counterparties, highly volatile oil and natural gas prices and interest rates. In addition, commodity derivatives could limit the benefit we would receive from increases in the prices for oil and natural gas, which could also have a material adverse effect on our financial condition.

Our derivative contracts expose us to risk of financial loss if a counterparty fails to perform under a contract. Disruptions in the financial markets could lead to sudden decreases in a counterparty's liquidity, which could make the counterparty unable to perform under the terms of the contract, and we may not be able to realize the benefit of the contract. We are unable to predict sudden changes in a counterparty's creditworthiness or ability to perform. Even if we accurately predict sudden changes, our ability to negate the risk may be limited depending upon market conditions.

Reserve estimates depend on many assumptions that may turn out to be inaccurate. Any material inaccuracies in reserve estimates or underlying assumptions will materially affect the quantities and present value of our reserves.

The process of estimating oil and natural gas reserves is complex. It requires interpretations of available technical data and many assumptions, including assumptions relating to current and future economic conditions and commodity prices. Any significant inaccuracies in these interpretations or assumptions could materially affect the estimated quantities and present value of our reserves. In order to prepare reserve estimates, we must project production rates and timing of development expenditures. We must also analyze available geological, geophysical, production and engineering data. The extent, quality and reliability of this data can vary. The process also requires economic assumptions about matters such as oil and natural gas prices, drilling and operating expenses, capital expenditures, taxes and availability of funds.

Actual future production, oil and natural gas prices, revenues, taxes, development expenditures, operating expenses and quantities of recoverable oil and natural gas reserves may vary from our estimates. For instance, initial production rates reported by us or other operators may not be indicative of future or long-term production rates, our recovery efficiencies may be worse than expected, and production declines may be greater than our estimates and may be more rapid and irregular when compared to initial production rates. In addition, we may adjust reserve estimates to reflect additional production history, results of development activities, current commodity prices and other existing factors. In addition, because we have suspended our development program, we expect to experience a reduction in proved undeveloped reserves in 2020. Any significant variance could materially affect the estimated quantities and present value of our reserves.

You should not assume that the present value of future net revenues from our estimated reserves is the current market value of such reserves. In accordance with SEC requirements, we generally base the estimated discounted future net cash flows from reserves on prices and costs on the date of the estimate. Actual future prices and costs may differ materially from those used in the present value estimate, particularly when commodity prices decline after the date of estimate.

Selection of drilling locations is susceptible to uncertainties that could materially alter the occurrence or timing of our drilling.

On March 19, 2020, we announced that we halted our drilling program in light of recent deteriorating global markets and commodity prices. If we resume drilling, our ability to drill and develop these locations depends on a number of uncertainties, including oil and natural gas prices, the availability and cost of capital, drilling and production costs, availability of drilling services and equipment, drilling results, lease expirations, gathering system and pipeline transportation constraints, access to and availability of water sourcing and distribution systems, regulatory approvals and other factors. Because of these uncertain factors, we do not know if the potential drilling locations our management identifies will ever be drilled or if we will be able to produce oil or natural gas in commercial quantities from these or any other drilling locations. In addition, unless production is established within the spacing units covering the undeveloped acres on which some of the drilling locations are obtained, the leases for such acreage will expire. As such, our actual drilling activities may materially differ from those presently identified.

Certain of our undeveloped leasehold acreage is subject to leases that will expire over the next several years unless production is established on units containing the acreage, the primary term is extended through continuous drilling provisions or the leases are renewed.

As of December 31, 2019, approximately 77.7% of our total net acreage was either held by production or under continuous drilling provisions. The leases for our net acreage not held by production will expire at the end of their primary term unless production is established in paying quantities under the units containing these leases, the leases are held beyond their primary terms under continuous drilling provisions or the leases are renewed. If our leases expire and we are unable to renew the leases, we will lose the right to develop the related properties. Our ability to drill and develop these locations on the necessary timeline depends on a number of uncertainties, some of which are beyond our control, including oil and natural gas prices, the availability and cost of capital, drilling and production costs, availability of drilling services and equipment, drilling results, lease expirations,

gathering system and pipeline transportation constraints, access to and availability of water sourcing and distribution systems, regulatory approvals. On March 19, 2020, we announced a halt in our drilling program. We lost 321 net acres during the first quarter of 2020 and estimate that we will lose approximately 2,638 net acres in the remainder of 2020 if we do not resume drilling during 2020.

Our operations are substantially dependent on the availability of water. Restrictions on our ability to obtain water may have an adverse effect on our financial condition, results of operations and cash flows.

Water is an essential component of deep shale oil and natural gas drilling and hydraulic fracturing processes. Drought conditions have persisted in Texas in past years. These drought conditions have led governmental authorities to restrict the use of water subject to their jurisdiction for hydraulic fracturing to protect local water supplies. If we are unable to obtain water to use in our operations, we may be unable to economically produce oil and natural gas, which could have a material and adverse effect on our financial condition, results of operations and cash flows.

All of our producing properties are located in the Delaware Basin, a sub-basin of the Permian Basin, in West Texas, making us vulnerable to risks associated with operating in a single geographic area.

All of our producing properties are geographically concentrated in the Delaware Basin, a sub-basin of the Permian Basin, in West Texas. At December 31, 2019, 100% of our total estimated proved reserves were attributable to properties located in this area. As a result of this concentration, we may be disproportionately exposed to the impact of regional supply and demand factors, delays or interruptions of production from wells in this area caused by governmental regulation, processing or transportation capacity constraints, market limitations, availability of equipment and personnel, water shortages or other drought related conditions or interruption of the processing or transportation of oil, natural gas or NGLs.

In addition to the geographic concentration of our producing properties in the Delaware Basin described above, at December 31, 2019, approximately 65% percent of our proved reserves were attributable to the 2nd Bone Spring Sand, Wolfcamp A (X/Y) and Lower Wolfcamp A formations. This concentration of assets within a small number of producing horizons exposes us to additional risks, such as changes in field-wide rules and regulations that could cause us to permanently or temporarily shut-in all of our wells within a field.

Unless we replace our reserves with new reserves and develop those reserves, our reserves and production will decline, which would adversely affect our future cash flows and results of operations.

Producing oil and natural gas reservoirs generally are characterized by declining production rates that vary depending upon reservoir characteristics and other factors. Unless we recommence our drilling program and conduct successful ongoing exploration and development activities or continually acquire properties containing proved reserves, our proved reserves will decline as those reserves are produced. Our future reserves and production, and therefore our future cash flow and results of operations, are highly dependent on our success in efficiently developing our current reserves and economically finding or acquiring additional recoverable reserves. We may not be able to develop, find or acquire sufficient additional reserves to replace the current and future production. If we are unable to replace our current and future production, the value of our reserves will decrease, and our business, financial condition and results of operations would be materially and adversely affected.

We will not be the operator on all of our acreage or drilling locations, and, therefore, we will not be able to control the timing of exploration or development efforts, associated costs, or the rate of production of any non-operated assets.

As of December 31, 2019, we have leased or acquired approximately 13,219 net acres in the Delaware Basin, approximately 97.2% of which we operate. As of December 31, 2019, we have identified 605 gross horizontal drilling locations. We expect to operate approximately 96.9% of, and have an approximate 96.7% working interest in, the acreage we own in the Southern Delaware Basin and believe that the acreage may be prospective for six different shale formations. We will have limited ability to exercise influence over the operations of the drilling locations we do not operate, and the operators of those locations may at any time have economic, business or legal interests or goals that are inconsistent with us. Furthermore, the success and timing of development activities by such operators will depend on a number of factors that will be largely outside of our control, including:

- the timing and amount of capital expenditures;
- the operator's expertise and financial resources;
- the approval of other participants in drilling wells;

- the selection of technology;
and
- the rate of production of reserves, if
any.

This limited ability to exercise control over the operations and associated costs of some of our non-operated drilling locations could prevent the realization of targeted returns on capital in drilling or acquisition activities.

We participate in oil and gas leases with third parties who may not be able to fulfill their commitments to our projects.

We own less than 100% of the working interest on a minority of the oil and gas leases on which we conduct operations, and other unrelated parties own the remaining portion of the working interest. Financial risks are inherent in any operation where the cost of drilling, equipping, completing and operating wells is shared by more than one person. We could potentially be held liable for joint activity obligations of other working interest owners, such as nonpayment of costs and liabilities arising from the actions of other working interest owners. In addition, declines in oil, natural gas and NGL prices may increase the likelihood that some of these working interest owners, particularly those that are smaller and less established, are not able to fulfill their joint activity obligations. Other working interest owners may be unable or unwilling to pay their share of project costs, and, in some cases, may declare bankruptcy. In the event any other working interest owners do not pay their share of such costs, we would likely have to pay those costs, and may be unsuccessful in any efforts to recover these costs from other working interest owners, which could materially adversely affect our financial position.

The marketability of our production will be dependent upon transportation and other facilities, certain of which we will not control. If these facilities are unavailable, our operations could be interrupted and our revenues reduced.

The marketability of our oil and natural gas production depends in part upon the availability, proximity and capacity of transportation facilities owned by third parties. For further discussion on our gathering and transportation processes, see “Business – Gathering and Transportation.”

We entered into crude oil gathering and natural gas gathering agreements with Gateway, for production from our Loving County wells, that will expire in April 2027. We do not control Gateway’s or the third-party’s transportation and processing facilities and our access to the facilities may be limited or denied. Insufficient production from our wells to support the construction of pipeline facilities by our purchasers or a significant disruption in the availability of third-party transportation facilities or other production facilities could adversely impact our ability to deliver to market or produce our oil and natural gas and thereby cause a significant interruption in our operations. If, in the future, we are unable, for any sustained period, to implement acceptable delivery or transportation arrangements or encounter production related difficulties, we may be required to shut in or curtail production or flare natural gas. Any such shut-in, curtailment, or flaring or an inability to obtain favorable terms for delivery of the oil and natural gas produced from our fields, would materially and adversely affect our financial condition and results of operations.

Multi-well pad drilling may result in volatility in our operating results.

We utilize multi-well pad drilling where practical. Because wells drilled on a pad are not brought into production until all wells on the pad are drilled and completed and the drilling rig is moved from the location, multi-well pad drilling can delay the commencement of production. In addition, problems affecting one pad or a single well could adversely affect production from all of the wells on the pad or in the entire project. As a result, multi-well pad drilling and project development can cause interruptions in ongoing production. These delays or interruptions may cause declines or volatility in our operating results, due to timing, as well as declines in oil and gas prices. Furthermore, any delay, reduction or curtailment of our development and producing operations, due to operational delays caused by multi-well pad drilling or project development, or otherwise, could result in the loss of acreage through lease expirations.

Prolonged decreases in our drilling program may require us to pay certain non-use fees or impact our ability to comply with certain contractual requirements.

In March 2020, commodity prices dropped significantly and we announced a halt in our drilling program. Due to the nature of our drilling programs and the oil and natural gas industry in general, we are a party to certain agreements that require us to meet various contractual obligations or require us to utilize a certain amount of goods or services, including, but not limited to, water commitments, throughput volume commitments and power commitments. The continued cessation of our drilling activity and production levels could, in turn, require us to pay for unutilized goods or services or impact our ability to meet these contractual obligations and may result in lease expirations.

We may incur losses as a result of title defects in the properties in which we invest.

The existence of a material title deficiency can render a lease worthless and can adversely affect our results of operations and financial condition. While we have historically obtained title opinions prior to commencing drilling operations on a lease or in a unit, the failure of title may not be discovered until after a well is drilled, in which case we may lose the lease and the right to produce all or a portion of the minerals under the property and may be required to pay damages to the actual owner of the lease.

The development of our estimated PUDs may take longer and may require higher levels of capital expenditures than currently anticipated. Therefore, our estimated PUDs may not be ultimately developed or produced.

As of December 31, 2019, 42.0% of our total estimated proved reserves were classified as PUDs. Development of these PUDs may take longer and require higher levels of capital expenditures than currently anticipated. Delays in the development of our PUDs, increases in costs to drill and develop such reserves or decreases in commodity prices will reduce the value of our estimated PUDs and future revenues estimated for such reserves and may result in some projects becoming uneconomic. In addition, delays in the development of reserves could cause us to have to reclassify our PUDs as unproved reserves if we no longer believe with reasonable certainty that we will develop the PUDs within five years after their initial booking according to the SEC's reserve rules. If we do not drill our PUD wells within five years after their respective dates of booking, we may be required to write-down our PUDs. At this time we have no plans to develop our PUDs.

If commodity prices decrease to a level such that our future undiscounted cash flows from our properties are less than their carrying value, we may be required to take impairments or write-downs of the carrying values of our properties.

Accounting rules require periodic review of the carrying value of our properties for possible impairment. Based on prevailing commodity prices and specific market factors and circumstances at the time of prospective impairment reviews, and the continuing evaluation of development plans, production data, economics and other factors, we may be required to write-down the carrying value of our properties. A write-down constitutes a non-cash charge to earnings. We did not record any impairments to proved property for the years ended December 31, 2019 and 2018. Impairment expense for the year ended December 31, 2017 was \$1.1 million. However, commodity prices have declined significantly in recent years and lower commodity prices in the future could result in impairments of our properties, which could have a material adverse effect on our results of operations for the periods in which such charges are taken. Current 2020 forward pricing will more than likely result in impairments of our properties during the first quarter of 2020.

Conservation measures and technological advances could reduce demand for oil and natural gas.

Fuel conservation measures, alternative fuel requirements, increasing consumer demand for alternatives to oil and natural gas, technological advances in fuel economy and energy generation devices could reduce demand for oil and natural gas. The impact of the changing demand for oil and natural gas may have a material adverse effect on our business, financial condition, results of operations and cash flows.

We depend upon significant purchasers for the sale of most of our oil, natural gas and NGL production.

We have historically sold our production to a relatively small number of customers, as is customary in our business. For the year ended December 31, 2019 and 2018, three customers accounted for approximately 94% and 90%, respectively, of our total revenue. During such periods, no other purchaser accounted for 10% or more of our revenue. The loss of any one or all of our significant customers as a purchaser could materially and adversely affect our revenues. We may not be able to replace such revenue in a timely manner or at all. Furthermore, any non-payment or non-performance by our customers may have a negative impact on our results of operations and cash flows.

Our operations may be exposed to significant delays, costs and liabilities as a result of environmental and occupational health and safety requirements applicable to our business activities.

Our operations are subject to stringent and complex federal, state and local laws and regulations governing the discharge of materials into the environment, occupational health and safety aspects of our operations, or otherwise relating to the protection of the environment and natural resources. These laws and regulations may impose numerous obligations applicable to our operations, including but not limited to the acquisition of a permit or other approval before conducting regulated activities; the restriction of the types, quantities and concentration of materials that can be released into the environment; the limitation or prohibition of drilling activities on certain lands lying within wilderness, wetlands and other protected areas; restrictions on drilling activities intended to protect certain species of wildlife or their habitat that may adversely affect our ability to conduct drilling

activities in certain areas; the application of specific health and safety criteria addressing worker protection; or the imposition of substantial liabilities for pollution resulting from our operations. Numerous governmental authorities, such as the EPA, the U.S. Fish and Wildlife Service, U.S. Army Corps. of Engineers and analogous state environmental and wildlife protection agencies, have the power to enforce compliance with these laws and regulations and the permits issued under them. Such enforcement actions may require us to perform difficult and costly compliance measures or corrective actions. A critical habitat or suitable habitat designation could result in further material restrictions to federal land use and private land use and could delay or prohibit land access or oil and gas development. Failure to comply with these laws and regulations may result in the assessment of sanctions, including administrative, civil or criminal penalties, natural resource damages, the imposition of investigatory or remedial obligations and the issuance of orders limiting or prohibiting some or all of our operations; and plugging and abandonment responsibilities for wells which have ceased producing. In addition, we may experience delays in obtaining, or be unable to obtain, required permits, which may delay or interrupt our operations and limit our growth and revenue.

Certain environmental laws impose strict as well as joint and several liabilities for costs required to remediate and restore sites where hazardous substances, hydrocarbons or solid wastes have been released into the environment. We may be required to remediate contaminated properties currently or formerly operated by us or our predecessors in interest or facilities of third parties that received waste generated by our operations regardless of whether such contamination resulted from the conduct of others or from consequences of our own actions that were in compliance with all applicable laws at the time those actions were taken. In connection with certain acquisitions, we could acquire, or be required to provide indemnification against, environmental liabilities that could expose us to material losses. In addition, claims for damages to persons or property, including natural resources, may result from the environmental, health and safety impacts of our operations. Our insurance may not cover all environmental risks and costs or may not provide sufficient coverage if an environmental claim is made against us. The trend has been for more expansive and stringent environmental legislation and regulations applied to the crude oil and natural gas industry, resulting in increased costs of doing business and consequently affecting profitability. For further discussion, see “Business –Regulation of Environmental and Occupational Safety and Health Matters.”

We may incur substantial losses and be subject to substantial liability claims as a result of our operations. Additionally, we may not be insured for, or the insurance may be inadequate to protect us against, these risks.

We are not insured against all risks. Losses and liabilities arising from uninsured and underinsured events could materially and adversely affect our business, financial condition or results of operations.

Our exploration and development activities are subject to all of the operating risks associated with drilling for and producing oil and natural gas, including the possibility of:

- environmental hazards, such as uncontrollable releases of oil, natural gas, brine, well fluids, toxic gas or other pollution into the environment, including groundwater and air contamination;
- abnormally pressured formations;
- mechanical difficulties, such as stuck oilfield drilling and service tools and drill pipe or casing failures or collapse;
- fire, explosions and ruptures of pipelines;
- personal injuries and death;
- natural disasters, which may include severe weather as possibly connected to climate change and seismic events as possibly connected to injection of produced water and flowback into disposal wells; and
- terrorist attacks targeting oil and natural gas related facilities and infrastructure.

Any of these risks could adversely affect our ability to conduct operations or result in substantial loss to us as a result of claims for:

- injury or loss of life;
- damage to and destruction of property, natural resources and equipment;
- pollution and other environmental damage;

- statutory or regulatory investigations and penalties;
and
- repair and remediation costs.

We may elect not to obtain insurance for any or all of these risks if we believe that the cost of available insurance is excessive relative to the risks presented. In addition, statutory and regulatory penalties, pollution and environmental risks generally are not fully insurable. The occurrence of an event that is not fully covered by insurance could have a material adverse effect on our business, financial condition and results of operations.

Properties that we decide to drill may not yield oil or natural gas in commercially viable quantities.

If we decide to resume our drilling program, properties that we decide to drill that do not yield oil or natural gas in commercially viable quantities will adversely affect our results of operations and financial condition. There is no way to predict in advance of drilling and testing whether any particular prospect will yield oil or natural gas in sufficient quantities to recover drilling or completion costs or to be economically viable. The use of micro-seismic data and other technologies and the study of producing fields and data from other wells in the same area, or more fully explored prospects, will not enable us to know conclusively prior to drilling whether oil or natural gas will be present or, if present, in commercial quantities. Further, any future drilling operations may be curtailed, delayed or cancelled as a result of numerous factors, including:

- unexpected or adverse drilling conditions;
- title problems;
- elevated pressure or lost circulation in formations;
- equipment failures or accidents;
- adverse weather conditions;
- compliance with environmental and other governmental or contractual requirements; and
- increase in the cost of, shortages or delays in the availability of, electricity, supplies, materials, drilling or workover rigs, equipment and services.

We may be unable to make attractive acquisitions or successfully integrate acquired assets or businesses, and any inability to do so may disrupt our business and hinder our ability to grow.

In the future, we may make acquisitions of assets or businesses that complement or expand our current business. However, there is no guarantee we will be able to identify attractive acquisition opportunities. In the event we are able to identify attractive acquisition opportunities, we may not be able to complete the acquisition or do so on commercially acceptable terms. Competition for acquisitions may also increase the cost of, or cause us to refrain from, completing acquisitions.

The success of any completed acquisition will depend on our ability to integrate effectively the acquired assets or business. The process of integrating acquired assets or businesses may involve unforeseen difficulties and may require a disproportionate amount of managerial and financial resources. In addition, possible future acquisitions may be larger and for purchase prices significantly higher than those paid for earlier acquisitions. No assurance can be given that we will be able to identify additional suitable acquisition opportunities, negotiate acceptable terms, obtain financing for acquisitions on acceptable terms or successfully acquire identified targets. We may incur significant additional indebtedness or restrictive financing to fund the purchase price and other costs associated with acquisitions. We may not realize expected benefits from our acquisitions or acquired properties may lose value following the acquisition, such as the White Wolf Acquisition completed in 2017, which was financed with proceeds from our Second Lien Notes and Series B Preferred Stock. Our failure to achieve consolidation savings, to integrate the acquired businesses and assets into our existing operations successfully or to minimize any unforeseen operational difficulties could have a material adverse effect on our financial condition and results of operations, which may cause the market price of our Class A Common Stock to decline.

In addition, our Amended and Restated Credit Agreement, Certificate of Designation for the Series B Preferred Stock filed with the Secretary of State of the State of Delaware on December 8, 2017 (“Series B Certificate of Designation”) and the Note Purchase Agreement, dated as of December 8, 2017 (as amended by the Limited Consent and First Amendment to the Note Purchase Agreement, dated as of March 28, 2018, the “Note Purchase Agreement”) impose, and future debt agreements may impose, among other things, limitations on our ability to enter into mergers or combination transactions. Such limitations may also restrict our ability to incur certain indebtedness, which could indirectly limit our ability to engage in acquisitions of assets or businesses. On March 19, 2020, we announced that we had drawn the remaining available borrowings under our Amended and Restated Credit Agreement, which could significantly limit our ability to incur additional indebtedness.

We may be subject to risks in connection with acquisitions of properties.

The successful acquisition of properties requires an assessment of several factors, including:

- recoverable reserves;
- future oil and natural gas prices and their applicable differentials;
- geological risks;
- access to markets;
- operating costs; and
- potential environmental and other liabilities.

The accuracy of these assessments is inherently uncertain. In connection with these assessments, we perform a review of the subject properties that we believe to be generally consistent with industry practices. However, these reviews will not reveal all existing or potential problems, nor will it permit us to become sufficiently familiar with the properties to fully assess their deficiencies and capabilities. Inspections may not always be performed on every well, and environmental problems, such as groundwater contamination, are not necessarily observable even when an inspection is undertaken. Even when problems are identified, the seller may be unwilling or unable to provide effective contractual protection against all or part of the problems.

Certain of our properties are subject to land use restrictions, which could limit the manner in which we conduct our business.

In order to bring equipment, supplies, water, personnel and produced products to and from certain of our properties, we or our contractors must obtain permissions or rights-of-way from other parties, including private property owners and governmental agencies. There is no guarantee that we or our contractors will be able to obtain or continue to obtain those permissions or rights or to obtain them at a reasonable cost. In addition, certain of our properties are subject to land use restrictions, including ordinances, which could limit the manner in which we conduct our business. Although none of our proposed drilling locations associated with proved undeveloped reserves as of December 31, 2019 are on properties currently subject to such land use restrictions, such restrictions may become effective in the future. All of the permissions, rights-of-way and restrictions discussed above could affect, among other things, our access to and the permissible uses of our facilities as well as the manner in which we produce oil and natural gas and may restrict or prohibit drilling in general. The costs incurred to comply with such restrictions may be significant in nature, and we may experience delays or curtailment in the pursuit of development activities and may even be precluded from the drilling of wells.

The unavailability or high cost of additional drilling rigs, equipment, supplies, personnel and oilfield services could adversely affect our ability to execute future development plans within our budget and on a timely basis.

We do not own any drilling rigs, nor do we own other equipment and supplies that are critical to our continuing ability to drill for and produce oil, gas and NGLs. We are dependent on access to qualified and competent contractors for such equipment and supplies, as well as the personnel to engage in our drilling and production program. The demand for drilling rigs, pipe and other equipment and supplies, as well as for qualified and experienced field personnel to drill wells and conduct field operations, geologists, geophysicists, engineers and other professionals in the oil and natural gas industry, can fluctuate significantly, often in correlation with oil and natural gas prices, causing periodic shortages. Our operations are concentrated in areas in which industry has increased rapidly, and as a result, demand for such drilling rigs, equipment and personnel, as well as access to transportation, processing and refining facilities in these areas, has increased, as have the costs for those items. We may not be able to renew or obtain new drilling contracts for rigs whose contracts are expiring or are terminated or obtain drilling contracts for our uncontracted

new builds. Any delay or inability to secure the personnel, including frac crews, equipment, power, services, resources and facilities access necessary for us to increase our development activities could result in production volumes being below our forecasted volumes. In addition, any such negative effect on production volumes, or significant increases in costs, could have a material adverse effect on our cash flow and profitability. Furthermore, if we are unable to secure a sufficient number of drilling rigs at reasonable costs, we may not be able to drill all of our acreage before our leases expire.

We could experience periods of higher costs if commodity prices rise. These increases could reduce our profitability, cash flow and ability to complete development activities as planned.

Historically, our capital and operating costs have risen during periods of increasing oil, natural gas and NGL prices. These cost increases result from a variety of factors beyond our control, such as increases in the cost of electricity, steel and other raw materials that we and our vendors rely upon; increased demand for labor, services and materials as drilling activity increases; and increased taxes. Decreased levels of drilling activity in the oil and gas industry in recent periods have led to declining costs of some drilling equipment, materials and supplies. However, such costs may rise faster than increases in our revenue if commodity prices rise, thereby negatively impacting our profitability, cash flow and ability to complete development activities as scheduled and on budget. This impact may be magnified to the extent that our ability to participate in the commodity price increases is limited by our prior or future commodity derivative activities.

Climate change laws and regulations restricting emissions of GHGs could result in increased operating costs and reduced demand for the oil and natural gas that we produce, while potential physical effects of climate change could disrupt our production and cause us to incur significant costs in preparing for or responding to those effects.

There have not been significant legislative proposals to reduce GHG emissions at the federal level in recent years. In the absence of such federal climate legislation, a number of federal, state and regional regulations, programs and initiatives have been enacted or are being considered that are aimed at tracking or reducing GHG emissions by means of cap and trade programs, direct taxation of carbon emissions, or that promote the use of less carbon-intensive fuels.

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 imposing reporting obligations on, or limiting emissions of GHGs from, our equipment and operations could require us to incur costs to reduce emissions of GHGs associated with our operations. Substantial limitations on GHG emissions could adversely affect demand for the oil and natural gas we produce and lower the value of our reserves. Recently, activists concerned about the potential effects of climate change have directed their attention at sources of funding for fossil-fuel energy companies, which has resulted in certain financial institutions, funds and other sources of capital restricting or eliminating their investment in oil and natural gas activities. Ultimately, this could make it more difficult to secure funding for exploration and production activities. In addition, increasing attention to climate change risks has resulted in an increased possibility of governmental investigations and additional private litigation against fossil-fuel energy companies without regard to causation or our contribution to the asserted damage, which could adversely affect our business. Notwithstanding potential risks related to climate change, the International Energy Agency estimates that global energy demand will continue to rise and will not peak until after 2040 and that oil and gas will continue to represent a substantial percentage of global energy use over that time. Finally, it should be noted that some scientists have concluded that 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, floods, droughts and other climatic events. Our operations are onshore and not located in coastal or flood-prone regions of the United States, but if any such effects were to occur, they have the potential to cause physical damage to our assets or affect the availability of water for our operations and thus could have a material adverse effect on our operations. For further discussion on climate change laws and regulations restricting emissions of GHGs, see "Business – Regulation of Environmental and Occupational Safety and Health Matters."

Federal, state and local legislative and regulatory initiatives relating to hydraulic fracturing as well as governmental reviews of such activities could result in increased costs and additional operating restrictions or delays in the completion of oil and natural gas wells and adversely affect our production.

Hydraulic fracturing is an important and common practice that is used to stimulate production of oil or natural gas from dense subsurface rock formations. The hydraulic fracturing process involves the injection of water, proppants and chemicals under pressure into targeted subsurface formations to fracture the surrounding rock and stimulate production. We regularly use hydraulic fracturing as part of our operations and expect to continue that practice. Hydraulic fracturing is typically regulated by state oil and natural gas commissions, but the EPA has asserted federal regulatory authority pursuant to the federal SDWA over certain hydraulic fracturing activities. For further discussion on regulation of hydraulic fracturing, see "Business – Regulation of the Oil and Natural Gas Industry." At the state level, several states have adopted or are considering legal requirements that could impose more stringent permitting, disclosure and well construction requirements on hydraulic fracturing activities. For example, in May 2013, the Railroad

Commission of Texas issued a “well integrity rule,” which updates the requirements for drilling, putting pipe down and cementing wells. The rule includes testing and reporting requirements, such as (i) the requirement to submit cementing reports after well completion or after cessation of drilling, whichever is later, and (ii) the imposition of additional testing on wells less than 1,000 feet below usable groundwater. At the state level, several states have adopted or are considering legal requirements that could impose more stringent permitting, disclosure and well construction requirements on hydraulic fracturing activities. Local governments also may seek to adopt ordinances within their jurisdictions regulating the time, place and manner of drilling activities in general or hydraulic fracturing activities in particular. If new or more stringent federal, state or local legal restrictions relating to the hydraulic fracturing process are adopted in areas where we operate, we could incur potentially significant added costs to comply with such requirements, experience delays or curtailment in the pursuit of development activities, and perhaps even be precluded from drilling wells.

Legislation or regulatory initiatives restrict our ability to dispose of produced water, including saltwater, gathered from such activities, which could have a material adverse effect on our business.

We dispose of large volumes of produced water, including saltwater, gathered from our drilling and production operations using disposal wells pursuant to permits issued by governmental authorities overseeing such disposal activities and pursuant to permissions granted by the owners of properties where the disposal wells are located. While these permits are issued in accordance with existing laws and regulations, these legal requirements are subject to change, as are the permissions granted by property owners. Any changes could result in the imposition of more stringent operating constraints or new monitoring and reporting requirements, owing to, among other things, concerns of the public or governmental authorities or property owners regarding such gathering or disposal activities. The adoption and implementation of any new laws or regulations or changes that restrict our expected ability to use hydraulic fracturing or dispose of produced water gathered from our drilling and production activities, either by limiting disposal volumes, disposal well locations or otherwise, or requiring us to shut down disposal wells, could have a material adverse effect on our business, financial condition and results of operations. For example, In 2015, the United States Geological Survey identified eight states, including Texas, with areas of increased rates of induced seismicity that could be attributed to fluid injection or oil and gas extraction. In addition, a number of lawsuits have been filed in other states, for example recent lawsuits in Oklahoma, alleging that disposal well operations have caused damage to neighboring properties or otherwise violated state and federal rules regulating waste disposal. In response to these concerns, regulators in some states are seeking to impose additional requirements, including requirements on the permitting of produced water disposal wells or otherwise to assess any relationship between seismicity and the use of such wells. For example, in October 2014, the Railroad Commission of Texas published a rule governing permitting or re-permitting of disposal wells that would require, among other things, the submission of information on seismic events occurring within a specified radius of the disposal well location, as well as logs, geologic cross sections and structure maps relating to the disposal area in question. If the permittee or an applicant for a disposal well permit fails to demonstrate that the saltwater or other fluids are confined to the disposal zone or if scientific data indicates that such a disposal well is likely to be or determined to be contributing to seismic activity, then the agency may deny, modify, suspend or terminate the permit application or existing operating permit for that well. The Oklahoma Corporation Commission also released well completion seismicity guidelines in December 2016 for operators in the SCOOP and STACK that call for hydraulic fracturing operations to be suspended following earthquakes of certain magnitudes in the vicinity. In addition, in February 2017, the Oklahoma Corporation Commission’s Oil and Gas Conservation Division issued an order limiting future increases in the volume of oil and natural gas wastewater injected into the ground in an effort to reduce the number of earthquakes in the state. It is possible that similar measures could be implemented in the areas where we operate.

Competition in the oil and natural gas industry is intense, making it more difficult for us to acquire properties, market oil or natural gas and secure trained personnel.

Our ability to acquire additional prospects and to find and develop reserves in the future will depend on our ability to evaluate and select suitable properties and to consummate transactions in a highly competitive environment for acquiring properties, marketing oil and natural gas and securing trained personnel. Also, there is substantial competition for capital available for investment in the oil and natural gas industry. Many of our competitors possess and employ financial, technical and personnel resources substantially greater than ours. Those companies may be able to pay more for productive properties and exploratory prospects and to evaluate, bid for and purchase a greater number of properties and prospects than our financial or personnel resources permit. In addition, other companies may be able to offer better compensation packages to attract and retain qualified personnel than we are able to offer. The cost to attract and retain qualified personnel may increase substantially in the future. We may not be able to compete successfully in the future in acquiring prospective reserves, developing reserves, marketing hydrocarbons, attracting and retaining quality personnel and raising additional capital, which could have a material adverse effect on our business.

The loss of senior management or technical personnel could adversely affect our operations.

We depend on the services of our senior management and technical personnel, and our ability to hire and retain them is important to our continued success and growth. We do not maintain, nor do we plan to obtain, any insurance against the loss of any of these individuals. Loss of the services of our senior management or technical personnel could have a material adverse effect on our business, financial condition and results of operations. On March 27, 2020, we announced that we terminated 52 full-time employees, including a number of senior management and technical personnel. We cannot guarantee that we will be able to replace these individuals if and when we resume drilling and completion activity.

We identified material weaknesses in our internal control over financial reporting in the past and may identify additional material weaknesses in the future or otherwise fail to maintain an effective system of internal controls, which may result in material misstatements of our financial statements or cause us to fail to meet our periodic reporting obligations.

We are required to comply with certain provisions of Section 404 of the Sarbanes-Oxley Act of 2002 ("Sarbanes-Oxley Act"). Section 404 requires that we document and test our internal control over financial reporting and issue management's assessment of our internal control over financial reporting. In our quarterly report for the quarter ended March 31, 2019, we identified and disclosed a material weakness related to the accuracy of our accounting for income taxes which led to the incorrect application of U.S. GAAP, and ineffective controls over the financial statement close and reporting processes related to income taxes. To remediate the material weakness, we have made improvements to our internal controls over income taxes that strengthen the quality of our internal review. Based on these improvements and testing performed by management, we believe the implemented controls are operating effectively and the material weakness has been remediated as of December 31, 2019.

If we fail to comply with the requirements of Section 404 of the Sarbanes-Oxley Act, the accuracy and timeliness of the filing of our annual and quarterly reports may be materially adversely affected and could cause investors to lose confidence in our reported financial information, which could have a negative effect on the trading price of our Class A Common Stock. In addition, a material weakness in the effectiveness of our internal control over financial reporting could reduce our ability to obtain financing and require additional expenditures to comply with these requirements, each of which could have a material adverse effect on our business, results of operations and financial condition.

Our disposition activities may be subject to factors beyond our control, and in certain cases we may retain unforeseen liabilities for certain matters.

We have regularly sold non-core assets in order to increase capital resources available for other core assets and to create organizational and operational efficiencies. We have also occasionally sold interests in core assets for the purpose of accelerating the development and increasing efficiencies in such core assets. Various factors could materially affect our ability to dispose of such assets in the future, including the approvals of governmental agencies or third parties and the availability of purchasers willing to acquire the assets with terms we deem acceptable.

Sellers often retain certain liabilities or agree to indemnify buyers for certain matters related to the sold assets. The magnitude of any such retained liability or of the indemnification obligation is difficult to quantify at the time of the transaction and ultimately could be material. Also, as is typical in divestiture transactions, third parties may be unwilling to release us from guarantees or other credit support provided prior to the sale of the divested assets. As a result, after a divestiture, we may remain secondarily liable for the obligations guaranteed or supported to the extent that the buyer of the assets fails to perform these obligations.

The standardized measure of our estimated proved reserves and our PV-10 are not necessarily the same as the current market value of our estimated proved oil, natural gas and NGL reserves.

The present value of future net cash flow from our proved reserves, or standardized measure, and our related PV-10 calculation, may not represent the current market value of our estimated proved oil, natural gas and NGL reserves. In accordance with SEC requirements, we base the estimated discounted future net cash flow from our estimated proved reserves on the 12-month average prices, calculated as the unweighted arithmetic average for the first-day-of-the-month price for each month and costs in effect as of the date of the estimate, holding the prices and costs constant throughout the life of the properties. Actual future prices and costs may differ materially from those used in the net present value estimate, and future net present value estimates using then current prices and costs may be significantly less than current estimates. In addition, the 10% discount factor we use when calculating discounted future net cash flow for reporting requirements in compliance with the Financial Accounting Standard Board Codification 932, "Extractive Activities-Oil and Gas," may not be the most appropriate discount factor based on interest rates in effect from time to time and risks associated with us or the oil and natural gas industry in general.

Our ability to use net operating loss carryforwards to offset future taxable income for U.S. federal income tax purposes is subject to limitation.

As of December 31, 2019, we have approximately \$31.3 million of U.S. federal operating loss carryforwards (“NOLs”), which will begin to expire in 2037. Utilization of these NOLs depends on many factors, including our future income, which cannot be assured. In addition, Section 382 of the Internal Revenue Code of 1986, as amended (the “Code”), generally imposes an annual limitation on the amount of NOLs that may be used to offset taxable income when a corporation has undergone an “ownership change” (as determined under Section 382 of the Code). An ownership change generally occurs if one or more shareholders (or a group of shareholders) who are each deemed to own at least 5% of our stock change their ownership by more than 50 percentage points over their lowest ownership percentage during a rolling three-year period.

In the event of an ownership change, utilization of our NOLs in existence at the time of the ownership change would be subject to an annual limitation, determined by multiplying the value of our stock at the time of the ownership change by the applicable long-term tax-exempt rate, subject to certain adjustments. Any unused annual limitation may be carried over to later years until they expire.

We believe we experienced an ownership change as a result of the Transaction on April 27, 2017, and our NOLs at the time of the Transaction are subject to limitation under Section 382 of the Code, which may cause U.S. federal income taxes to be paid earlier than otherwise would be paid if such limitation were not in effect and could cause such NOLs to expire unused, in each case reducing or eliminating the benefit of such NOLs. To the extent we are not able to offset our future income with our NOLs or carry back our NOLs to offset income in prior tax years, this would adversely affect our operating results and cash flows if we attain profitability. Similar rules and limitations may apply for state income tax purposes.

We depend on computer and telecommunications systems and failures in our systems or cyber security attacks could significantly disrupt our business operations.

Our business has become increasingly dependent on digital technologies to conduct day-to-day operations including certain exploration, development and production activities. We have entered into agreements with third parties for hardware, software, telecommunications and other information technology services in connection with our business. In addition, we have developed proprietary software systems, management techniques and other information technologies incorporating software licensed from third parties. We depend on digital technology, including information systems and related infrastructure as well as cloud applications and services, to process and record financial and operating data, analyze seismic and drilling information, conduct reservoir modeling and reserves estimation, communicate with employees and business associates, perform compliance reporting and in many other activities related to our business. Our business associates, including vendors, service providers, purchasers of our production and financial institutions, are also dependent on digital technology.

As dependence on digital technologies has increased, cyber incidents, including deliberate attacks or unintentional events, have also increased. Our technologies, systems, networks and those of our business associates may become the target of cyber-attacks or information security breaches, which could lead to disruptions in critical systems, unauthorized release of confidential or protected information, corruption of data or other disruptions of our business operations. In addition, certain cyber incidents, such as surveillance, may remain undetected for an extended period.

It is possible we could incur interruptions from cyber security attacks, computer viruses or malware. We believe that we have positive relations with our related business associates, including vendors, and maintain adequate anti-virus and malware software and controls; however, any interruptions to our arrangements with third parties to our computing and communications infrastructure or our information systems could significantly disrupt our business operations. A cyber-attack involving our information systems and related infrastructure, or that of our business associates, could disrupt our business and negatively impact our operations in a variety of ways. As cyber threats continue to evolve, we may be required to expend significant additional resources to continue to modify or enhance our protective measures or to investigate and remediate any information security vulnerabilities. Furthermore, any failures in our systems or cyber security attacks may increase the costs for insurance, recovery, remediation, potential litigation and other security measures, and some insurance coverage may become more difficult to obtain, if available at all.

Our derivative transactions expose us to counterparty credit risk.

Our derivative transactions expose us to risk of financial loss if a counterparty fails to perform under a derivative contract. Disruptions in the financial markets could lead to sudden decreases in a counterparty's liquidity, which could make them unable to perform under the terms of the derivative contract and we may not be able to realize the benefit of the derivative contract.

Changes to federal or state tax laws or elimination of federal income tax deductions currently available with respect to oil and natural gas exploration and development could cause us to have a greater tax expense.

Currently, many states conform their calculation of corporate taxable income to the calculation of corporate taxable income at the U.S. federal level. However, states may change or modify the calculation of corporate taxable income or cause taxes to be payable at the operating entity level. Any resulting increase in taxable income due to such changes could have an adverse effect on our financial position, results of operations and cash flows.

From time to time, U.S. lawmakers have proposed certain significant changes to U.S. tax laws applicable to oil and natural gas companies. These changes include, but are not limited to: (i) the elimination of current deductions for intangible drilling and development costs; (ii) the repeal of the percentage depletion allowance for oil and natural gas properties; and (iii) an extension of the amortization period for certain geological and geophysical expenditures. It is unclear whether any such changes will be enacted or if enacted, when such changes could be effective. If such proposed changes were to be enacted, as well as any similar changes in state law, it could eliminate or postpone certain tax deductions that are currently available to us with respect to oil and natural gas exploration and development, and any such change could negatively affect our financial condition and results of operations.

Additionally, future legislation could be enacted that increases the taxes or fees imposed on oil and natural gas extraction. Any such legislation could result in increased operating costs or reduced consumer demand for petroleum products, which in turn could affect the prices we receive for our oil and natural gas.

Negative public perception regarding us or our industry could have an adverse effect on our operations.

Negative public perception regarding us or our industry resulting from, among other things, concerns raised by advocacy groups about hydraulic fracturing, seismicity, oil spills and explosions of natural gas transmission lines, may lead to regulatory scrutiny, which may, in turn, lead to new state and federal safety and environmental laws, regulations, guidelines and enforcement interpretations. These actions may cause operational delays or restrictions, increased operating costs, additional regulatory burdens and increased risk of litigation. Moreover, governmental authorities exercise considerable discretion in the timing and scope of permit issuance and the public may engage in the permitting process, including through intervention in the courts. Negative public perception could cause the permits we need to conduct our operations to be withheld, delayed, or burdened by requirements that restrict our ability to profitably conduct our business.

Risks Related to Our Indebtedness

We may not be able to service our debt and pay dividends on our preferred stock, which may result in forced repayment or redemption or events of default. We may seek restructuring or protection under Chapter 11 of the Bankruptcy Code.

We have a significant amount of indebtedness, including borrowings under our Amended and Restated Credit Agreement and \$100 million aggregate principal amount of 10.00% Senior Secured Second Lien Notes issued on December 8, 2017 (the “Second Lien Notes”). We are also required to make cash dividend payments on our Series B Preferred Stock. Our payment obligations under our Amended and Restated Credit Agreement, Series B Preferred Stock and Second Lien Notes were approximately \$38.2 million for the year ended December 31, 2019. Our ability to make scheduled payments on, or to refinance, our indebtedness obligations, including our Amended and Restated Credit Agreement and \$100 million aggregate principal amount of 10% Senior Secured Second Lien Notes issued on December 8, 2017 (the “Second Lien Notes”), depends on our financial condition and operating performance, which are subject to prevailing economic and competitive conditions and certain financial, business and other factors beyond our control. We may not be able to maintain a level of cash flows from operating activities sufficient to permit us to pay the principal, premium, if any, and interest on our current and future indebtedness.

Our Amended and Restated Credit Agreement restricts our cash distributions to an amount not to exceed \$8.0 million and \$25.0 million on our Series A Preferred Stock and Series B Preferred Stock, respectively, in any fiscal year. Such distributions can only be made so long as both before and immediately following such distributions, (i) we are not in default, (ii) our unused borrowing capacity is equal to or greater than 20% of the committed borrowing capacity and (iii) our ratio of Total Debt to EBITDAX is not greater than 3.5 to 1.0. On March 19, 2020, we announced that we drew the remaining available borrowings under our Amended and Restated Credit Agreement. Accordingly, we will be unable to pay cash dividends on our Series A Preferred Stock and Series B Preferred Stock until we repay borrowings to 80% or less of capacity. If we fail to pay dividends on the Series B Preferred Stock in any fiscal quarter, the dividend rate will increase from 10% to 12% per annum on the \$1,000 liquidation preference per share of Series B Preferred Stock until such dividends are paid in full. We do not expect to pay dividends on the Series B Preferred Stock with respect to at least the first quarter of 2020. In addition, if the Company fails to pay dividends for three out of four consecutive fiscal quarters or for six quarters (whether or not consecutive), then a representative appointed by

the holders of a majority of the outstanding shares of Series B Preferred Stock has the right to appoint one director to our board of directors, and we are required to seek the approval of such representative for certain corporate actions (such as the incurrence of indebtedness exceeding 3.25x, the approval of any applicable company budget and any capital expenditures in excess of \$500,000), in each case, until three months following the date on which such dividends are paid in full. Failure to pay cash dividends on the Series B Preferred for nine months or more could give the holders the right to require the Company redeem the Series B Preferred Stock for cash.

If our cash flows and capital resources are insufficient to fund debt or preferred stock service obligations, we may be forced to further reduce or delay investments and capital expenditures, sell assets, seek additional capital or restructure or refinance indebtedness. Certain of these actions require the consent of the lenders under our Amended and Restated Credit Agreement, holders of Second Lien Notes or holders of Series B Preferred Stock, which may make them more difficult, costly or impractical. Our ability to restructure or refinance our indebtedness will depend on the condition of the capital markets, industry conditions and our financial condition at such time. Current market and worldwide economic conditions are expected to make it more difficult to complete such restructuring or refinancing. Any refinancing of indebtedness could be at higher interest rates and may require us to comply with more onerous covenants, which could further restrict business operations. The terms of future debt instruments may restrict us from adopting some of these alternatives. In addition, any failure to make payments of interest and principal on outstanding indebtedness on a timely basis would likely result in a reduction of our credit rating, which could harm our ability to incur additional indebtedness. In the absence of sufficient cash flows and capital resources, we could face substantial liquidity problems and might be required to dispose of material assets or operations to meet debt service and other obligations. If we are unable to successfully refinance debt or maintain compliance with the covenants in our debt documents and preferred stock, we may seek an out of court restructuring or, alternatively, protection under Chapter 11 of the U.S. Bankruptcy Code.

Restrictions in our Amended and Restated Credit Agreement, Certificate of Designation for the Series B Preferred Stock and the Note Purchase Agreement limit, and our future debt agreements could limit, our ability to engage in certain activities.

Our Amended and Restated Credit Agreement, Series B Certificate of Designation and the Note Purchase Agreement contain, and our future debt agreements may contain, a number of significant covenants, including restrictive covenants that limit our ability to, among other things:

- incur additional indebtedness;
- be liable in respect of any third-party guaranty;
- incur liens;
- make loans to others;
- make investments;
- pay dividends or make distributions to third parties;
- liquidate, merge or consolidate with another entity;
- enter into commodity hedges exceeding a specified percentage of our expected production;
- enter into interest rate hedges exceeding a specified percentage of our outstanding indebtedness;
- sell properties or assets;
- issue additional shares of capital stock; and
- engage in certain other transactions without the prior consent of the holders of the Second Lien Notes, the Series B Preferred Stock or JPMorgan Chase Bank, N.A. and the lenders under the Amended and Restated Credit Agreement.

In addition, our Amended and Restated Credit Agreement and the Note Purchase Agreement require us to maintain certain financial ratios, which may also limit our ability to engage in certain transactions.

The restrictions in our Amended and Restated Credit Agreement, Series B Certificate of Designation and the Note Purchase Agreement limit our ability to obtain future financings to withstand the recent downturn in our business or the economy in general, or to otherwise conduct necessary corporate activities. We may also be prevented from taking advantage of business opportunities that arise because of the limitations that the restrictive covenants under our Amended and Restated Credit Agreement, Series B Certificate of Designation and the Note Purchase Agreement impose on us.

If we are unable to comply with restrictions and covenants in our Amended and Restated Credit Agreement or Note Purchase Agreement, there could be a default under the terms of the agreements, which could result in termination of the commitments, foreclosure by our lenders or second lien holders or an acceleration of payments of funds that we have borrowed. The Class A Common Stock may not receive any value in such a scenario.

Although we were in compliance with all of our financial ratios as of December 31, 2019, we could face challenges meeting certain financial covenants under our Amended and Restated Credit Agreement or Note Purchase Agreement in the future. In addition to financial covenants, our Amended and Restated Credit Agreement and the Note Purchase Agreement contain a number of other covenants, and a breach in any of these covenants in the future likely would result in a default after any applicable grace periods. In addition, the covenants in our Amended and Restated Credit Agreement and Note Purchase Agreement are complex and subject to differing interpretations. As a result, disputes over the interpretation of these covenants may arise, particularly during disruptions in market conditions, such as the one we are currently experiencing, and may include claims of a breach in one or more covenants and even claims of a breach, which could have a material adverse effect on our financial condition. If a default has occurred and has not been waived, it could result in termination by the lenders of their commitments under the Amended and Restated Credit Agreement, foreclosure by such lenders or holders of our second lien notes against our assets securing their indebtedness or acceleration of the indebtedness outstanding. The accelerated indebtedness may become immediately due and payable. If that occurs, we may not be able to make all of the required payments or borrow sufficient funds to refinance such indebtedness. Even if new financing were available at that time, it may not be on terms that are acceptable to us. As a result we may seek to restructure the company or we may be forced into bankruptcy or liquidation. If, during an event of default, our lenders or second lien holders exercise their right to proceed against the collateral and take control of substantially all of our material operating assets, our assets may not be sufficient to repay in full the amounts owed to our lenders, second lien holders or our other debt holders. The Class A Common Stock may not receive any value or payments in a restructuring or similar scenario. Even if the lenders or holders do not foreclose on the collateral, such an event of default could cause a significant decline in the value of the Class A Common Stock.

The Amended and Restated Credit Agreement requires Rosehill Operating to deliver audited financial statements of Rosehill Operating (without a going concern qualification) to the lenders within 90 days after the end of each fiscal year. We can satisfy this requirement by providing audited financial statements of Rosehill Resources within 90 days after the end of each fiscal year. We failed to provide the lenders with such audited financial statements and other required certificates and operating reports within 90 days after December 31, 2019, which constitutes a default under the Amended and Restated Credit Agreement. However, the Amended and Restated Credit Agreement gives us a 30-day cure period before it becomes an event of default that will allow the lenders to redeem a portion or all amounts outstanding.

Any significant reduction in the borrowing base under our Amended and Restated Credit Agreement as a result of the periodic borrowing base redeterminations or otherwise may negatively impact our ability to fund our operations.

Our Amended and Restated Credit Agreement limits the amounts we can borrow up to a borrowing base amount, which the lenders, in their sole discretion, determine at certain periods throughout the year. On March 19, 2020, we announced that we drew the remaining available borrowings under our Amended and Restated Credit Agreement and have no additional capacity. The borrowing base depends on, among other things, projected revenues from, and asset values of, the oil and natural gas properties securing our loan. If we do not furnish the information required for the redetermination by the specified date, the lender may nonetheless redetermine the borrowing base in their sole discretion until the relevant information is received. The borrowing base is redetermined on April 1 and October 1 of each year.

We expect the borrowing base to be reduced by the lenders, potentially significantly, in connection with this redetermination that was scheduled for April 1, 2020, and we will be required to repay borrowings in excess of the reduced borrowing capacity. Under the Amended and Restated Credit Agreement, we have the option to repay such excess either in full within 30 days after the redetermination or in monthly installments over a six-month period commencing 30 days following the redetermination. Any reductions to our borrowing capacity at future redetermination dates could result in additional deficiencies that would require us to repay any excess as well. We may not have access to the funds necessary to make such repayment, which would constitute an event of default.

In the future, we may also not be able to access adequate funding under our Amended and Restated Credit Agreement (or a replacement facility) as a result of a decrease in our borrowing base due to the issuance of new indebtedness, the outcome of a subsequent borrowing base redetermination or an unwillingness or inability on the part of lending counterparties to meet their funding obligations and the inability of other lenders to provide additional funding to cover the defaulting lender's portion. Declines in commodity prices could result in a determination to lower the borrowing base or we may be forced to seek other financing or restructuring options in the future and, in such a case, we could be required to repay any indebtedness in excess of the redetermined borrowing base. As a result, we may be unable to operate our producing properties, recommence or implement our respective drilling and development plan, make acquisitions or otherwise carry out business plans, which would have a material adverse effect on our financial condition and results of operations and impair our ability to service our indebtedness.

We may not be able to refinance or replace our maturing debt on favorable terms, or at all, which will materially adversely affect our financial condition and results of operations, including our inability to continue as a going concern.

As discussed further under "Management's Discussion and Analysis of Financial Condition and Results of Operations – Capital Requirements and Sources of Liquidity - Going Concern Assessment and Management's Plan," which is incorporated into this risk factor, several conditions and events raise substantial doubt about our ability to continue as a going concern within the next year and one day post issuance of these consolidated financial statements included in this Annual Report.

We are currently exploring options to refinance our existing indebtedness, including restructuring our existing capital and bringing on new sources of capital. There is no assurance, however, that such discussions will result in a refinancing on acceptable terms, if at all. Obtaining such financing is more challenging under current market conditions. Alternative sources of capital, if available at all, could involve the issuance of debt or equity on unfavorable terms or that would result in significant dilution. While we review such liquidity-enhancing alternative sources of capital, we intend to continue to manage our expenditures, including through suspension of our drilling program, a reduction in cash general and administrative expenses and the possible sale of additional non-core properties. We may also sell core and non-core assets and further reduce general and administrative expenses in order to pay down outstanding debt. These transactions or actions could have a material adverse effect on our results of operations and financial condition.

We may incur substantial additional debt, which could decrease our ability to maintain operations or service existing debt obligations.

Subject to the restrictions in our Amended and Restated Credit Agreement, Series B Certificate of Designation and the Note Purchase Agreement (as defined below), we may incur substantial additional debt in the future. We may also consider investments in joint ventures or acquisitions that may increase our indebtedness. Adding debt to existing debt levels could intensify the risks that we face.

Increases in interest rates could adversely affect our business.

Our business and operating results can be harmed by factors such as the availability, terms of and cost of capital, increases in interest rates or a reduction in credit rating. These changes could cause our cost of doing business to increase, limit our ability to pursue acquisition opportunities, reduce cash flow used for drilling and place us at a competitive disadvantage. Our Amended and Restated Credit Agreement is subject to similar or greater interest rate expenses. While we do have certain swaps in place to protect against future increases in interest rates, these swaps do not protect against all possible future increases in interest rates. Recent and continuing disruptions and volatility in the global financial markets may lead to a contraction in credit availability impacting our ability to finance operations. We require continued access to capital. A significant reduction in cash flows from operations or the availability of credit could materially and adversely affect our ability to achieve planned growth and operating results.

Uncertainty about the future of the London Interbank Offer Rate ("LIBOR") may adversely affect our business and financial results.

LIBOR meaningfully influences market interest rates around the globe. In July 2017, the Chief Executive of the United Kingdom Financial Conduct Authority, which regulates LIBOR, announced its intent to stop persuading or compelling banks to submit rates for the calculation of LIBOR to the administrator of LIBOR after 2021. This announcement indicates that the continuation of LIBOR as currently constructed is not guaranteed after 2021. It is impossible to predict whether and to what extent banks will continue to provide LIBOR submissions to the administrator of LIBOR, whether any additional reforms to LIBOR may be enacted in the United Kingdom or elsewhere, and whether other rate or rates may become accepted alternatives to LIBOR.

In 2014, the Federal Reserve Board and the Federal Reserve Bank of New York convened the Alternative Reference Rates Committee (“ARRC”) to identify best practices for alternative reference rates, identify best practices for contract robustness, develop an adoption plan, and create an implementation plan with metrics of success and a timeline. The ARRC accomplished its first set of objectives and has identified the Secured Overnight Financing Rate (“SOFR”) as the rate that represents best practice for use in certain new U.S. dollar derivatives and other financial contracts. The ARRC also published its Paced Transition Plan, with specific steps and timelines designed to encourage adoption of the SOFR. The ARRC was reconstituted in 2018 to help to ensure the successful implementation of the Paced Transition Plan and serve as a forum to coordinate and track planning across cash and derivatives products and market participants currently using LIBOR.

No assurance can be provided that the uncertainties around LIBOR or their resolution will not adversely affect the use, level and volatility of LIBOR or other interest rates or the value of LIBOR-based securities or other securities or financial arrangements. Further, the viability of SOFR as an alternative reference rate and the availability and acceptance of other alternative reference rates are unclear and also may have adverse effects on market rates of interest and the value of securities and other financial arrangements. These uncertainties, proposals and actions to resolve them, and their ultimate resolution also could negatively impact our funding costs, loan and other asset values, asset-liability management strategies, and other aspects of our business and financial results. We will monitor the continuous emergence of SOFR, as it could adversely impact our interest rate risk, and therefore the amount of interest we pay on liabilities currently measured at LIBOR.

A fundamental change under our Series A Preferred Stock, a change of control under our Series B Preferred Stock or an event of default under our Amended and Restated Credit Agreement or our Note Purchase Agreement would all have a material adverse effect on our financial condition and results of operations.

Although we were not in default under our Series A Preferred Stock, our Series B Preferred Stock, our Amended and Restated Credit Agreement or our Note Purchase Agreement as of December 31, 2019, we cannot provide assurance that factors such as the current market conditions will not cause a fundamental change, change of control, or event of default to occur. A default under our Amended and Restated Credit Agreement or Note Purchase Agreement could result in termination by the lenders of their commitments under the Amended and Restated Credit Agreement, foreclosure by such lenders or holders of our second lien notes against our assets securing their indebtedness or acceleration of the indebtedness outstanding. Additionally, a fundamental change under our Series A Preferred Stock or a change of control under our Series B Preferred Stock would result in the holder’s right to convert or the Company’s obligation to redeem such stock, respectively.

Examples of an event of default under one or more of these instruments and agreements include if our Class A Common Stock were to be delisted from Nasdaq, if our revolving credit exposures under our Amended and Restated Credit Agreement were to exceed the borrowing base then in effect, if we redeem equity (including preferred stock following a default) without consent of our lenders, or if we were to breach the financial covenants in our Amended and Restated Credit Agreement or our Note Purchase Agreement. An event of default under our Amended and Restated Credit Agreement causes a cross-default under our Note Purchase Agreement. With respect to the risk of our Class A Common Stock being delisted from Nasdaq, please read “The market price of the Class A Common Stock may continue to decline and we may not be able to maintain listing on Nasdaq.” A delisting of our Class A Common Stock would trigger an event of default under our Amended and Restated Credit Agreement and potential redemption of our Series B Preferred Stock. Any such event of default, and any subsequent actions taken by our lenders or second lien note holders would have a material adverse effect on our financial condition and results of operations and would contribute to the loss of all or part of the value of our Class A Common Stock.

Risks Related to the Class A Common Stock and Our Capital Structure

We are a holding company. Our sole material asset is our equity interest in Rosehill Operating and we are accordingly dependent upon distributions from Rosehill Operating to pay taxes, make payments under the Tax Receivable Agreement, cover our corporate and other overhead expenses and make payments with respect to our Series A Preferred Stock and Series B Preferred Stock.

We are a holding company and have no material assets other than our equity interest in Rosehill Operating. We have no independent means of generating revenue. To the extent Rosehill Operating has available cash, we intend to cause Rosehill Operating to make (i) generally pro rata distributions to its unitholders, including us, in an amount at least sufficient to allow us to pay dividends with respect to the Series A Preferred Stock and the Series B Preferred Stock, pay our taxes and to make payments under the Tax Receivable Agreement with Tema and (ii) non-pro rata payments to us to reimburse us for our corporate and other overhead expenses. To the extent that we need funds and Rosehill Operating or its subsidiaries are restricted from making such distributions or payments under applicable law or regulation or under the terms of any financing arrangements, or are otherwise unable to provide such funds, our liquidity and financial condition could be materially adversely affected.

The market price of the Class A Common Stock may continue to decline and we may not be able to maintain listing on Nasdaq. A delisting of our Class A Common Stock would trigger an event of default under our Amended and Restated Credit Agreement and potential redemption of our Series B Preferred Stock.

Fluctuations in the price of the Class A Common Stock could contribute to the loss of all or part of your investment. The trading price of the Class A Common Stock could be volatile and subject to wide fluctuations in response to various factors, some of which are beyond our control. Any of these factors could have a material adverse effect on your investment and the Class A Common Stock may trade at prices significantly below the price you paid for them. In such circumstances, the trading price of the Class A Common Stock may not recover and may experience a further decline.

In addition, broad market and industry factors may materially harm the market price of the Class A Common Stock irrespective of our operating performance. The stock market in general and Nasdaq have experienced price and volume fluctuations that have often been unrelated or disproportionate to the operating performance of the particular companies affected. The trading prices and valuations of our Class A Common Stock and Public Warrants, which trade on The Nasdaq Capital Market, may not be predictable. The recent historic decline in the stock market or a loss of investor confidence in the market for retail stocks or the stocks of other companies which investors perceive to be similar to us could continue to depress the price of the Class A Common Stock regardless of our business, prospects, financial conditions or results of operations. A decline in the market price of the Class A Common Stock also could adversely affect our ability to issue additional securities and our ability to obtain additional financing in the future.

As of March 27, 2020, the closing price of our stock was \$0.29 per share. On March 23, 2020, we received a letter from The Nasdaq Stock Market LLC (“Nasdaq”) indicating that for the 30 consecutive business days ending March 20, 2020, the bid price for the Company’s common stock had closed below the \$1.00 per share minimum bid price requirement for continued listing on The Nasdaq Capital Market under Nasdaq Listing Rule 5550(a)(2). We cannot guarantee that we will be able to maintain listing of our Class A Common Stock, Class A Common Stock Public Units, or Public Warrants on The Nasdaq Capital Market. Any delisting would contribute to the loss of all or part of the value of our Class A Common Stock and could give holders of our Series B Preferred Stock the right to seek redemption of the Series B Preferred Stock for cash. A delisting would also trigger an Event of Default under our Amended and Restated Credit Agreement and Second Lien Notes.

If securities or industry analysts do not publish or cease publishing research or reports about us, our business, or our market, or if they change their recommendations regarding the Class A Common Stock adversely, the price and trading volume of the Class A Common Stock could decline.

The trading market for the Class A Common Stock relies in part on the research and reports that industry or financial analysts publish about us or our business. We do not control these analysts and there can be no assurance that any will cover us in the future. Furthermore, if one or more analysts do cover us and downgrade or provide negative outlook on our stock or our industry, or the stock of any of our competitors, or publishes inaccurate or unfavorable research about our business, the price of the Class A Common Stock could decline. If one or more of these analysts commence and subsequently cease coverage of our business or fail to publish reports on us regularly, we could lose visibility in the market, which in turn could cause our stock price or trading volume to decline.

Tema and KLR Energy Sponsor, LLC (“KLR Sponsor”) own a significant percentage of our outstanding voting common stock.

Tema and KLR Sponsor currently beneficially own approximately 70.4% of our voting common stock and, upon the full conversion of our Series A Preferred Stock, will beneficially own approximately 61.8% of our voting common stock. As long as Tema and KLR Sponsor own or control a significant percentage of outstanding voting power, they will continue to have the ability to strongly influence all corporate actions requiring stockholder approval, including the election and removal of directors and the size of our board of directors, any amendment of our charter or bylaws, or the approval of any merger or other significant corporate transaction, including a sale of substantially all of our assets.

The interests of Tema and KLR Sponsor may not align with the interests of our other stockholders. Tema and KLR Sponsor may acquire and hold interests in businesses that compete directly or indirectly with us. Tema and KLR Sponsor may also pursue acquisition opportunities that may be complementary to our business, and, as a result, those acquisition opportunities may not be available to us. In addition, our second amended and restated certificate of incorporation (the “certificate of incorporation”), amended and restated bylaws and the Shareholders’ and Registration Rights Agreement, dated as of December 20, 2016, by and among the Company, Tema, KLR Sponsor, Anchorage Illiquid Opportunities V, L.P. and AIO V AIV 3 Holdings, L.P. (the “SHRRA”), provide that, subject to certain limitations, we renounce any interest or expectancy in the business opportunities of our officers and directors and their respective affiliates and each such party shall not have any obligation to offer us those opportunities unless presented to one of our directors or officers in his or her capacity as a director or officer.

We are currently a “controlled company” within the meaning of the Nasdaq listing rules, and we may continue to rely on exemptions from certain corporate governance requirements that provide protection to stockholders of other companies.

Because Tema and KLR Sponsor control a majority of the combined voting power of all classes of our outstanding voting stock, we are a “controlled company” under Nasdaq corporate governance listing standards. Under the Nasdaq rules, a company of which more than 50% of the voting power is held by another person or group of persons acting together is a controlled company and may elect not to comply with certain Nasdaq corporate governance requirements, including the requirements that:

- a majority of the board of directors consist of independent directors;
- the nominating and governance committee be composed entirely of independent directors with a written charter addressing the committee’s purpose and responsibilities; and
- the compensation committee be composed entirely of independent directors with a written charter addressing the committee’s purpose and responsibilities.

In the event that we conduct equity offerings in the future, Tema and KLR Sponsor may cease to control a majority of the combined voting power of all classes of our outstanding voting stock. Accordingly, we may no longer be a “controlled company” within the meaning of the rules of Nasdaq. Under Nasdaq rules, a company that ceases to be a controlled company must comply with the independent board committee requirements as they relate to the nominating and corporate governance and compensation committees on the following phase-in schedule: (1) one independent committee member at the time it ceases to be a controlled company, (2) a majority of independent committee members within 90 days of the date it ceases to be a controlled company and (3) all independent committee members within one year of the date it ceases to be a controlled company. Additionally, Nasdaq rules provide a 12-month phase-in period from the date a company ceases to be a controlled company to comply with the majority independent board requirement. During these phase-in periods, our stockholders will not have the same protections afforded to stockholders of companies of which the majority of directors are independent. Additionally, if, within the phase-in periods, we are not able to recruit additional directors who would qualify as independent, or otherwise comply with Nasdaq rules, we may be subject to enforcement actions by Nasdaq. Furthermore, a change in our board of directors and committee membership may result in a change in corporate strategy and operation philosophies, and may result in deviations from our current growth strategy.

Future sales of our common stock could reduce our stock price, and any additional capital raised by us through the sale of equity or convertible securities may dilute your ownership in us.

We may sell additional shares of Class A Common Stock or securities convertible into Class A Common Stock in subsequent public or private offerings.

Downward pressure on the market price of our Class A Common Stock that likely will result from sales of our Class A Common Stock issued in connection with the exercise of the warrants for shares of Class A Common Stock or the conversion of the Class B Common Stock or Series A Preferred Stock could encourage short sales of our Class A Common Stock by market participants. Generally, short selling means selling a security, contract or commodity not owned by the seller. The seller is committed to eventually purchase the financial instrument previously sold. Short sales are used to capitalize on an expected decline in the security’s price. Such sales of our Class A Common Stock could have a tendency to depress the price of the stock, which could increase the potential for short sales.

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

Shares of the Class A Common Stock are equity interests and are therefore subordinated to our indebtedness and preferred stock.

In the event of our liquidation, dissolution or winding up, the Class A Common Stock would rank below our Series A Preferred Stock and Series B Preferred Stock and all secured debt claims against us. As a result, holders of the Class A Common Stock will not be entitled to receive any payment or other distribution of assets upon our liquidation, dissolution or winding up until all of our obligations to our secured debt holders and to holders of our Series A Preferred Stock and Series B Preferred Stock have been satisfied.

Because we currently have no plans to pay cash dividends on our Class A Common Stock, you may not receive any return on investment unless you sell your Class A Common Stock for a price greater than that which you paid for it.

We currently do not expect to pay any cash dividends on our Class A Common Stock. Any future determination to pay cash dividends or other distributions on our Class A Common Stock will be at the discretion of the board of directors and will be dependent on our earnings, financial condition, results of operations, capital requirements and contractual, regulatory and other restrictions, including restrictions contained in the senior secured credit facility or agreements governing any existing and future outstanding indebtedness we or our subsidiaries may incur, on the payment of dividends by us or by our subsidiaries to us, and other factors that our board of directors deems relevant.

As a result, you may not receive any return on an investment in our Class A Common Stock unless you sell shares of Class A Common Stock for a price greater than that which you paid for it.

Holders of our Series B Preferred Stock have certain limited consent rights that could prevent us from taking certain corporate actions, and as a result may adversely affect our business, operating results and stock price.

Holders of our Series B Preferred Stock have certain limited consent rights with respect to our ability to take certain corporate actions, including the following:

- the issuance, authorization or creation of any class or series of stock senior to or on par with the Series B Preferred Stock;
- the incurrence of additional indebtedness, provided that such indebtedness may be incurred if, after giving pro forma effect to the incurrence and any application of the proceeds thereof, we maintain a Leverage Ratio (as defined in the Series A Certificate of Designation) of less than 4.00 to 1.00;
- the issuance or incurrence of high-yield debt, unless the debt (A) does not have an all-in interest rate together with any component of yield greater than the Second Lien Notes (as defined below) and a make-whole provision less favorable than the Second Lien Notes and (B) is used to refinance the Second Lien Notes;
- the entry into any joint venture agreement or issuance of equity securities of our subsidiaries, other than to us or our wholly-owned subsidiaries;
- sales of certain property having a fair market value greater than \$15.0 million in any fiscal year and \$40.0 million in the aggregate;
- and certain property acquisitions or investments in excess of \$15.0 million in any fiscal year and \$40.0 million in the aggregate, unless such acquisitions or investments are financed solely using our common equity (or cash proceeds of the issuance of our common equity).

The consent rights of the holders of our Series B Preferred Stock could prevent us from obtaining future financings to withstand a future downturn in our business or the economy in general, or to otherwise conduct necessary corporate activities, and as a result may adversely affect our business, operating results and stock price.

Anti-takeover provisions contained in our certificate of incorporation and bylaws, as well as provisions of Delaware law, could impair a takeover attempt.

Our certificate of incorporation and bylaws contain provisions that may discourage unsolicited takeover proposals that stockholders may consider to be in their best interests. We are also subject to anti-takeover provisions under Delaware law, which could delay or prevent a change of control. Together these provisions may make more difficult the removal of management and may discourage transactions that otherwise could involve payment of a premium over prevailing market prices for our securities. These provisions include:

- a staggered board providing for three classes of directors, which limits the ability of a stockholder or group to gain control of our board;
- no cumulative voting in the election of directors, which limits the ability of minority stockholders to elect director candidates;

- the right of our board of directors to elect a director to fill a vacancy created by the expansion of the board of directors or the resignation, death, or removal of a director in certain circumstances, which prevents stockholders from being able to fill vacancies on our board of directors;
- the ability of our board of directors to determine whether to issue shares of our preferred stock and to determine the price and other terms of those shares, including preferences and voting rights, without stockholder approval, which could be used to significantly dilute the ownership of a hostile acquirer;
- the ability of each of Tema or KLR Sponsor to call a special meeting of stockholders, provided that such person owns 15% or more of the outstanding shares of common stock until the Trigger Date, as defined in our certificate of incorporation, and thereafter prohibit such ability;
- a prohibition on stockholders calling a special meeting upon and following the Trigger Date, which forces stockholder action to be taken at an annual or special meeting of our stockholders called by the board;
- the requirement that a meeting of stockholders may be called only by the board of directors after the Trigger Date, which may delay the ability of our stockholders to force consideration of a proposal or to take action, including the removal of directors;
- providing that after the Trigger Date, directors may be removed prior to the expiration of their terms by stockholders only for cause or upon the affirmative vote of 75% of the voting power of all outstanding shares of the combined company;
- a requirement that changes or amends the certificate of incorporation or the bylaws must be approved (i) before the Trigger Date, by a majority of the voting power of outstanding common stock of the combined company, which such majority shall include at least 80% of the shares then held by KLR Sponsor and Tema, and (ii) thereafter, certain changes or amendments must be approved by at least 75% of the voting power of outstanding common stock of the combined company; and
- advance notice procedures that stockholders must comply with in order to nominate candidates to our board of directors or to propose matters to be acted upon at a stockholders' meeting, which may discourage or deter a potential acquirer from conducting a solicitation of proxies to elect the acquirer's own slate of directors or otherwise attempting to obtain control of the Company.

Changes in laws or regulations, or a failure to comply with any laws and regulations, may adversely affect our business, investments and results of operations.

We are subject to laws, regulations and rules enacted by national, regional and local governments and Nasdaq. In particular, we are required to comply with certain SEC, Nasdaq and other legal or regulatory requirements. Compliance with, and monitoring of, applicable laws, regulations and rules may be difficult, time consuming and costly. Those laws, regulations and rules and their interpretation and application may also change from time to time and those changes could have a material adverse effect on our business, investments and results of operations. In addition, a failure to comply with applicable laws, regulations and rules, as interpreted and applied, could have a material adverse effect on our business and results of operations.

We may be required to make payments under the Tax Receivable Agreement for certain tax benefits that we may claim, and the amounts of such payments could be significant.

In connection with the closing of the Transaction, we entered into the Tax Receivable Agreement with Tema. This agreement generally provides for the payment by us to Tema of 90% of the net cash savings, if any, in U.S. federal, state and local income tax and franchise tax that we actually realize (computed using simplifying assumptions to address the impact of state and local taxes) or are deemed to realize in certain circumstances in periods after the Transaction as a result of certain increases in the tax basis in the assets of Rosehill Operating and certain benefits attributable to imputed interest. We will retain the benefit of the remaining 10% of these cash savings.

The term of the Tax Receivable Agreement will continue until all tax benefits that are subject to the Tax Receivable Agreement have been utilized or expired, unless we exercise our right to terminate the Tax Receivable Agreement early within thirty (30) days of certain mergers or other changes of control (or the Tax Receivable Agreement is terminated early due to our breach of a material obligation thereunder), and we make the termination payment specified in the Tax Receivable Agreement. In addition, payments we make under the Tax Receivable Agreement will be increased by any interest accrued from the due date (without extensions) of the corresponding tax return.

The payment obligations under the Tax Receivable Agreement are our obligations and not obligations of Rosehill Operating, and the payments required under the Tax Receivable Agreement may be substantial. Estimating the amount and timing of payments that may become due under the Tax Receivable Agreement is by its nature imprecise. For purposes of the Tax Receivable Agreement, cash savings in tax generally are calculated by comparing our actual tax liability (determined by using the actual applicable U.S. federal income tax rate and an assumed combined state and local income tax rate) to the amount we would have been required to pay had we not been able to utilize any of the tax benefits subject to the Tax Receivable Agreement. The actual increase in tax basis, as well as the amount and timing of any payments under the Tax Receivable Agreement, are dependent upon significant future events and assumptions, including the timing of the redemptions of Rosehill Operating Common Units, the price of our Class A Common Stock at the time of each redemption, the extent to which such redemptions are taxable transactions, the amount of Tema's tax basis in its Rosehill Operating Common Units at the time of the relevant redemption, the depreciation and amortization periods that apply to the increase in tax basis, the amount and timing of taxable income we generate in the future, the U.S. federal income tax rates then applicable, and the portion of our payments under the Tax Receivable Agreement that constitute imputed interest or give rise to depreciable or amortizable tax basis. The payments under the Tax Receivable Agreement will not be conditioned upon a holder of rights under the Tax Receivable Agreement having a continued ownership interest in us or Rosehill Operating.

In certain cases, payments under the Tax Receivable Agreement may be accelerated or significantly exceed the actual benefits, if any, we realize in respect of the tax attributes subject to the Tax Receivable Agreement.

If we elect to terminate the Tax Receivable Agreement early within thirty (30) days of certain mergers or other changes of control or it is terminated early due to our breach of a material obligation thereunder, our obligations under the Tax Receivable Agreement would accelerate and would require us to make a substantial immediate lump-sum payment. This payment would equal the present value of the hypothetical future payments that could be required to be paid under the Tax Receivable Agreement (determined by applying a discount rate equal to the one-year London Interbank Offered Rate ("LIBOR") plus 150 basis points). The calculation of hypothetical future payments will be based upon certain assumptions and deemed events set forth in the Tax Receivable Agreement, including (i) the assumption that we have sufficient taxable income to fully utilize the tax benefits covered by the Tax Receivable Agreement and (ii) the assumption that any Rosehill Operating Common Units (other than those held by us) outstanding on the termination date are deemed to be exchanged on the termination date. Any early termination payment may be made significantly in advance of the actual realization, if any, of the future tax benefits to which the termination payment relates.

Upon an early termination of the Tax Receivable Agreement, we could be required to make payments under the Tax Receivable Agreement that exceed our actual cash tax savings, if any, in respect of the tax attributes subject to the Tax Receivable Agreement. In these situations, our obligations under the Tax Receivable Agreement could have a substantial negative impact on our liquidity and could have the effect of delaying, deferring or preventing certain mergers, asset sales, or other forms of business combinations or changes of control. For example, if the Tax Receivable Agreement had been terminated at December 31, 2019, the estimated termination payments would, in the aggregate, have been approximately \$42.5 million (calculated using a discount rate equal to one-year LIBOR plus 150 basis points, applied against an undiscounted liability of \$56.5 million). The foregoing number is merely an estimate and the actual payments could differ materially. There can be no assurance that we will be able to finance our obligations under the Tax Receivable Agreement.

In the event that we elect to terminate the Tax Receivable Agreement early within thirty (30) days of certain mergers or other changes of control, the consideration payable to holders of our Class A Common Stock could be substantially reduced.

If we elect to terminate the Tax Receivable Agreement early within thirty (30) days of certain mergers or other changes of control, we would be obligated to make a substantial, immediate lump-sum payment, and such payment may be significantly in advance of, and may materially exceed, the actual realization, if any, of the future tax benefits to which the payment relates. As a result of this payment obligation, holders of our Class A Common Stock could receive substantially less consideration in connection with a change of control transaction than they would receive in the absence of such obligation. Further, our payment obligations under the Tax Receivable Agreement will not be conditioned upon Tema having a continued interest in us or Rosehill Operating. Accordingly, Tema's interests may conflict with those of the holders of our Class A Common Stock. Please read "In certain cases, payments under the Tax Receivable Agreement may be accelerated or significantly exceed the actual benefits, if any, we realize, in respect of the tax attributes subject to the Tax Receivable Agreement" and "Certain Relationships and Related Party Transactions - Agreements Relating to the Transaction - Tax Receivable Agreement."

We will not be reimbursed for any payments made under the Tax Receivable Agreement in the event that any tax benefits are subsequently disallowed.

Payments under the Tax Receivable Agreement will be based on the tax reporting positions that we will determine. Tema will not reimburse us for any payments previously made under the Tax Receivable Agreement if any tax benefits that have given rise to payments under the Tax Receivable Agreement are subsequently disallowed, except that excess payments made to Tema will be netted against payments that would otherwise be made to Tema, if any, after our determination of such excess. As a result, in such circumstances, we could make payments that are greater than our actual cash tax savings, if any, and may not be able to recoup those payments, which could adversely affect our liquidity.

In certain circumstances, Rosehill Operating will be required to make tax distributions and tax advances to its unitholders, and the tax distributions and tax advances that Rosehill Operating will be required to make may be substantial.

Pursuant to the Second Amended LLC Agreement, Rosehill Operating will make generally pro rata cash distributions, or tax distributions, to its unitholders, including us, in an amount sufficient to allow us to pay our taxes and to allow us to make payments under the Tax Receivable Agreement with Tema. In addition to these pro rata distributions, certain Rosehill Operating unitholders will be entitled to receive tax advances in an amount sufficient to allow each such unitholder to pay its respective taxes on such holder's allocable share of Rosehill Operating's taxable income. Any such tax advance will be calculated after taking into account certain other distributions or payments received by the unitholders from Rosehill Operating. Under the applicable tax rules, Rosehill Operating is required to allocate net taxable income disproportionately to its members in certain circumstances. Tax advances will be determined based on an assumed individual tax rate and will be repaid upon exercise of Tema's redemption right or the call right, as applicable.

Funds used by Rosehill Operating to satisfy its tax distribution and tax advance obligations will not be available for reinvestment in our business. Moreover, the tax distributions and tax advances Rosehill Operating will be required to make may be substantial, and because of the disproportionate allocation of net taxable income, may exceed the actual tax liability for some of the existing owners of Rosehill Operating.

We qualify as an emerging growth company and a smaller reporting company, and as a result, we will not be required to comply with certain disclosure requirements that apply to other public companies.

We qualify as an "emerging growth company" as defined in the JOBS Act. As such, we take advantage of certain exemptions from various reporting requirements applicable to other public companies that are not emerging growth companies for as long as we continue to be an emerging growth company, including (i) the exemption from the auditor attestation requirements with respect to internal control over financial reporting under Section 404 of the Sarbanes-Oxley Act, (ii) the exemptions from say-on-pay, say-on-frequency and say-on-golden parachute voting requirements and (iii) reduced disclosure obligations regarding executive compensation in our periodic reports and proxy statements.

Notwithstanding the above, we are also currently a "smaller reporting company", meaning that we are not an investment company, an asset-backed issuer, or a majority-owned subsidiary of a parent company that is not a smaller reporting company and have a public float of less than \$250 million. As a "smaller reporting company," we may provide simplified executive compensation disclosures and have certain other scaled disclosure obligations in our SEC filings, including, among other things, being required to provide only two years of audited financial statements in annual reports. This may make it more difficult for investors and analysts to conduct a full comparison of our disclosure and our peers' disclosures, and the market might impose a discount as a result.

ITEM 1B. UNRESOLVED STAFF COMMENTS

None.

ITEM 2. PROPERTIES

Our properties

Our properties are located within the Northern and Southern Delaware Basins, sub-basins of the Permian Basin. The Permian Basin consists of mature, legacy onshore oil and liquids-rich natural gas reservoirs that span approximately 86,000 square miles in West Texas and New Mexico. The Permian Basin is composed of five sub regions: the Delaware Basin, the Central Basin Platform, the Midland Basin, the Northwest Shelf and the Eastern Shelf. The Permian Basin is an attractive operating area due to its multiple horizontal and vertical target formations, favorable operating environment, high oil and liquids-rich natural gas content, mature infrastructure, well-developed network of oilfield service providers, long-lived reserves with consistent reservoir quality and historically high drilling success rates.

Oil and Natural Gas Reserves

Estimation and review of proved reserves

Proved reserve estimates as of December 31, 2019 were prepared by Netherland, Sewell & Associates, Inc. (“NSAI”), our independent petroleum engineers. NSAI does not own an interest in any of our properties, nor are they employed by us on a contingent basis. A copy of our independent petroleum engineer’s proved reserve report as of December 31, 2019 is attached as an exhibit to this Annual Report on Form 10-K.

NSAI is a worldwide leader of petroleum property analysis for industry and financial organizations and government agencies. NSAI was founded in 1961 and performs consulting petroleum engineering services under Texas Board of Professional Engineers Registration No. F-2699. Within NSAI, the technical persons primarily responsible for preparing the estimates set forth in the NSAI reserves report incorporated herein are Neil H. Little and Mike K. Norton. Mr. Little, a Licensed Professional Engineer in the State of Texas (No. 117966), has been practicing consulting petroleum engineering at NSAI since 2011 and has over 9 years of prior industry experience. He graduated from Rice University in 2002 with a Bachelor of Science Degree in Chemical Engineering and from the University of Houston in 2007 with a Master of Business Administration Degree. Mr. Norton, a Licensed Professional Geoscientist in the State of Texas, Geology (No. 441), has been practicing consulting petroleum geoscience at NSAI since 1989 and has over 10 years of prior industry experience. He graduated from Texas A&M University in 1978 with a Bachelor of Science Degree in Geology.

These technical principals meet or exceed the education, training, and experience requirements set forth in the Standards Pertaining to the Estimating and Auditing of Oil and Gas Reserves Information promulgated by the Society of Petroleum Engineers; both are proficient in judiciously applying industry standard practices to engineering and geoscience evaluations as well as applying SEC and other industry reserves definitions and guidelines.

Our internal staff of petroleum engineers and geoscience professionals worked closely with our independent petroleum engineers to ensure the integrity, accuracy and timeliness of the data used to calculate the proved reserves relating to our assets. Our internal technical team members met with our independent petroleum engineers periodically to discuss the assumptions and methods used in the proved reserve estimation process. We provided historical information to our independent petroleum engineers for our properties, such as ownership interest, oil and natural gas production, well test data, commodity prices, subsurface geologic data and operating and development costs. Our Vice President of Commercial and Reserves is primarily responsible for overseeing the preparations of our reserve estimates. Our Vice President of Commercial and Reserves holds a bachelor’s degree in Mechanical Engineering from Simon Bolivar University (Venezuela) and a Masters of Business Administration from IE Business School and has nearly 20 years of experience across multiple facets of the energy industry and brings a wealth of experience in portfolio management, acquisition and divestitures, capital allocation and asset development/optimization. Our Reservoir Engineer and Reserves Manager holds a Bachelor of Science in Petroleum Engineering from Texas A&M University and has over 15 years of industry experience and has worked at several known companies across multiple basins in the United States. On March 27, 2020, we announced that we eliminated 52 full-time employee positions, which included all of our petroleum engineering and geoscience professionals, including our Reservoir Engineer and Reserves Manager.

The preparation of our proved reserve estimates as of December 31, 2019 was completed in accordance with our internal control procedures. These procedures, which are intended to ensure reliability of reserve estimations, include the following:

- review and verification of producing formations, well targets and the development plan by our Vice President of Commercial and Reserves and Reservoir Engineer and Reserves Manager;
- review and verification of historical production data, which data is based on actual production as reported by us;

- review of well by well reserve estimates by independent reserve engineers;
- review by our Vice President of Commercial and Reserves and Reservoir Engineer and Reserves Manager of all of our reported proved reserves, including the review of all significant reserve changes and all new PUD additions;
- direct reporting responsibilities by our Vice President of Commercial and Reserves to our Chief Executive Officer; and
- verification of property ownership interests by our land department.

Under the rules promulgated by the SEC, proved reserves are those quantities of oil and natural gas which, by analysis of geoscience and engineering data, can be estimated with reasonable certainty to be economically producible from a given date forward from known reservoirs and under existing economic conditions, operating methods and government regulations, prior to the time at which contracts providing the right to operate expire (unless evidence indicates that renewal is reasonably certain, regardless of whether deterministic or probabilistic methods are used for the estimation). If deterministic methods are used, the SEC has defined reasonable certainty for proved reserves as a "high degree of confidence that the quantities will be recovered." All of our proved reserves were estimated using a deterministic method. The estimation of reserves involves two distinct determinations. The first determination results in the estimation of the quantities of recoverable oil and natural gas and the second determination results in the estimation of the uncertainty associated with those estimated quantities in accordance with the definitions established under SEC rules. The process of estimating the quantities of recoverable oil and natural gas reserves relies on the use of certain generally accepted analytical procedures. These analytical procedures fall into four broad categories or methods: (i) production performance-based methods; (ii) material balance-based methods; (iii) volumetric-based methods; and (iv) analogy. These methods may be used singularly or in combination by the reserve evaluator in the process of estimating the quantities of reserves. Reserves for proved developed producing wells were estimated using production performance methods for the vast majority of properties. Certain new producing properties with very little production history were forecast using a combination of production performance and analogy to similar production, both of which are considered to provide a reasonably high degree of accuracy. Non-producing reserve estimates for developed and undeveloped properties were forecasted using analogy methods. This method provides a reasonably high degree of accuracy for predicting proved developed non-producing and PUD locations for our properties, due to the abundance of analog data.

Summary of oil, natural gas and NGL reserves

At December 31, 2019, our estimated proved oil and natural gas reserves were 62,763 MBoe and determined in accordance with the rules and regulations of the SEC. Based on this report, at December 31, 2019, our proved reserves were approximately 65% oil, 17% natural gas, 18% NGLs and 58% proved developed. The calculated percentages include proved developed non-producing reserves. At December 31, 2019, all of our proved reserves were located in the Permian Basin.

Estimated proved reserves were determined using average first-day-of-the-month prices for the prior twelve months in accordance with SEC guidance. For oil volumes, the average West Texas Intermediate posted price was adjusted for quality, transportation fees and a regional price differential. For natural gas volumes, the average Henry Hub spot price was adjusted for energy content and a regional price differential. For NGL volumes, NGL prices range from 25% to 37%, depending on the property, of the average West Texas Intermediate posted price, except December 31, 2017 estimated proved NGL reserves used the average Mont Belvieu posted price, as adjusted. All prices are held constant throughout the producing life of the properties.

The following table presents our estimated net proved oil, natural gas and NGLs reserves as of the fiscal years indicated:

	December 31,		
	2019	2018	2017
Proved reserves:			
Oil (MBbls)	40,716	33,158	18,436
Natural gas (MMcf)	64,160	44,583	39,316
NGLs (MBbls)	11,354	7,775	6,142
Total (MBoe)	62,763	48,364	31,131
Proved developed reserves:			
Oil (MBbls)	23,967	18,464	8,814
Natural gas (MMcf)	36,643	26,194	14,171
NGLs (MBbls)	6,301	4,477	2,285
Total (MBoe)	36,375	27,307	13,461
Proved undeveloped reserves:			
Oil (MBbls)	16,749	14,694	9,622
Natural gas (MMcf)	27,517	18,388	25,145
NGLs (MBbls)	5,053	3,298	3,857
Total (MBoe)	26,388	21,057	17,670
Oil (per Bbl)	\$ 55.85	\$ 65.56	\$ 51.34
Natural gas (per Mcf)	\$ 2.58	\$ 3.10	\$ 2.98
NGLs (per Bbl)	\$ 15.75	\$ 23.02	\$ 31.82

Reserve engineering is and must be recognized as a subjective process of estimating volumes of economically recoverable oil and natural gas that cannot be measured in an exact manner. The accuracy of any reserve estimate is a function of the quality of available data and of engineering and geological interpretation. As a result, the estimates of different engineers often vary. In addition, the results of drilling, testing and production may justify revisions of such estimates. Accordingly, reserve estimates often differ from the quantities of oil, natural gas and NGLs that are ultimately recovered. Estimates of economically recoverable oil, natural gas and NGLs and of future net revenues are based on a number of variables and assumptions, all of which may vary from actual results, including geologic interpretation, prices and future production rates and costs. Please read "Risk Factors."

Our proved reserves increased by 14,399 MBoe from 48,364 MBoe at December 31, 2018 to 62,763 MBoe at December 31, 2019. The increase was primarily due to extensions of 19,587 MBoe and net positive revisions of 3,372 MBoe partially offset by production of 7,587 MBoe. Additional information regarding our proved reserves can be found in the notes to our consolidated financial statements included elsewhere in this Annual Report on Form 10-K and the reserve report as of December 31, 2019, which is included as an exhibit to this Annual Report on Form 10-K.

PUDs

PUDs will be converted from undeveloped to developed as the applicable wells are drilled and begin production. The following table summarizes the changes in PUD reserves that occurred during 2019:

	2019
	(MBoe)
PUDs at December 31, 2018	21,057
Extensions, discoveries and other additions	13,718
Performance and price revisions	408
Acquisition of reserves	—
Disposition of reserves	(705)
Transferred to proved developed reserves	(8,090)
PUDs at December 31, 2019	26,388

As of December 31, 2019, we had 48 operated PUD locations booked of which, 2 locations were originally booked at December 31, 2015, 1 location was originally booked at December 31, 2016, 2 locations were originally booked at December 31, 2017, 19 locations were booked at December 31, 2018 and 24 locations were booked at December 31, 2019. During 2019, we spent a total of \$93.3 million related to the development of PUDs, which resulted in the conversion of 8.1 MMBoe of PUDs to proved developed reserves. Our development plan resulted in 17 PUDs drilled in 2019. As of December 31, 2019, we had 5 DUCs included in PUDs which we incurred approximately \$10.6 million developing. On March 19, 2020, we announced that we halted future drilling and completions activity for 2020 and had drilled 8 wells and completed 8 wells to date in 2020. We expect to be required to reclassify some portion of our PUDs because such a deferral of planned capital expenditures means we will be unable to develop such reserves within five years of their initial booking.

Oil, Natural Gas and NGLs Production Prices and Production Costs

The prices that we receive for the oil, natural gas and NGLs we produce is largely a function of market supply and demand. Demand is impacted by general economic conditions, weather and other seasonal conditions, including hurricanes and tropical storms. Over or under supply of oil or natural gas can result in substantial price volatility. Historically, commodity prices have been volatile, and we expect that volatility to continue in the future. A substantial or extended decline in oil, natural gas and NGLs prices or poor drilling results could have a material adverse effect on our financial position, results of operations, cash flows, quantities of oil, natural gas and NGL reserves that may be economically produced and our ability to access capital markets. Please see “Risk Factors - Risks Related to Our Operations - Oil, natural gas and NGL prices are volatile. A reduction or sustained decline in oil, natural gas and NGL prices could adversely affect our business, financial condition and results of operations and our ability to meet our capital expenditure obligations and financial commitments.”

The following table sets forth information regarding our net production of oil, natural gas and NGLs, and certain price and cost information for each of the periods indicated:

	Year Ended December 31,		
	2019	2018	2017
Production data:			
Oil (MBbls)	5,411	4,913	1,271
Natural gas (MMcf)	6,352	5,231	2,709
NGLs (MBbls)	1,117	908	408
Total production (MBoe)	7,587	6,693	2,131
Average daily production (Boe/d)	20,786	18,337	5,838
Average realized prices before effect of derivatives (1):			
Oil (per Bbl)	\$ 52.99	\$ 55.27	\$ 48.46
Natural gas (per Mcf)	0.39	1.80	2.65
NGLs (per Bbl)	11.71	23.07	18.31
Average price (per Boe)	\$ 39.84	\$ 45.10	\$ 35.77
Average price after the effect of settled derivatives (per Boe) (1)	\$ 37.91	\$ 42.79	\$ 35.85
Average costs (per Boe)			
Lease operating expenses	\$ 4.92	\$ 5.66	\$ 4.86
Production and ad valorem taxes	2.30	2.34	1.91
Gathering and transportation	0.76	0.74	1.40
Depreciation, depletion, amortization and accretion	18.18	21.19	16.94
Impairment of oil and natural gas properties	—	—	0.50
Exploration costs	2.10	0.65	0.82
General and administrative, excluding stock-based compensation	3.88	3.58	5.72
Stock-based compensation	0.83	0.97	0.58
Transaction costs	—	—	1.23
(Gain) loss on disposition of property and equipment	(1.47)	0.07	(2.34)
Total operating expenses per Boe	\$ 31.50	\$ 35.20	\$ 31.62

(1) Average prices shown in the table reflect prices both before and after the effects of commodity hedging settlements. Our calculation of such effects includes both gains and losses on cash settlements for commodity derivative transactions and premiums paid or received on options that settled during the period.

Drilling activity and results

The following table summarizes our drilling activity for the last three years.

	Year Ended December 31,			Year Ended December 31,		
	2019	2018	2017	2019	2018	2017
	Gross			Net		
Exploratory Wells:						
Productive (1)	11	17	15	11	17	15
Dry	—	—	—	—	—	—
Development Wells:						
Productive (1)	19	13	4	19	13	4
Dry	—	—	—	—	—	—
Total Wells:						
Productive (1)	30	30	19	30	30	19
Dry	—	—	—	—	—	—
	30	30	19	30	30	19

(1) Although a well may be classified as productive upon completion, future changes in oil and natural gas prices, operating costs and production may result in the well becoming uneconomical, particularly exploratory wells for which there is no production history.

In 2019, we drilled 18 gross (18 net) wells in our Northern Delaware Basin leasehold acreage and 9 gross (9 net) wells in our Southern Delaware Basin leasehold acreage. As of December 31, 2019, we had 1 operated well drilling and 5 DUCs. On March 19, 2020, we announced that we halted future drilling and completions activity for 2020 and had drilled 8 wells and completed 8 wells to date in 2020.

Productive wells

The following table sets forth the number of productive oil and natural gas wells on our properties as of December 31, 2019. This table does not include wells in which we own a royalty interest only.

	Gross Productive Wells			Net Productive Wells		
	Oil	Natural Gas	Total	Oil	Natural Gas	Total
Northern Delaware Basin	74	13	87	70	13	83
Southern Delaware Basin	26	3	29	25	3	28
Total	100	16	116	95	16	111

As of December 31, 2019, we had an average working interest of 95.7% in our productive wells. Productive wells consist of producing wells and wells capable of production, including oil wells awaiting connection to production facilities. Gross wells are the total number of producing wells in which we have an interest and net wells are the sum of our fractional working interests owned in gross wells.

Our acreage

The following table sets forth information as of December 31, 2019 relating to our Delaware Basin leasehold acreage.

	Developed Acres		Undeveloped Acres		Total Acres	
	Gross	Net	Gross	Net	Gross	Net
Northern Delaware Basin	4,625	3,041	—	—	4,625	3,041
Southern Delaware Basin	6,935	6,609	4,225	3,569	11,160	10,178
Total	11,560	9,650	4,225	3,569	15,785	13,219

We are the operator of approximately 97.2% of our net acreage. In addition, we own mineral interests underlying approximately 15,785 gross (13,219 net) of these acres, of which approximately 2,000 gross and net acres are subject to a farm-in agreement, with an average royalty interest of 76.6% in our net acres.

Undeveloped acreage expirations

Many of the leases comprising the undeveloped acreage set forth in the table above will expire at the end of their respective primary terms unless production from the leasehold acreage has been established prior to such date, in which event the lease will remain in effect until the cessation of production. The following table sets forth the gross and net undeveloped acreage, as of December 31, 2019, that will expire over the next five years unless production is established within the spacing units covering the acreage or the lease is renewed or extended under continuous drilling provisions prior to the primary term expiration dates. On March 19, 2020, we announced a halt in our drilling program. We lost 321 net acres during the first quarter of 2020 and estimate that we will lose approximately 2,638 net acres, of which approximately 2,000 net acres relate to unearned acreage from a farm-in agreement that we must drill and complete the remaining 5 wells in order to retain the acreage, in the remainder of 2020 if we do not resume drilling during 2020.

Expirations	2020		2021		2022		2023		2024	
	Gross	Net	Gross	Net	Gross	Net	Gross	Net	Gross	Net
Northern Delaware Basin	—	—	—	—	—	—	—	—	—	—
Southern Delaware Basin	3,355	2,959	960	320	—	—	—	—	—	—
Total	3,355	2,959	960	320	—	—	—	—	—	—

Title to properties

We believe that we have satisfactory title to our producing properties in accordance with generally accepted industry standards. As is customary in the oil and natural gas industry, we initially conduct only a cursory review of the title to our properties for an acquisition of leasehold acreage. We perform a thorough title examination and curative work with respect to significant defects either prior to an acquisition of producing properties or prior to commencement of drilling operations on those properties. To the extent title opinions or other investigations reflect title defects on those properties, we are typically responsible for curing any title defects at our expense. We generally will not commence drilling operations on a property until we have cured any material title defects on such property. We have obtained title opinions on substantially all of our producing properties and believe that we have satisfactory title to our producing properties in accordance with standards generally accepted in the oil and natural gas industry.

Prior to completing an acquisition of producing oil and natural gas leases, we perform title reviews on the most significant leases and, depending on the materiality of properties, we may obtain a title opinion, obtain an updated title review or opinion or review previously obtained title opinions. Our oil and natural gas properties are subject to customary royalty and other interests, liens for current taxes and other burdens, which we believe do not materially interfere with the use of or affect our carrying value of the properties.

We believe that we have satisfactory title to all our material assets. Although title to these properties is in some cases subject to encumbrances, such as customary interests generally retained in connection with the acquisition of real property, customary royalty interests and contract terms and restrictions, liens under operating agreements, liens related to environmental liabilities associated with historical operations, liens for current taxes and other burdens, easements, restrictions and minor encumbrances customary in the oil and natural gas industry, we believe that none of these liens, restrictions, easements, burdens and encumbrances will materially detract from the value of these properties or from our interest in these properties or materially interfere with our use of these properties in the operation of our business. In addition, we believe that we have obtained sufficient rights-of-way grants and permits from public authorities and private parties for us to operate our business in all material respects.

ITEM 3. LEGAL PROCEEDINGS

From time to time, we are subject to various legal proceedings arising in the ordinary course of business, including proceedings for which we have insurance coverage. We do not believe the results of any legal proceedings, individually or in the aggregate, will have a material adverse effect on our business, financial condition, results of operations or liquidity.

ITEM 4. MINE SAFETY DISCLOSURES

None.

PART II

ITEM 5. MARKET FOR REGISTRANT'S COMMON EQUITY, RELATED STOCKHOLDER MATTERS AND ISSUER PURCHASES OF EQUITY SECURITIES.

Market Information

Our Class A Common Stock, Public Warrants and Units are currently quoted on Nasdaq under the symbols "ROSE," "ROSEW" and "ROSEU," respectively. Through April 26, 2017, our Class A Common Stock was quoted under the symbol "KLRE." There is no public market for our Class B Common Stock.

Holders of Record

Approximately 16 registered stockholders of record held our Class A Common Stock as of March 27, 2020. This number does not include owners or stockholders who beneficially own our shares through a broker or other entity who may hold shares in a "street name." On March 27, 2020, we had one holder of record of our Class B Common Stock.

Dividend Policy

We have not paid any cash dividends on our Class A Common Stock to date and do not currently contemplate paying dividends in the foreseeable future. The payment of cash dividends in the future will be dependent upon our revenues and earnings, if any, capital requirements and general financial condition. The payment of any future cash dividends will be within the discretion of our board of directors.

Pursuant to the Series A Certificate of Designation, holders of Series A Preferred Stock are entitled to receive, when, as and if declared by our board of directors, cumulative dividends, payable in cash, Series A Preferred Stock, or a combination thereof, in each case, at the sole discretion of the Company, at an annual rate of 8% on the \$1,000 liquidation preference per share of the Series A Preferred Stock, payable quarterly in arrears on January 15, April 15, July 15 and October 15 of each year, beginning on July 15, 2017.

Pursuant to the Series B Certificate of Designation, holders of Series B Preferred Stock are entitled to receive, when, as and if declared by our board of directors, cumulative dividends, payable in cash, or with respect to dividends declared for any quarter ending on or prior to January 15, 2019, a combination of cash and Series B Preferred Stock, in each case, at the sole discretion of the Company, at an annual rate of 10% on the \$1,000 liquidation preference per share of the Series B Preferred Stock, payable quarterly in arrears on January 15, April 15, July 15 and October 15 of each year, beginning on January 15, 2018.

Issuer Purchases of Equity Securities

Period	Total Number of Shares Purchased (1)	Average Price Paid per Share	Total Number of Shares Purchased as Part of Publicly Announced Plans or Programs	Maximum Dollar Value of Shares that May Yet Be Purchased Under the Plans or Programs
October 1, 2019 - October 31, 2019	1,141	\$ 1.46	n/a	n/a
November 1, 2019 - November 30, 2019	—	—	n/a	n/a
December 1, 2019 - December 31, 2019	—	—	n/a	n/a
Total	1,141	\$ 1.46	n/a	n/a

(1) These shares were withheld upon the vesting of employee restricted stock grants in connection with payment of required withholding taxes.

ITEM 6. SELECTED FINANCIAL DATA

We are a smaller reporting company as defined by Rule 12b-2 of the Exchange Act and are not required to provide the information under this item.

ITEM 7. MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS

The following discussion and analysis should be read in conjunction with the consolidated financial statements and notes thereto appearing elsewhere in this Annual Report on Form 10-K. The following discussion contains forward-looking statements that reflect our future plans, estimates, beliefs and expected performance. The forward-looking statements are dependent upon events, risks and uncertainties that may be outside of our control. Such statements speak only as of the date of this report. Our actual results could differ materially from those discussed in these forward-looking statements. Factors that could cause or contribute to such differences include, but are not limited to, market prices for oil, natural gas and NGLs, production volumes, estimates of proved reserves, capital expenditures, economic and competitive conditions, regulatory changes and other uncertainties, as well as those factors discussed below and elsewhere in this Annual Report on Form 10-K, particularly in "Risk Factors" and "Cautionary Statement Regarding Forward-Looking Statements," all of which are difficult to predict. In light of these risks, uncertainties and assumptions, the forward-looking events discussed may not occur.

Overview

We are an independent oil and natural gas company focused on the acquisition, exploration, development and production of unconventional oil and associated liquids-rich natural gas reserves in the Permian Basin. Our assets are concentrated in the Delaware Basin, a sub-basin of the Permian Basin. We have drilling locations in ten distinct formations in the Delaware Basin in: Brushy Canyon, Upper Avalon, Lower Avalon, 2nd Bone Spring Shale, 2nd Bone Spring Sand, 3rd Bone Spring Sand, 3rd Bone Spring Shale, Wolfcamp A (X/Y), Lower Wolfcamp A and Wolfcamp B, and our goal is to build a premier development and acquisition company focused on horizontal drilling in the Delaware Basin.

We have no direct operations and no significant assets other than our ownership interest in Rosehill Operating, an entity of which we act as the sole managing member and of whose common units we currently own approximately 64.5% (or 70.6% assuming the conversion of Rosehill Operating Series A Preferred Units into Rosehill Operating Common Units).

Market Conditions

The oil and natural gas industry is cyclical and commodity prices are highly volatile. Oil prices have recently reached multi-year lows. For example, for the three years ended December 31, 2017, 2018, and 2019, WTI spot prices for crude oil had a low of \$42.48 per barrel during June 2017 and a high of \$77.41 per barrel during June 2018, while the average in 2019 was approximately \$56.98 per barrel. As of March 27, 2020, WTI spot prices for crude oil were \$21.84 per barrel. For the three years ended December 31, 2017, 2018, and 2019, Henry Hub spot prices for natural gas had a low of \$1.75 per MMBtu during December 2019 and a high of \$6.24 per MMBtu during January 2018, while the average in 2019 was approximately \$2.56 per MMBtu. As of March 27, 2020, Henry Hub spot prices for natural gas were \$1.67 per MMBtu. It is likely that commodity prices will continue to fluctuate and possibly further, decline due to global supply and demand, inventory supply levels, weather conditions, geopolitical events, the COVID-19 pandemic and other factors. Due to these and other unprecedented factors, commodity prices cannot be accurately predicted.

On March 19, 2020, we announced that we have ceased drilling and completion activity.

Realized Prices

Our revenue, profitability and future growth are highly dependent on the prices we receive for our oil and natural gas production, as well as NGLs that are extracted from our natural gas during processing. The following table presents our average realized commodity prices before the effects of commodity derivative settlements:

	Year Ended December 31,		
	2019	2018	2017
Crude oil (per Bbl)	\$ 52.99	\$ 55.27	\$ 48.46
Natural gas (per Mcf)	\$ 0.39	\$ 1.80	\$ 2.65
NGLs (per Bbl)	\$ 11.71	\$ 23.07	\$ 18.31

Current 2020 forward pricing will likely result in impairments of our properties during the first quarter of 2020 and may materially and adversely affect our future business, financial condition, results of operations, operating cash flows, liquidity, or ability to finance planned capital expenditures. Lower oil, natural gas and NGL prices may also reduce the borrowing base under our Amended and Restated Credit Agreement, which may be redetermined at the discretion of the lenders and is based on the

collateral value of our proved reserves that have been mortgaged to the lenders. The next redetermination is scheduled for April 2020. Alternatively, higher oil, natural gas and NGL prices may result in significant losses being incurred on our commodity derivatives, which could cause us to experience net losses when oil and natural gas prices rise. For 2019, we received low prices for our natural gas due to lower NYMEX gas prices, wider gas price differentials and due to the adoption of ASC 606. Because we receive revenue from NGLs, we have and may continue to produce and sell our natural gas at a low, or negative, realized sales price. The widening gas price differentials were due to pipeline takeaway capacity constraints in the Permian Basin, but the industry expects new pipelines to come online to help with this constraint and help provide relief to the widening gas price differentials.

A 10% change in our realized oil, natural gas and NGL prices would have changed revenue by the following amounts for the periods indicated:

	Year Ended December 31,		
	2019	2018	2017
	(In thousands)		
Oil sales	\$ 28,671	\$ 27,154	\$ 6,160
Natural gas sales	249	939	717
NGL sales	1,308	2,094	747
Total revenues	\$ 30,228	\$ 30,187	\$ 7,624

The prices we receive for our products are based on benchmark prices and are adjusted for quality, energy content, transportation fees and regional price differentials. See “Results of Operations” below for an analysis of the impact changes in realized prices had on our revenues.

Sources of Our Revenues

Our revenues are derived from the sale of our oil and natural gas production, as well as the sale of NGLs that are extracted from our natural gas during processing. The following table shows the percentage each component contributed to total revenue:

Commodity Revenues (1):	Year Ended December 31,		
	2019	2018	2017
Oil sales	95%	90%	81%
Natural gas sales	1	3	9
NGL sales	4	7	10
	100%	100%	100%

(1) The percentages exclude the effects of commodity derivatives.

Gateway, a related party to us, accounted for none of our revenues for the year ended December 31, 2019 and approximately 60% and 80% of total revenues for the years ended December 31, 2018 and 2017, respectively.

Derivative Activity

To achieve a more predictable cash flow and reduce exposure to adverse fluctuations in commodity prices, we have historically used commodity derivative instruments, such as swaps, two-way costless collars and three-way costless collars, to hedge price risk associated with a portion of our anticipated oil, natural gas and NGL production. By removing a significant portion of the price volatility associated with our production, we will mitigate, but not eliminate, the potential negative effects of declines in benchmark oil, natural gas and NGL prices on our cash flow from operations for those periods. However, for a portion of our current positions, hedging activity may also reduce our ability to benefit from increases in oil, natural gas and NGL prices. We will sustain losses to the extent our commodity derivative contract prices are lower than market prices and, conversely, we will sustain gains to the extent our commodity derivative contract prices are higher than market prices. In certain circumstances, where we have unrealized gains in our commodity derivatives portfolio, we may choose to restructure existing commodity derivative contracts or enter into new transactions to modify the terms of current contracts in order to realize the current value of our existing positions.

A description of our derivative financial instruments is provided below:

- A swap has an established fixed price. When the settlement price is below the fixed price, the counterparty pays us an amount equal to the difference between the settlement price and the fixed price multiplied by the hedged contract volume. When the settlement price is above the fixed price, we pay our counterparty an amount equal to the difference between the settlement price and the fixed price multiplied by the hedged contract value.
- A two-way costless collar is an arrangement that contains a fixed floor price (purchased put option) and a fixed ceiling price (sold call option) based on an index price which, in aggregate, have no net cost. At the contract settlement date, (1) if the index price is higher than the ceiling price, we pay the counterparty the difference between the index price and ceiling price, (2) if the index price is between the floor and ceiling prices, no payments are due from either party and (3) if the index price is below the floor price, we will receive the difference between the floor price and the index price.
- A three-way costless collar is an arrangement that contains a purchased put option, a sold call option and a sold put option based on an index price which, in aggregate, have no net cost. At the contract settlement date, (1) if the index price is higher than the sold call strike price, we pay the counterparty the difference between the index price and sold call strike price, (2) if the index price is between the purchased put strike price and the sold call strike price, no payments are due from either party, (3) if the index price is between the sold put strike price and the purchased put strike price, we will receive the difference between the purchased put strike price and the index price and (4) if the index price is below the sold put strike price, the Company will receive the difference between the purchased put strike price and the sold put strike price.
- A purchased put option has an established floor price. The buyer of the put option pays the seller a premium to enter into the put option. When the settlement price is below the floor price, the seller pays the buyer an amount equal to the difference between the settlement price and the strike price multiplied by the hedged contract volume. When the settlement price is above the floor price, the put option expires worthless.
- A sold call option has an established ceiling price. The buyer of the call option pays the seller a premium to enter into the call option. When the settlement price is above the ceiling price, the seller pays the buyer an amount equal to the difference between the settlement price and the strike price multiplied by the hedged contract volume. When the settlement price is below the ceiling price, the call option expires worthless.

We had a net current asset of \$6.5 million and a net non-current asset of \$32.7 million related to the following open commodity derivative instrument positions as of December 31, 2019:

	2020	2021	2022
Commodity derivative swaps			
Oil:			
Notional volume (Bbls) (1)(2)	1,000,000	—	—
Weighted average fixed price (\$/Bbl)	\$ 67.69	\$ —	\$ —
Natural gas:			
Notional volume (MMBtu)	1,970,368	1,615,792	1,276,142
Weighted average fixed price (\$/MMBtu)	\$ 2.75	\$ 2.79	\$ 2.85
Commodity derivative three-way collars			
Oil:			
Notional volume (Bbls)	3,294,000	4,200,000	2,000,000
Weighted average ceiling price (\$/Bbl)	\$ 70.29	\$ 60.40	\$ 61.45
Weighted average floor price (\$/Bbl)	\$ 57.50	\$ 54.49	\$ 55.00
Weighted average sold put option price (\$/Bbl)	\$ 47.50	\$ 45.51	\$ 45.00
Crude oil basis swaps			
Midland / Cushing:			
Notional volume (Bbls)	5,254,000	4,200,000	2,100,000
Weighted average fixed price (\$/Bbl)	\$ (0.83)	\$ 0.49	\$ 0.54
Argus WTI roll:			
Notional volume (Bbls)	665,650	—	—
Weighted average fixed price (\$/Bbl)	\$ 0.40	\$ —	\$ —
NYMEX WTI roll:			
Notional volume (Bbls)	2,791,102	—	—
Weighted average fixed price (\$/Bbl)	\$ 0.42	\$ —	\$ —
Natural gas basis swaps			
EP Permian:			
Notional volume (MMBtu)	2,096,160	—	—
Weighted average fixed price (\$/MMBtu)	\$ (1.03)	\$ —	\$ —

- (1) During the second quarter of 2019, the Company entered into commodity derivative swaps where it bought 2,160,000 barrels of crude oil at a weighted average fixed price of \$50.48 per barrel to offset commodity derivative swaps for the year ended December 31, 2021, it previously sold 2,160,000 barrels of crude oil at a weighted average fixed price of \$61.21 per barrel, effectively locking in a gain of approximately \$23.2 million that the Company expects to recognize in 2021 when the swaps settle.
- (2) During the second quarter of 2019, the Company entered into commodity derivative swaps where it bought 1,100,000 barrels of crude oil at a weighted average fixed price of \$50.55 per barrel to offset commodity derivative swaps for the year ended December 31, 2022, it previously sold 1,100,000 barrels of crude oil at a weighted average fixed price of \$58.42 per barrel, effectively locking in a gain of approximately \$8.7 million that the Company expects to recognize in 2022 when the swaps settle.

If there are no changes in the forward curve market prices as of December 31, 2019, we would incur a realized gain of \$6.5 million in 2020, a realized gain of \$22.1 million in 2021 and a realized gain of \$10.6 million in 2022 related to our commodity derivatives. See *Note 6 - Derivative Instruments* in the consolidated financial statements under Part II, Item 8 of this Annual Report on Form 10-K for additional information about our derivatives. The forward curve market prices have declined since December 31, 2019. Our commodity derivative portfolio had a mark-to-market net asset value of approximately \$141.6 million as of March 31, 2020.

We utilize interest rate swaps to reduce our exposure to adverse fluctuations in LIBO rates on a portion of our revolving credit facility outstanding borrowings. The gains and losses on our interest rate swaps are recognized in interest expense. Entering into interest rate swaps allows us to mitigate, but not eliminate, the negative effects of increases in the LIBO rate, but reduces our ability to benefit from any decreases in the LIBO rate. In July 2019, we entered into interest rate swaps that extend through August 2022 on a notional amount of \$150.0 million of our outstanding borrowings under our revolving credit facility at an average fixed rate of 1.721%. We had a net current liability of \$0.2 million and a net non-current liability of \$0.5 million related to our interest rate swaps as of December 31, 2019.

Income Taxes

Rosehill Operating is a limited liability company that is treated as a partnership for U.S. federal income tax purposes and is generally not subject to U.S. federal income tax at the entity level. Rosehill Resources is a C corporation and is subject to U.S. federal, state and local income taxes. Any taxable income or loss generated by Rosehill Operating is passed through to and included in Rosehill Resources and the noncontrolling interest taxable income or loss. On a consolidated basis, our effective tax rate will differ from the enacted statutory rate of 21% and will fluctuate from period to period primarily due to the allocation of profits and losses to Rosehill Resources and the noncontrolling interest holder in accordance with the LLC Agreement and the impact of state income taxes.

We periodically assesses whether it is more likely than not that we will generate sufficient taxable income to realize our deferred tax assets, including NOL carry forwards or carry backs. A valuation allowance for deferred tax assets is recognized when it is more likely than not that some or all of the benefit from the deferred tax assets will not be realized. As of December 31, 2019, we had no valuation allowance because we believed it was more likely than not that our deferred tax assets would be realized prior to their expiration. Due to the uncertainty of the market and the significant decrease in oil prices that occurred subsequent to December 31, 2019, as detailed in Note 3 - *Subsequent Events and Liquidity*, we expect to record a full valuation allowance to offset our net deferred tax assets for the first quarter of 2020.

How We Evaluate Our Operations

We use a variety of financial and operational metrics to assess the performance of our oil and natural gas operations, including:

- production volumes;
- Adjusted EBITDAX as defined under “Non-GAAP Financial Measure”; and
- operating expenses on a per barrel of oil equivalent (“Boe”), as discussed in “Results of Operations.”

Production Results

The following table presents production volumes for our properties for the periods indicated:

	Year Ended December 31,		
	2019	2018	2017
Oil (MBbls)	5,411	4,913	1,271
Natural gas (MMcf)	6,352	5,231	2,709
NGLs (MBbls)	1,117	908	408
Total (MBoe)	7,587	6,693	2,131
Average daily net production (Boe/d)	20,786	18,337	5,838

As reservoir pressures decline, production from a given well or formation decreases. Growth in our future production and reserves will depend on our ability to continue to add proved reserves in excess of our production. Accordingly, we plan to maintain our focus on adding reserves through drilling as well as acquisitions; however, in March 2020, we announced that we have suspended all drilling and completion activity for 2020 due to the decline in commodity prices in March 2020. Our ability to add reserves through development projects and acquisitions is dependent on many factors, including our ability to borrow or raise capital, obtain regulatory approvals, procure contract drilling rigs and personnel and successfully identify and consummate acquisitions.

Non-GAAP Financial Measure

Adjusted EBITDAX is a supplemental non-GAAP financial measure that is used by our management and external users of our financial statements, such as industry analysts, investors, lenders and rating agencies. We define Adjusted EBITDAX as net income (loss) before interest expense, net, income tax expense (benefit), DD&A, accretion, impairment of oil and natural gas properties, exploration costs, stock-settled stock-based compensation, (gains) losses on commodity derivatives excluding net cash receipts (payments) on settled commodity derivatives, one-time costs incurred in connection with the Transaction, (gains) losses from the sale of property and equipment, (gains) losses on asset retirement obligation settlements and other non-cash operating items. Adjusted EBITDAX is not a measure of net income (loss) as determined by United States generally accepted accounting principles ("U.S. GAAP").

Management believes Adjusted EBITDAX is useful because it allows us to more effectively evaluate operating performance and compare our results of operations from period to period against our peers without regard to financing methods or capital structure. We exclude the items listed above from net income (loss) in arriving at Adjusted EBITDAX because these amounts can vary substantially from company to company within our industry depending upon accounting methods and book values of assets, capital structures, and the method by which the assets were acquired. Adjusted EBITDAX should not be considered as an alternative to, or more meaningful than, net income (loss) as determined in accordance with U.S. GAAP or as an indicator of our operating performance or liquidity. Certain items excluded from Adjusted EBITDAX are significant components in understanding and assessing a company's financial performance, such as a company's cost of capital and tax structure as well as the historic costs of depreciable assets, none of which are components of Adjusted EBITDAX. Our presentation of Adjusted EBITDAX should not be construed as an inference that its results will be unaffected by unusual or non-recurring items. Our computations of Adjusted EBITDAX may not be comparable to other similarly titled measures of other companies.

We have provided below a reconciliation of Adjusted EBITDAX to net income (loss), the most directly comparable U.S. GAAP financial measure.

	Year Ended December 31,		
	2019	2018	2017
	(In thousands)		
Net income (loss)	\$ (30,088)	\$ 117,962	\$ (11,948)
Interest expense, net	25,228	19,489	2,532
Income tax expense (benefit)	2,143	18,162	1,690
Depreciation, depletion, amortization and accretion	137,937	141,815	36,091
Impairment of oil and natural gas properties	—	—	1,061
Unrealized (gain) loss on commodity derivatives, net	50,664	(108,086)	16,553
Transaction costs	—	—	2,618
Stock settled stock-based compensation	6,124	6,477	1,245
Exploration costs	15,917	4,374	1,747
(Gain) loss on disposition of property and equipment	(11,117)	499	(4,995)
Other non-cash (income) expense, net	(109)	3,667	172
Adjusted EBITDAX	<u>\$ 196,699</u>	<u>\$ 204,359</u>	<u>\$ 46,766</u>

Results of Operations

Year Ended December 31, 2019 Compared to Year Ended December 31, 2018

Oil, Natural Gas and NGL Sales Revenues. The following table provides the components of our revenues for the periods indicated, as well as each period's respective average sales prices and volumes:

	Year Ended December 31,			
	2019	2018	Change	Change %
	(Dollars in thousands, except price data)			
Revenues:				
Oil sales	\$ 286,710	\$ 271,539	\$ 15,171	6 %
Natural gas sales	2,489	9,392	(6,903)	(73)
NGL sales	13,084	20,944	(7,860)	(38)
Total revenues	<u>\$ 302,283</u>	<u>\$ 301,875</u>	<u>\$ 408</u>	<u>— %</u>
Average sales price (1):				
Oil (per Bbl)	\$ 52.99	\$ 55.27	\$ (2.28)	(4)%
Natural gas (per Mcf)	0.39	1.80	(1.41)	(78)
NGLs (per Bbl)	11.71	23.07	(11.36)	(49)
Total (per Boe)	<u>\$ 39.84</u>	<u>\$ 45.10</u>	<u>\$ (5.26)</u>	<u>(12)%</u>
Total, including effects of gain (loss) on settled commodity derivatives, net (per Boe)	<u>\$ 37.91</u>	<u>\$ 42.79</u>	<u>\$ (4.88)</u>	<u>(11)%</u>
Net production:				
Oil (MBbls)	5,411	4,913	498	10 %
Natural gas (MMcf)	6,352	5,231	1,121	21
NGLs (MBbls)	1,117	908	209	23
Total (MBoe)	<u>7,587</u>	<u>6,693</u>	<u>894</u>	<u>13 %</u>
Average daily net production volume:				
Oil (Bbls/d)	14,825	13,460	1,365	10 %
Natural gas (Mcf/d)	17,403	14,332	3,071	21
NGLs (Bbls/d)	3,060	2,488	572	23
Total (Boe/d)	<u>20,786</u>	<u>18,337</u>	<u>2,449</u>	<u>13 %</u>

(1) Excluding the effects of settled and unsettled commodity derivative transactions unless noted otherwise.

The increase in total revenues was due to an increase in sales volume, partially offset by a decrease in average sales price. The increase in sales volume increased total revenues by approximately \$34.3 million, partially offset by a decrease of approximately \$33.9 million related to a decrease in average sales price. The increase in sales volumes is primarily due to new wells coming online without any significant offsetting decrease in production from natural well production declines. The decrease in average sales price is due to (i) lower price indices for crude oil and NGLs, (ii) less favorable pricing differentials for natural gas and (ii) more gathering and transportation costs being netted against revenue as a result of adopting ASU 2014-09, *Revenue from Contracts with Customers (Topic 606)* ("ASC 606") on January 1, 2019.

The adoption of ASC 606 resulted in the Company recording less total revenue of approximately \$2.5 million. There was no impact on our net income; the impact was a change in presentation between revenues and gathering and transportation expense based on where control of our oil, natural gas and NGL production transfers to the customer. The change did not significantly impact our reported average sales for each product. See Note 18 - *Revenue from Contracts with Customers* of this Annual Report on Form 10-K in Part II, Item 8 for more detail on our revenue recognition under ASC 606.

Operating expenses. The following table summarizes our operating expenses for the periods indicated:

	Year Ended December 31,			
	2019	2018	Change	Change %
	(In thousands, except per Boe data)			
Operating expenses:				
Lease operating expenses	\$ 37,348	\$ 37,881	\$ (533)	(1)%
Production and ad valorem taxes	17,432	15,635	1,797	11
Gathering and transportation	5,756	4,939	817	17
Depreciation, depletion, amortization and accretion	137,937	141,815	(3,878)	(3)
Exploration costs	15,917	4,374	11,543	264
General and administrative, excluding stock-based compensation	29,428	23,947	5,481	23
Stock-based compensation	6,301	6,522	(221)	(3)
(Gain) Loss on disposition of property and equipment	(11,117)	499	(11,616)	(2,328)
Total operating expenses	<u>\$ 239,002</u>	<u>\$ 235,612</u>	<u>\$ 3,390</u>	<u>1 %</u>
Operating expenses per Boe:				
Lease operating expenses	\$ 4.92	\$ 5.66	\$ (0.74)	(13)%
Production and ad valorem taxes	2.30	2.34	(0.04)	(2)
Gathering and transportation	0.76	0.74	0.02	3
Depreciation, depletion, amortization and accretion	18.18	21.19	(3.01)	(14)
Exploration costs	2.10	0.65	1.45	223
General and administrative, excluding stock-based compensation	3.88	3.58	0.30	8
Stock-based compensation	0.83	0.97	(0.14)	(14)
(Gain) Loss on disposition of property and equipment	(1.47)	0.07	(1.54)	(2,200)
Total operating expenses per Boe	<u>\$ 31.50</u>	<u>\$ 35.20</u>	<u>\$ (3.70)</u>	<u>(11)%</u>

Lease operating expenses ("LOE"). LOE for the year ended December 31, 2019 decreased compared to the year ended December 31, 2018 by approximately \$5.6 million due to a decrease in LOE rate partially offset by an increase of approximately \$5.1 million due to an increase in sales volume. The decrease in our LOE rate is due to a lower level of water disposal costs now that we have facilities in place to handle produced waste water. The increase in sales volumes is primarily due to new wells coming online without any significant offsetting decrease in production from natural well production declines.

Production and ad valorem taxes. Production taxes for the year ended December 31, 2019 decreased by \$0.5 million compared to the year ended December 31, 2018 and ad valorem taxes increased by \$2.3 million for the year ended December 31, 2019 compared to the year ended December 31, 2018. Production taxes are primarily based on the market value of our wellhead production and the increase was primarily due to a decrease in total revenues. Our total revenues increased by less than 1% and production taxes decreased by 3%. Production taxes as a percentage of total revenues were 4.6% and 4.8% for the years ended December 31, 2019 and 2018, respectively. The increase in ad valorem taxes was due to an increase in producing wells.

Gathering and transportation ("G&T"). G&T costs primarily relates to gathering, transportation, and processing of our liquids-rich natural gas production. G&T for the year ended December 31, 2019 increased compared to the year ended December 31, 2018 by approximately \$1.1 million due to an increase in sales volume partially offset by a decrease of approximately \$0.3 million due to a decrease in the gathering and transportation rate. The increase in sales volumes is primarily due to new wells coming online without any significant offsetting decrease in production from natural well production declines. The gathering and transportation rate was lower due to the adoption of ASC 606, which resulted in the Company presenting G&T costs of approximately \$2.5 million as an offset to total revenues that would have previously been presented as G&T. Without the adoption of ASC 606, the gathering and transportation rate increased for the year ended December 31, 2019 compared to the year ended December 31, 2018 primarily due to higher gathering and transportation rates in certain sections of the Northern and Southern Delaware Basin and those sections had an increase in production for the year ended December 31, 2019 compared to the year ended December 31, 2018.

Depreciation, depletion, amortization and accretion (“DD&A”). See the following table for a breakdown of DD&A and accretion:

	Year Ended December 31,			
	2019	2018	Change	Change %
	(In thousands, except per Boe data)			
Components of DD&A and accretion				
Depreciation, depletion and amortization of oil and gas properties	\$ 136,201	\$ 140,447	\$ (4,246)	(3)%
Depreciation of other property and equipment	936	730	206	28
Accretion expense	800	638	162	25
	<u>\$ 137,937</u>	<u>\$ 141,815</u>	<u>\$ (3,878)</u>	<u>(3)%</u>
DD&A and accretion per Boe				
Depreciation, depletion and amortization of oil and gas properties	\$ 17.95	\$ 20.98	\$ (3.03)	(14)%
Depreciation of other property and equipment	0.12	0.11	0.01	9
Accretion expense	0.11	0.10	0.01	10
Total DD&A and accretion per Boe	<u>\$ 18.18</u>	<u>\$ 21.19</u>	<u>\$ (3.01)</u>	<u>(14)%</u>

DD&A for our oil and gas properties decreased by approximately \$23.0 million due to a decrease in the DD&A per Boe (“DD&A Rate”) partially offset by an increase of approximately \$18.8 million due to an increase in sales volume. The DD&A Rate was higher during the year ended December 31, 2018 compared to the year ended December 31, 2019 due to a higher level of infrastructure costs being added to the depletion group without associated proved reserves being added. The increase in sales volumes is primarily due to new wells coming online without any significant offsetting decrease in production from natural well production declines.

Oil represents a significant portion of our production and as noted above oil prices decreased significantly in March 2020. Based on March 2020 daily price curves, we will more than likely need to record an impairment of our proved properties during the first quarter of 2020. If oil prices continue to decrease subsequent to March 2020, additional impairments of our proved properties will be recorded.

Exploration costs. Exploration costs include exploratory seismic expenditures, other geological and geophysical costs, lease rentals and drilling costs of exploratory wells that are determined to be unsuccessful. Exploration costs for the year ended December 31, 2019 increased compared to the year ended December 31, 2018 primarily due to the impairment of approximately \$12.4 million on undeveloped leasehold acreage partially offset by lower expenses incurred related to our ongoing seismic studies of the acreage we acquired in the Southern Delaware Basin in December 2017.

General and administrative, excluding stock-based compensation (“G&A”). G&A for the year ended December 31, 2019 increased compared to the year ended December 31, 2018 primarily due to an increase in payroll and payroll related costs of \$5.0 million as a result of an increase in full-time employees.

Stock-based compensation. Stock-based compensation for the year ended December 31, 2019 decreased slightly compared to the year ended December 31, 2018. Because we account for forfeitures as they occur by reversing compensation cost previously recognized and associated with unvested awards when the award is forfeited, we expect volatility in our stock-based compensation; however, we do not expect such volatility to be significant.

(Gain) loss on disposition of property and equipment. (Gain) loss on disposition of property and equipment increased for the year ended December 31, 2019 compared to December 31, 2018 primarily due to us recognizing a gain of approximately \$11.1 million on the disposition of our oil and gas properties located in Lea County, New Mexico (“Tatanka Assets”).

Other income and expense. The following table summarizes our other income and expense for the periods indicated:

	Year Ended December 31,			
	2019	2018	Change	Change %
	(In thousands)			
Other income (expense):				
Interest expense, net	\$ (25,228)	\$ (19,489)	\$ (5,739)	29 %
Gain (loss) on commodity derivative instruments, net	(65,338)	92,604	(157,942)	(171)
Other expense, net	(660)	(3,254)	2,594	(80)
Total other income (expense), net	\$ (91,226)	\$ 69,861	\$ (161,087)	(231)%

Interest expense, net. Interest expense, net for the year ended December 31, 2019 increased compared to the year ended December 31, 2018. The interest expense related to our revolving credit facility increased by \$5.3 million for the year ended December 31, 2019 compared to the year ended December 31, 2018 as a result of an increase in borrowings outstanding. In addition, in 2019, we entered into interest rate swaps on a portion our outstanding borrowings under our revolving credit facility and incurred a loss of approximately \$0.5 million for the year ended December 31, 2019 on such swaps.

Gain (loss) on commodity derivative instruments, net. Net gains and losses on our commodity derivatives are a function of fluctuations in the underlying commodity prices versus fixed hedge prices, time decay and volatility associated with options and the monthly settlement of the instruments. The total net loss for the year ended December 31, 2019 is comprised of net losses of \$14.7 million on cash settlements and net losses of \$50.7 million on mark-to-market adjustments on unsettled positions. The total net gain for the year ended December 31, 2018 is comprised of net losses of \$15.5 million on cash settlements and net gains of \$108.1 million on mark-to-market adjustments on unsettled positions.

Other expense, net. Other expense, net for the year ended December 31, 2019 decreased compared to the year ended December 31, 2018 primarily due to adjustments to our Tax Receivable Agreement liability. We account for amounts payable under the Tax Receivable Agreement in accordance with ASC Topic 450, Contingencies. Subsequent changes to the measurement of the Tax Receivable Agreement liability are recognized in the statements of operations. The adjustment to our Tax Receivable Agreement liability for the year ended December 31, 2019 was approximately \$0.2 million compared to approximately \$3.5 million for the year ended December 31, 2018. Due to the uncertainty of the market and the significant decrease in oil prices that occurred subsequent to December 31, 2019, as detailed in Note 3 - *Subsequent Events and Liquidity*, we expect to adjust our Tax Receivable Agreement liability to zero during the first quarter of 2020.

Year Ended December 31, 2018 Compared to Year Ended December 31, 2017

A discussion about our results of operations for the year ended December 31, 2018 compared to the year ended December 31, 2017 was included in Item 7, *Management's Discussion and Analysis*, of our Annual Report on Form 10-K for the year ended December 31, 2018 filed with the SEC.

Capital Requirements and Sources of Liquidity

Going Concern Assessment and Management's Plan

As of March 31, 2020, we were fully drawn against the amount available against our Amended and Restated Credit Agreement (as defined in Note 11 -*Long-term debt, net*), with \$340 million outstanding under our Amended and Restated Credit Agreement. Our next borrowing base redetermination is expected to occur in April 2020. We expect the borrowing capacity to be reduced by the lenders, potentially significantly, in connection with this redetermination and we will be required to repay borrowings in excess of the borrowing capacity. Under the Amended and Restated Credit Agreement, we have the option to repay either in full within 30 days after the redetermination or in monthly installments over a six-month period commencing 30 days following the redetermination. Any reductions to our borrowing capacity at future redetermination dates could result in additional deficiencies that would require us to repay based on the terms discussed above.

Our Amended and Restated Credit Agreement restricts certain distributions including cash dividends on our Series A Preferred Stock and Series B Preferred Stock. Such distributions can only be made so long as both before and immediately following such distributions, (i) we are not in default under our Amended and Restated Credit Agreement, (ii) our unused borrowing capacity is equal to or greater than 20% of the committed borrowing capacity and (iii) our ratio of Total Debt to EBITDAX is not greater than 3.5 to 1.0. Because we fully drew the amount available against our Amended and Restated Credit Agreement, we are restricted

from paying dividends on our Series B Preferred Stock. The next scheduled dividend payment date is on or about April 15, 2020, but we must reduce our borrowings outstanding to an amount that is 20% less than the committed borrowing capacity in place at the time of the dividend payment. Any payments made to reduce our borrowings outstanding to an amount that is 20% less than the committed borrowing capacity is made in addition to the payments made to cure any borrowing capacity deficiencies under the Amended and Restated Credit Agreement. If we fail to pay dividends on our Series B Preferred Stock, the dividend rate increases to 12% per annum until dividends are fully paid and current, at which time the dividend rate will revert back to 10% per annum and if we fail to pay dividends for nine consecutive months, the holders of the Series B Preferred Stock may elect to cause us to redeem all or a portion of the Series B Preferred Stock, which the amount was approximately \$195.2 million had the full redemption occurred as of March 31, 2020. We do not expect to be able to pay dividends on the Series B Preferred Stock on the April 15, 2020 dividend date and it is uncertain if it will be able to pay dividends at future dates.

On March 23, 2020, we received a letter from The Nasdaq Stock Market LLC ("Nasdaq") indicating that for the 30 consecutive business days ending March 20, 2020, the bid price for our common stock had closed below the \$1.00 per share minimum bid price requirement for continued listing on The Nasdaq Capital Market under Nasdaq Listing Rule 5550(a)(2). Under Nasdaq Listing Rule 5810(c)(3)(A), we have 180 calendar days, or until September 21, 2020, to regain compliance by meeting the continued listing standard. To regain compliance, the closing bid price of our common stock must meet or exceed \$1.00 per share for a minimum of ten consecutive business days during the 180 calendar day period. If we are not able to regain compliance with the Nasdaq Listing Rule, it will be an event of default under our Second Lien Notes and Amended and Restated Credit Agreement that would require us to redeem all the amounts outstanding under the Second Lien Notes and Amended and Restated Credit Agreement. It will also constitute a change of control under our Series B Preferred Stock and could give holders of the Series B Preferred Stock the right to require us to redeem all amounts outstanding out of funds legally available therefor.

We have halted all drilling and completion activity for 2020, which will result in a reduction in anticipated production and cash flows. In addition to cash on hand of \$82 million at March 31, 2020 and cash flows from operations, we may generate additional funds through monetization of our commodity derivatives, subject to approval of lenders under our Second Lien Notes, which were in an asset position as of March 31, 2020, the sale of non-core assets and other sources of capital. There can be no assurance that such capital will be available.

However, our future cash flows from operations are subject to a number of variables, including uncertainty in forecasted commodity pricing, production and redetermined borrowing base capacity, which may be significantly reduced, and our ability to reduce costs. Also, we may not be able to monetize our commodity derivatives for an acceptable amount or at all or obtain required approvals under our financing agreements, complete the sale of core or non-core assets or access other sources of capital on acceptable terms or at all. Furthermore, we cannot guarantee that we will be able to maintain the listing of our Class A Common Stock, Class A Common Stock Public Units, or Public Warrants on The Nasdaq Capital Market. If we are unable to reduce the amount outstanding under the Amended and Restated Credit Agreement for payment of preferred dividends or unable to regain compliance with the Nasdaq Listing Rule, the holders of the Series B Preferred Stock may elect to cause us to redeem all or a portion of the Series B Preferred Stock (out of funds legally available therefor). This election could cause us to not be in compliance with our current ratio requirements under the Amended and Restated Credit Agreement. These matters raise substantial doubt about our ability to continue as a going concern within the next year and one day post issuance of these consolidated financial statements.

The consolidated financial statements included in this report have been prepared on a going concern basis of accounting, which contemplates continuity of operations, realization of assets and satisfaction of liabilities and commitments in the normal course of business. The financial statements do not include adjustments that might result from the outcome of the uncertainty, including any adjustments to reflect the possible future effects of the recoverability and classification of recorded assets amounts or amounts and classification of liabilities that might be necessary should we be unable to continue as a going concern.

Sources of Capital

Our activities require us to make significant operating, investing and financing expenditures. Historically, our primary sources of liquidity have been cash flows from operations, borrowings under our revolving credit agreement, financing entered into in connection with acquisitions (such as the issuance of the Series B Preferred Stock and Second Lien Notes), proceeds from the sale of assets, and proceeds from issuance of equity securities. Our primary uses of cash have been for the development of oil and natural gas properties, acquisition of additional properties, interest payments on outstanding debt, dividend payments on our preferred stock, and operating and general and administrative expenses. In 2020, we intend to focus our uses of cash on the operation of our producing properties, interest payments on outstanding debt, dividend payments on our preferred stock (if permitted under our Amended and Restated Credit Agreement), and operating and general and administrative expenses.

In March 2020, we announced that we have halted all drilling and completion activity. The amount and allocation of future capital expenditures will depend upon a number of factors, including our cash flows from operations, investing and financing activities, growth of our borrowing base and our ability to assimilate acquisitions and execute our drilling program. We review our capital expenditure forecast periodically to assess changes in current and projected cash flows, liquidity, debt requirements and other factors. If we are unable to obtain funds when needed or on acceptable terms, we may not be able to finance the capital expenditures necessary to operate our producing properties, recommence or execute on our drilling and completion program or complete acquisitions that may be favorable to us. The suspension of our drilling and completion activity for 2020 will result in a reduction in anticipated production and cash flows. Because we have curtailed our drilling and completion program, we expect to lose a portion of our acreage through lease expirations. In addition, we expect to be required to reclassify some portion of our reserves currently booked as proved undeveloped reserves because of such a deferral of planned capital expenditures.

Because we are the operator of a high percentage of our acreage, the timing and level of our capital spending is largely discretionary and within our control. As evidenced by suspension of our drilling and completion program commencing in late March 2020, we could choose to defer a portion of these planned capital expenditures depending on a variety of factors, including, but not limited to, the success of our drilling activities, prevailing and anticipated prices for oil, natural gas and NGLs, the availability of necessary equipment, infrastructure and capital, the receipt and timing of required regulatory permits and approvals, seasonal conditions, drilling and acquisition costs and the level of participation by other working interest owners. A deferral of planned capital expenditures, particularly with respect to drilling and completing new wells, will result in a reduction in anticipated production and cash flows.

In the event we make any acquisitions and the amount of capital required is greater than the amount we have available for acquisitions at that time, we could be required to reduce the expected level of capital expenditures or seek additional capital. If we require additional capital for that or other reasons, we may seek such capital through traditional reserve base borrowings, joint venture partnerships, production payment financings, asset sales, offerings of debt or equity securities, or other means, although such sources of capital may not be available on terms acceptable to us or at all.

Attempts to Seek Refinancing

If the maturity date of our Amended and Restated Credit Agreement is not extended prior to August 2021, the total debt outstanding will be considered current debt, which could result in a requirement that we repay the Amended and Restated Credit Agreement and the Second Lien Notes and redeem the Series B Preferred Stock out of funds legally available therefor. As of December 31, 2019, the Base Return Amount, as defined in Note 12 - *10% Series B Redeemable Preferred Stock*, on our Series B Preferred Stock was approximately \$199.2 million, which amount will be reduced by any subsequent dividend payments.

We intend to refinance the Amended and Restated Credit Agreement before August 2021. We are currently pursuing options to refinance our existing indebtedness, including restructuring our existing capital and obtaining new sources of capital. If the Second Lien Notes and Series B Preferred Stock are refinanced, we expect we would be able to extend the maturity of our existing Amended and Restated Credit Agreement. There is no assurance, however, that such discussions will result in a refinancing on acceptable terms, if at all or provide any specific amount of additional liquidity for future capital expenditures. Alternative sources of capital could involve the issuance of additional debt or preferred equity. However, the recent decline in world market conditions and commodity prices has made it more difficult to complete these efforts.

We are taking steps to manage compliance with the financial covenants under our Amended and Restated Credit Agreement. Although we were in compliance with all of our financial covenants as of December 31, 2019, we could face challenges meeting certain financial performance covenants under our Amended and Restated Credit Agreement in the future. As noted above, if we are unable to reduce the amount outstanding under the Amended and Restated Credit Agreement for payment of preferred dividends or unable to regain compliance with the Nasdaq Listing Rule, we could be required to redeem amounts outstanding under our Series B Preferred Stock (out of funds legally available therefor) and Amended and Restated Credit Agreement. The early redemption requirement could cause us to not be in compliance with our current ratio requirements under the Amended and Restated Credit Agreement. While we manage compliance with ratios and review such liquidity-enhancing alternative sources of capital, we intend to continue to manage our expenditures appropriately, including through suspension of our drilling program, a reduction in cash general and administrative expenses, and possibly through the sale of core or non-core properties. We may also pursue strategic transactions. Some of our liquidity management plans would require approvals of the holders of the Series B Preferred Stock, which could limit our options or increase the cost of certain options. There is no assurance that such efforts will be successful. If we are unable to successfully refinance debt or maintain compliance with the covenants in our debt documents and preferred stock, we may seek an out of court restructuring or, alternatively, protection under Chapter 11 of the U.S. Bankruptcy Code.

Working Capital

We define working capital as current assets less current liabilities. At December 31, 2019 and December 31, 2018, we had a working capital deficit of \$19.1 million and a surplus of \$5.5 million, respectively. As of December 31, 2019, we had \$80 million available under our credit facility that we could borrow from to address any timing differences in cash flows. On March 19, 2020, we announced that we borrowed the remaining availability under our Amended and Restated Credit Agreement making the current borrowings to be \$340 million. Collection of our accounts receivable has historically been timely, and losses associated with uncollectible receivables have historically not been significant, although a prolonged decline in market conditions could increase uncollectible or delayed receivables. We expect that production volumes, commodity prices and differentials to NYMEX prices for oil and natural gas production will be significant variables affecting our working capital. Because we are fully drawn under our Amended and Restated Credit Agreement, our Amended and Restated Credit Agreement restricts certain distributions including cash dividends on our Series B Preferred Stock. If we fail to pay dividends for nine consecutive months, the holders of the Series B Preferred Stock may elect to cause us to redeem all or a portion of the Series B Preferred Stock out of funds legally available. The amount outstanding was approximately \$195.2 million had the full redemption occurred as of March 31, 2020. We cannot be certain that we will have the funds available to reduce our borrowing base to a sufficient level to meet restrictions under our Amended and Restated Credit Agreement and therefore have substantial doubt about our ability to continue as a going concern over the next year and one day post issuance of these consolidated financial statements.

Cash Flows from Operating, Investing and Financing Activities

The following table summarizes our cash flows for the periods indicated:

	Year Ended December 31,		
	2019	2018	2017
	(In thousands)		
Net cash provided by operating activities	\$ 167,409	\$ 176,309	\$ 37,759
Net cash used in investing activities	(230,395)	(399,343)	(265,497)
Net cash provided by financing activities	45,820	218,509	243,986
Net decrease in cash and cash equivalents	\$ (17,166)	\$ (4,525)	\$ 16,248

Analysis of Cash Flow Changes for the Years Ended December 31, 2019 and 2018

Operating activities. Net cash provided by operating activities is primarily driven by the changes in commodity prices, operating expenses, production volumes and associated changes in working capital. The decrease in net cash provided by operating activities of \$8.9 million was primarily due to an increase in cash related expenses which decreased our operating cash flows by approximately \$8.8 million and an increase in our loss on hedge settlements which decreased our operating cash flows by approximately \$0.6 million, partially offset by an increase in revenues of \$0.4 million.

Investing activities. Net cash used in investing activities for the year ended December 31, 2019 included \$249.9 million attributable to the development of oil and natural gas properties, \$1.3 million for the acquisition of leasehold and mineral interest and \$1.0 million for additions to other property and equipment, all of which was partially offset by the net proceeds from the sale of our Tatanka Assets of \$21.8 million. Net cash used in investing activities for the year ended December 31, 2018 included \$377.9 million attributable to the development of oil and natural gas properties, \$15.3 million for the acquisition of land and leasehold, royalty, and mineral interests, \$4.0 million for the release of the escrow deposit for the White Wolf Acquisition, and \$2.2 million for additions to other property and equipment.

Financing activities. Net cash provided by financing activities for the year ended December 31, 2019 primarily consisted of net borrowings of \$66.0 million under our Amended and Restated Credit Agreement partially offset by \$19.1 million of dividend payments, \$0.8 million of debt issuance costs and \$0.2 million used to repurchase vested stock for tax withholdings. Net cash provided by financing activities for the year ended December 31, 2018 primarily consists of net borrowings of \$194.0 million under our revolving credit facility and \$39.4 million from our Class A Common Stock Offering partially offset by \$10.7 million of dividend payments, \$3.3 million of debt issuance costs and \$0.7 million used to repurchase vested stock for tax withholdings.

Analysis of Cash Flow Changes for the Years Ended December 31, 2018 and 2017

An analysis of our cash flow changes for the year ended December 31, 2018 compared to the year ended December 31, 2017 was included in Item 7 *Management's Discussion and Analysis*, of our Annual Report on Form 10-K for the year ended December 31, 2018 filed with the SEC.

Divestiture of Lea County, New Mexico Assets

On March 26, 2019, Rosehill signed a Purchase and Sale Agreement to sell its Tatanka Assets for cash consideration of \$22.0 million, along with the assumption by the purchaser of all abandonment obligations associated with the properties. On April 4, 2019, Rosehill closed the transaction with an effective date of October 1, 2018. Proceeds, net of customary closing adjustments, was \$21.8 million.

Class A Common Stock Offering

On September 27, 2018, we entered into an underwriting agreement (the "Underwriting Agreement") with Citigroup Global Markets Inc., as representative of the several underwriters named therein (the "Underwriters"), for a public offering of 6,150,000 shares of common stock (the "Class A Common Stock Offering") at a public offering price of \$6.10 per share (\$5.795 per share net of underwriting discount and commissions). Pursuant to the Underwriting Agreement, we granted the Underwriters a 30-day option to purchase up to an additional 922,500 shares of Class A Common Stock.

On October 2, 2018, upon the closing of the Class A Common Stock Offering, we issued 6,150,000 shares of Class A Common Stock. Our net proceeds from the Class A Common Stock Offering, net of underwriting discounts and commissions and offering costs, was \$34.5 million. On October 5, 2018, the Underwriters exercised their option to purchase an additional 840,744 shares of Class A Common Stock at the Underwriters' price of \$5.795 per share. We received net proceeds of approximately \$4.9 million for the shares of Class A Common Stock sold pursuant to the exercise of the Underwriters' option. We contributed all of the net proceeds from the Class A Common Stock Offering and the exercise of the Underwriters' option to Rosehill Operating in exchange for Rosehill Operating Common Units.

Debt Agreements

Amended and Restated Credit Agreement. On March 28, 2018, Rosehill Operating and JPMorgan Chase Bank, N.A., as Administrative Agent and Issuing Bank, entered into the Amended and Restated Credit Agreement to refinance and replace Rosehill Operating's previous credit facility (the "Previous Credit Facility").

Pursuant to the terms and conditions of the Amended and Restated Credit Agreement, Rosehill Operating's line of credit and a letter of credit facility increased from up to \$250 million under the Previous Credit Facility to up to \$500 million under the Amended and Restated Credit Agreement, subject to a borrowing base that is determined semi-annually by the Lenders based upon Rosehill Operating's financial statements and the estimated value of its oil and gas properties, in accordance with the Lenders' customary practices for oil and gas loans. The redeterminations occur on April 1 and October 1 of each year. The borrowing base is scheduled to be automatically reduced upon the issuance or incurrence of debt under senior unsecured notes or upon Rosehill Operating's or any of its subsidiaries' disposition of properties or liquidation of hedges in excess of certain thresholds. The Amended and Restated Credit Agreement also does not permit Rosehill Operating to borrow funds if, at the time of such borrowing, Rosehill Operating is not in pro forma compliance with the financial covenants. Additionally, Rosehill Operating's borrowing base may be reduced in connection with the subsequent redetermination of the borrowing base. Rosehill Operating and the Lenders each have the right to one interim unscheduled redetermination of the borrowing base between any two successive scheduled redeterminations. Rosehill Operating's borrowing base was \$340 million as of December 31, 2019 and we had \$260.0 million outstanding under the Amended and Restated Credit Agreement. As previously disclosed on March 19, 2020, we fully drew the amount available under the Amended and Restated Credit Agreement as a precautionary measure in order to increase our cash position and preserve financial flexibility in light of current uncertainty in the global markets and commodity prices. After giving effect to this draw, our total outstanding borrowings under the Amended and Restated Credit Agreement was \$340 million and we had no additional capacity. Amounts borrowed under the Amended and Restated Credit Agreement may not exceed the borrowing base. If our borrowing base is reduced below our current borrowing level in connection with any redetermination and we are required to repay indebtedness in excess of the redetermined borrowing base, we may not have the liquidity to do so, which would result in an event of default under the Amended and Restated Credit Agreement.

The amounts outstanding under the Amended and Restated Credit Agreement are secured by first priority liens on substantially all of Rosehill Operating's oil and natural gas properties and associated assets and all of the stock of Rosehill Operating's material operating subsidiaries that are guarantors of the Amended and Restated Credit Agreement. There are currently no guarantors under the Amended and Restated Credit Agreement. If an event of default occurs under the Amended and Restated Credit Agreement, JPMorgan Chase Bank, N.A. will have the right to proceed against the pledged capital stock and take control of substantially all of Rosehill Operating and Rosehill Operating's material operating subsidiaries that are guarantors' assets. An event of default can occur under a number of circumstances, including failure to maintain listing of our Class A Common Stock on a national securities exchange. On March 23, 2020, we received a letter from The Nasdaq Stock Market LLC ("Nasdaq") indicating that for the 30 consecutive business days ending March 20, 2020, the bid price for our common stock had closed below the \$1.00 per share minimum bid price requirement for continued listing on The Nasdaq Capital Market under Nasdaq Listing Rule 5550(a)(2). We cannot guarantee that we will be able to maintain listing of our Class A Common Stock, Class A Common Stock Public Units, or Public Warrants on The Nasdaq Capital Market.

Borrowings under the Amended and Restated Credit Agreement will bear interest at a base rate plus an applicable margin ranging from 1.00% to 2.00% or at LIBO rate plus an applicable margin ranging from 2.00% to 3.00%. The Amended and Restated Credit Agreement will mature on August 31, 2022, with an automatic extension to March 28, 2023 upon the payment in full of the Second Lien Notes if there is no event of default under the senior secured credit facility during the time of such extension.

The Amended and Restated Credit Agreement contains various affirmative and negative covenants. These negative covenants may limit Rosehill Operating's ability to, among other things: incur additional indebtedness; make loans to others; make investments; enter into mergers; make or declare dividends or distributions; enter into commodity hedges exceeding a specified percentage of Rosehill Operating's expected production; enter into interest rate hedges exceeding a specified percentage of Rosehill Operating's outstanding indebtedness; incur liens; sell assets; and engage in certain other transactions without the prior consent of JPMorgan Chase Bank, N.A. or lenders. Our Amended and Restated Credit Agreement restricts our cash distributions not to exceed \$8.0 million and \$25.0 million on our Series A Preferred Stock and Series B Preferred Stock, respectively, in any fiscal year to fund dividends or distributions. Such distributions can only be made so long as both before and immediately following such distributions, (i) we are not in default, (ii) our unused borrowing capacity is equal to or greater than 20% of the committed borrowing capacity and (iii) our ratio of Total Debt to EBITDAX is not greater than 3.5 to 1.0. We do not have sufficient borrowing capacity to make such dividend payments and do not expect to pay cash dividends scheduled to be paid on April 15, 2020. With respect to consequences due to our failure to pay the dividends on the Series B Preferred Stock, please read Note 12 - 10% Series B Redeemable Preferred Stock. The Amended and Restated Credit Agreement requires Rosehill Operating to deliver audited financial statements of Rosehill Operating (without a going concern qualification) to the lenders within 90 days after the end of each fiscal year. We can satisfy this requirement by providing audited financial statements of Rosehill Resources within 90 days after the end of each fiscal year. We failed to provide the lenders with audited financial statements and other required certificates and operating reports within 90 days after December 31, 2019, which constitutes a default under the Amended and Restated Credit Agreement. However, the Amended and Restated Credit Agreement gives us a 30-day cure period before it becomes an event of default that will allow the lenders to redeem a portion or all amounts outstanding. We expect to provide such financial statements, reports and certificates within this 30-day time frame.

The Amended and Restated Credit Agreement also requires Rosehill Operating to maintain compliance with the following financial ratios:

- a current ratio, which is the ratio of consolidated current assets (including unused commitments under the Amended and Restated Credit Agreement, but excluding certain non-cash assets) to consolidated current liabilities (excluding certain non-cash obligations, current maturities under the Amended and Restated Credit Agreement and the Note Purchase Agreement (as defined below)), of not less than 1.0 to 1.0,
- a leverage ratio, which is the ratio of the sum of Total Debt to Annualized EBITDAX (as such terms are defined in the Amended and Restated Credit Agreement) for the four fiscal quarters then ended, of not greater than 4.0 to 1.0 (the calculation of which will be modified once the Second Lien Notes and the Series B Redeemable Preferred Stock are no longer outstanding) and
- a coverage ratio, which is the ratio of EBITDAX to the sum of Interest Expense plus the aggregate amount of certain Restricted Payments (as such terms are defined in the Amended and Restated Credit Agreement) made during the preceding four fiscal quarters, of not less than 2.5 to 1.0 (such ratio expiring once the Series B Redeemable Preferred Stock are no longer outstanding).

We were in compliance with all financial ratios in the Amended and Restated Credit Agreement for the measurement period ended December 31, 2019. Although we were in compliance with all of our financial covenants as of December 31, 2019, we could face challenges meeting certain financial covenants under our Amended and Restated Credit Agreement in the future.

For additional information regarding our Amended and Restated Credit Agreement, see Note 11 - *Long-term Debt, net* in the consolidated financial statements under Part II, Item 8 of this Annual Report on Form 10-K.

Second Lien Notes. On December 8, 2017, Rosehill Operating issued and sold \$100,000,000 in aggregate principal amount of 10.00% Senior Secured Second Lien Notes due January 31, 2023 to EIG Global Energy Partners, LLC ("EIG") under and pursuant to the terms of the Note Purchase Agreement (as amended by the Limited Consent and First Amendment to Note Purchase Agreement, dated as of March 28, 2018, the "Note Purchase Agreement"), among Rosehill Operating and us, the holders of the Second Lien Notes party thereto (the "Holders") and U.S. Bank National Association, as agent and collateral agent on behalf of the Holders. The Second Lien Notes were issued and sold to the Holders in a private placement exempt from the registration requirements under the Securities Act.

Under the Note Purchase Agreement, Rosehill Operating may, at its option, redeem the Second Lien Notes in whole or in part, together with accrued and unpaid interest thereon, (i) at any time after December 8, 2019 but on or prior to December 8, 2020, at a redemption price equal to 103% of the principal amount of the Second Lien Notes being redeemed, (ii) at any time after December 8, 2020 but on or prior to December 8, 2021, at a redemption price equal to 101.5% of the principal amount of the Second Lien Notes being redeemed and (iii) at any time after December 8, 2021, at a redemption price equal to the principal amount of the Second Lien Notes being redeemed.

The Second Lien Notes may become subject to redemption under certain other circumstances, including upon the incurrence of non-permitted debt or, subject to various exceptions, reinvestments rights and prepayment or redemption rights with respect to other debt or equity of Rosehill Operating, upon an asset sale, hedge termination or casualty event. Rosehill Operating will be further required to make an offer to redeem the Second Lien Notes upon a Change in Control (as defined in the Note Purchase Agreement) at a redemption price equal to 101% of the principal amount being redeemed. Other than in connection with a Change in Control or casualty event, the redemption prices described in the foregoing paragraph shall also apply, at such times and to the extent set forth therein, to any mandatory redemption of the Second Lien Notes or any acceleration of the Second Lien Notes prior to the stated maturity thereof upon the occurrence of an event of default.

The Note Purchase Agreement requires Rosehill Operating to maintain a leverage ratio, which is the ratio of the sum of all of Rosehill Operating's Total Debt to Annualized EBITDAX (as such terms are defined in the Note Purchase Agreement) for the four fiscal quarters then ended, of not greater than 4.00 to 1.00. We were in compliance with the leverage ratio for the measurement period ended December 31, 2019.

The Note Purchase Agreement contains various affirmative and negative covenants, events of default and other terms and provisions that are based largely on the Amended and Restated Credit Agreement, with a number of important modifications reflecting the second lien nature of the Second Lien Notes and certain other terms that were agreed to with the Holders. The negative covenants may limit Rosehill Operating's ability to, among other things, incur additional indebtedness (including pursuant to senior unsecured notes), make investments, make or declare dividends or distributions, redeem its preferred equity, acquire or dispose of oil and gas properties and other assets or engage in certain other transactions without the prior consent of the Holders, subject to various exceptions, qualifications and value thresholds. Rosehill Operating is also required to meet minimum commodity hedging levels based on its expected production on an ongoing basis. Any event or condition that causes any debt under the Amended and Restated Credit Agreement becoming due prior to its scheduled maturity, with certain exceptions, including borrowing base deficiencies, is an event of default under the Note Purchase Agreement. The Note Purchase Agreement requires Rosehill Operating to deliver audited financial statements of Rosehill Operating (without a going concern qualification) to the Holders within 90 days after the end of each fiscal year. We failed to provide the Holders with audited financial statements and other required certificates and operating reports within 90 days after December 31, 2019, which constitutes a default under the Note Purchase Agreement. However, the Note Purchase Agreement gives us a 30-day cure period before it becomes an event of default that will allow the Holders to force redemption of a portion or all amounts outstanding. We expect to provide such financial statements, reports and certificates within this 30-day time frame.

We are subject to certain restrictions under the Note Purchase Agreement, including (without limitation) a negative pledge with respect to our equity interests in Rosehill Operating and a contingent obligation to guarantee the Second Lien Notes upon request by the Holders in the event that we incur debt obligations. The obligations of Rosehill Operating under the Note Purchase Agreement are secured on a second-lien basis by the same collateral that secures its first-lien obligations. In connection with the Note Purchase Agreement, Rosehill Operating granted second-lien security interests over additional collateral to meet the minimum mortgage requirements under the Note Purchase Agreement.

Preferred Stock and Warrants

We are authorized to issue up to 1,000,000 shares of our preferred stock, of which 150,000 have been designated as Series A Preferred Stock and 210,000 have been designated as Series B Preferred Stock. On April 27, 2017, we issued 75,000 shares of Series A Preferred Stock and 5,000,000 warrants (exercisable for shares of Class A Common Stock) in a private placement to certain qualified institutional buyers and accredited investors for net proceeds of \$70.8 million. We issued an additional 20,000 shares of Series A Preferred Stock to Rosemore Holdings, Inc. and KLR Sponsor in connection with the closing of the Transaction for an additional \$20.0 million.

On December 8, 2017, in connection with the White Wolf Acquisition, we issued 150,000 shares of Series B Preferred Stock, par value of \$0.0001 per share, to EIG (the “Series B Preferred Stock Purchasers”) for an aggregate purchase price of \$150.0 million, less transaction costs and up-front fees of approximately \$10.0 million. We had the option, subject to certain conditions, to sell from time to time up to an additional 50,000 shares of Series B Preferred Stock, in the aggregate, to the Series B Preferred Stock Purchasers and their transferees for a purchase price of \$1,000 per share of Series B Preferred Stock. We did not exercise such option, which terminated on December 8, 2018. Please read *Capital Requirements and Sources of Liquidity - Going Concern Assessment and Management’s Plan* and and Note 12 – 10% Series B Redeemable Preferred Stock for more details on dividend requirements, results of failure to pay dividends and the impact on our liquidity.

Off-Balance Sheet Arrangements

As of December 31, 2019, we had no off-balance sheet arrangements or other such unrecorded obligations and we have not guaranteed any debt of any unrelated party.

Critical Accounting Policies and Estimates

The preparation of financial statements requires the use of judgments and estimates. Our critical accounting policies are described below to provide a better understanding of how we develop our assumptions and judgments about future events and related estimates and how they can impact our financial statements. A critical accounting estimate is one that requires our most difficult, subjective or complex estimates and assessments and is fundamental to our results of operations.

We base our estimates on historical experience and on various other assumptions we believe to be reasonable according to the current facts and circumstances, the results of which form the basis for making judgments about the carrying values of assets and liabilities that are not readily apparent from other sources. We believe the following are the critical accounting policies used in the preparation of our combined financial statements, as well as the significant estimates and judgments affecting the application of these policies. This discussion and analysis should be read in conjunction with our consolidated financial statements and related notes included in this report.

Successful Efforts Method of Accounting for Oil and Natural Gas Activities

Oil and natural gas exploration, development and production activities are accounted for under the successful efforts method of accounting. Under this method, the costs incurred to acquire, drill and complete productive wells and development wells are capitalized. Oil and gas lease acquisition costs are also capitalized.

Proved Oil and Natural Gas Properties. If proved reserves are found for these properties, costs incurred to obtain access to proved reserves and to provide facilities for extracting, treating, gathering and storing oil, natural gas, and NGLs are capitalized. All costs incurred to drill and equip successful exploratory wells, development wells, development-type stratigraphic test wells, and service wells, including unsuccessful development wells, are capitalized. Capitalized costs attributed to the properties and mineral interests are subject to depreciation, depletion and amortization (“DD&A”). Depletion of capitalized costs is provided using the units-of-production method based on proved oil and gas reserves related to the associated reservoir. If no proved reserves have been found, the costs of each of the related exploratory wells are charged to expense.

Unproved Properties. Acquisition costs associated with the acquisition of non-producing leaseholds are recorded as unproved leasehold costs and capitalized as incurred. These consist of costs incurred in obtaining a mineral interest or right in a property, such as a lease in addition to options to lease, broker fees, recording fees and other similar costs related to acquiring properties. Leasehold costs are classified as unproved until proved reserves are discovered, at which time related costs are transferred to proved oil and natural gas properties.

Exploration Costs. Exploration costs, other than exploration drilling costs, are charged to expense as incurred. These costs include exploratory seismic expenditures, other geological and geophysical costs and lease rentals. The costs of drilling exploratory wells and exploratory-type stratigraphic wells are initially capitalized pending determination of whether the well has discovered proved commercial reserves. If the exploratory well is determined to be unsuccessful, the cost of the well is transferred to expense.

In some cases, a determination of proved reserves cannot be made at the completion of drilling, requiring additional testing and evaluation of the wells. The costs of such exploratory wells are expensed if a determination of proved reserves has not been made within a 12-month period after drilling is complete.

For sales of a complete or partial unit of proved and unproved properties and related facilities, the cost and related accumulated DD&A are removed from the property accounts and gain or loss is recognized for the difference between the proceeds received and the net carrying value of the properties sold.

Impairment of Oil and Natural Gas Properties

Our proved oil and natural gas properties are recorded at cost. Our proved properties are evaluated for impairment on a field-by-field basis whenever events or changes in circumstances indicate that an asset's carrying value may not be recoverable. We compare expected undiscounted future cash flows to the net book value of the asset. If the future undiscounted expected cash flows, based on its estimate of future oil and natural gas prices, operating costs and anticipated production from proved reserves and risk-adjusted probable and possible reserves, are lower than the net book value of the asset, the capitalized cost is reduced to fair value. Commodity pricing is estimated by using WTI and Henry Hub natural gas NYMEX strip market pricing, adjusted for quality, transportation fees and a regional price differential. While it is difficult to project future impairment write-downs in light of numerous factors involved, fluctuations in prices or costs could result in an impairment of our oil and natural gas properties.

Unproved oil and natural gas properties are assessed periodically, and no less than annually, for impairment on an aggregate basis based on remaining lease term, drilling results, reservoir performance, seismic interpretation and future plans to develop acreage. As unproved oil and natural gas properties are developed and reserves are proved, the capitalized costs are subject to depreciation and depletion. If the development of these properties is deemed unsuccessful, the capitalized costs related to the unsuccessful activity is expensed in the year the determination is made. The rate at which the unproved oil and natural gas properties are written off or reclassified to proved oil and natural gas properties depends on the timing and success of our future exploration and development program.

We expect the decline in oil prices that occurred subsequent to December 31, 2020 to significantly reduce the undiscounted expected cash flows from our proved reserves and will more than likely result in impairments of the Company's proved properties during the first quarter of 2020. If oil prices continue to decrease subsequent to March 2020, additional impairments of our properties will be recorded. In March 2020, we announced that we were halting our drilling and completion activity for 2020 and as a result we expect to lose a portion of our acreage through lease expirations that will result in impairments recorded in 2020 related to those expirations. In addition, we expect to be required to reclassify some portion of our reserves currently booked as proved undeveloped reserves because of such a deferral of planned capital expenditures.

Depreciation, Depletion and Amortization for Oil and Gas Properties

The quantities of estimated proved oil and gas reserves are a significant component of our calculation of depreciation, depletion and amortization expense, and revisions in such estimates may alter the rate of future expense. Holding all other factors constant, if reserves were revised upward or downward, earnings would increase or decrease, respectively.

Depreciation, depletion and amortization of the cost of proved oil and gas properties is calculated using the unit-of-production method. The reserve base used to calculate depreciation, depletion and amortization for leasehold acquisition costs and the cost to acquire proved properties is the sum of proved developed reserves and proved undeveloped reserves. With respect to lease and well equipment costs, which include development costs and successful exploration drilling costs, the reserve base includes only proved developed reserves. Estimated future dismantlement, restoration and abandonment costs, net of salvage values, are taken into account.

Oil and gas properties are grouped based upon a reasonable aggregation of properties with a common geological structural feature or stratigraphic condition, such as a reservoir or field.

Depreciation, depletion and amortization rates are updated quarterly to reflect the addition of capital costs, reserve revisions (upwards or downwards) and additions, property acquisitions or property dispositions and impairments.

Oil and Natural Gas Reserve Quantities

Our estimated proved reserve quantities and future net cash flows are critical to the understanding of the value of our business. They are used in comparative financial ratios and are the basis for significant accounting estimates in its financial statements, including the calculations of depletion and impairment of proved oil and natural gas properties. Future cash inflows and future production and development costs are determined by applying prices and costs, including transportation, quality differentials and basis differentials, applicable to each period to the estimated quantities of proved reserves remaining to be produced as of the end of that period. Expected cash flows are discounted to present value using an appropriate discount rate. For example, the standardized measure calculations require a 10% discount rate to be applied. Although reserve estimates are inherently imprecise, and estimates of new discoveries and undeveloped locations are more imprecise than those of established producing oil and gas properties, we make a considerable effort in estimating our reserves. We expect proved reserve estimates will change as additional information becomes available and as commodity prices and operating and capital costs change. We have and expect to evaluate and estimate our proved reserves each year-end. For purposes of depletion and impairment, reserve quantities are adjusted in accordance with U.S. GAAP for the impact of additions and dispositions. Subsequent to December 31, 2019, commodity prices declined significantly, which we expect to significantly reduce the undiscounted expected cash flows from our proved reserves. In addition, we expect to be required to reclassify some portion of our reserves currently booked as proved undeveloped reserves because of such a deferral of planned capital expenditures.

Asset Retirement Obligations

An asset retirement obligation (“ARO”) represents the estimated present value of the amount we will incur to retire a long-lived asset at the end of its productive life, in accordance with applicable state laws. We recognize an estimated liability for future costs primarily associated with the abandonment of our oil and natural gas properties and related assets. The amount of the ARO is determined by calculating the present value of estimated cash flows related to the liability. The retirement obligation is recorded as a liability at its estimated present value at inception (i.e., at the time the well is drilled or acquired and related assets are placed into service) with an offsetting increase in the carrying amount of the related long-lived asset that is included in proved oil and natural gas properties in the accompanying consolidated balance sheets. Periodic accretion of discount of the estimated liability is recorded as an expense in the income statement. We depreciate the long-lived asset, including the asset retirement cost, over its useful life and recognize an expense in connection with the accretion of the discounted liability over the remaining estimated economic lives of the respective oil and natural gas properties.

Asset retirement liability is determined using significant assumptions, including current estimates of plugging and abandonment costs, annual inflation of these costs, the productive lives of assets and our risk-adjusted interest rate. Changes in any of these assumptions can result in significant revisions to the estimated asset retirement obligation. Because of the subjectivity of assumptions, the costs to ultimately retire our wells may vary significantly from prior estimates.

Commodity Derivative Instruments

We utilize commodity derivative instruments including swaps, collars, basis swaps and other similar agreements to manage our exposure to oil and natural gas price volatility (i.e., price risk) associated with the forecasted sale of a portion of our oil and natural gas production. These commodity derivative instruments are not designated as hedges for accounting purposes. Accordingly, we record derivative instruments on the consolidated balance sheets as either an asset or liability measured at fair value and record the change in the fair value of derivatives in current earnings in the statements of operations as they occur in the period of change. Gains and losses on commodity derivatives and premiums paid for put options are included in cash flows from operating activities.

To the extent a legal right of offset exists with a counterparty, we report derivative assets and liabilities on a net basis. We have exposure to credit risk to the extent the counterparty is unable to satisfy its settlement obligation. We actively monitor the creditworthiness of counterparties and assesses the impact, if any, on our derivative position.

Income Taxes

Deferred tax assets and liabilities are recognized for the estimated future tax consequences attributable to differences between the financial statement carrying amounts of existing assets and liabilities and their respective tax bases. Deferred tax assets and liabilities are calculated by applying existing tax laws and the rates expected to apply to taxable income in the years in which those temporary differences are expected to be recovered or settled. The effect of a change in tax rates on deferred tax assets and liabilities is recognized in the year of the enacted rate change. Due to the uncertainty of the market and the significant decrease in oil prices that occurred subsequent to December 31, 2019, as detailed in Note 3 - *Subsequent Events and Liquidity*, we expect to record a full valuation allowance to offset our net deferred tax assets for the first quarter of 2020.

We account for uncertainty in income taxes using a recognition and measurement threshold for tax positions taken or expected to be taken in a tax return, which are subject to examination by federal and state taxing authorities. The tax benefit from an uncertain tax position is recognized when it is more likely than not that the position will be sustained upon examination by taxing authorities based on technical merits of the position. The amount of the tax benefit recognized is the largest amount of the benefit that has a greater than 50% likelihood of being realized upon ultimate settlement. The effective tax rate and the tax basis of assets and liabilities reflect management's estimates of the ultimate outcome of various tax uncertainties. We recognize penalties and interest related to uncertain tax positions within the provision (benefit) for income taxes line in the accompanying consolidated statements of operations.

We are a C corporation and are subject to U.S. federal, state and local income taxes. Rosehill Operating is a limited liability company treated as a partnership for U.S. federal income tax purposes that is generally not subject to U.S. federal income tax at the entity level. See Note 13 – *Income Taxes* for more income tax disclosures.

Tax Receivable Agreement

In connection with the Transaction, we entered into a Tax Receivable Agreement with the noncontrolling interest holder, Tema. The Tax Receivable Agreement provides that we will pay to Tema 90% of the net cash savings, if any, in U.S. federal, state and local income tax that we realize (or is deemed to realize in certain circumstances) in periods beginning with and after the closing of the Transaction.

We account for amount payable under the Tax Receivable Agreement in accordance with Accounting Standards Codification Topic 450, *Contingencies*. As such, subsequent changes to the measurement of the Tax Receivable Agreement liability are recognized in the statements of operations as a component of other income (expense), net. Due to the uncertainty of the market and the significant decrease in oil prices that occurred subsequent to December 31, 2019, as detailed in Note 3 - *Subsequent Events and Liquidity*, we expect to adjusted our Tax Receivable Agreement liability to zero during the first quarter of 2020.

Recently Issued Accounting Pronouncements

Please refer to Note 2 - *Summary of Significant Accounting Policies and Recently Issued Accounting Standards* in the consolidated financial statements under Part II, Item 8 of this Annual Report on Form 10-K for a discussion of recent accounting pronouncements and their anticipated effect on us.

ITEM 7A. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK

We are a smaller reporting company as defined by Rule 12b-2 of the Exchange Act and are not required to provide the information under this item.

ITEM 8. FINANCIAL STATEMENTS AND SUPPLEMENTARY DATA

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Report of Independent Registered Public Accounting Firm

To the Board of Directors and Stockholders of
Rosehill Resources Inc.
Houston, Texas

Opinion on the Consolidated Financial Statements

We have audited the accompanying consolidated balance sheets of Rosehill Resources, Inc. (the “Company”) as of December 31, 2019 and 2018, and the related consolidated statements of operations, stockholders’ equity/parent net investment and cash flows for each of the three years in the period ended December 31, 2019, and the related notes (collectively referred to as the “consolidated financial statements”). In our opinion, the consolidated financial statements present fairly, in all material respects, the financial position of the Company at December 31, 2019 and 2018, and the results of its operations and its cash flows for each of the three years in the period ended December 31, 2019, in conformity with accounting principles generally accepted in the United States of America.

Going Concern Uncertainty

The accompanying consolidated financial statements have been prepared assuming that the Company will continue as a going concern. As discussed in Note 3 to the consolidated financial statements, there are significant uncertainties in the near term regarding the Company’s ability to generate sufficient cash flows from operations and maintain compliance with provisions within its debt and preferred stock agreements that raise substantial doubt about its ability to continue as a going concern. Management’s plans in regard to these matters are also described in Note 3. The consolidated financial statements do not include any adjustments that might result from the outcome of this uncertainty.

Basis for Opinion

These consolidated financial statements are the responsibility of the Company’s management. Our responsibility is to express an opinion on the Company’s consolidated financial statements 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 Company 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 audit to obtain reasonable assurance about whether the consolidated financial statements are free of material misstatement, whether due to error or fraud. The Company is not required to have, nor were we engaged to perform, an audit of its internal control over financial reporting. As part of our audits we are required to obtain an understanding of internal control over financial reporting but not for the purpose of expressing an opinion on the effectiveness of the Company’s internal control over financial reporting. Accordingly, we express no such opinion.

Our audits 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. We believe that our audits provide a reasonable basis for our opinion.

/s/ BDO USA, LLP

We have served as the Company's auditor since 2016.

Houston, Texas
April 13, 2020

ROSEHILL RESOURCES INC.
CONSOLIDATED BALANCE SHEETS
(In thousands, except share and per share amounts)

	December 31, 2019	December 31, 2018
ASSETS		
Current assets:		
Cash and cash equivalents	\$ 2,991	\$ 20,157
Accounts receivable	34,910	32,338
Derivative assets	10,340	30,819
Prepaid and other current assets	2,393	1,371
Total current assets	50,634	84,685
Property and equipment:		
Oil and natural gas properties (successful efforts), net	744,597	666,797
Other property and equipment, net	2,984	2,592
Total property and equipment, net	747,581	669,389
Other assets, net	3,466	4,678
Derivative assets	33,105	58,314
Deferred tax assets	37,726	—
Total assets	\$ 872,512	\$ 817,066
LIABILITIES, MEZZANINE EQUITY AND STOCKHOLDERS' EQUITY		
Current liabilities:		
Accounts payable	\$ 15,922	\$ 21,013
Accounts payable, related parties	209	287
Derivative liabilities	4,016	—
Accrued liabilities and other	26,513	27,335
Accrued capital expenditures	23,031	30,529
Total current liabilities	69,691	79,164
Long-term liabilities:		
Long-term debt, net	355,511	288,298
Asset retirement obligations	14,431	13,524
Deferred tax liabilities	1,196	9,278
Derivative liabilities	1,300	696
Liability related to tax receivable agreement	53,809	3,518
Other liabilities	432	140
Total long-term liabilities	426,679	315,454
Total liabilities	496,370	394,618
Commitments and contingencies (Note 17)		
Mezzanine equity		
Series B Preferred Stock; \$0.0001 par value, 10.0% Redeemable, \$1,000 per share liquidation preference; of the 1,000,000 shares of Preferred Stock authorized, 210,000 shares designated, 156,746 shares issued and outstanding as of December 31, 2019 and 2018	163,026	155,111
Stockholders' equity		
Series A Preferred Stock; \$0.0001 par value, 8.0% Cumulative Perpetual Convertible, \$1,000 per share liquidation preference; of the 1,000,000 shares of Preferred Stock authorized, 150,000 shares designated, 105,589 and 101,699 shares issued and outstanding as of December 31, 2019 and 2018, respectively	88,551	84,631
Class A Common Stock; \$0.0001 par value, 250,000,000 shares authorized and 28,554,526 and 13,760,136 shares issued and outstanding as of December 31, 2019 and 2018, respectively	3	1
Class B Common Stock; \$0.0001 par value, 30,000,000 shares authorized, 15,707,692 and 29,807,692 shares issued and outstanding as of and December 31, 2019 and 2018, respectively	2	3
Additional paid-in capital	72,859	42,271
Retained earnings	11,126	26,661
Total common stockholders' equity	83,990	68,936
Noncontrolling interest	40,575	113,770
Total stockholders' equity	213,116	267,337
Total liabilities, mezzanine equity and stockholders' equity	\$ 872,512	\$ 817,066

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

ROSEHILL RESOURCES INC.
CONSOLIDATED STATEMENTS OF OPERATIONS
(In thousands, except per share amounts)

	Year Ended December 31,		
	2019	2018	2017
Revenues:			
Oil sales	\$ 286,710	\$ 271,539	\$ 61,596
Natural gas sales	2,489	9,392	7,171
Natural gas liquids sales	13,084	20,944	7,469
Total revenues	302,283	301,875	76,236
Operating expenses:			
Lease operating expenses	37,348	37,881	10,344
Production and ad valorem taxes	17,432	15,635	4,072
Gathering and transportation	5,756	4,939	2,976
Depreciation, depletion, amortization and accretion	137,937	141,815	36,091
Impairment of oil and natural gas properties	—	—	1,061
Exploration costs	15,917	4,374	1,747
General and administrative	35,729	30,469	13,428
Transaction costs	—	—	2,618
(Gain) loss on disposition of property and equipment	(11,117)	499	(4,995)
Total operating expenses	239,002	235,612	67,342
Operating income	63,281	66,263	8,894
Other income (expense):			
Interest expense, net	(25,228)	(19,489)	(2,532)
Gain (loss) on commodity derivative instruments, net	(65,338)	92,604	(16,336)
Other expense, net	(660)	(3,254)	(284)
Total other income (expense), net	(91,226)	69,861	(19,152)
Income (loss) before income taxes	(27,945)	136,124	(10,258)
Income tax (benefit) expense	2,143	18,162	1,690
Net income (loss)	(30,088)	117,962	(11,948)
Net income (loss) attributable to noncontrolling interest	(38,503)	59,926	(18,811)
	8,415	58,036	6,863
Net income attributable to Rosehill Resources Inc. before preferred stock dividends			
Series A Preferred Stock dividends and deemed dividends	8,174	7,938	12,936
Series B Preferred Stock dividends, deemed dividends, and return	23,590	23,437	2,447
Net income (loss) attributable to Rosehill Resources Inc. common stockholders	<u>\$ (23,349)</u>	<u>\$ 26,661</u>	<u>\$ (8,520)</u>
Earnings (loss) per common share:			
Basic	\$ (1.61)	\$ 3.25	\$ (1.43)
Diluted	\$ (1.61)	\$ 1.76	\$ (1.43)
Weighted average common shares outstanding:			
Basic	14,475	8,196	5,945
Diluted	14,475	46,499	5,945

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

ROSEHILL RESOURCES INC.
CONSOLIDATED STATEMENTS OF STOCKHOLDERS' EQUITY/PARENT NET INVESTMENT
(In thousands, except share amounts)

	Preferred Stock Series A		Common Stock				Additional Paid-in Capital	Retained Earnings (Accumulated Deficit)	Total Common Stockholders' Equity	Non- controlling Interest	Parent Net Investment	Total Equity
			Class A		Class B							
	Shares	Value	Shares	Value	Shares	Value						
Balance at January 1, 2017	—	\$ —	—	\$ —	—	\$ —	\$ —	\$ —	\$ —	\$ —	\$ 65,220	\$ 65,220
Net distribution to parent	—	—	—	—	—	—	—	—	—	—	(2,267)	(2,267)
Net income (loss)	—	—	—	—	—	—	—	2,449	2,449	(18,811)	4,414	(11,948)
Effect of the Transaction:												
Issuance of preferred stock and warrants	95,000	70,594	—	—	—	—	20,186	—	20,186	—	—	90,780
Proceeds and shares obtained in the Transaction	—	—	5,856,581	1	29,807,692	3	7,447	—	7,451	78,604	(67,367)	18,688
Distribution to noncontrolling interest, net	—	—	—	—	—	—	—	—	—	(38,106)	—	(38,106)
Benefit from reversal of valuation allowance	—	—	—	—	—	—	1,537	—	1,537	—	—	1,537
Restricted shares granted to directors and employee service awards	—	—	119,456	—	—	—	—	—	—	—	—	—
Stock based compensation	—	—	—	—	—	—	1,245	—	1,245	—	—	1,245
Series A Preferred stock dividends	5,530	12,898	—	—	—	—	(10,487)	(2,449)	(12,936)	—	—	(38)
Series A Preferred stock conversions	(2,832)	(2,832)	246,262	—	—	—	2,832	—	2,832	—	—	—
Series B Preferred stock dividends, deemed dividends and return	—	—	—	—	—	—	(2,447)	—	(2,447)	—	—	(2,447)
Impact of transactions affecting noncontrolling interests	—	—	—	—	—	—	9,633	—	9,633	(9,633)	—	—
Balance at December 31, 2017	97,698	\$80,660	6,222,299	\$ 1	29,807,692	\$ 3	\$ 29,946	\$ —	\$ 29,950	\$ 12,054	\$ —	\$122,664

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

ROSEHILL RESOURCES INC.
CONSOLIDATED STATEMENTS OF STOCKHOLDERS' EQUITY/PARENT NET INVESTMENT (continued)
(In thousands, except share amounts)

	Preferred Stock Series A		Common Stock				Additional Paid-in Capital	Retained Earnings (Accumulated Deficit)	Total Common Stockholders' Equity	Non- controlling Interest	Total Equity
			Class A		Class B						
	Shares	Value	Shares	Value	Shares	Value					
Balance at December 31, 2017	97,698	\$80,660	6,222,299	\$ 1	29,807,692	\$ 3	\$ 29,946	\$ —	\$ 29,950	\$ 12,054	\$122,664
Net income (loss)	—	—	—	—	—	—	—	58,036	58,036	59,926	117,962
Adjustment to deferred taxes	—	—	—	—	—	—	6,119	—	6,119	—	6,119
Benefit from reversal of valuation allowance	—	—	—	—	—	—	2,912	—	2,912	—	2,912
Class A Common Stock Equity Offering, net of stock issuance costs	—	—	6,990,744	—	—	—	39,356	—	39,356	—	39,356
Restricted stock issued	—	—	640,814	—	—	—	—	—	—	—	—
Restricted stock withheld for taxes	—	—	(93,721)	—	—	—	(749)	—	(749)	—	(749)
Stock-based compensation	—	—	—	—	—	—	6,477	—	6,477	—	6,477
Series A Preferred Stock dividends	3,971	3,971	—	—	—	—	—	(7,938)	(7,938)	—	(3,967)
Series B Preferred Stock dividends, deemed dividends and return	—	—	—	—	—	—	—	(23,437)	(23,437)	—	(23,437)
Equity shift	—	—	—	—	—	—	(41,790)	—	(41,790)	41,790	—
Balance at December 31, 2018	101,669	\$84,631	13,760,136	\$ 1	29,807,692	\$ 3	\$ 42,271	\$ 26,661	\$ 68,936	\$ 113,770	\$267,337
Net income (loss)	—	—	—	—	—	—	—	8,415	8,415	(38,503)	(30,088)
Adjustment to deferred taxes	—	—	—	—	—	—	(7,741)	—	(7,741)	—	(7,741)
Additional paid-in-capital related to tax receivable agreement	—	—	—	—	—	—	5,573	—	5,573	—	5,573
Restricted stock issued	—	—	764,292	1	—	—	—	—	1	—	1
Restricted stock withheld for taxes	—	—	(69,902)	—	—	—	(246)	—	(246)	—	(246)
Stock-based compensation	—	—	—	—	—	—	6,124	—	6,124	—	6,124
Series A Preferred Stock dividends	3,920	3,920	—	—	—	—	(2,006)	(6,168)	(8,174)	—	(4,254)
Series B Preferred Stock dividends, deemed dividends and return	—	—	—	—	—	—	(5,808)	(17,782)	(23,590)	—	(23,590)
Equity shift	—	—	—	—	—	—	34,692	—	34,692	(34,692)	—
Exchange of Class B Common Stock to Class A Common Stock	—	—	14,100,000	1	(14,100,000)	(1)	—	—	—	—	—
Balance at December 31, 2019	105,589	\$88,551	28,554,526	\$ 3	15,707,692	\$ 2	\$ 72,859	\$ 11,126	\$ 83,990	\$ 40,575	\$213,116

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

ROSEHILL RESOURCES INC.
CONSOLIDATED STATEMENTS OF CASH FLOWS
(In thousands)

	Year Ended December 31,		
	2019	2018	2017
Cash flows from operating activities:			
Net income (loss)	(30,088)	117,962	\$ (11,948)
Adjustments to reconcile net loss to net cash provided by operating activities:			
Depreciation, depletion, amortization, accretion and impairment of oil and gas properties	137,937	141,815	37,152
Deferred income taxes (benefit)	2,143	18,157	1,690
Stock-based compensation	6,301	6,522	1,245
(Gain) loss on disposition of property and equipment	(11,117)	499	(4,995)
(Gain) loss on derivative instruments	65,602	(92,534)	16,706
Net cash (paid) received in settlement of derivative instruments	(15,294)	(14,683)	74
Amortization of debt issuance costs	1,943	2,139	274
Write-off of undeveloped and exploratory costs	12,377	—	—
Settlement of asset retirement obligations	(7)	(801)	(840)
(Gain) loss from revaluation of tax receivable agreement liability	170	3,518	—
Changes in operating assets and liabilities:			
Increase in accounts receivable and accounts receivable, related parties	(2,563)	(14,816)	(8,230)
Decrease (increase) in prepaid and other assets	259	(59)	(451)
Increase (decrease) in accounts payable and accrued liabilities and other	(180)	8,526	7,476
Increase (decrease) in accounts payable, related parties	(74)	64	(394)
Net cash provided by operating activities	167,409	176,309	37,759
Cash flows from investing activities:			
Additions to oil and natural gas properties	(249,864)	(377,897)	(149,832)
Acquisition of White Wolf	—	(4,005)	(114,843)
Acquisition of land and leasehold, royalty and mineral interest	(1,262)	(15,281)	(6,500)
Proceeds received from disposition of oil and natural gas properties	21,770	—	6,252
Additions to other property and equipment	(1,039)	(2,160)	(574)
Proceeds from sale of other property and equipment	—	—	—
Net cash used in investing activities	(230,395)	(399,343)	(265,497)
Cash flows from financing activities:			
Proceeds from revolving credit facility	128,000	274,000	66,000
Repayment on revolving credit facility	(62,000)	(80,000)	(121,000)
Proceeds from Class A Common Stock offering	—	40,511	—
Class A Common Stock offering issuance costs	—	(1,155)	—
Proceeds from issuance of Series A Preferred Stock and Warrants	—	—	95,000
Series A Preferred Stock issuance costs	—	—	(4,220)
Proceeds from issuance of Series B Preferred Stock	—	—	150,000
Series B Preferred Stock upfront fees and transaction costs	—	(20)	(10,017)
Proceeds from Second lien notes, net	—	—	97,000
Net proceeds from the Transaction	—	—	18,688
Distribution to noncontrolling interest	—	—	(40,487)
Distribution to Tema	—	—	(2,267)
Debt issuance costs	(799)	(3,330)	(4,640)
Dividends paid on preferred stock	(19,120)	(10,716)	(38)
Restricted stock used for tax withholdings	(246)	(749)	—
Payment on capital lease obligation	(15)	(32)	(33)
Net cash provided by financing activities	45,820	218,509	243,986
Net increase (decrease) in cash, cash equivalents, and restricted cash	(17,166)	(4,525)	16,248
Cash, cash equivalents and restricted cash beginning of period	20,157	24,682	8,434
Cash, cash equivalents and restricted cash end of period	\$ 2,991	\$ 20,157	\$ 24,682

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

ROSEHILL RESOURCES INC.
CONSOLIDATED STATEMENTS OF CASH FLOWS (continued)
(In thousands)

Supplemental cash flow information and noncash activity:

	Year Ended December 31,		
	2019	2018	2017
Supplemental disclosures:			
Cash paid for interest	\$ 23,305	\$ 17,065	\$ 1,889
Supplemental noncash activity:			
Asset retirement obligations incurred, net of revision of estimates	\$ (308)	\$ 4,697	\$ 5,766
Changes in accrued capital expenditures	7,498	14,516	42,602
Changes in accounts payable for capital expenditures	6,712	7,456	25,541
White Wolf Acquisition escrow deposit	—	—	4,005
Series A Preferred Stock dividends paid-in-kind	4,141	3,971	5,530
Series A Preferred Stock cash dividends declared and payable	—	1,015	—
Series B Preferred Stock dividends paid-in-kind	—	6,120	626
Series B Preferred Stock cash dividends declared and payable	3,950	2,347	937
Series B Preferred Stock return	6,386	6,798	710
Series B Preferred Stock deemed dividend	1,529	1,345	174

Reconciliation of cash, cash equivalents and restricted cash presented on the Consolidated Statements of Cash Flows:

	December 31,		
	2019	2018	2017
Cash and cash equivalents	\$ 2,991	\$ 20,157	20,677
Restricted cash	—	—	4,005
Total cash, cash equivalents and restricted cash	\$ 2,991	\$ 20,157	\$ 24,682

As of December 31, 2017, restricted cash was attributable to the White Wolf Acquisition purchase price in an escrow account. The full amount of the escrow account was released to the sellers in March 2018.

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

ROSEHILL RESOURCES INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

Note 1 – Organization and Basis of Presentation

Organization

Rosehill Resources Inc. (the “Company” or “Rosehill”) is an independent oil and natural gas company focused on the acquisition, exploration, development and production of unconventional oil and associated liquids-rich natural gas reserves in the Permian Basin. The Company’s assets are concentrated in the Delaware Basin, a sub-basin of the Permian Basin.

The Company was incorporated in Delaware on September 21, 2015 as a special purpose acquisition company under the name of KLR Energy Acquisition Corp. (“KLRE”) for the purpose of effecting a merger, capital stock exchange, asset acquisition, stock purchase, reorganization or similar business combination involving the Company and one or more businesses. On April 27, 2017, the Company acquired a portion of the equity of Rosehill Operating Company, LLC (“Rosehill Operating”), in a transaction structured as a reverse recapitalization (the “Transaction”), into which Tema Oil & Gas Company (“Tema”), a wholly owned subsidiary of Rosemore, Inc. (“Rosemore”), contributed certain assets and liabilities. At the closing of the Transaction, the Company became the sole managing member of Rosehill Operating. Following the Transaction, the Company changed its name to Rosehill Resources Inc.

As the sole managing member of Rosehill Operating, the Company, through its officers and directors, is responsible for all operational and administrative decision-making and control of all of the day-to-day business affairs of Rosehill Operating without the approval of any other member, unless specified in the Second Amended and Restated Limited Liability Company Agreement of Rosehill Operating (the “LLC Agreement”).

Basis of Presentation

The consolidated financial results of the Company consist of the financial results of Rosehill and Rosehill Operating, its consolidated subsidiary. As of December 31, 2019, the Company owns approximately 64.5% of the common units of Rosehill Operating (the “Rosehill Operating Common Units”) and Tema owns approximately 35.5% of the Rosehill Operating Common Units.

The Transaction was accounted for as a reverse recapitalization. As a result, the reports filed by the Company subsequent to the Transaction are prepared “as if” Rosehill Operating is the predecessor and legal successor to the Company. The historical operations of Rosehill Operating are deemed to be those of the Company. Thus, the financial statements included in this report reflect (i) the historical operating results of Rosehill Operating prior to the Transaction; (ii) the combined results of the Company and Rosehill Operating following the Transaction; (iii) the assets and liabilities of Rosehill Operating at their historical cost; and (iv) the Company’s equity and earnings per share for all periods presented.

All periods during the year ended December 31, 2017 that occurred prior to the date of the Transaction were prepared on a “carve-out” basis and are derived from the accounting records of Tema. The accompanying consolidated financial statements prior to the Transaction include direct expenses related to Rosehill Operating and expense allocations for certain functions of Tema including, but not limited to, general corporate expenses related to finance, legal, information technology, human resources, communications, insurance, utilities and compensation. These expenses have been allocated on the basis of direct usage when identifiable, actual volumes and revenues, with the remainder allocated proportionately on a barrel of oil equivalent (“Boe”) basis. Management considers the basis on which the expenses have been allocated to reasonably reflect the utilization of services provided to or the benefit received by Rosehill Operating during the periods presented. The allocations may not, however, reflect the expenses that would have been incurred as an independent company for the periods presented. Actual costs that may have been incurred prior to the Transaction would depend on a number of factors, including the organizational structure, whether functions were outsourced or performed by employees and strategic decisions made in areas such as information technology and infrastructure. The allocations and related estimates and assumptions are described more fully in Note 16 - *Transactions with Related Parties*.

The consolidated financial statements of the Company have been prepared in accordance with generally accepted accounting principles in the United States (“U.S. GAAP”). All intercompany balances and transactions have been eliminated in consolidation. Certain prior period amounts have been reclassified to conform to the current presentation on the accompanying consolidated financial statements. Such reclassifications had no impact on net income, cash flows or shareholders’ equity previously reported.

ROSEHILL RESOURCES INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

Variable Interest Entities

Rosehill Operating is a variable interest entity. The Company determined that it is the primary beneficiary of Rosehill Operating as the Company is the sole managing member and has the power to direct the activities most significant to Rosehill Operating's economic performance as well as the obligation to absorb losses and receive benefits that are potentially significant. The Company consolidated 100% of Rosehill Operating's assets and liabilities and results of operations in the Company's consolidated financial statements. For further discussion, see Noncontrolling Interest in Note 14 - *Stockholders' Equity*.

Note 2 – Summary of Significant Accounting Policies and Recently Issued Accounting Standards

Use of Estimates

The preparation of the Company's consolidated financial statements requires the Company's management to make various assumptions, judgments and estimates to determine the reported amounts of assets, liabilities, revenues, expenses and in the disclosures of commitments and contingencies. Changes in these assumptions, judgments, and estimates will occur as a result of the passage of time and the occurrence of future events and, accordingly, actual results could differ from amounts previously reported. The more significant areas requiring the use of assumptions, judgments and estimates include:

- the quantities and values of proved oil, natural gas and natural gas liquids ("NGLs") reserves used in calculating depletion and assessing impairment of oil and natural gas properties and related present value estimates of future net cash flows therefrom,
- the carrying value of oil and natural gas properties;
- asset retirement obligations;
- the fair value of commodity derivative instruments and positions;
- estimates of the fair value of equity-based compensation;
- accrued revenue and related receivables;
- accrued capital expenditures;
- estimates of current and deferred income taxes and
- deferred income tax valuation allowances and amounts associated with the Company's Tax Receivable Agreement with Tema (the "Tax Receivable Agreement") (see Note 13 – *Income Taxes*).

While management believes these estimates are reasonable, changes in facts and assumptions, or the discovery of new information may result in revised estimates. Actual results could differ from these estimates and it is reasonably possible these estimates could be revised in the near term, and these revisions could be material.

Cash and Cash Equivalents

The Company considers all cash on hand, and highly liquid instruments with an original maturity of three months or less to be cash and cash equivalents. The Company's cash and cash equivalents are held in financial institutions in amounts that may exceed the insurance limits of the Federal Deposit Insurance Corporation, however, management believes the Company's counter-party risks are minimal based on the reputation and history of the institutions selected.

Accounts Receivable

Accounts receivable consist of receivables from joint interest owners on properties the Company operates and from sales of oil and natural gas production delivered to purchasers. The purchasers remit payment for production directly to the Company. Most payments are received within three months after the production date. Accounts receivable are not collateralized.

ROSEHILL RESOURCES INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

Amounts due from joint interest owners or purchasers are stated net of an allowance for doubtful accounts when the Company believes collection is doubtful. For receivables from joint interest owners, the Company typically has the ability to withhold future revenue disbursements to recover any non-payment of joint interest billings. Accounts receivable outstanding longer than the contractual payment terms are considered past due. The Company determines its allowance by considering a number of factors, including the length of time accounts receivable are past due, the Company's previous loss history, the debtor's current ability to pay its obligation to the Company, the condition of the general economy and the industry as a whole. The Company writes off specific accounts receivable when they become uncollectible, and payments subsequently received on such receivables are credited to the allowance for doubtful accounts. No allowance was deemed necessary at December 31, 2019 and 2018. See details of the Company's accounts receivable balance in Note 5 - *Accounts Receivable*.

Revenue Recognition

The Company recognizes oil, natural gas and NGL revenue at the point in time when control of the product transfers to the customer, which differs depending on the contractual terms of each of the Company's arrangements. Transfer of control drives the presentation of gathering, transportation, processing and other post-production expenses ("gathering and transportation expense") within the Company's Consolidated Statements of Operations. In these scenarios below, the Company evaluates whether it is the principal or the agent in the transaction and the analysis includes considerations of product redelivery, take-in-kind rights and risk of loss. For those contracts where the Company has concluded that control of the product transfers at the tailgate of the plant, meaning that the Company is the principal and the ultimate third party purchaser is its customer, the Company recognizes revenue on a gross basis, with transportation, processing and gathering expenses presented within the Gathering and transportation line item on the Company's Consolidated Statements of Operations. Alternatively, for those contracts where the Company has concluded control of the product transfers at or near the wellhead or inlet of the plant, meaning that the Company is the agent and the midstream processing company is the Company's customer, the Company recognizes natural gas and NGL revenues based on the net amount of proceeds received from the midstream processing company. See Note 18— *Revenue from Contracts with Customers* for more detail on the Company's revenue recognition and the impact of ASU 2014-09, *Revenue from Contracts with Customers (Topic 606)* ("ASC 606").

Successful Efforts Method of Accounting for Oil and Natural Gas Activities

Oil and natural gas exploration, development and production activities are accounted for under the successful efforts method of accounting. Under this method, the costs incurred to acquire, drill and complete productive wells and development wells are capitalized. Oil and gas lease acquisition costs are also capitalized.

Proved Oil and Natural Gas Properties. If proved reserves are found for these properties, costs incurred to obtain access to proved reserves and to provide facilities for extracting, treating, gathering and storing oil, natural gas and NGLs are capitalized. All costs incurred to drill and equip successful exploratory wells, development wells, development-type stratigraphic test wells and service wells, including unsuccessful development wells, are capitalized. Capitalized costs attributed to the properties and mineral interests are subject to depreciation, depletion and amortization ("DD&A"). Depletion of capitalized costs is provided using the units-of-production method based on proved oil and gas reserves related to the associated reservoir. If no proved reserves have been found, the costs of each of the related exploratory wells are charged to expense.

Unproved Properties. Acquisition costs associated with the acquisition of non-producing leaseholds are recorded as unproved leasehold costs and capitalized as incurred. These consist of costs incurred in obtaining a mineral interest or right in a property, such as a lease in addition to options to lease, broker fees, recording fees and other similar costs related to acquiring properties. Leasehold costs are classified as unproved until proved reserves are discovered, at which time related costs are transferred to proved oil and natural gas properties.

Exploration Costs. Exploration costs, other than exploration drilling costs, are charged to expense as incurred. These costs include personnel and other internal costs, geological and geophysical expenses, exploratory dry holes, delay rentals for leases and cost associated with unsuccessful lease acquisitions. The costs of drilling exploratory wells and exploratory-type stratigraphic wells are initially capitalized pending determination of whether the well has discovered proved commercial reserves. If the exploratory well is determined to be unsuccessful, the cost of the well is transferred to expense.

In some cases, a determination of proved reserves cannot be made at the completion of drilling, requiring additional testing and evaluation of the wells. The costs of such exploratory wells are expensed if a determination of proved reserves has not been made within a 12-month period after drilling is complete.

ROSEHILL RESOURCES INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

For sales of a complete or partial unit of proved and unproved properties and related facilities, the cost and related accumulated DD&A are removed from the property accounts and gain or loss is recognized for the difference between the proceeds received and the net carrying value of the properties sold.

Impairment of Oil and Natural Gas Properties

The Company's proved oil and natural gas properties are recorded at cost. The Company's proved properties are evaluated for impairment on a field-by-field basis whenever events or changes in circumstances indicate that an asset's carrying value may not be recoverable. The Company compares expected undiscounted future cash flows to the net book value of the asset. If the future undiscounted expected cash flows, based on its estimate of future oil and natural gas prices, operating costs and anticipated production from proved reserves and risk-adjusted probable and possible reserves, are lower than the net book value of the asset, the capitalized cost is reduced to fair value. Commodity pricing is estimated by using WTI and Henry Hub natural gas NYMEX strip market pricing, adjusted for quality, transportation fees and a regional price differential. Fair value is calculated by discounting the future cash flows at a rate of 10%. The Company believes a 10% discount rate is commonly used by oil and gas industry peers, analysts and investors in evaluating the monetary significance of oil and gas properties and for comparing the size and value of proved reserves among companies in our industry. Accordingly, the Company currently believes a 10% discount rate is consistent with a rate a market participant would consider in evaluating onshore domestic proved oil and gas reserves and produces a reasonable estimate of fair value.

Unproved oil and natural gas properties are assessed periodically, and no less than annually, for impairment on an aggregate basis based on remaining lease term, drilling results, reservoir performance, seismic interpretation and future plans to develop acreage. As unproved oil and natural gas properties are developed and reserves are proved, the capitalized costs are subject to depreciation and depletion. If the development of these properties is deemed unsuccessful, the capitalized costs related to the unsuccessful activity is expensed in the year the determination is made. The rate at which the unproved oil and natural gas properties are written off or reclassified to proved oil and natural gas properties depends on the timing and success of the Company's future exploration and development program.

The Company expects the decline in oil prices that occurred subsequent to December 31, 2019 to significantly reduce the undiscounted expected cash flows from its proved reserves and will more than likely result in impairments of the Company's proved properties during the first quarter of 2020. If oil prices continue to decrease subsequent to March 2020, additional impairments of the Company's properties will be recorded. Due to the Company suspending its drilling and completion program for 2020, it expects to lose a portion of its acreage through lease expirations that will result in material impairments recorded in 2020 related to those expirations.

Oil and Natural Gas Reserve Quantities

The Company's estimated proved reserve quantities and future net cash flows are critical to the understanding of the value of its business. They are used in comparative financial ratios and are the basis for significant accounting estimates in its financial statements, including the calculations of depletion and impairment of proved oil and natural gas properties. Future cash inflows and future production and development costs are determined by applying prices and costs, including transportation, quality differentials and basis differentials, applicable to each period to the estimated quantities of proved reserves remaining to be produced as of the end of that period. Expected cash flows are discounted to present value using an appropriate discount rate. For example, the standardized measure calculations require a 10% discount rate to be applied. Although reserve estimates are inherently imprecise, and estimates of new discoveries and undeveloped locations are more imprecise than those of established producing oil and gas properties, the Company makes a considerable effort in estimating our reserves. The Company expects proved reserve estimates will change as additional information becomes available and as commodity prices and operating and capital costs change. The Company has and expects to evaluate and estimate its proved reserves each year-end. For purposes of depletion and impairment, reserve quantities are adjusted in accordance with U.S. GAAP for the impact of additions and dispositions.

Other Property and Equipment

Other property and equipment such as office furniture and equipment, buildings, computer hardware and software is recorded at cost. Depreciation is calculated using the straight-line method over the estimated useful lives of the assets ranging from three to twenty years. Major renewals and improvements are capitalized while expenditures for maintenance and repairs are expensed as incurred. When other property and equipment is sold or retired, the capitalized costs and related accumulated depreciation are removed from the accounts.

ROSEHILL RESOURCES INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

Asset Retirement Obligations

An asset retirement obligation (“ARO”) represents the estimated present value of the amount a company will incur to retire a long-lived asset at the end of its productive life, in accordance with applicable state laws. The Company recognizes an estimated liability for future costs primarily associated with the abandonment of its oil and natural gas properties and related assets. The amount of the ARO is determined by calculating the present value of estimated cash flows related to the liability. The retirement obligation is recorded as a liability at its estimated present value at inception (i.e. at the time the well is drilled or acquired and related assets are placed into service) with an offsetting increase in the carrying amount of the related long-lived asset that is included in proved oil and natural gas properties in the accompanying consolidated balance sheets. Periodic accretion of discount of the estimated liability is recorded as an expense in the consolidated statement of operations. The Company depreciates the long-lived asset, including the asset retirement cost, over its useful life, and recognizes expense in connection with the accretion of the discounted liability over the remaining estimated economic lives of the respective oil and natural gas properties.

An asset retirement liability is determined using significant assumptions, including current estimates of plugging and abandonment costs, annual inflation of these costs, the productive lives of assets and the Company’s risk-adjusted interest rate. Changes in any of these assumptions can result in significant revisions to the estimated asset retirement obligation. Because of the subjectivity of assumptions, the costs to ultimately retire the Company’s wells may vary significantly from prior estimates. See Note 9 - *Asset Retirement Obligations* for more detail of our ARO activity.

Deferred Financing Costs

Deferred financing costs and discounts related to the Company’s Revolving Credit Facility and its Second Lien Notes are included in other long-term assets and long-term debt, respectively, in the consolidated balance sheets and are stated at cost, net of amortization. The deferred financing costs associated with the Revolving Credit Facility and the Second Lien Notes are amortized to interest expense on a straight-line basis and an effective rate of interest method, respectively, over the borrowing terms. See Note 11 - *Long term debt, net* for more detail.

Derivative Instruments

The Company utilizes commodity derivative instruments including swaps, collars, basis swaps and other similar agreements to manage its exposure to oil, natural gas and NGL price volatility (i.e., price risk) associated with the forecasted sale of a portion its oil and natural gas production. The Company utilizes interest rate swaps to manage its exposure to London Inter-bank Offered Rate (LIBOR) volatility associated with a portion of its outstanding borrowing under its Amended and Restated Credit Agreement. These derivative instruments are not designated as hedges for accounting purposes. Accordingly, the Company records derivative instruments on the consolidated balance sheets as either an asset or liability measured at fair value and records changes in the fair value of derivatives in current earnings in the consolidated statements of operations as they occur in the period of change. Gains and losses on commodity derivatives and cash premiums paid for put options are included in cash flows from operating activities.

To the extent legal right of offset exists with a counterparty, the Company reports derivative assets and liabilities on a net basis. The Company has exposure to credit risk to the extent the counterparty is unable to satisfy its settlement obligation. The Company actively monitors the creditworthiness of counterparties and assesses the impact, if any, on its derivative position. See Note 6 - *Derivative Instruments* for a further discussion.

Fair Value of Financial Instruments

Fair value represents the price that would be received to sell the asset or paid to transfer the liability in an orderly transaction between market participants at the reporting date. The Company’s assets and liabilities that are measured at fair value at each reporting date are classified according to a hierarchy that prioritizes inputs and assumptions underlying the valuation techniques. This fair value hierarchy gives the highest priority to quoted prices in active markets for identical assets or liabilities and the lowest priority to unobservable inputs and consists of three broad levels:

ROSEHILL RESOURCES INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

- Level 1:** Observable inputs that reflect unadjusted quoted prices for identical assets or liabilities in active markets as of the reporting date.
- Level 2:** Observable market-based inputs or unobservable inputs that are corroborated by market data. These are inputs other than quoted prices in active markets included in Level 1 that are either directly or indirectly observable as of the reporting date.
- Level 3:** Unobservable inputs that are not corroborated by market data and may be used with internally developed methodologies that result in management's best estimate of fair value.

Valuation techniques that maximize the use of observable inputs are favored. Observable data is considered to be market data if it is readily available, regularly distributed or updated, reliable and verifiable, not proprietary, and provided by multiple, independent sources that are actively involved in the relevant market. In certain cases, the inputs used to measure fair value may fall into different levels of the fair value hierarchy. In such cases, an investment's level within the fair value hierarchy is based on lowest level of input that is significant to the fair value measurement. The assessment of the significance of a particular input to the fair value measurement in its entirety requires judgment and considers factors specific to the investment. However, the determination of what constitutes "observable" requires significant judgment. The categorization of an investment within the hierarchy is based upon the pricing transparency of the investment and does not necessarily correspond to the perceived risk of that investment. Reclassifications of fair value between Level 1, Level 2 and Level 3 of the fair value hierarchy, if applicable, are made at the end of each quarter. See Note 7 – *Fair Value Measurements* for more fair value disclosures.

Income Taxes

Deferred tax assets and liabilities are recognized for the estimated future tax consequences attributable to differences between the financial statement carrying amounts of existing assets and liabilities and their respective tax bases. Deferred tax assets and liabilities are calculated by applying existing tax laws and the rates expected to apply to taxable income in the years in which those temporary differences are expected to be recovered or settled. The effect of a change in tax rates on deferred tax assets and liabilities is recognized in the year of the enacted rate change.

The Company accounts for uncertainty in income taxes using a recognition and measurement threshold for tax positions taken or expected to be taken in a tax return, which are subject to examination by federal and state taxing authorities. The tax benefit from an uncertain tax position is recognized when it is more likely than not that the position will be sustained upon examination by taxing authorities based on technical merits of the position. The amount of the tax benefit recognized is the largest amount of the benefit that has a greater than 50% likelihood of being realized upon ultimate settlement. The effective tax rate and the tax basis of assets and liabilities reflect management's estimates of the ultimate outcome of various tax uncertainties. The Company recognizes penalties and interest related to uncertain tax positions within the provision (benefit) for income taxes line in the accompanying consolidated statements of operations.

The Company is a C corporation and is subject to U.S. federal, state and local income taxes. Rosehill Operating is a limited liability company treated as a partnership for U.S. federal income tax purposes that is generally not subject to U.S. federal income tax at the entity level. See Note 13 – *Income Taxes* for more income tax disclosures.

Earnings (Loss) Per Share

The two-class method of computing earnings per share is required for entities that have participating securities. The two-class method is an earnings allocation formula that determines earnings per share for participating securities according to dividends declared (or accumulated) and participation rights in undistributed earnings. Our Class B Common Stock has no economic interest in the earnings of the Company, thus is not considered a participating security.

Basic earnings (loss) per common share ("EPS") is calculated by dividing net income (loss) attributable to Class A Common Stock holders by the weighted average number of shares of Class A Common Stock outstanding each period. Dilutive EPS is calculated by dividing adjusted net income (loss) attributable to Class A Common Stock holders by the weighted average number of shares of Class A Common Stock outstanding each period, which includes the effect of potentially dilutive securities. Potentially dilutive securities for the diluted EPS calculation consists of (i) the Company's Class B Common Stock, (ii) Series A Preferred Stock, (iii) warrants for Class A Common Stock and (iv) the vesting of unvested restricted stock units of Class A Common Stock.

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The Company uses the “if-converted” method to determine the potential dilutive effect of conversions of its outstanding Class B Common Stock and Series A Preferred Stock, and the treasury stock method to determine the potential dilutive effect of its outstanding warrants exercisable for shares of Class A Common Stock and the vesting of unvested restricted stock units of Class A Common Stock. See Note 4 - *Earnings (Loss) Per Share* for the Company’s earnings (loss) per share calculation.

Accounting Standard Adopted in 2019

Revenue Recognition. ASU 2014-09, *Revenue from Contracts with Customers (Topic 606)* (“ASC 606”), supersedes the revenue recognition requirements in *Topic 605, Revenue Recognition*, and industry-specific guidance in *Subtopic 932-605, Extractive Activities-Oil and Gas-Revenue Recognition* and requires an entity to recognize revenue when it transfers promised goods or services to customers in an amount that reflects the consideration the entity expects to be entitled to in exchange for those goods or services. In May 2016, the FASB issued ASU 2016-12, *Revenue from Contracts with Customers (Topic 606): Narrow-Scope Improvements and Practical Expedients*, as clarifying guidance to improve the operability and understandability of the implementation guidance on principal versus agent considerations.

Because the Company is an emerging growth company, ASC 606 became effective for the Company on January 1, 2019, and the Company elected to adopt it using the modified retrospective method. The Company completed its review of the impact of ASC 606 on its significant contracts and determined that the Company was not required to record a cumulative effect adjustment to retained earnings. The implementation of ASC 606 did result in changes to the presentation of “Revenues” and “Gathering and transportation” on the Company’s Consolidated Statement of Operations, but there was no impact to net income. See Note 18 - *Revenue from Contracts with Customers*.

Recently Issued Accounting Standards Not Yet Adopted

Leases. In February 2016, the FASB issued ASU 2016-02, *Leases (Topic 842)*, which requires the recognition of lease assets and lease liabilities by lessees for those leases classified as operating leases under current U.S. GAAP. In January 2018, the FASB issued ASU 2018-01, *Leases (Topic 842): Land Easement Practical Expedient for Transition to Topic 842*, which provides clarifying guidance regarding land easements and adds practical expedients. In July 2018, further amendments were issued under ASU 2018-10, *Codification Improvements to Topic 842, Leases*. In July 2018, the FASB issued ASU 2018-11, *Leases (Topic 842): Targeted Improvements*, which provides entities with an additional transition method in which an entity initially applies the new leases standard at the adoption date and recognizes a cumulative-effect adjustment to the opening balance of retained earnings in the period of adoption. ASU 2016-02 and its related updates are effective for the Company for fiscal years beginning after December 15, 2019.

The Company has substantially completed the process of reviewing and determining contracts to which the new guidance applies. The Company elected the following practical expedients: (a) for agreements that contain both lease and non-lease components, combining these components together and accounting for them as a single lease, (b) the package of practical expedients which allows the Company to avoid reassessing contracts that commenced prior to adoption that were properly evaluated under legacy U.S. GAAP and (c) excluding land easements that existed or expired before adoption. Additionally, the Company has made an accounting policy election to keep leases with an initial term of 12 months or less off of the Consolidated Balance Sheets. The Company adopted ASU 2016-02 on January 1, 2020 using the modified retrospective approach, and the adoption of the standard is expected to result in the recognition of approximately \$2.1 million of right-of-use assets and \$2.6 million of lease liabilities, with the entire amount relating to our operating leases.

Fair Value Measurement Disclosures. In August 2018, the FASB issued ASU 2018-13, *Fair Value Measurement (Topic 820): Disclosure Framework - Changes to the Disclosure Requirements for Fair Value Measurement*, which removes, modifies and adds disclosure requirements on fair value measurements. ASU 2018-13 is effective for the Company for fiscal years beginning after December 15, 2019 and the Company plans to adopt it on January 1, 2020. The Company is still evaluating the impact of the adoption of this guidance on its disclosures but may be required to add disclosure on the range and weighted average of significant unobservable inputs used to measure its Series B Preferred Stock bifurcated derivative, which is a Level 3 disclosure.

Note 3 – Subsequent Events and Liquidity

On January 30, 2020, the World Health Organization (“WHO”) announced a global health emergency because of a new strain of coronavirus originating in Wuhan, China (the “COVID-19 outbreak”) and the risks to the international community as the virus spreads globally beyond its point of origin. In March 2020, the WHO classified the COVID-19 outbreak as a pandemic, based on the rapid increase in exposure globally.

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The full impact of the COVID-19 outbreak continues to evolve as of the date of this report. As such, it is uncertain as to the full magnitude that the pandemic will have on the Company's financial condition, liquidity, and future results of operations. Management is actively monitoring the impact of the global situation on its financial condition, liquidity, operations, suppliers, industry, and workforce. Given the daily evolution of the COVID-19 outbreak and the global responses to curb its spread, the Company is not able to estimate the effects of the COVID-19 outbreak on its results of operations, financial condition, or liquidity for fiscal year 2020. The adverse economic effects of the COVID-19 outbreak have materially decreased demand for oil based on the restrictions in place by governments trying to curb the outbreak and changes in consumer behavior. This has led to a significant decrease in oil prices and will likely generate a surplus of oil that can create a saturation of storage and crude storage constraints which could lead to an even further reduction in oil prices.

If workers at one of the Company's offices become ill or are quarantined and in either or both events are therefore unable to work, our operations could be subject to disruption. Further, if the Company's vendors become unable to obtain necessary raw materials or components, the Company may incur higher supply costs or the Company's vendors may be required to reduce service or production levels, either of which may negatively affect the Company's financial condition or results of operations.

In addition, in March 2020, members of OPEC failed to agree on oil production levels, which is expected to result in an increased supply of oil and has led to a substantial decline in oil prices and an increasingly volatile market. The Company has certain commodity derivative instruments in place to mitigate the effects of such price declines as detailed in Note 6 - *Derivative Instruments*; however, the derivatives will not entirely mitigate lower oil prices. The depressed pricing environment has led the Company to halt its drilling and completion activities for the remainder of 2020, and is expected to lead to i) a significant reduction in the borrowing base under the Company's credit facility, which could negatively impact its liquidity, ii) a reduction in reserves, including the expected removal of proved undeveloped reserves, iii) the potential impairment of proved and unproved oil & gas properties, iv) the potential that our customers will be unable to purchase our produced oil, natural gas and NGLs as a result of oversupply and inadequate storage capacity, v) recognition of a valuation allowance on our net deferred tax assets and vi) a reduction of our Tax Receivable Agreement liability.

On March 27, President Trump signed into law the "Coronavirus Aid, and Economic Security Act" ("CARES Act"). The Company is evaluating the impact, if any, that the CARES Act may have on the Company's future operations, financial position, and liquidity in fiscal year 2020. Management is actively monitoring its financial condition, liquidity, operations, suppliers, industry, and workforce. Although the Company cannot estimate the length or gravity of the impacts of these events at this time, if the pandemic or decline in oil prices continue, they will have a material adverse effect on the Company's results of future operations, financial position, and liquidity in fiscal year 2020. In light of the ongoing impact of current uncertainty in the global markets and commodity prices, the Company announced on March 19, 2020 that it halted drilling and completions activity and announced on March 27, 2020 that it eliminated 52 full-time employee positions.

As of March 31, 2020, the Company had fully drawn the amount available under its Amended and Restated Credit Agreement (as defined in Note 11 -*Long-term debt, net*, with \$340 million outstanding under its Amended and Restated Credit Agreement. The Company's next borrowing base redetermination is expected to occur in April 2020. The Company expects the borrowing capacity to be reduced by the lenders, potentially significantly, in connection with this redetermination and the Company will be required to repay borrowings in excess of the borrowing capacity. Under the Amended and Restated Credit Agreement, the Company has the option to repay either in full within 30 days after the redetermination or in monthly installments over a six-month period commencing 30 days following the redetermination. Any reductions to the Company's borrowing capacity at future redetermination dates could result in additional deficiencies that would require us to repay based on the terms discussed above.

The Company's Amended and Restated Credit Agreement restricts certain distributions including cash dividends on its Series A Preferred Stock and Series B Preferred Stock. Such distributions can only be made so long as both before and immediately following such distributions, (i) the Company is not in default under its Amended and Restated Credit Agreement, (ii) its unused borrowing capacity is equal to or greater than 20% of the committed borrowing capacity and (iii) its ratio of Total Debt to EBITDAX is not greater than 3.5 to 1.0. Because the Company fully drew the amount available under its Amended and Restated Credit Agreement, it is restricted from paying dividends on its Series B Preferred Stock. The next scheduled dividend payment date is on or about April 15, 2020, but we must reduce our borrowings outstanding to an amount that is 20% less than the committed borrowing capacity in place at the time of the dividend payment. Any payments made to reduce our borrowings outstanding to an amount that is 20% less than the committed borrowing capacity would be in addition to the payments made to cure any borrowing capacity deficiencies under the Amended and Restated Credit Agreement. If the Company fails to pay dividends on its Series B Preferred Stock, the dividend rate increases to 12% per annum until dividends are fully paid and current, at which time the dividend rate will revert back to 10% per annum and if the Company fails to pay dividends for nine consecutive months, the holders of the Series B Preferred Stock may elect to cause the Company to redeem all or a portion of the Series B Preferred Stock, which the amount was approximately \$195.2 million had the full redemption occurred as of March 31, 2020. The Company does not expect

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to be able to pay dividends on the Series B Preferred Stock on the April 15, 2020 dividend date and it is uncertain if it will be able to pay such dividends at future dividend dates.

On March 23, 2020, the Company received a letter from The Nasdaq Stock Market LLC (“Nasdaq”) indicating that for the 30 consecutive business days ending March 20, 2020, the bid price for the Company’s common stock had closed below the \$1.00 per share minimum bid price requirement for continued listing on The Nasdaq Capital Market under Nasdaq Listing Rule 5550(a)(2). Under Nasdaq Listing Rule 5810(c)(3)(A), the Company has 180 calendar days, or until September 21, 2020, to regain compliance by meeting the continued listing standard. To regain compliance, the closing bid price of the Company’s common stock must meet or exceed \$1.00 per share for a minimum of ten consecutive business days during the 180 calendar day period. If the Company is not able to regain compliance with the Nasdaq Listing Rule, it will be an event of default under the Company’s Second Lien Notes and Amended and Restated Credit Agreement that would require the Company to redeem all the amounts outstanding under the Second Lien Notes and Amended and Restated Credit Agreement. It will also constitute a change of control under our Series B Preferred Stock and could give holders of the Series B Preferred Stock the right to require us to redeem all amounts outstanding out of funds legally available therefor.

As stated above, the Company has halted all drilling and completion activity, which will result in a reduction in anticipated production and cash flows. In addition to cash on hand of \$82 million at March 31, 2020 and cash flows from operations, the Company may generate additional funds through monetization of its commodity derivatives, subject to approval of lender under the Second Lien Notes, which were in an asset position as of March 31, 2020, the sale of non-core assets and other sources of capital. However, the Company’s future cash flows from operations are subject to a number of variables, including uncertainty in forecasted commodity pricing, production and redetermined borrowing base capacity, which may be significantly reduced, and its ability to reduce costs. Also, the Company may not be able to monetize its commodity derivatives for an acceptable amount or at all or obtain required approvals under its financing agreements, complete the sale of core or non-core assets or access other sources of capital on acceptable terms or at all. Furthermore, the Company cannot guarantee that it will be able to maintain the listing of its Class A Common Stock, Class A Common Stock Public Units, or Public Warrants on The Nasdaq Capital Market. If the Company is unable to reduce the amount outstanding under the Amended and Restated Credit Agreement for payment of preferred dividends or unable to regain compliance with the Nasdaq Listing Rule, the holders of the Series B Preferred Stock may elect to cause us to redeem all or a portion of the Second Lien Notes. This election would cause the Company to not be in compliance with its current ratio requirements under the Amended and Restated Credit Agreement. These matters raise substantial doubt about the Company’s ability to continue as a going concern within the next year and one day post issuance of these consolidated financial statements.

The consolidated financial statements included in this report have been prepared on a going concern basis of accounting, which contemplates continuity of operations, realization of assets and satisfaction of liabilities and commitments in the normal course of business. The financial statements do not include adjustments that might result from the outcome of the uncertainty, including any adjustments to reflect the possible future effects of the recoverability and classification of recorded assets amounts or amounts and classification of liabilities that might be necessary should the Company be unable to continue as a going concern.

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Note 4 – Earnings (Loss) Per Share

The following table sets forth the calculation of basic and diluted weighted average shares outstanding and earnings (loss) per share for the indicated periods:

	Year Ended December 31,		
	2019	2018	2017
	(In thousands, except per share data)		
Net income (loss) (numerator):			
Net income (loss) attributable to common stockholders of Rosehill Resources Inc. - basic	\$ (23,349)	\$ 26,661	\$ (8,520)
Add: Dividends on Series A Preferred Stock	—	7,938	—
Add: Net income (loss) attributable to the noncontrolling interest, net of taxes	—	47,432	—
Net income (loss) attributable to common stockholders of Rosehill Resources Inc. - diluted	<u>\$ (23,349)</u>	<u>\$ 82,031</u>	<u>\$ (8,520)</u>
Weighted average shares (denominator):			
Weighted average shares – basic	14,475	8,196	5,945
Add: Dilutive effects of Series A Preferred Stock	—	8,495	—
Add: Dilutive effects of Class B Common Stock	—	29,808	—
Weighted average shares – diluted	<u>14,475</u>	<u>46,499</u>	<u>5,945</u>
Basic earnings (loss) per share	\$ (1.61)	\$ 3.25	\$ (1.43)
Diluted earnings (loss) per share	\$ (1.61)	\$ 1.76	\$ (1.43)

For the year ended December 31, 2019, the Company excluded a weighted average of 29.6 million shares of Class A Common Stock issuable upon exchange of the Company's Class B Common Stock, 25.6 million shares of Class A Common Stock issuable upon exercise of the Company's warrants, 8.8 million shares of Class A Common Stock issuable upon conversion of the Company's Series A Preferred Stock and 1.5 million shares of Class A Common Stock issuable upon vesting under the Company's Long-Term Incentive Plan (as amended and restated on May 22, 2018, the "LTIP") from the computation of diluted earnings per share because the effect of such events was anti-dilutive.

For the year ended December 31, 2018, the Company excluded 25.6 million shares of Class A Common Stock issuable upon exercise of the Company's warrants and 1.0 million shares of Class A Common Stock issuable upon vesting under the Company's LTIP from the computation of diluted earnings per share because the effect of such events was anti-dilutive.

For the year ended December 31, 2017, the Company excluded 29.8 million shares of Class A Common Stock issuable upon exchange of the Company's Class B Common Stock, 25.6 million shares of Class A Common Stock issuable upon exercise of the Company's warrants, 8.5 million shares of Class A Common Stock issuable upon conversion of the Company's Series A Preferred Stock and 0.7 million shares of Class A Common Stock issuable upon vesting under the Company's LTIP from the computation of diluted earnings per share because the effect of such events was anti-dilutive.

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Note 5 – Accounts Receivable

Accounts receivable is comprised of the following:

	December 31, 2019	December 31, 2018
	(In thousands)	
Revenue receivable	\$ 34,518	\$ 28,876
Realized derivative receivable	273	2,229
Joint interest billings	95	640
Other	24	593
Accounts receivable	<u>\$ 34,910</u>	<u>\$ 32,338</u>

As of December 31, 2018, there was less than \$0.1 million of Other Accounts receivable due from a related party.

Note 6 – Derivative Instruments

Commodity derivatives. The Company enters into various derivative instruments primarily to mitigate a portion of the exposure to potentially adverse market changes in oil and natural gas commodity prices and the associated impact on cash flows. All contracts are entered into for other-than-trading purposes. Oil and natural gas commodity derivative instruments are recorded on the consolidated balance sheets at fair value as either an asset or a liability with changes in fair value recognized in earnings. While commodity derivative instruments are utilized to manage the price risk attributable to expected oil and natural gas production, the Company's commodity derivative instruments are not designated as accounting hedges under the accounting guidance. The related cash flow impact of the commodity derivative activities is reflected as cash flows from operating activities unless they are determined to have a significant financing element at inception, in which case they are classified within financing activities. A description of the Company's derivative financial instruments is provided below:

Fixed price swaps - The Company receives a fixed price for the contract and pays a floating market price to the counterparty.

Purchased put options - The Company purchases put options based on an index price from the counterparty by payment of a cash premium. If the index price is lower than the put's strike price at the time of settlement, the Company receives from the counterparty such difference between the index price and the purchased put strike price. If the market price settles above the put's strike price, no payment is due from either party.

Two-way costless collars - Arrangements that contain a fixed floor price (purchased put option) and a fixed ceiling price (sold call option) based on an index price which, in aggregate, have no net cost. At the contract settlement date, (1) if the index price is higher than the ceiling price, the Company pays the counterparty the difference between the index price and ceiling price, (2) if the index price is between the floor and ceiling prices, no payments are due from either party and (3) if the index price is below the floor price, the Company will receive the difference between the floor price and the index price.

Three-way costless collars - Arrangements that contain a purchased put option, a sold call option and a sold put option based on an index price which, in aggregate, have no net cost. At the contract settlement date,

- (1) if the index price is higher than the sold call strike price, the Company pays the counterparty the difference between the index price and sold call strike price,
- (2) if the index price is between the purchased put strike price and the sold call strike price, no payments are due from either party,
- (3) if the index price is between the sold put strike price and the purchased put strike price, the Company will receive the difference between the purchased put strike price and the index price and
- (4) if the index price is below the sold put strike price, the Company will receive the difference between the purchased put strike price and the sold put strike price

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Basis swaps - Arrangements that guarantee a price differential for natural gas from a specified delivery point. The Company receives a payment from the counterparty if the price differential is greater than the stated terms of the contract and pays the counterparty if the price differential is less than the stated terms of the contract.

Interest rate swaps - Interest rate swaps are used to fix or float interest rates on existing or anticipated indebtedness. The purpose of these instruments is to manage the Company's existing or anticipated exposure to unfavorable interest rate changes. Entering into interest rate swaps allows the Company to mitigate, but not eliminate, the negative effects of increases in interest rates, but reduces the Company's ability to benefit from any decreases in interest rates.

Series B Preferred Stock bifurcated derivative. In the event of a change of control, the Company shall redeem in cash all of the outstanding shares of Series B Preferred Stock out of funds legally available therefor, excluding Series B PIK Shares, each as defined in Note 12 - *10% Series B Redeemable Preferred Stock*, for a price per share equal to the Base Return Amount as defined in Note 12 - *10% Series B Redeemable Preferred Stock*. The Company assessed the change of control feature and determined that the redemption of the outstanding shares of Series B Preferred Stock, excluding Series B PIK Shares, for a price per share equal to the Base Return Amount was a bifurcated derivative. See Note 12 - *10% Series B Redeemable Preferred Stock* for defined terms and more detail.

The following tables summarize the location and fair value amounts of all the Company's derivative instruments in the Consolidated Balance Sheets, as well as the gross recognized derivative assets, liabilities and offset amounts in the Consolidated Balance Sheets:

	December 31, 2019		
	Gross Fair Value	Gross Amounts Offset (1)	Net Recognized Fair Value
	(In thousands)		
Assets			
Commodity derivatives - current	\$ 28,512	\$ (18,172)	\$ 10,340
Commodity derivatives - non-current	61,241	(28,136)	33,105
Interest rate derivatives - current	10	(10)	—
Total assets	\$ 89,763	\$ (46,318)	\$ 43,445
Liabilities			
Commodity derivatives - current	\$ (22,014)	\$ 18,172	\$ (3,842)
Commodity derivatives - non-current	(28,528)	28,136	(392)
Interest rate derivatives - current	(184)	10	(174)
Interest rate derivatives - non-current	(492)	—	(492)
Series B Preferred Stock bifurcated derivative - non-current	(416)	—	(416)
Total liabilities	\$ (51,634)	\$ 46,318	\$ (5,316)

(1) The Company has agreements in place with all of its counterparties that allow for the financial right of offset for derivative assets and liabilities.

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	December 31, 2018		
	Gross Fair Value	Gross Amounts Offset (1)	Net Recognized Fair Value
	(In thousands)		
Assets			
Commodity derivatives - current	\$ 46,972	\$ (16,153)	\$ 30,819
Commodity derivatives - non-current	88,008	(29,694)	58,314
Total assets	<u>\$ 134,980</u>	<u>\$ (45,847)</u>	<u>\$ 89,133</u>
Liabilities			
Commodity derivatives - current	\$ (16,153)	\$ 16,153	\$ —
Commodity derivatives - non-current	(29,694)	29,694	—
Series B Preferred Stock bifurcated derivative - non-current	(696)	—	(696)
Total liabilities	<u>\$ (46,543)</u>	<u>\$ 45,847</u>	<u>\$ (696)</u>

- (1) The Company has agreements in place with all of its counterparties that allow for the financial right of offset for derivative assets and liabilities.

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As of December 31, 2019, the open derivative positions with respect to future production and interest rates were as follows:

	2020	2021	2022
Commodity derivative swaps			
Oil:			
Notional volume (Bbls) (1)(2)	1,000,000	—	—
Weighted average fixed price (\$/Bbl)	\$ 67.69	\$ —	\$ —
Natural gas:			
Notional volume (MMBtu)	1,970,368	1,615,792	1,276,142
Weighted average fixed price (\$/MMBtu)	\$ 2.75	\$ 2.79	\$ 2.85
Commodity derivative three-way collars			
Oil:			
Notional volume (Bbls)	3,294,000	4,200,000	2,000,000
Weighted average ceiling price (\$/Bbl)	\$ 70.29	\$ 60.40	\$ 61.45
Weighted average floor price (\$/Bbl)	\$ 57.50	\$ 54.49	\$ 55.00
Weighted average sold put option price (\$/Bbl)	\$ 47.50	\$ 45.51	\$ 45.00
Crude oil basis swaps			
Midland / Cushing:			
Notional volume (Bbls)	5,254,000	4,200,000	2,100,000
Weighted average fixed price (\$/Bbl)	\$ (0.83)	\$ 0.49	\$ 0.54
Argus WTI roll:			
Notional volume (Bbls)	665,650	—	—
Weighted average fixed price (\$/Bbl)	\$ 0.40	\$ —	\$ —
NYMEX WTI roll:			
Notional volume (Bbls)	2,791,102	—	—
Weighted average fixed price (\$/Bbl)	\$ 0.42	\$ —	\$ —
Natural gas basis swaps			
EP Permian:			
Notional volume (MMBtu)	2,096,160	—	—
Weighted average fixed price (\$/MMBtu)	\$ (1.03)	\$ —	\$ —
Interest rate swaps:			
Notional principal (3)	\$150,000,000	\$150,000,000	\$ 150,000,000
Average fixed rate	1.721%	1.721%	1.721%

- (1) During the second quarter of 2019, the Company entered into commodity derivative swaps where it bought 2,160,000 barrels of crude oil at a weighted average fixed price of \$50.48 per barrel to offset commodity derivative swaps for the year ended December 31, 2021, it previously sold 2,160,000 barrels of crude oil at a weighted average fixed price of \$61.21 per barrel.
- (2) During the second quarter of 2019, the Company entered into commodity derivative swaps where it bought 1,100,000 barrels of crude oil at a weighted average fixed price of \$50.55 per barrel to offset commodity derivative swaps for the year ended December 31, 2022, it previously sold 1,100,000 barrels of crude oil at a weighted average fixed price of \$58.42 per barrel.
- (3) Interest rate swaps expire in August 2022.

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The effect of derivative activity on the Company's Consolidated Statements of Operations for the following periods was as follows:

	Year Ended December 31,		
	2019	2018	2017
	(In thousands)		
Realized gain (loss) on derivatives			
Commodity derivative options	\$ 5,571	\$ (83)	\$ 172
Commodity derivative swaps	(20,245)	(15,399)	45
Interest rate swaps	178	—	(143)
Total realized gain (loss) on derivatives	\$ (14,496)	\$ (15,482)	\$ 74
Unrealized gain (loss) on derivatives			
Commodity derivative options	\$ (19,611)	\$ 28,965	\$ 313
Commodity derivative swaps	(31,053)	79,121	(16,866)
Interest rate swaps	(666)	—	(226)
Series B Preferred Stock bifurcated derivative	280	(71)	—
Total unrealized gain (loss) on derivatives	\$ (51,050)	\$ 108,015	\$ (16,779)

The gains and losses resulting from the cash settlement and mark-to-market of the commodity derivatives are included within "Gain (loss) on commodity derivative instruments, net" in the Consolidated Statements of Operations. The gains and losses resulting from mark-to-market of the Series B Preferred Stock bifurcated derivative are included within "Other income (expense), net" in the Consolidated Statements of Operations. The gains and losses resulting from the cash settlement and mark-to-market of the interest rate swaps are included within "Interest expense, net" in the Consolidated Statements of Operations.

Note 7 – Fair Value Measurements

Financial Instruments

The financial instruments measured at fair value on a recurring basis consist of the following:

	December 31, 2019	December 31, 2018
	(In thousands)	
Derivative assets		
Derivative assets - current	\$ 10,340	\$ 30,819
Derivative assets - non-current	33,105	58,314
Total derivative assets	43,445	89,133
Derivative liabilities		
Derivative liabilities - current	(4,016)	—
Derivative liabilities - non-current	(1,300)	(696)
Total derivative liabilities	(5,316)	(696)
Total derivative assets, net	\$ 38,129	\$ 88,437

Derivative assets and liabilities primarily represent unsettled amounts related to commodity derivative positions, including swaps, options, and interest rate swaps. Derivative liabilities also include the Series B Preferred Stock bifurcated derivative for the various redemption amounts that the Company could incur if a change of control event occurs. The Company utilizes Level 3 assumptions to estimate the probability of a change of control occurring and when that would occur as the timing impacts the Base Return Amount as defined in Note 12 - *10% Series B Redeemable Preferred Stock*.

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The tables below, set forth by level within the fair value hierarchy, represent the net components of the assets and liabilities that were measured at fair value on a recurring basis as of December 31, 2019 and 2018.

December 31, 2019				
	Level 1	Level 2	Level 3	Total
(In thousands)				
Derivative assets				
Commodity derivative assets - current	\$ —	\$ 10,340	\$ —	\$ 10,340
Commodity derivative assets - non-current	—	33,105	—	33,105
Total derivative assets	\$ —	\$ 43,445	\$ —	\$ 43,445
Derivative liabilities				
Commodity derivative liabilities - current	\$ —	\$ (3,842)	\$ —	\$ (3,842)
Commodity derivative liabilities - non-current	—	(392)	—	(392)
Interest rate swaps - current	—	(174)	—	\$ (174)
Interest rate swaps - non-current	—	(492)	—	(492)
Series B Preferred Stock bifurcated derivative - non-current	—	—	(416)	(416)
Total derivative liabilities	\$ —	\$ (4,900)	\$ (416)	\$ (5,316)

December 31, 2018				
	Level 1	Level 2	Level 3	Total
(In thousands)				
Derivative assets				
Commodity derivative assets - current	\$ —	\$ 30,819	\$ —	\$ 30,819
Commodity derivative assets - non-current	—	58,314	—	58,314
Total derivative assets	\$ —	\$ 89,133	\$ —	\$ 89,133
Derivative liabilities				
Series B Preferred Stock bifurcated derivative - non-current	\$ —	\$ —	\$ (696)	\$ (696)
Total derivative liabilities	\$ —	\$ —	\$ (696)	\$ (696)

The table below sets forth a summary of changes in the fair value of the Company's level 3 derivatives for the year ended December 31, 2019.

Balance at December 31, 2018	\$ 696
Gains reported in earnings	(280)
Balance at December 31, 2019	<u>\$ 416</u>

The carrying amounts of the Company's cash, cash equivalents, accounts receivable and accounts payable approximate their fair values because of the short-term maturities or liquid nature of these assets and liabilities. The Company's revolving credit facility carrying value is representative of its fair value because the interest rate changes monthly based on the current market of the stated rates in the agreement. As of December 31, 2019 and December 31, 2018, the fair value of the 10% Senior Secured Second Lien Notes (the "Second Lien Notes") was approximately \$98.5 million and \$95.2 million, respectively, which was determined using quoted prices for similar instruments, a Level 2 classification in the fair value hierarchy.

Non-Financial Assets and Liabilities

Non-financial assets and liabilities that are initially measured at fair value are comprised of asset retirement obligations, impairments, and stock-based compensation.

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The initial measurement of ARO at fair value is calculated using discounted cash flow techniques and is based on internal estimates of future retirement costs associated with property and equipment. Significant Level 3 inputs used in the calculation of ARO include plugging costs and reserve lives.

If the carrying amount of oil and natural gas properties exceeds the estimated undiscounted future cash flows, the carrying amount of the oil and natural gas properties will be adjusted to their fair value. The fair value of oil and natural gas properties is determined using valuation techniques consistent with the income and market approach. The factors used to determine fair value are subject to management's judgment and expertise and include, but are not limited to, (i) recent sales prices of comparable properties; (ii) the present value of future cash flows, net of estimated operating and development costs using estimates of proved oil and natural gas reserves; (iii) future commodity prices; (iv) future production estimates; (v) anticipated capital expenditures; and (vi) various discount rates commensurate with the risk and current market conditions associated with the projected cash flows. These assumptions represent "Level 3" inputs.

The Company measures stock-based compensation based on the fair value of the award on the date of grant. The fair value of the Company's restricted stock, stock-settled time-based restricted stock units and cash-settled time-based restricted stock units are based on the Company's trading stock price on the date of grant, which is a Level 1 input. The fair value of the Company's market based performance share units is calculated using a Monte Carlo valuation model which performs an iterative run of likely outcomes of the performance metric based on assumptions such as expected volatility, correlation of coefficients, risk-free rates and expected dividend yields. These assumptions represent "Level 3" inputs.

Note 8 – Property and equipment, net

Property and equipment, net is comprised of the following:

	December 31, 2019	December 31, 2018
	(In thousands)	
Proved oil and natural gas properties	\$ 1,013,952	\$ 777,558
Unproved oil and natural gas properties	97,706	121,929
Land	1,575	1,575
Less: accumulated DD&A and impairment	(368,636)	(234,265)
Total oil and natural gas properties (successful efforts), net	744,597	666,797
Other property and equipment	7,348	6,059
Less: accumulated DD&A	(4,364)	(3,467)
Total other property and equipment, net	2,984	2,592
Total property and equipment, net	\$ 747,581	\$ 669,389

As the Company's exploration and development work progresses and the reserves on the Company's properties are proven, capitalized costs attributed to the properties and mineral interests are subject to DD&A. Depletion of capitalized costs is provided using the units-of-production method based on proved oil and gas reserves related to the associated field. DD&A was \$136.2 million, \$140.4 million and \$35.4 million for the years ended December 31, 2019, 2018 and 2017, respectively. Depreciation and amortization expense related to other property and equipment was \$0.9 million, \$0.7 million and \$0.4 million for the years ended December 31, 2019, 2018 and 2017, respectively.

Costs not subject to DD&A primarily include leasehold costs, broker and legal expenses and capitalized internal costs associated with developing oil and natural gas prospects on these properties. Leasehold costs are transferred into costs subject to depletion on an ongoing basis as these properties are evaluated and proved reserves are established. Additionally, costs associated with development wells in progress or awaiting completion at year-end are not subject to DD&A. These costs are transferred into costs subject to DD&A on an ongoing basis as these wells are completed and proved reserves are established or confirmed. Capitalized costs included in proved oil and natural gas properties not subject to DD&A totaled \$19.9 million at December 31, 2019 and \$87.1 million at December 31, 2018.

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There were no impairment charges to proved oil and natural gas properties for the years ended December 31, 2019 and 2018 and \$1.1 million for the year ended December 31, 2017. There was \$12.4 million of impairment charges to unproved oil and natural gas properties for the year ended December 31, 2019, primarily related to expiring leases, and none for the years ended December 31, 2018 and 2017. There were no exploratory well costs pending determination of proved reserves for the years ended December 31, 2019 and 2018. There were no unsuccessful exploratory dry hole costs during the years ended December 31, 2019 and 2018. Unsuccessful exploratory dry hole costs were \$0.2 million for the year ended December 31, 2017.

Acquisitions and Divestitures

Pecos County, Texas Farm-in Agreement. On February 27, 2019, Rosehill entered into a farm-in agreement that would allow it to earn approximately 2,200 net acres contiguous to its core areas in the Southern Delaware Basin subject to its obligation to drill and complete up to seven wells through 2020 and carrying 25% of the drilling and completion costs for each of the seven wells and the costs of facilities and equipment. See Note 17 - *Commitments and Contingencies* for more details on the commitments associated with the agreement.

Other Acquisitions. In 2018, the Company paid approximately \$15.3 million to acquire additional working interests, surface rights and additional royalty interests in our core areas throughout the Delaware Basin. In 2017, the Company purchased additional working interests in various operated wells and leasehold interests in Loving County, Texas for total consideration of \$6.5 million.

White Wolf Acquisition. In December 2017, the Company acquired mineral rights and royalty interest to approximately 6,505 net acres in the Southern Delaware Basin (the “White Wolf Acquisition”) for approximately \$116.6 million, subject to customary purchase price adjustments. The Company incurred transaction fees of \$2.9 million and acquired approximately \$1.6 million of abandonment liability related to assets that were attached to the acreage acquired. Total consideration paid and capitalized in connection with the White Wolf Acquisition was \$121.1 million. The Company accounted for the White Wolf Acquisition as an asset acquisition.

Divestiture of Lea County, New Mexico Assets. On March 26, 2019, Rosehill signed a Purchase and Sale Agreement to sell all of its rights, title and interests to all leases, wells, facilities, easements and contracts located in Lea County, New Mexico for net proceeds of \$21.8 million, along with the assumption by the purchaser of all abandonment obligations associated with the properties. On April 4, 2019, Rosehill closed the transaction, and the Company recorded a gain of approximately \$11.1 million upon closing of the divestiture. The divestiture of the Lea County, New Mexico assets did not represent a strategic shift with a major effect on the Company’s operations and financial results, therefore, was not reported as a discontinued operation.

Barnett Shale Divestiture. On November 2, 2017, the Company consummated the sale of Barnett Shale assets for net proceeds of approximately \$6.5 million and recorded a gain of approximately \$5.3 million. The divestiture of the Barnett Shale assets did not represent a strategic shift with a major effect on the Company’s operations and financial results, therefore, was not reported as a discontinued operation.

Note 9 – Asset Retirement Obligations

The following table summarizes the changes in the Company’s asset retirement obligation for the periods below:

	Year Ended December 31,	
	2019	2018
	(In thousands)	
Asset retirement obligations, beginning of period	\$ 13,524	\$ 8,630
Additional liabilities incurred	434	4,480
Dispositions	(194)	—
Accretion expense	800	638
Liabilities settled upon plugging and abandoning wells	(7)	(441)
Revision of estimates	(126)	217
Asset retirement obligations, end of period	<u>\$ 14,431</u>	<u>\$ 13,524</u>

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Note 10 – Accrued Liabilities and Other

Accrued liabilities and other is comprised of the following:

	December 31, 2019	December 31, 2018
	(In thousands)	
Accrued payroll	\$ 4,035	\$ 3,764
Royalties payable	9,592	11,511
Accrued lease operating expense	6,676	3,992
Preferred Stock dividends payable	3,951	3,362
Accrued interest expense	174	925
Accrued ad valorem taxes	—	1,066
Other	2,085	2,715
Total accrued liabilities and other	\$ 26,513	\$ 27,335

Note 11 – Long-term debt, net

The Company's long-term debt is comprised of the following:

	December 31, 2019	December 31, 2018
	(In thousands)	
Second Lien Notes	\$ 100,000	\$ 100,000
Revolving credit facility	260,000	194,000
Total debt	360,000	294,000
Debt issuance cost on Second Lien Notes, net	2,528	3,211
Discount on Second Lien Notes, net	1,961	2,491
Total debt issuance cost and discounts	4,489	5,702
Total long-term debt, net	\$ 355,511	\$ 288,298

Revolving Credit Facility

On March 28, 2018, Rosehill Operating entered into an Amended and Restated Credit Agreement (the “Amended and Restated Credit Agreement”) by and among Rosehill Operating, as borrower, JPMorgan Chase Bank, N.A., as administrative agent, and certain other financial institutions party thereto, as lenders. The borrowings under the Amended and Restated Credit Agreement bear interest at an adjusted base rate plus an applicable margin ranging from 1% to 2% or at an adjusted LIBO rate plus an applicable margin ranging from 2% to 3%. As of December 31, 2019, the weighted average interest rate of outstanding borrowings under the Amended and Restated Credit Agreement was 4.6%. Pursuant to the Amended and Restated Credit Agreement, the lenders party thereto have agreed to provide the Company with a \$500 million secured reserve-based revolving credit facility. The maturity date of the Amended and Restated Credit Agreement is August 31, 2022 and automatically extends to March 2023 upon the payment in full of the Second Lien Notes. The borrowing base is re-determined semi-annually, with the lenders and the Company each having the right to one interim unscheduled redetermination between any two consecutive semi-annual redeterminations. As of December 31, 2019, the borrowing base was \$340 million and the Company had \$260.0 million outstanding under the Amended and Restated Credit Agreement. On March 19, 2020, the Company announced that it borrowed the remaining available amount under the Amended and Restated Credit Agreement.

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The amounts outstanding under the Amended and Restated Credit Agreement are secured by first priority liens on substantially all of Rosehill Operating's property and all of the stock of Rosehill Operating's material operating subsidiaries that are guarantors of the Amended and Restated Credit Agreement. If an event of default occurs under the Amended and Restated Credit Agreement, JPMorgan Chase Bank, N.A. will have the right to proceed against any pledged capital stock and take control of substantially all of the assets of Rosehill Operating and Rosehill Operating's material operating subsidiaries that are guarantors. There are currently no guarantors under the Amended and Restated Credit Agreement. An event of default can be triggered in a number of circumstances, including failure to maintain listing of the Company's Class A Common Stock on a national securities exchange or failure to timely repay deficiencies in the Company's borrowings. On March 23, 2020, the Company received a letter from The Nasdaq Stock Market LLC ("Nasdaq") indicating that for the 30 consecutive business days ending March 20, 2020, the bid price for the Company's common stock had closed below the \$1.00 per share minimum bid price requirement for continued listing on The Nasdaq Capital Market under Nasdaq Listing Rule 5550(a)(2). The Company cannot guarantee that it will be able to maintain listing of its Class A Common Stock, Class A Common Stock Public Units, or Public Warrants on The Nasdaq Capital Market. The Company is subject to certain restrictions under the Amended and Restated Credit Agreement, including (without limitation) a negative pledge with respect to its equity interests in Rosehill Operating and a contingent obligation to guarantee the borrowings upon request by the lenders in the event that the Company incurs debt obligations.

The Amended and Restated Credit Agreement contains various affirmative and negative covenants. These covenants may limit Rosehill Operating's ability to, among other things: incur additional indebtedness; make loans to others; make investments; enter into mergers; make or declare dividends or distributions; enter into commodity hedges exceeding a specified percentage of Rosehill Operating's expected production; enter into interest rate hedges exceeding a specified percentage of Rosehill Operating's outstanding indebtedness; incur liens; sell assets; and engage in certain other transactions without the prior consent of JPMorgan Chase Bank, N.A. or the lenders. The Company's Amended and Restated Credit Agreement restricts its cash distributions to an amount not to exceed \$8.0 million and \$25.0 million on its Series A Preferred Stock and Series B Preferred Stock, respectively, in any fiscal year to fund dividends or distributions. Such distributions can only be made so long as both before and immediately following such distributions, (i) the Company not in default, (ii) the Company's unused borrowing capacity is equal to or greater than 20% of the committed borrowing capacity and (iii) the Company's ratio of Total Debt to EBITDAX is not greater than 3.5 to 1.0. The Company does not have sufficient borrowing capacity to make such dividend payments and does not expect to pay the dividends payable on April 15, 2020. With respect to consequences due to the Company's failure to pay the dividends on the Series B Preferred Stock, please read Note 12 - 10% Series B Redeemable Preferred Stock. The Amended and Restated Credit Agreement requires Rosehill Operating to deliver audited financial statements of Rosehill Operating (without a going concern qualification) to the lenders within 90 days after the end of each fiscal year. The Company can satisfy this requirement by providing audited financial statements of Rosehill Resources within 90 days after the end of each fiscal year. The Company failed to provide the lenders with audited financial statements and other required certificates and operating reports within 90 days after December 31, 2019, which constitutes a default under the Amended and Restated Credit Agreement. However, the Amended and Restated Credit Agreement gives the Company a 30-day cure period before it becomes an event of default that will allow the lenders to redeem a portion of all amounts outstanding.

The Amended and Restated Credit Agreement also requires Rosehill Operating to maintain the following financial ratios: (1) a current ratio, which is the ratio of consolidated current assets (including unused commitments under the Amended and Restated Credit Agreement, but excluding non-cash assets) to consolidated current liabilities (excluding non-cash obligations, current maturities under the Amended and Restated Credit Agreement and the Note Purchase Agreement (as defined below)), of not less than 1.0 to 1.0; (2) (x) a leverage ratio, which is the ratio of the sum of all of Rosehill Operating's Total Debt to Annualized EBITDAX (as such terms are defined in the Amended and Restated Credit Agreement) for the four fiscal quarters then ended, of not greater than 4.0 to 1.0 and (y) commencing on and after repayment in full of the Second Lien Notes (other than surviving contingent indemnification obligations) and the repayment or redemption in full of the Series B Preferred Stock, a leverage ratio, which is the ratio of the sum of all of Rosehill Operating's Net Debt to Annualized EBITDAX (as such terms are defined in the Amended and Restated Credit Agreement), of not greater than 4.0 to 1.0 and (3) for so long as the Series B Preferred Stock remains outstanding, a coverage ratio, which is the ratio of (i) EBITDAX (as defined in the Amended and Restated Credit Agreement) to (ii) the sum of (x) Interest Expense (as defined in the Amended and Restated Credit Agreement) plus (y) the aggregate amount of Restricted Payments (as defined in the Amended and Restated Credit Agreement) made in cash pursuant to Sections 9.04(a)(iv) and (v) of the Amended and Restated Credit Agreement during the preceding four fiscal quarters, of not less than 2.5 to 1.0. The Company was in compliance with the financial covenants in the Amended and Restated Credit Agreement for the measurement period ended December 31, 2019.

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Second Lien Notes

On December 8, 2017, Rosehill Operating issued and sold \$100,000,000 in aggregate principal amount of 10.00% Senior Secured Second Lien Notes due January 31, 2023 to EIG Global Energy Partners, LLC (“EIG”) under and pursuant to the terms of that certain Note Purchase Agreement, dated as of December 8, 2017 (as amended by the Limited Consent and First Amendment to Note Purchase Agreement, dated as of March 28, 2018, the “Note Purchase Agreement”), among Rosehill Operating, the Company, the holders of the Second Lien Notes party thereto (the “Holders”) and U.S. Bank National Association, as agent and collateral agent on behalf of the Holders. The Second Lien Notes were issued and sold to the Holders in a private placement exempt from the registration requirements under the Securities Act of 1933, as amended (such issuance and sale, the “Notes Purchase”).

Under the Note Purchase Agreement, Rosehill Operating may, at its option, redeem the Second Lien Notes in whole or in part, together with accrued and unpaid interest thereon, (i) at any time after December 8, 2019 but on or prior to December 8, 2020, at a redemption price equal to 103% of the principal amount of the Second Lien Notes being redeemed, (ii) at any time after December 8, 2020 but on or prior to December 8, 2021, at a redemption price equal to 101.5% of the principal amount of the Second Lien Notes being redeemed and (iii) at any time after December 8, 2021, at a redemption price equal to the principal amount of the Second Lien Notes being redeemed.

The Second Lien Notes may become subject to redemption under certain other circumstances, including upon the incurrence of non-permitted debt or, subject to various exceptions, reinvestment rights and prepayment or redemption rights with respect to other debt or equity of Rosehill Operating, upon an asset sale, hedge termination or casualty event. Rosehill Operating will be further required to make an offer to redeem the Second Lien Notes upon a Change in Control (as defined in the Note Purchase Agreement) at a redemption price equal to 101% of the principal amount being redeemed. Other than in connection with a Change in Control or casualty event, the redemption prices described in the foregoing paragraph shall also apply, at such times and to the extent set forth therein, to any mandatory redemption of the Second Lien Notes or any acceleration of the Second Lien Notes prior to the stated maturity thereof upon the occurrence of an Event of Default (as defined in the Note Purchase Agreement).

The Note Purchase Agreement requires Rosehill Operating to maintain a leverage ratio, which is the ratio of the sum of all of Rosehill Operating’s Total Debt to Annualized EBITDAX (as such terms are defined in the Note Purchase Agreement) for the four fiscal quarters then ended, of not greater than 4.00 to 1.00. The Company was in compliance with the financial covenants in the Note Purchase Agreement for the measurement period ended December 31, 2019.

The Note Purchase Agreement contains various affirmative and negative covenants, events of default and other terms and provisions that are based largely on the Amended and Restated Credit Agreement, with a number of important modifications reflecting the second lien nature of the Second Lien Notes and certain other terms that were agreed to with the Holders. The negative covenants may limit Rosehill Operating’s ability to, among other things, incur additional indebtedness (including under senior unsecured notes), make investments, make or declare dividends or distributions, redeem its preferred equity, acquire or dispose of oil and gas properties and other assets or engage in certain other transactions without the prior consent of the Holders, subject to various exceptions, qualifications and value thresholds. Rosehill Operating is also required to meet minimum commodity hedging levels based on its expected production on an ongoing basis. Any event or condition that causes any debt under the Amended and Restated Credit Agreement becoming due prior to its scheduled maturity, with certain exceptions, including borrowing base deficiencies, is an event of default under the Note Purchase Agreement. The Note Purchase Agreement requires Rosehill Operating to deliver audited financial statements of Rosehill Operating (without a going concern qualification) to the lenders within 90 days after the end of each fiscal year. The Company can satisfy this requirement by providing audited financial statements of Rosehill Resources within 90 days after the end of each fiscal year. The Company failed to provide the lenders with audited financial statements and other required certificates and operating reports within 90 days after December 31, 2019, which constitutes a default under the Amended and Restated Credit Agreement. However, the Amended and Restated Credit Agreement gives the Company a 30-day cure period before it becomes an event of default that will allow the lenders to redeem a portion of all amounts outstanding.

The Company is subject to certain restrictions under the Note Purchase Agreement, including (without limitation) a negative pledge with respect to its equity interests in Rosehill Operating and a contingent obligation to guarantee the Second Lien Notes upon request by the Holders in the event that the Company incurs debt obligations. The obligations of Rosehill Operating under the Note Purchase Agreement are secured on a second-lien basis by the same collateral that secures its first-lien obligations. In connection with the Notes Purchase, Rosehill Operating has granted second-lien security interests over additional collateral to meet the minimum mortgage requirements under the Note Purchase Agreement.

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Debt Maturities

The following are maturities of long-term debt for each of the next five years and thereafter (amounts in thousands):

2020	—
2021	—
2022	\$ 260,000
2023	100,000
2024	—
Thereafter	—
Total	<u>\$ 360,000</u>

Deferred Financing Costs and Debt Discount

The Company capitalizes discounts and certain direct costs associated with the issuance of debt and amortizes such costs over the lives of the respective debt instruments. The Company amortized debt issuance costs and discounts of \$1.9 million, \$2.1 million and \$0.3 million for the years ended December 31, 2019, 2018 and 2017, respectively. The deferred financing costs related to the Amended and Restated Credit Agreement are classified in prepaid assets and the deferred financing costs and discounts related to the Second Lien Notes are netted against the long-term debt.

The following table summarizes the Company's deferred financing costs and debt discounts:

	December 31, 2019	December 31, 2018
	(In thousands)	
Revolving credit facility		
Debt issuance costs	\$ 3,167	\$ 2,368
Accumulated amortization of debt issuance costs	(1,092)	(361)
Net deferred costs - Revolving credit facility	<u>\$ 2,075</u>	<u>\$ 2,007</u>
Second Lien Notes		
Debt discount	\$ 3,000	\$ 3,000
Accumulated amortization of debt discount	(1,039)	(509)
Debt issuance costs	3,868	3,868
Accumulated amortization of debt issuance costs	(1,340)	(657)
Net deferred costs - Second Lien Notes	<u>4,489</u>	<u>5,702</u>
Total deferred financing costs and debt discount, net	<u>\$ 6,564</u>	<u>\$ 7,709</u>

Note 12 – 10% Series B Redeemable Preferred Stock

On December 8, 2017, in connection with the acquisition of mineral rights, royalty interests and other associated assets in the Southern Delaware Basin (the “White Wolf Acquisition”), the Company entered into a Series B Redeemable Preferred Stock Purchase Agreement (the “Series B Preferred Stock Agreement”) to issue 150,000 shares of the Company's 10.00% Series B Redeemable Preferred Stock, par value of \$0.0001 per share (the “Series B Preferred Stock”), for an aggregate purchase price of \$150.0 million, less transaction costs, advisory and up-front fees of approximately \$10.0 million to certain private funds and accounts managed by EIG.

Holders of the Series B Preferred Stock are entitled to receive, when, as and if declared by the Board of Directors of the Company (the “Board” or a designated committee of the Board), cumulative dividends in cash, at a rate of 10.00% per annum on the \$1,000 liquidation preference per share of Series B Preferred Stock, payable quarterly in arrears on January 15, April 15, July 15 and October 15 of each year, commencing on January 15, 2018. With respect to dividends declared for any quarter ending on or prior to January 15, 2019, the Company had the option, and elected, to pay as dividends additional shares of Series B Preferred

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Stock in kind (the “Series B PIK Shares”) in an amount up to 40% of that which would have been payable had the dividends been fully paid in cash. The Company’s Amended and Restated Credit Agreement restricts its cash distributions to an amount not to exceed \$25.0 million on its Series B Preferred Stock in any fiscal year. Such distributions on its Series B Preferred Stock can only be made so long as both before and immediately following such distributions, (i) the Company is not in any default under its Amended and Restated Credit Agreement, (ii) its unused borrowing capacity is equal to or greater than 20% of the committed borrowing capacity and (iii) its ratio of Total Debt to EBITDAX is not greater than 3.5 to 1.0. Subsequent to December 31, 2019, the Company fully drew the amount available under its Amended and Restated Credit Agreement and is restricted from paying dividends on its Series B Preferred Stock. The next scheduled dividend payment is payable on or about April 15, 2020, but the company must reduce its borrowings outstanding to an amount that is 20% less than the committed borrowing capacity in place at the time of the dividend payment. Failure to pay dividends on the Series B Preferred Stock results in the following:

- Upon the occurrence of not paying a dividend, the dividend rate will increase to 12% per annum and will remain at 12% per annum until all applicable quarterly dividends have been fully paid and are current, at which time a dividend rate of 10% per annum will once again apply.
- Upon the occurrence of not paying a dividend with respect to three out of any four consecutive quarters or failing to pay a dividend six times (whether or not consecutive) at anytime the Series B Preferred Stock is outstanding will entitle the holders of the Series B Preferred Stock to a seat on the Board of Directors and the right to approve (a) all indebtedness by the Company if such indebtedness would cause the Company’s Leverage Ratio to exceed 3.25 to 1.00, (b) any budget or budget amendments and (c) any capital expenditures in excess of \$0.5 million.
- Upon the occurrence of not paying a dividend for a period of nine months consecutive months, the holders of the Series B Preferred Stock may elect to cause the Company to redeem all or a portion of the Series B Preferred Stock.

Holders of the Series B Preferred Stock have no voting rights, but have certain consent rights with respect to the taking of certain corporate actions by the Company. Upon the Company’s voluntary or involuntary liquidation, winding-up or dissolution, each holder of Series B Preferred Stock will be entitled to receive the Base Return Amount (as defined in the Series B Preferred Stock Agreement) plus accrued and unpaid dividends.

The shares of Series B Preferred Stock are redeemable at the election of the holders on or after December 8, 2023 and upon certain conditions and at any time at the Company’s option. As the holders of Series B Preferred Stock have an option to redeem the Series B Preferred Stock at a future date, the Series B Preferred Stock is included in temporary, or “mezzanine” equity, between total liabilities and stockholders’ equity on the Consolidated Balance Sheets. The Series B Preferred Stock, while not currently redeemable at the option of the holders, are considered probable of becoming redeemable and therefore will be subsequently remeasured each reporting period by accreting the initial value to the estimated redemption date of December 8, 2023 when the Series B Preferred Stock is redeemable in whole or in part at the election of the holders of Series B Preferred Stock. The accretion is considered as a deemed dividend, which increases the carrying value of the Series B Preferred Stock on the Consolidated Balance Sheets and is included within preferred dividends on the Consolidated Statements of Operations. Any redemption must be made out of funds legally available therefor.

In addition to the 10.00% per annum cumulative dividend holders of the Series B Preferred Stock are entitled to receive, upon redemption of the Series B Preferred Stock, such holders are guaranteed a base return on the initial 150,000 shares purchased in an amount equal to (1) \$1,250 per share of Series B Preferred Stock times the number of outstanding shares of Series B Preferred Stock had the Company redeemed the shares prior to the first anniversary of the date of issuance of such share of Series B Preferred Stock; (2) \$1,350 per share of Series B Preferred Stock times the number of outstanding shares of Series B Preferred Stock if the Company redeems the shares on or after the first anniversary and prior to the second anniversary of the date of issuance of such share of Series B Preferred Stock; and (3) on or after the second anniversary of the date of issuance of such share of Series B Preferred Stock, the greater of (x) \$1,500 per share of Series B Preferred Stock and (y) an amount necessary to achieve a 16% internal rate of return (“IRR”) (the “Base Return Amount”) with respect to such shares of Series B Preferred Stock, minus all dividends paid on shares of Series B Preferred Stock, including dividends paid-in-kind, and minus up-front fees incurred at issuance of the Series B Preferred Stock. Since the Series B Preferred Stock can be redeemed by the holders on or after December 8, 2023 and management has no immediate plans to redeem before that date, the Company has accrued a guaranteed return amount in order to achieve the 16% IRR. If the Series B Preferred Stock would have been redeemed on December 31, 2019, the Base Return Amount was approximately \$199.2 million, which was higher than the redemption amount accrued, and will be reduced by subsequent dividend payments.

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In the event of a Change of Control (as defined in the Certificate of Designation of the Series B Preferred Stock, which includes failure to maintain the listing of our Class A Common Stock on a national securities exchange), the Company shall redeem in cash all of the outstanding shares of Series B Preferred Stock, excluding Series B PIK Shares, for a price per share equal to the Base Return Amount and all Series B PIK Shares at the purchase price of \$1,000 per share. On March 23, 2020, the Company received a letter from The Nasdaq Stock Market LLC ("Nasdaq") indicating that for the 30 consecutive business days ending March 20, 2020, the bid price for the Company's common stock had closed below the \$1.00 per share minimum bid price requirement for continued listing on The Nasdaq Capital Market under Nasdaq Listing Rule 5550(a)(2). The Company cannot guarantee that it will be able to maintain listing of its Class A Common Stock, Class A Common Stock Public Units, or Public Warrants on The Nasdaq Capital Market. The Company assessed the Change of Control feature and determined that the redemption of the outstanding shares of Series B Preferred Stock, excluding Series B PIK Shares, for a price per share equal to the Base Return Amount was an embedded derivative that required bifurcation and was accounted for at fair value.

The Company reflected the following activity in mezzanine equity for the Series B Preferred Stock as of December 31, 2019:

	Series B Preferred Shares	Series B Preferred Stock Value	Guaranteed Return	Total
	(In thousands, except share data)			
Total Series B Preferred Stock at December 31, 2017	150,626	\$ 140,158	\$ 710	\$ 140,868
Discount - transaction costs	—	(20)	—	(20)
Return (16% IRR)	—	—	22,092	22,092
Dividends declared and paid or payable in cash	—	—	(9,174)	(9,174)
Dividends declared and paid-in-kind	6,120	6,120	(6,120)	—
Accretion of discount - deemed dividend	—	1,345	—	1,345
Total Series B Preferred Stock at December 31, 2018	156,746	\$ 147,603	\$ 7,508	\$ 155,111
Discount - transaction costs	—	—	—	—
Return (16% IRR)	—	—	22,061	22,061
Dividends declared and paid or payable in cash	—	—	(15,675)	(15,675)
Dividends declared and paid-in-kind	—	—	—	—
Accretion of discount - deemed dividend	—	1,529	—	1,529
Total Series B Preferred Stock at December 31, 2019	156,746	\$ 149,132	\$ 13,894	\$ 163,026

For the quarters ended December 31, 2019, September 30, 2019, June 30, 2019 and March 31, 2019, dividends per share on the Company's Series B Preferred Stock were \$25.21, \$25.21, \$24.93 and \$24.66, respectively, which was the same as the comparative periods in 2018.

Note 13 – Income Taxes

In 2017, the Company became the sole managing member of Rosehill Operating, the Company's accounting predecessor. Rosehill Operating is a limited liability company that is treated as a partnership for U.S. federal income tax purposes and is not generally subject to U.S. federal income tax at the entity level. Any taxable income or loss generated by Rosehill Operating is passed through to and included in the taxable income or loss of its members, including the Company. The Company is a C corporation and is subject to U.S. federal income tax and state and local income taxes.

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The components of income tax expense were as follows for the periods indicated:

	Year Ended December 31,		
	2019	2018	2017
	(In thousands)		
Current:			
State	—	5	—
	—	5	—
Deferred:			
Federal	2,303	15,687	1,537
State	(160)	2,470	153
	2,143	18,157	1,690
Income tax expense	\$ 2,143	\$ 18,162	\$ 1,690

The Company's effective tax rate was 7.7%, 13.3% and 16.5% for the years ended December 31, 2019, 2018 and 2017, respectively. The effective tax rate differs from the enacted statutory rate of 21% for the years ended December 31, 2019 and 2018 and 35% for the year ended December 31, 2017 primarily due to the allocation of profits and losses to Rosehill and the noncontrolling interest holder in accordance with the LLC Agreement and the impact of state income taxes.

The following reconciles the income tax expense included in the consolidated statements of operations with the income tax expense that would result from the application of the statutory federal tax rate:

	Year Ended December 31,		
	2019	2018	2017
	(In thousands)		
Income (Loss) before income taxes	\$ (27,945)	\$ 136,124	\$ (10,258)
Income tax expense (benefit) at federal statutory rate	(5,833)	28,586	(3,590)
Net (income) loss prior to transaction	—	—	(1,545)
Net (income) loss before income taxes attributable to noncontrolling interest	8,108	(12,757)	6,584
State income taxes, net of federal benefit	(160)	2,323	153
Nondeductible expenses	—	—	88
Effect of change in federal statutory rate	—	—	1,941
Change in valuation allowance	—	—	(1,941)
Other	28	10	—
Income tax expense	\$ 2,143	\$ 18,162	\$ 1,690

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The components of the Company's deferred tax balances were as follows for the periods indicated:

	December 31,	
	2019	2018
	(In thousands)	
Deferred tax assets:		
Tax receivable liability	\$ 11,264	\$ —
Investment in Rosehill Operating	17,656	—
Net operating loss and other tax carryforwards	8,717	8,857
Other	89	16
Total deferred tax assets	37,726	8,873
Deferred tax liabilities:		
Investment in Rosehill Operating	—	(15,042)
State deferred tax liability	(1,196)	(3,109)
Total deferred tax liabilities	(1,196)	(18,151)
Net deferred tax assets (liabilities)	\$ 36,530	\$ (9,278)

As of December 31, 2019, the Company had approximately \$31.3 million of U.S. federal net operating loss carryovers, which will begin to expire in 2037. As of December 31, 2019, the Company had approximately \$10.1 million of excess interest expense which will be carried forward indefinitely. The Company periodically assesses whether it is more likely than not that it will generate sufficient taxable income to realize its deferred tax assets, including NOL and excess interest expense carry forwards or carry backs. A valuation allowance for deferred tax assets is recognized when it is more likely than not that some or all of the benefit from the deferred tax assets will not be realized. As of December 31, 2019, the Company had no valuation allowance because the Company believed it was more likely than not that its deferred tax assets would be realized prior to their expiration. Due to the uncertainty of the market and the significant decrease in oil prices that occurred subsequent to December 31, 2019, as detailed in Note 3 - *Subsequent Events and Liquidity*, the Company expects to record a full valuation allowance to offset our net deferred tax assets for the first quarter of 2020.

The Company has evaluated all tax positions for which the statute of limitations remains open and believes that the material positions taken would more likely than not be sustained upon examination. Therefore, as of December 31, 2019, the Company had not established any reserves for, nor recorded any unrecognized benefits related to, uncertain tax positions. The Company's policy is to recognize interest and penalties related to uncertain tax positions in income tax expense.

The Company is subject to the following material taxing jurisdictions: the United States, Texas and New Mexico. As of December 31, 2019, the Company has no current tax years under audit. The Company remains subject to examination for federal income taxes and state income taxes for tax years 2016 to present.

Tax Receivable Agreement

In connection with the Transaction, the Company entered into the Tax Receivable Agreement with the noncontrolling interest holder, Tema. The Tax Receivable Agreement provides that the Company will pay to Tema 90% of the net cash savings, if any, in U.S. federal, state and local income tax that the Company realizes (or is deemed to realize in certain circumstances) in periods beginning with and after the closing of the Transaction as a result of the following: (i) any tax basis increases in the assets of Rosehill Operating resulting from the distribution to Tema of \$35 million in cash, the shares of Class B Common Stock and the issuance of 4,000,000 warrants to Rosehill Operating exercisable for shares of its Class A Common Stock, all in connection with the Transaction, and resulting from the assumption of Tema liabilities in connection with the Transaction, (ii) the tax basis increases in the assets of Rosehill Operating resulting from a redemption by Rosehill Operating with respect to Tema and (iii) imputed interest deemed to be paid by the Company as a result of, and additional tax basis arising from, payments it makes under the Tax Receivable Agreement.

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The estimation of liability under the Tax Receivable Agreement is by its nature imprecise and subject to significant assumptions regarding the amount and timing of future taxable income. The Company is not obligated to make any payments under the Tax Receivable Agreement until the tax benefits associated with the transaction that gave rise to the payment obligation are realized. Amounts payable under the Tax Receivable Agreement are contingent upon, among other things, (i) generation of future taxable income over the term of the Tax Receivable Agreement and (ii) future changes in tax laws. If the Company does not generate sufficient taxable income in the aggregate over the term of the Tax Receivable Agreement to utilize the tax benefits, then the Company would not be required to make the related Tax Receivable Agreement payment.

On December 26, 2019, Tema exercised its right to cause the Company to redeem all or a portion of its Rosehill Operating Common Units, by exchanging 14,100,000 out of its 29,807,692 Rosehill Operating Common Units then outstanding at the time. A liability under the Tax Receivable Agreement relating to such redemption was recorded in the amount of \$50.1 million as of the date of the redemption. This amount is due and payable by the Company if it realizes the tax benefits associated with the redemption. As of December 31, 2019 and 2018, the Company had a Tax Receivable Agreement liability of approximately \$53.8 million and \$3.5 million, respectively. Due to the uncertainty of the market and the significant decrease in oil prices that occurred subsequent to December 31, 2019, as detailed in Note 3 - *Subsequent Events and Liquidity*, the Company expects to adjust the Tax Receivable Agreement liability to zero during the first quarter of 2020 because it will not be probable that it will have sufficient future taxable income to utilize the tax benefits related to the Tax Receivable Agreement liability.

Note 14 – Stockholders’ Equity

The following description summarizes the material terms and provisions of the securities that the Company has authorized. Prior to the Transaction, KLRE was a shell company with no operations, formed as a vehicle to effect a business combination with one or more operating businesses. After the closing of the Transaction, the Company became a holding company whose sole material asset is its interest in Rosehill Operating. The following table summarizes the changes in the outstanding preferred stock, common stock and Class A common warrants exercisable for shares of Class A Common Stock through the date of the Transaction.

	Series A Preferred Stock	Class A Common Stock	Class B Common Stock	Class F Common Stock	Total Shares of Common Stock	Class A Common Stock Warrants
Issued at formation	—	588,276	—	4,312,500	4,900,776	588,276
Issued at IPO	—	7,597,044	—	—	7,597,044	7,597,044
Issued in connection with private placement	—	—	—	—	—	8,408,838
Forfeitures/Cancellation of founder shares	—	—	—	(2,266,170)	(2,266,170)	—
Conversion of founder shares	—	3,475,665	—	(2,046,330)	1,429,335	—
Redemption of Class A shares	—	(5,804,404)	—	—	(5,804,404)	—
Issued to Tema in connection with the Transaction	—	—	29,807,692	—	29,807,692	4,000,000
Preferred stock and warrants issued to PIPE Investors	75,000	—	—	—	—	5,000,000
Preferred stock issued to Sponsor and Rosemore Holdings, Inc.	20,000	—	—	—	—	—
Outstanding at the Transaction date	95,000	5,856,581	29,807,692	—	35,664,273	25,594,158

Class A Common Stock. Holders of the Company’s Class A Common Stock are entitled to one vote for each share held on all matters to be voted on by the stockholders. Holders of the Class A Common Stock and holders of the Class B Common Stock voting together as a single class have the exclusive right to vote for the election of directors and on all other matters properly submitted to a vote of the stockholders.

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On December 26, 2019, Tema redeemed 14,100,000 shares of its Rosehill Operating Common Units for an equivalent number of shares of Class A Common Stock in accordance with the terms of the LLC Agreement. Pursuant to the Tax Receivable Agreement described in Note 13 – *Income Taxes*, the redemption of the Rosehill Operating Common Units in December 2019 created additional Tax Receivable Agreement liability.

On September 27, 2018, the Company entered into an underwriting agreement (the “Underwriting Agreement”) with Citigroup Global Markets Inc., as representative of the several underwriters named therein (the “Underwriters”), for a public offering of 6,150,000 shares of common stock (the “Class A Common Stock Offering”) at a public offering price of \$6.10 per share (\$5.795 per share net of underwriting discount and commissions). Pursuant to the Underwriting Agreement, the Company granted the Underwriters a 30-day option to purchase up to an additional 922,500 shares of Class A Common Stock. On October 2, 2018, upon the closing of the Class A Common Stock Offering, the Company issued 6,150,000 shares of Class A Common Stock. The Company’s net proceeds from the Class A Common Stock Offering, net of underwriting discounts and commissions and offering costs, was \$34.5 million. On October 5, 2018, the Underwriters exercised their option to purchase an additional 840,744 shares of Class A Common Stock at the Underwriters’ price of \$5.795 per share. The Company received net proceeds of approximately \$4.9 million for the shares of Class A Common Stock sold pursuant to the exercise of the Underwriters’ option. The Company contributed all of the net proceeds from the Class A Common Stock Offering and the exercise of the Underwriters’ option to Rosehill Operating in exchange for Rosehill Operating Common Units.

Class B Common Stock. Shares of Class B Common Stock may be issued only to Tema, their respective successors and assignees, as well as any permitted transferees of Tema. A holder of Class B Common Stock may transfer shares of Class B Common Stock to any transferee (other than the Company) only if such holder also simultaneously transfers an equal number of such holder’s Rosehill Operating Common Units to such transferee in compliance with the LLC Agreement. Holders of the Company’s Class B Common Stock will vote together as a single class with holders of the Company’s Class A Common Stock on all matters properly submitted to a vote of the stockholders.

Holders of Class B Common Stock generally have the right to cause the Company to redeem all or a portion of their Rosehill Operating Common Units in exchange for shares of the Company’s Class A Common Stock on a one-to-one basis or, at the Company’s option, an equivalent amount of cash. The Company may, however, at its option, affect a direct exchange of cash or Class A Common Stock for such Rosehill Operating Common Units in lieu of such a redemption. Upon the future redemption or exchange of Rosehill Operating Common Units, a corresponding number of shares of Class B Common Stock will be canceled.

In the Transaction, the Company issued to Rosehill Operating 29,807,692 shares of its Class B Common Stock and 4,000,000 warrants exercisable for shares of its Class A Common Stock in exchange for 4,000,000 warrants exercisable for Rosehill Operating Common Units. Rosehill Operating immediately distributed the warrants and shares of Class B Common Stock to Tema. As noted above, in December 2019, Tema redeemed 14,100,000 shares of its Rosehill Operating Common Units in exchange for an equivalent number of shares of Class A Common Stock. After the exchange, Tema holds 15,707,692 shares of Class B Common Stock.

8% Series A Cumulative Perpetual Convertible Preferred Stock. Each share of Series A Preferred Stock has a liquidation preference of \$1,000 per share and is convertible, at the holder’s option at any time, initially into 86.9565 shares of the Company’s Class A Common Stock (which is equivalent to an initial conversion price of approximately \$11.50 per share of Class A Common Stock), subject to specified adjustments and limitations as set forth in the Certificate of Designation of Series A Preferred Stock (the “Certificate of Designation”). Under certain circumstances, the Company will increase the conversion rate upon a “fundamental change” as described in the Certificate of Designation.

The Company contributed the net proceeds of \$70.8 million from its issuance of 75,000 shares of Series A Preferred Stock and 5,000,000 warrants exercisable for shares of Class A Common Stock to Rosehill Operating. In connection with the issuance of the Series A Preferred Stock, the KLR Energy Sponsor, LLC (“KLR Sponsor”) transferred 476,540 shares of its Class A Common Stock to the PIPE Investors to consummate the Transaction. The net proceeds from the issuance of these shares of Series A Preferred Stock and warrants was attributed to the Series A Preferred Stock, warrants and Class A Common Stock contributed by KLR Sponsor to the PIPE Investors based on the relative fair value of those securities using, among other factors, the closing price of the Class A Common Stock and the closing price of the warrants on April 27, 2017.

Rosemore and KLR Sponsor backstopped redemptions by the public stockholders of the Company once 30% of the outstanding shares of Class A Common Stock were redeemed by purchasing 20,000 shares of Series A Preferred Stock for net proceeds of \$20.0 million pursuant to a side letter entered into between Rosemore, KLR Sponsor and the Company. The Company contributed to Rosehill Operating the net proceeds from the issuance of 20,000 shares of Series A Preferred Stock to Rosemore Holdings, Inc. and KLR Sponsor.

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Future issuances of Series A Preferred Stock resulting from dividends paid-in-kind may, depending on the trading price per share of the Company's Class A Common Stock on the dividend date, contain a beneficial conversion feature determined on the same basis as described above and, thus, result in additional non-cash deemed dividends which will reduce net income attributable to the Company's common stockholders when such paid-in-kind shares of Series A Preferred Stock are granted.

The Company will ratably recognize additional non-cash deemed dividends attributable to the Series A Preferred Stock discount which was created by the issuance of the warrants exercisable for shares of Class A Common Stock and the contribution of the Class A Common Stock, as the Series A Preferred Stock is converted to Class A Common Stock. Such non-cash deemed dividends will reduce net income attributable to Rosehill Resources Inc. common stockholders.

The Company reflected the following in equity for the Series A Preferred Stock for the following periods:

	Year Ended December 31,	
	2019	2018
	(In thousands)	
Liquidation Preference	\$ 105,589	\$ 101,669
Discount	(17,038)	(17,038)
Series A Preferred Stock	<u>\$ 88,551</u>	<u>\$ 84,631</u>

The table below summarizes the Series A Preferred Stock dividends reflected in the Company's Consolidated Statements of Operations:

	Year Ended December 31,		
	2019	2018	2017
	(In thousands)		
Series A Preferred Stock paid-in-kind	\$ 4,141	\$ 3,971	\$ 5,530
Series A Preferred Stock paid or payable in cash	4,033	3,967	38
Series A Preferred Stock dividends	<u>\$ 8,174</u>	<u>\$ 7,938</u>	<u>\$ 5,568</u>
Deemed dividend related to beneficial conversion feature	—	—	6,700
Deemed dividend related to conversion to Class A Common Stock	—	—	668
Series A Preferred Stock dividends and deemed dividends	<u>\$ 8,174</u>	<u>\$ 7,938</u>	<u>\$ 12,936</u>

For the quarters ended December 31, 2019, September 30, 2019, June 30, 2019 and March 31, 2019, dividends per share on the Company's Series A Preferred Stock was \$20.16, \$20.16, \$19.95 and \$19.73, respectively, which was the same as the comparative periods in 2018.

Warrants. Each of the Company's warrants entitles the registered holder to purchase one share of the Company's Class A Common Stock at a price of \$11.50 per share, subject to adjustment pursuant to the terms of the warrant agreement. The warrants have a five-year term which commenced on April 27, 2017, upon the completion of the Transaction, and will expire on April 27, 2022. As of December 31, 2019, there were 25,594,158 warrants exercisable for shares of Class A Common Stock outstanding at a price of \$11.50.

Of the outstanding exercisable warrants, there were 588,276 warrants issued in connection with the formation of the Company, 7,597,044 public warrants (the "Public Warrants") issued in connection with KLRE's initial public offering, 5,000,000 warrants issued to certain qualified institutional buyers and accredited investors in connection with the Transaction, and 4,000,000 warrants issued to Tema in connection with the Transaction. The Company may call the warrants for redemption if the reported last sale price of the Class A Common Stock equals or exceeds \$21.00 per share for any 20 trading days within a 30-trading day period ending on the third trading day prior to the date the Company sends the notice of redemption to the warrant holders.

Of the outstanding warrants exercisable, there were 8,408,838 warrants issued to the Sponsor and EarlyBirdCapital Inc. pursuant to a private placement (the "Private Placement Warrants") in connection with the Company's initial public offering. The Private Placement Warrants are not redeemable by the Company and are exercisable on a cashless basis so long as they are held

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by the initial holders or their permitted transferees. Otherwise, the Private Placement Warrants have terms and provisions that are identical to those of the warrants described above.

Noncontrolling Interest. Noncontrolling interest represents the membership interest in Rosehill Operating held by holders other than the Company. The Company has consolidated the financial position and results of operations of Rosehill Operating and reflected the proportionate interest held by Tema as a noncontrolling interest. The noncontrolling interest will change if warrants are exercised for Class A Common Stock, when shares of Series A Preferred Stock are converted into shares of Class A Common Stock, when shares of Class A Common Stock are issued in connection with the Company's LTIP and if Tema elects to exchange the Class B Common Stock received in connection with the Transaction for shares of Class A Common Stock. At December 31, 2019, Tema held an approximate 35.5% noncontrolling interest in Rosehill Operating. As noted above, in December 2019, Tema redeemed 14,100,000 shares of its Rosehill Operating Common Units in exchange for an equivalent number of shares of Class A Common Stock, which significantly decreased Tema's noncontrolling interest in Rosehill Operating at December 31, 2019.

Note 15 - Stock-Based Compensation

Long-Term Incentive Plan

The LTIP permits the grant of a number of different types of equity, equity-based and cash awards to employees, directors and consultants, including grant options, SARs, restricted stock, restricted stock units, stock awards, dividend equivalents, other stock-based awards, substitute awards, performance awards or any combination of the foregoing, as determined by the Compensation Committee of the Board (the "Compensation Committee"), in its sole discretion. The purpose of the LTIP is to provide a means to attract and retain qualified employees, directors and consultants by affording such individuals a means to acquire and maintain stock ownership or awards, the value of which is tied to the performance of the Company. The LTIP also provides additional incentives and reward opportunities designed to strengthen such individuals' concern for the welfare of the Company and their desire to remain in its employ. At the plan's inception, 7,500,000 shares of Class A Common Stock were reserved for issuance under the LTIP.

The Company has granted restricted stock, restricted stock units and performance share units under the LTIP. Stock-based compensation expense for restricted stock and restricted stock units is recognized on a straight-line basis over the requisite service period for each separately vesting tranche of the award as if the award was, in substance, multiple awards. Stock-based compensation is included in general and administrative expense on the Company's Consolidated Statements of Operations and forfeitures are recognized as they occur. The stock-based compensation expense recognized was \$6.3 million, \$6.5 million and \$1.2 million for the years ended December 31, 2019, 2018 and 2017, respectively. As of December 31, 2019, 4,038,589 shares of Class A Common Stock remained available for issuance under the LTIP, subject to adjustment pursuant to the plan.

Restricted Stock

Restricted stock granted under the LTIP is issued on the grant date, but is restricted as to transferability until vesting. These restricted shares generally vest on the first anniversary of the date of grant. The following table sets forth the restricted stock transactions for the year ended December 31, 2019:

	Restricted Stock	Weighted-Average Grant Date Fair Value
Nonvested - December 31, 2018	246,653	\$ 6.24
Granted	428,984	3.12
Vested	(246,653)	6.24
Forfeited	—	—
Nonvested - December 31, 2019	<u>428,984</u>	<u>\$ 3.12</u>

As of December 31, 2019, there was \$0.3 million of unrecognized compensation cost related to nonvested restricted stock which is expected to be recognized over a weighted-average period of 0.2 years.

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Stock-Settled Time-Based Restricted Stock Units

Stock-settled time-based restricted stock units entitle the holder to receive one share of Class A Common Stock for each restricted stock unit when such restricted stock unit vests. These stock-settled time-based restricted stock units generally vest in three substantially equal installments on the first three anniversaries of the date of grant. The following table sets forth stock-settled time-based restricted stock unit transactions for the year ended December 31, 2019:

	Restricted Stock Units	Weighted-Average Grant Date Fair Value
Nonvested - December 31, 2018	713,558	\$ 8.13
Granted	1,194,624	3.28
Vested	(335,308)	8.41
Forfeited	(212,804)	5.05
Nonvested - December 31, 2019	<u>1,360,070</u>	<u>\$ 4.28</u>

As of December 31, 2019, there was \$3.7 million of unrecognized compensation cost related to nonvested stock-settled time-based restricted stock units which is expected to be recognized over a weighted-average period of 1.8 years.

Market Based Performance Share Units

The Company granted a target number of market based performance share units to certain employees. The market based performance share units will be settled in stock, provided that certain performance criteria are met. The performance criteria applicable to such awards is relative total shareholder return, which measures the Company's total shareholder return as compared to the total shareholder return of the peer group identified by the Compensation Committee. The Company recognizes compensation expense for the performance share units subject to market conditions regardless of whether it becomes probable that these conditions will be achieved or not and compensation expense is not reversed if vesting does not actually occur. The following table sets forth market based performance share unit transactions for the year ended December 31, 2019:

	Performance Restricted Stock Units	Weighted-Average Grant Date Fair Value
Nonvested - December 31, 2018	284,415	\$ 8.99
Granted	845,680	4.17
Vested	—	—
Forfeited	(169,040)	6.49
Nonvested - December 31, 2019	<u>961,055</u>	<u>\$ 5.18</u>

The grant-date fair value was estimated using a Monte Carlo valuation model. The Monte Carlo valuation model is based on random projections of stock price paths and must be repeated numerous times to achieve a probabilistic assessment. Expected volatility was calculated based on the historical volatility of the Class A Common Stock, and the risk-free interest rate is based on U.S. Treasury yield curve rates with maturities consistent with the three-year vesting period. The following weighted-average assumptions were used to value the market based performance awards:

	Year Ended December 31,	
	2019	2018
Expected volatility	68.9%	89.5%
Risk-free interest rate	2.2%	2.4%
Dividend yield	—%	—%
Expected life (years)	2.49	2.77

As of December 31, 2019, there was \$2.9 million of unrecognized compensation cost related to shares of market based performance units which is expected to be recognized over a weighted average period of 1.6 years.

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Cash-Settled Time-Based Restricted Stock Units

The Company grants cash-settled time-based restricted stock units to certain employees. Cash-settled time-based restricted stock units entitle the holder to receive the cash equivalent of one share of Class A Common Stock for each restricted stock unit when such restricted stock unit vests. These cash-settled time-based restricted stock units generally vest in three substantially equal installments on the first three anniversaries of the date of grant. Cash-settled time-based restricted stock units are classified as liabilities and are remeasured at each reporting date until settled. The stock-based compensation expense for cash-settled time-based restricted stock units is recognized on a straight-line basis over the requisite service period for each separately vesting tranche of the award as if the award was, in substance, multiple awards. The following table sets forth cash-settled restricted stock unit transactions for the year ended December 31, 2019:

	Cash-Settled Restricted Stock Units	Weighted-Average Grant Date Fair Value
Nonvested - December 31, 2018	78,224	\$ 6.63
Granted	409,390	3.12
Vested	(28,123)	6.63
Forfeited	(46,570)	3.75
Nonvested - December 31, 2019	<u>412,921</u>	<u>\$ 3.47</u>

As of December 31, 2019, the Company had a liability for cash-settled time-based restricted stock units of \$0.2 million based on a closing price of \$1.28 on December 31, 2019. As of December 31, 2019, there was \$0.4 million of unrecognized compensation cost related to shares of cash-settled time-based restricted stock units which is expected to be recognized over a weighted average period of 2.1 years.

Retirement Benefits

The Company has not maintained, and does not currently maintain, a defined benefit pension plan or nonqualified deferred compensation plan. The Company currently maintains a retirement plan pursuant to which employees are permitted to contribute portions of their base compensation to a tax-qualified retirement account. For the periods ending on and before December 31, 2018, the Company provided matching contributions equal to 100% of elective deferrals up to 3% of eligible compensation and 50% of elective deferrals from 3% to a maximum of 5% of eligible compensation, subject to the applicable contributions limits. Beginning on January 1, 2019, the Company changed its matching contributions to 100% of elective deferrals up to 6% of eligible compensation. Matching contributions are immediately fully vested. The Company's matching contributions under the plan totaled \$0.7 million, \$0.3 million and \$0.1 million for the years ended December 31, 2019, 2018 and 2017, respectively.

Note 16 – Transactions with Related Parties

The Company is not entitled to compensation for its services as managing member of Rosehill Operating. The Company is entitled to reimbursement by Rosehill Operating for any costs, fees or expenses incurred on behalf of Rosehill Operating (including costs of securities offerings not borne directly by members, board of directors' compensation and meeting costs, cost of periodic reports to its stockholders, litigation costs and damages arising from litigation, accounting and legal costs); provided that the Company will not be reimbursed for any of its income tax obligations.

Rosemore. Rosemore provided employee benefits and other administrative services to Rosehill Operating for a portion of the year ended December 31, 2017. During the year ended December 31, 2017, Rosehill Operating incurred approximately \$9.6 million of costs related to these services. Amounts incurred for employee benefits and other administrative services provided to Rosehill Operating by Rosemore prior to the Transaction were allocated to the Consolidated Statements of Operations as part of the carve-out financial statements – see "Cost Allocations" below. The costs incurred by Rosehill Operating subsequent to the Transaction were billed to Rosehill Operating via the Transition Services Agreement (discussed under *Transition Service Agreement* below).

Transition Service Agreement. On April 27, 2017 in connection with the closing of the Transaction, the Company entered into a Transition Service Agreement ("TSA") with Tema to provide certain services to each other following the closing of the Transaction. Pursuant to the terms, the Company agreed to provide to Tema (i) operation services for the assets excluded from the Transaction, (ii) divestment assistance and (iii) office space to Gateway Gathering and Marketing ("Gateway"). Tema agreed to provide to the

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Company (i) human resources and benefits administration, (ii) information technology and telecommunications, (iii) general business insurance and (iv) legal services. The TSA terminated on October 27, 2018. Rosehill Operating did not earn significant fees for services provided to Tema under the the TSA for the year ended December 31, 2018 and during the year ended December 31, 2017, the Company earned approximately \$0.8 million related to services provided to Tema under the TSA. The fees billed to Rosehill Operating under this TSA by Tema related to the services provided to Rosehill Operating by Rosemore (discussed under *Rosemore*).

Transaction expenses. Under the terms of the Transaction, the Company reimbursed Tema and Rosemore \$1.6 million and \$2.4 million, respectively, on April 27, 2017, for costs incurred in connection with the Transaction.

Gateway Gathering and Marketing - Revenues. Gateway is a subsidiary of Rosemore. A portion of Rosehill Operating's oil production was sold to Gateway during the years ended December 31, 2018 and 2017. Gateway's final purchase of Rosehill Operating's oil production was September 30, 2018. For the years ended December 31, 2018 and 2017, revenues from production sold to Gateway were approximately \$181.2 million and \$61.3 million, respectively. There was no revenue receivable due from Gateway as of December 31, 2018.

Gateway Gathering and Marketing - Crude oil gathering and transportation. Rosehill Operating had a Crude Oil Gathering Agreement with Gateway for a portion of its oil production. Although after September 30, 2018 Gateway was no longer the purchaser of the oil production it was transporting, Gateway continued to provide transportation services to Rosehill Operating under the Crude Oil Gathering Agreement to transport Rosehill Operating's oil production to its sales point. Effective with the May 2019 production, Rosehill Operating's oil production continued being transported by Gateway, but the Crude Oil Gathering Agreement between Rosehill Operating and Gateway was amended to allow the Company to sell its oil production to third-parties at the lease. For the year ended December 31, 2019, the Company incurred approximately \$0.8 million of transportation costs under the Crude Oil Gathering Agreement. For the year ended December 31, 2018, the majority of the costs incurred under the Crude Oil Gathering Agreement were netted against the revenues received from Gateway and for the year ended December 31, 2017, all the costs incurred under the Crude Oil Gathering Agreement were netted against revenues received from Gateway due to Gateway being the purchaser of the oil production as well as the transporter. Costs incurred for the year ended December 31, 2018 under the Crude Oil Gathering Agreement that was not netted against the revenues received from Gateway were \$0.6 million, of which \$0.3 million was payable due to Gateway as of December 31, 2018.

Gateway Gathering and Marketing - Natural gas gathering and transportation. Rosehill Operating has a Gas Gathering Agreement with Gateway for a portion of its liquids-rich natural gas production. Costs incurred under the Gas Gathering Agreement with Gateway for the years ended December 31, 2019, 2018 and 2017, were approximately \$5.9 million, \$3.3 million and \$1.1 million, respectively. As of December 31, 2019 and 2018, there was no amount in Accounts payable due to Gateway related to the Gas Gathering Agreement. As of December 31, 2019, there was approximately \$0.6 million in Accrued liabilities and other related to the Gas Gathering Agreement.

Gateway Gathering and Marketing - Marketing Consultant. In 2018, Rosehill Operating entered into a Crude Oil Marketing Consulting Agreement with Gateway to, among other things, develop marketing strategies aimed at increasing realized prices from the sale of Rosehill Operating's production. The Crude Oil Marketing Consulting Agreement was terminated in February 2019. For the years ended December 31, 2019 and 2018, the Company incurred costs of less than \$0.1 million and \$0.1 million, respectively, related to the Crude Oil Marketing Consulting Agreement.

KLR Sponsor. In October 2018, Rosehill Operating entered into a Water Purchase Agreement with Seawolf Water Resources, LP ("Seawolf"), an affiliate of KLR Sponsor, to purchase water from Seawolf's water wells for use in well completion operations. For the years ended December 31, 2019 and 2018, Rosehill Operating incurred costs of \$2.9 million and \$1.2 million, respectively, related to this agreement. As of December 31, 2019 there was \$0.2 million in Accounts payable due to Seawolf and at December 31, 2018 there was \$0.6 million included in Accrued capital expenditures due to Seawolf.

In September 2017, the Company entered into an advisory agreement with KLR Group (the "Advisory Agreement"), an affiliate of KLR Sponsor, to pay a cash fee in an amount equal to 2.5% of the aggregate funds committed to finance the White Wolf Acquisition. The Company received a commitment of \$200 million under the Series B Preferred Stock Agreement and \$100 million under the Second Lien Notes to fund the White Wolf Acquisition. The Company paid an advisory fee of \$7.5 million to KLR Group.

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Distributions. The LLC Agreement requires Rosehill Operating to make a corresponding cash distribution to the Company at any time a dividend is to be paid by the Company to the holders of its Series A Preferred Stock and Series B Preferred Stock. The LLC Agreement allows for distributions to be made by Rosehill Operating to its members on a pro rata basis in accordance with the number of Rosehill Operating Common Units owned by each member out of funds legally available therefor. The Company expects Rosehill Operating may make distributions out of distributable cash periodically to the extent permitted by the Amended and Restated Credit Agreement as necessary to enable the Company to cover its operating expenses and other obligations, as well as to make dividend payments, if any, to the holders of its Class A Common Stock. In addition, the LLC Agreement generally requires Rosehill Operating to make (i) pro rata distributions (in accordance with the number of Rosehill Operating Common Units owned by each member) to its members, including the Company, in an amount at least sufficient to allow the Company to pay its taxes and satisfy its obligations under the Tax Receivable Agreement and (ii) tax advances, which will be repaid upon a redemption, in an amount sufficient to allow each of the members of Rosehill Operating to pay its respective taxes on such holder's allocable share of Rosehill Operating's taxable income after taking into account certain other distributions or payments received by the unitholder from Rosehill Operating or the Company.

Cost Allocations. For periods prior to the Transaction, Tema allocated certain overhead costs associated with general and administrative services, including insurance, professional fees, facilities, information services, human resources and other support departments related to Rosehill Operating. Also included in the cost allocations are costs associated with employees covered under Rosemore's defined benefit plan and long-term incentive compensation plan. Employees of Rosehill Operating no longer participate in either employee benefit plan. Overhead costs allocated were \$1.5 million for the year ended December 31, 2017. There were no overhead costs allocated subsequent to the Transaction. Where costs incurred related to Rosehill Operating's assets in the periods prior to the Transaction could not be determined by specific identification, the costs were primarily allocated proportionately on a Boe basis. Management believes the allocations are a reasonable reflection of the utilization of services provided. However, the allocations may not fully reflect the expense that would have been incurred had Rosehill Operating's assets been a stand-alone company during the 2017 period presented.

Note 17 – Commitments and Contingencies

Commitments

Leases and Other Commitments

The following is a schedule of the Company's future minimum lease payments with commitments that have initial or remaining lease terms in excess of one year as of December 31, 2019:

	2020	2021	2022	2023	2024	Thereafter	Total
	(In thousands)						
Operating lease obligations	\$ 2,495	\$ 1,465	\$ 544	\$ —	\$ —	\$ —	\$ 4,504
Water disposal agreement	1,436	1,462	1,487	1,513	1,540	6,436	13,874
Total	\$ 3,931	\$ 2,927	\$ 2,031	\$ 1,513	\$ 1,540	\$ 6,436	\$ 18,378

Operating lease obligations. The Company's operating leases primarily relates to office space in Houston, Texas and Midland, Texas and also includes corporate apartment, compressor, and generator rentals. The Company recognized office rent expense of \$1.3 million, \$1.2 million and \$1.0 million for the years ended December 31, 2019, 2018 and 2017, respectively. The Company recognizes rent expense on a straight-line basis over the noncancelable lease term. The leases for office space in Houston, Texas and Midland, Texas expire in June 2022 and December 2020, respectively. The lease terms for equipment generally range from 1 to 2 years.

Water disposal agreement. In 2019, the Company commenced a water disposal agreement for transportation and disposal of produced water from some of its southern operated wells. Under the terms of this agreement, the Company is obligated to provide a minimum volume of produced water or else pay for any deficiencies at the prices stipulated in the contract. The Company did not have any deficiencies as of December 31, 2019. The obligations reported above represent the minimum financial commitments pursuant to the terms of the contracts as of December 31, 2019. Actual expenditures under these contracts may exceed the minimum commitments presented above. The Company incurred water disposal costs of \$0.9 million for the year ended December 31, 2019 related to its water disposal agreement.

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Rosehill Operating Common Unit Redemption Right. The LLC Agreement provides Tema with a redemption right, which entitles Tema to cause Rosehill Operating to redeem, from time to time, all or a portion of its Rosehill Operating Common Units (and a corresponding number of shares of Class B Common Stock) for, at Rosehill Operating's option, newly issued shares of Class A Common Stock on a one-for-one basis or a cash payment equal to the average of the volume-weighted closing price of one share of Class A Common Stock for the twenty trading days prior to the date Tema delivers a notice of redemption for each Rosehill Operating Common Units redeemed (subject to customary adjustments, including for stock splits, stock dividends and reclassifications). In the event of a reclassification event (as defined in the LLC Agreement), the Company as managing member is required to ensure that each Rosehill Operating Common Unit (and a corresponding share of Class B Common Stock) is redeemable for the same amount and type of property, securities or cash that a share of Class A Common Stock becomes exchangeable for or converted into as a result of such reclassification event. Upon the exercise of the redemption right, Tema will surrender its Rosehill Operating Common Units (and a corresponding number of shares of Class B Common Stock) to Rosehill Operating and (i) Rosehill Operating shall cancel such Rosehill Operating Common Units and issue to the Company a number of Rosehill Operating Common Units equal to the number of surrendered Rosehill Operating Common Units and (ii) the Company shall cancel the surrendered shares of Class B Common Stock. The LLC Agreement requires that the Company contribute cash or shares of Class A Common Stock to Rosehill Operating in exchange for the issuance to the Company described in clause (i). Rosehill Operating will then distribute such cash or shares of Class A Common Stock to Tema to complete the redemption. Upon the exercise of the redemption right, the Company may, at its option, affect a direct exchange of cash or its Class A Common Stock for such Rosehill Operating Common Units in lieu of such a redemption.

Maintenance of One-to-One Ratios. The LLC Agreement includes provisions intended to ensure that the Company at all times maintains a one-to-one ratio between (a) (i) the number of outstanding shares of Class A Common Stock and (ii) the number of Rosehill Operating Common Units owned by the Company (subject to certain exceptions for certain rights to purchase equity securities of the Company under a "poison pill" or similar shareholder rights plan, if any, certain convertible or exchangeable securities issued under the Company's equity compensation plans and certain equity securities issued pursuant to the Company's equity compensation plans (other than a stock option plan) that are restricted or have not vested thereunder) and (b) (i) the number of other outstanding equity securities of the Company (including the Series A Preferred Stock and the warrants exercisable for shares of Class A Common Stock) and (ii) the number of corresponding outstanding equity securities of Rosehill Operating. These provisions are intended to result in Tema having a voting interest in the Company that is identical to Tema's economic interest in Rosehill Operating.

Pecos County, Texas Farm-in Agreement. On February 27, 2019, Rosehill entered into a farm-in agreement that would allow it to earn approximately 2,200 net acres contiguous to its core areas in the Southern Delaware Basin subject to its obligations to drill and complete up to seven wells through 2020 and to carry 25% of the drilling and completion costs for each of the seven wells and the costs of facilities and equipment and subject to the Company's ability to obtain certain lease modifications. As of December 31, 2019, the Company had drilled and completed two wells, which earned the Company 935 net acres. If the Company fails to drill and complete any of the remaining wells or obtain certain lease modifications, the Company will be required to reassign the net acres associated with those remaining wells back to its partner in the farm-in agreement or pay liquidated damages. On March 23, 2020, the Company provided notice to its partner that it intended to reassign the net acres associated with those remaining wells back to the partner.

Contingencies

Legal. In the ordinary course of business, the Company is party to various legal actions, which arise primarily from its activities as operator of oil and natural gas wells. In management's opinion, the outcome of any such currently pending legal actions will not have a material adverse effect on the Company's financial position or results of operations. There is no material litigation, arbitration or governmental proceeding currently pending against the Company or any members of its management team in their capacity as such requiring a contingent liability to be recognized as of the date of the consolidated financial statements.

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Note 18— Revenue from Contracts with Customers

The Company recognizes oil, natural gas and NGL revenue at the point in time when control of the product transfers to the customer, which differs depending on the contractual terms of each of the Company's arrangements. Transfer of control drives the presentation of gathering, transportation, processing and other post-production expenses ("gathering and transportation expense") within the Company's Consolidated Statements of Operations. In these scenarios below, the Company evaluates whether it is the principal or the agent in the transaction and the analysis includes considerations of product redelivery, take-in-kind rights and risk of loss. For those contracts where the Company has concluded that control of the product transfers at the tailgate of the plant, meaning that the Company is the principal and the ultimate third party purchaser is its customer, the Company recognizes revenue on a gross basis, with transportation, processing and gathering expenses presented within the Gathering and transportation line item on the Company's Consolidated Statements of Operations. Alternatively, for those contracts where the Company has concluded control of the product transfers at or near the wellhead or inlet of the plant, meaning that the Company is the agent and the midstream processing company is the Company's customer, the Company recognizes natural gas and NGL revenues based on the net amount of proceeds received from the midstream processing company. The Company has the following categories under which oil, natural gas and NGL revenue is generated:

- The Company sells its crude oil and condensate production at the wellhead or further downstream at a contractually-specified delivery point. Revenue is recognized when control transfers to the customer based on contract terms, which reflects an agreed-upon index price, net of basis, quality and transportation differentials. Gathering and transportation fees incurred prior to control transfer are recorded within the Gathering and transportation line item on the Company's Consolidated Statements of Operations, while gathering and transportation fees incurred subsequent to control transfer are recorded as a reduction of oil revenues.
- The Company sells its liquids rich natural gas to a midstream processor at or near the wellhead. The midstream processor gathers and processes the liquids rich natural gas and remits the proceeds to the Company from the ultimate sale of the residue gas and NGLs to third parties. In such arrangements, the midstream processor obtains control of the product at the wellhead and is considered the customer. Proceeds received for the residue gas and NGLs from the midstream processor are reflected as natural gas and NGL revenue, respectively, and are recorded net of processing, gathering and transportation fees incurred by the midstream processor after control has transferred.
- The Company sells its liquids rich natural gas to a midstream processor at the inlet to the midstream processing facility. The midstream processor gathers and processes the liquids rich natural gas and remits the proceeds to the Company from the ultimate sale of the residue gas and NGLs to third parties. In such arrangements, the midstream processor obtains control of the product at the inlet to the processing facility and is considered the customer. Gathering and transportation fees incurred by the Company to deliver its liquids rich natural gas to the inlet of the facility occurs prior to the transfer of control to the customer and are recognized within the Gathering and transportation line item on the Company's Consolidated Statements of Operations. Proceeds received for the residue gas and NGLs from the midstream processor are reflected as natural gas and NGL revenue, respectively, and are recorded net of processing, gathering and transportation fees incurred by the midstream processor after control has transferred.
- The Company has the option in certain midstream processing arrangements where liquids rich natural gas is delivered to the midstream processing facility, the midstream processor gathers and processes the liquids rich natural gas and then the processed residue gas and NGLs are redelivered to the Company in-kind at the tailgate of the processing facility. The Company sells its in-kind residue gas and NGLs to its customer at the tailgate of the processing facility. Gathering and transportation fees incurred prior to transfer of control at the tailgate of the processing facility are recognized within the Gathering, processing and transportation line item on the Company's Consolidated Statements of Operations. Proceeds received for the residue gas and NGLs from the customer are reflected as natural gas and NGL revenue, respectively, and are recorded net of gathering and transportation fees incurred by the customer after control has transferred.

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The implementation of ASC 606 resulted in changes to the presentation of Revenues and Gathering and transportation on the Company's Consolidated Statements of Operations, but it did not have any impact to net income (loss) or cash flows from operations. The impacts of the adoption of ASU 2014-09 for the year ended December 31, 2019, were as follows:

	Year Ended December 31, 2019		
	As Reported	Amounts Without Adoption of ASU 2014-09	Effect of Change
	(In thousands)		
Revenues:			
Oil sales	\$ 286,710	\$ 285,894	\$ 816
Natural gas sales	2,489	4,640	(2,151)
Natural gas liquids sales	13,084	14,202	(1,118)
Total revenues	\$ 302,283	\$ 304,736	\$ (2,453)
Operating expenses:			
Gathering and transportation	\$ 5,756	\$ 8,209	\$ (2,453)

Performance obligations

The Company's contractual performance obligations arise upon the production of hydrocarbons from wells in which the Company has an ownership interest. The performance obligations are considered satisfied upon control transferring to a customer at the wellhead, inlet, or tailgate of the midstream processor's processing facility, or other contractually specified delivery point. For all commodity products, the Company records revenue in the month production is delivered to the customer. Settlement statements for certain natural gas and NGL sales may not be received for 30 to 90 days after the date production volumes are delivered and for oil, generally within 30 days after delivery has occurred. However, payment is unconditional once the performance obligations have been satisfied. At this time, the volume and price can be reasonably estimated and amounts due from customers are accrued in Accounts receivable, net in the Consolidated Balance Sheets. As of December 31, 2019 and 2018, such receivable balances were \$34.5 million and \$28.9 million, respectively, as disclosed in Note 5 -Accounts Receivable.

The Company records any differences between its estimates and the actual amounts received for product sales in the month that payment is received from the purchaser. Historically, any identified differences between revenue estimates and actual revenue received have not been significant. For the year ended December 31, 2019, revenue recognized in the reporting period related to performance obligations satisfied in prior reporting periods was not material.

Transaction price allocated to remaining performance obligations

For the Company's product sales that have a contract term greater than one year, the Company has utilized the practical expedient in ASC Topic 606 which states the Company is not required to disclose the transaction price allocated to the remaining performance obligations if the variable consideration is allocated entirely to a wholly unsatisfied performance obligation. Under these sales contracts, monthly sales of a product generally represent a separate performance obligation; therefore, future commodity volumes to be delivered and sold are wholly unsatisfied and disclosure of the transaction price allocated to such unsatisfied performance obligations is not required.

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Major customers

The table below presents percentages by purchaser that accounted for 10% or more of our total oil, natural gas and NGL sales for each year as presented:

	Year Ended December 31,		
	2019	2018	2017
Customer			
Major customer #1	63%	17%	—%
Major customer #2	19	13	—
Major customer #3	12	—	—
Major customer #4	—	60	80
Major customer #5	—	—	10
Other	6	10	10
Total	<u>100%</u>	<u>100%</u>	<u>100%</u>

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Supplemental Oil and Natural Gas Disclosures (Unaudited)

The Company's oil and natural gas reserves are attributable solely to properties within the United States.

Capitalized Costs

The aggregate amount of capitalized costs relating to the Company's oil and natural gas producing activities and the aggregate related accumulated DD&A as of December 31, 2019 and 2018 are disclosed in Note 8 - *Property and equipment, net*, in Part II, Item 8 of this Annual Report on Form 10-K.

Costs Incurred for Oil and Natural Gas Producing Activities

The following table sets forth the costs incurred in the Company's oil and gas acquisition, exploration and development activities and includes costs whether capitalized or expensed as well as revisions and additions to the estimated future asset retirement obligation:

	Year Ended December 31,		
	2019	2018	2017
	(In thousands)		
Property acquisition costs:			
Proved properties	\$ —	\$ 1,619	\$ 6,500
Unproved properties	1,178	14,993	121,207
Total property acquisition costs	1,178	16,612	127,707
Exploration costs	41,000	142,691	96,547
Development costs	210,964	220,981	126,563
Total costs incurred	\$ 253,142	\$ 380,284	\$ 350,817

Results of Oil and Natural Gas Producing Activities

Oil and natural gas producing activities represent substantially all of the Company's activities and all of its activities are located in the Permian Basin.

Reserve Quantity Information

The following information represents estimates of the Company's proved reserves as of December 31, 2019, which have been prepared and presented under SEC rules. These rules require SEC reporting companies to prepare their reserve estimates using specified reserve definitions and pricing based on a 12-month unweighted average of the first-day-of-the-month pricing. The pricing that was used for estimates of the Company's reserves was based on an unweighted average 12-month WTI posted price per Bbl for oil and Henry Hub spot natural gas price per Mcf for natural gas for the years ended December 31, 2019, 2018 and 2017. The NGL price was based on, 25% to 37%, depending on the property, of the unweighted average 12-month WTI posted price per Bbl for oil for the year ended December 31, 2019 and 2018 and an unweighted average 12-month Mont Belvieu posted price per Bbl for NGLs for the year ended December 31, 2017, as set forth in the following table:

	Year Ended December 31,		
	2019	2018	2017
Oil (per Bbl)	\$ 55.85	\$ 65.56	\$ 51.34
Natural gas (per Mcf)	\$ 2.58	\$ 3.10	\$ 2.98
NGLs (per Bbl)	\$ 15.75	\$ 23.02	\$ 31.82

Subject to limited exceptions, proved undeveloped reserves may only be booked if they relate to wells scheduled to be drilled within five years of the date of booking. This requirement has limited and may continue to limit, the Company's potential to record additional proved undeveloped reserves as it pursues its drilling program. Moreover, the Company may be required to write down its proved undeveloped reserves if it does not drill on those reserves with the required five-year timeframe. The Company does not have any proved undeveloped reserves which have remained undeveloped for five years or more.

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Oil and natural gas reserve quantity estimates are subject to numerous uncertainties inherent in the estimation of quantities of proved reserves and in the projection of future rates of production and the timing of development expenditures. The accuracy of such estimates is a function of the quality of available data and of engineering and geological interpretation and judgment. Results of subsequent drilling, testing and production may cause either upward or downward revision of previous estimates.

Further, the volumes considered to be commercially recoverable fluctuate with changes in prices and operating costs. The Company emphasizes that reserve estimates are inherently imprecise and that estimates of new discoveries are more imprecise than those of currently producing oil and natural gas properties. Accordingly, these estimates are expected to change as additional information becomes available in the future.

The following tables provide a roll forward of the total proved reserves for the years ended December 31, 2019, 2018 and 2017, as well as proved developed and proved undeveloped reserves at the beginning and end of each respective year:

	Crude Oil (MBbls)	Natural Gas (MMcf)	NGLs (MBbls)	MBoe
Total proved reserves:				
Balance - December 31, 2016	7,356	17,355	2,985	13,234
Extensions and discoveries	10,011	15,652	2,537	15,157
Revisions of previous estimates	1,970	10,915	1,347	5,136
Purchases of reserves in place	386	1,112	163	734
Divestitures of reserves in place	(16)	(3,009)	(482)	(1,000)
Production	(1,271)	(2,709)	(408)	(2,131)
Balance - December 31, 2017	18,436	39,316	6,142	31,131
Extensions and discoveries	18,131	21,087	3,781	25,427
Revisions of previous estimates	1,504	(10,589)	(1,240)	(1,501)
Purchases of reserves in place	—	—	—	—
Divestitures of reserves in place	—	—	—	—
Production	(4,913)	(5,231)	(908)	(6,693)
Balance - December 31, 2018	33,158	44,583	7,775	48,364
Extensions and discoveries	12,245	21,145	3,818	19,587
Revisions of previous estimates	1,513	5,317	973	3,372
Purchases of reserves in place	—	—	—	—
Divestitures of reserves in place	(789)	(533)	(95)	(973)
Production	(5,411)	(6,352)	(1,117)	(7,587)
Balance - December 31, 2019	40,716	64,160	11,354	62,763
Proved developed reserves:				
December 31, 2015	2,698	10,116	1,481	5,865
December 31, 2016	3,068	10,574	1,802	6,632
December 31, 2017	8,814	14,171	2,285	13,461
December 31, 2018	18,464	26,194	4,477	27,307
December 31, 2019	23,967	36,643	6,301	36,375
Proved undeveloped reserves:				
December 31, 2015	2,954	3,783	513	4,098
December 31, 2016	4,288	6,781	1,183	6,601
December 31, 2017	9,622	25,145	3,857	17,670
December 31, 2018	14,694	18,388	3,298	21,057
December 31, 2019	16,749	27,517	5,053	26,388

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Notable changes in proved reserves for the year ended December 31, 2019 included the following:

- *Extensions and discoveries.* During the period, 19,587 MBoe of proved reserves were added as a result of drilling activity primarily in the Wolfcamp and Bone Spring formations in Loving County within the Northern Delaware Basin.
- *Revisions of previous estimates.* During the period, a net 3,372 MBoe of proved reserves were added primarily related to well performance revisions partially offset by negative revisions due to lower commodity prices.

Notable changes in proved reserves for the year ended December 31, 2018 included the following:

- *Extensions and discoveries.* During the period, 25,427 MBoe of proved reserves were added as a result of drilling activity primarily in the Wolfcamp and Bone Spring formations in Loving County within the Northern Delaware Basin.
- *Revisions of previous estimates.* During the period, 1,501 MBoe of proved reserves were deducted primarily due to PUD demotions partially offset by improved economics used in the reserve report.

Notable changes in proved reserves for the year ended December 31, 2017 included the following:

- *Extensions and discoveries.* During the period, 15,157 MBoe of proved reserves were added as a result of drilling activity primarily in the Wolfcamp and Avalon formations in Loving County within the Northern Delaware Basin.
- *Revisions of previous estimates.* During the period, 5,137 MBoe of proved reserves were added primarily due to an increase in oil, natural gas and NGL prices and performance improvement.
- *Purchases of reserves in place.* During the period, 734 MBoe of purchased proved reserves relates to the purchase of additional working interest in various operated wells and leasehold interest in Loving County, Texas. See Note 8 - *Property and Equipment* for more discussion.
- *Divestitures of reserves in place.* During the period, 1,000 MBoe of divested proved reserves relates to the sale of the Barnett Shale assets. See Note 8 - *Property and Equipment* for more discussion.

Standardized Measure of Discounted Future Net Cash Flows

The standardized measure of discounted future net cash flows does not purport to be, nor should it be interpreted to present, the fair value of the oil and natural gas reserves of the property. An estimate of fair value would take into account, among other things, the recovery of reserves not presently classified as proved, the value of unproved properties and consideration of expected future economic and operating conditions.

The estimates of future cash flows and future production and development costs as of December 31, 2019, 2018 and 2017 are based on the unweighted arithmetic average first-day-of-the-month price for the preceding 12-month period. Estimated future production of proved reserves and estimated future production and development costs of proved reserves are based on current costs and economic conditions. All wellhead prices are held flat over the forecast period for all reserve categories. The estimated future net cash flows are then discounted at a rate of 10%.

The standardized measure of discounted future net cash flows relating to proved oil, natural gas and NGLs reserves as of December 31, 2019, 2018 and 2017 is as follows:

	December 31,		
	2019	2018	2017
	(In thousands)		
Future cash inflows	\$ 2,297,333	\$ 2,154,058	\$ 1,125,928
Future production costs	(703,357)	(620,801)	(404,934)
Future development and net abandonment costs	(291,117)	(291,542)	(193,073)
Future net inflows before income tax expenses	1,302,859	1,241,715	527,921
Future income tax expenses (1)	(122,880)	(78,166)	(25,362)
Future net cash flows	1,179,979	1,163,549	502,559
10% discount to reflect timing of cash flows	(513,272)	(468,369)	(152,494)
Standardized measure of discounted future net cash flows	\$ 666,707	\$ 695,180	\$ 350,065

- (1) Future income tax expense at December 31, 2019, 2018 and 2017 is attributable to Texas margin tax, the Company's ownership interest in Rosehill Operating and the 21% U.S. federal corporate income tax rate.

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In the foregoing determination of future cash inflows, the pricing that was used for oil was based on an unweighted average 12-month WTI posted price per Bbl for oil and Henry Hub spot natural gas price per Mcf for natural gas for the years ended December 31, 2019, 2018 and 2017. The NGL price was based on, 25% to 37%, depending on the property, of the unweighted average 12-month WTI posted price per Bbl for oil for the year ended December 31, 2019 and 2018 and an unweighted average 12-month Mont Belvieu posted price per Bbl for NGLs for the year ended December 31, 2017. Prices were adjusted by lease for quality, transportation fees and regional price differentials. Future costs of developing and producing the proved gas and oil reserves reported at the end of each year shown were based on costs determined at each such year-end, assuming the continuation of existing economic conditions.

It is not intended that the FASB's standardized measure of discounted future net cash flows represent the fair market value of The Company's proved reserves. The Company cautions that the disclosures shown are based on estimates of proved reserve quantities and future production schedules which are inherently imprecise and subject to revision and the 10% discount rate is arbitrary. In addition, costs and prices as of the measurement date are used in the determinations and no value may be assigned to probable or possible reserves.

Changes in the standardized measure of discounted future net cash flows relating to proved oil, natural gas and NGLs reserves are as follows:

	December 31,		
	2019	2018	2017
	(In thousands)		
Standardized measure at the beginning of the period	\$ 695,180	\$ 350,065	\$ 80,063
Sales and transfers of oil and natural gas produced	(241,746)	(243,419)	(58,845)
Net change in prices and production costs	(134,943)	153,342	54,374
Net change due to purchases and sales of reserves in place	(11,289)	—	858
Net change due to extensions, discoveries, and improved recovery	190,450	361,696	222,590
Net change in estimated future development cost	17,833	10,244	(1,334)
Net change due to revisions in quantity estimates	45,849	46,250	13,080
Previously estimated development costs incurred during the year	95,720	57,853	26,710
Accretion of discount	74,256	36,787	8,122
Net change in income taxes	(23,024)	(29,574)	(16,649)
Changes in production rates, timing and other	(41,579)	(48,064)	21,096
Aggregate change	(28,473)	345,115	270,002
Standardized measure at the end of period	\$ 666,707	\$ 695,180	\$ 350,065

Supplemental Quarterly Financial Data (Unaudited)

The following presents selected unaudited annual financial data for 2019 and 2018:

	2019			
	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter
	(In thousands, except per share data)			
Revenues	\$ 71,860	\$ 69,383	\$ 76,259	\$ 84,781
Operating expenses	62,517	44,742	60,800	70,943
Operating income (loss)	9,343	24,641	15,459	13,838
Net income (loss)	(104,072)	45,522	55,108	(26,646)
Net income (loss) attributable to noncontrolling interest	(73,909)	26,444	26,185	(17,223)
Series A and Series B Preferred stock dividends	7,814	7,890	8,003	8,057
Net income (loss) attributable to Rosehill Resources Inc. common stockholders	\$ (37,977)	\$ 11,188	\$ 20,920	\$ (17,480)
Earnings (loss) per Basic common share	\$ (2.75)	\$ 0.78	\$ 1.45	\$ (1.15)
Earnings (loss) per Diluted common share	\$ (2.75)	\$ 0.54	\$ 0.88	\$ (1.15)

ROSEHILL RESOURCES INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

	2018			
	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter
	(In thousands, except per share data)			
Revenues	\$ 55,786	\$ 80,527	\$ 82,557	\$ 83,005
Operating expenses	40,712	62,747	71,754	60,399
Operating income (loss)	15,074	17,780	10,803	22,606
Net income (loss)	(7,756)	8,664	(84,890)	201,944
Net income (loss) attributable to noncontrolling interest	(14,076)	(8,347)	(61,450)	143,799
Series A and Series B Preferred stock dividends	7,661	7,812	7,928	7,974
Net income (loss) attributable to Rosehill Resources Inc. common stockholders	\$ (1,341)	\$ 9,199	\$ (31,368)	\$ 50,171
Earnings (loss) per Basic common share	\$ (0.22)	\$ 1.43	\$ (4.76)	\$ 3.72
Earnings (loss) per Diluted common share	\$ (0.22)	\$ (0.32)	\$ (4.76)	\$ 2.35

ITEM 9. CHANGES IN AND DISAGREEMENTS WITH ACCOUNTANTS ON ACCOUNTING AND FINANCIAL DISCLOSURE

None.

ITEM 9A. INTERNAL CONTROLS AND PROCEDURES.

Evaluation of Disclosure Controls and Procedures

As required by Rule 13a-15(b) under the Exchange Act, we have evaluated, under the supervision and with the participation of management, including our principal executive officer and principal financial officer, the effectiveness of the design and operation of our disclosure controls and procedures (as defined in Rules 13a-15(c) and 15d-15(e) under the Exchange Act) as of the end of the period covered by this Annual Report on Form 10-K. Our disclosure controls and procedures are designed to provide reasonable assurance that the information required to be disclosed by us in reports that we file or submit under the Exchange Act is accumulated and communicated to management, including our principal executive officer and principal financial officer, as appropriate, to allow timely decisions regarding required disclosure and is recorded, processed, summarized and reported within the time periods specified in the rules and forms of the SEC. Based upon that evaluation, the principal executive officer and principal financial officer concluded that the Company's disclosure controls and procedures were effective as of December 31, 2019 at the reasonable assurance level.

Management's Annual Report on Internal Control Over Financial Reporting

Management, including the principal executive officer and principal financial officer, is responsible for establishing and maintaining adequate internal control over financial reporting as defined in Rule 13a-15(f) under the Exchange Act. Our internal control over financial reporting is designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of the consolidated financial statements for external purposes in accordance with GAAP.

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.

Management assessed the effectiveness of our internal control over financial reporting as of December 31, 2019, using the criteria in Internal Control-Integrated Framework (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO). Based on this evaluation, management, including the Chief Executive Officer and Chief Financial Officer, concluded that our internal control over financial reporting was effective as of December 31, 2019.

Attestation Report of the Registered Public Accounting Firm

This annual report does not include an attestation report of our independent registered public accounting firm regarding internal controls over financial reporting. We are not required to have, nor did we engage our independent audit firm to perform, an audit of the effectiveness of our internal controls over financial reporting.

Changes in Internal Control over Financial Reporting

In our quarterly report for the three months ended March 31, 2019, we identified and disclosed a material weakness related to the accuracy of our accounting for income taxes which led to the incorrect application of U.S. GAAP and ineffective controls over the financial statement close and reporting processes related to income taxes. To remediate the material weakness, we have implemented additional procedures and internal controls to verify the accuracy and reasonableness of our income tax provision. Based on testing performed by management, we believe the implemented controls are operating effectively and the material weakness has been remediated as of December 31, 2019.

Other than the remediation efforts of the material weaknesses related to income taxes reported by management in our Quarterly Report on Form 10-Q for the period ended March 31, 2019, there have been no changes in our internal control over financial reporting during the quarter ended December 31, 2019 that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

ITEM 9B. OTHER INFORMATION

None.

PART III

ITEM 10. DIRECTORS, EXECUTIVE OFFICERS AND CORPORATE GOVERNANCE

The information required in response to this item will be set forth in our definitive proxy statement for the 2020 annual meeting of stockholders and is incorporated herein by reference.

ITEM 11. EXECUTIVE AND DIRECTOR COMPENSATION

The information required in response to this item will be set forth in our definitive proxy statement for the 2020 annual meeting of stockholders and is incorporated herein by reference.

ITEM 12. SECURITY OWNERSHIP OF CERTAIN BENEFICIAL OWNERS AND MANAGEMENT AND RELATED STOCKHOLDER MATTERS

The information regarding security ownership of certain beneficial owners and management will be set forth in our definitive proxy statement for the 2020 annual meeting of stockholders and is incorporated herein by reference.

Equity Compensation Plan Information

On April 27, 2017, our stockholders approved the Long-Term Incentive Plan. See more details and discussion of the plan in Note 15 *Stock-Based Compensation*.

Plan category	Number of Securities to be Issued Upon Exercise of Outstanding Options, Warrants and Rights	Weighted-Average Exercise Price of Outstanding Options, Warrants and Rights	Number of Securities Remaining Available for Future Issuance Under Equity Compensation Plans
Equity compensation plan approved by security holders	3,163,030	\$ —	4,038,589
Total	3,163,030	\$ —	4,038,589

ITEM 13. CERTAIN RELATIONSHIPS AND RELATED TRANSACTIONS, AND DIRECTOR INDEPENDENCE

The information required in response to this item will be set forth in our definitive proxy statement for the 2020 annual meeting of stockholders and is incorporated herein by reference.

ITEM 14. PRINCIPAL ACCOUNTING FEES AND SERVICES

The information required in response to this item will be set forth in our definitive proxy statement for the 2020 annual meeting of stockholders and is incorporated herein by reference.

PART IV

ITEM 15. EXHIBITS AND FINANCIAL STATEMENT SCHEDULES

(1) Consolidated Financial Statements

The consolidated financial statements of the Company and reports of independent registered public accounting firms listed in Section 8 of this Annual Report on Form 10-K are filed as a part of this Annual Report on Form 10-K.

(2) Consolidated Financial Statement Schedules

All financial statement schedules are omitted because they are either not required, inapplicable or because the required information is presented in the Company's consolidated financial statements and related notes.

(3) Exhibits

The following is a complete list of exhibits filed as part of this Form 10-K. Exhibit number corresponds to the numbers in the Exhibit table of Item 601 of Regulation S-K.

Exhibit No.	Description
2.1	<u>Business Combination Agreement, dated as of December 20, 2016, by and between KLR Energy Acquisition Corp. and Tema Oil and Gas Company.</u> (7)
2.2	<u>Purchase and Sale Agreement, dated as of October 24, 2017, among Whitehorse Energy, LLC, Whitehorse Energy Delaware, LLC, Whitehorse Delaware Operating, LLC, Siltstone Resources II - Permian, LLC, Siltstone Resources II-B-Permian, LLC, Rosehill Operating Company, LLC, and Rosehill Resources Inc.</u> (3)
2.3	<u>First Amendment to Purchase and Sale Agreement, dated as of October 24, 2017, among Whitehorse Energy, LLC, Whitehorse Energy Delaware, LLC, Whitehorse Delaware Operating, LLC, Siltstone Resources II - Permian, LLC, Siltstone Resources II-B-Permian, LLC, Rosehill Operating Company, LLC, and Rosehill Resources Inc.</u> (3)
2.4	<u>Second Amendment to Purchase and Sale Agreement, dated as of October 24, 2017, among Whitehorse Energy, LLC, Whitehorse Energy Delaware, LLC, Whitehorse Delaware Operating, LLC, Siltstone Resources II - Permian, LLC, Siltstone Resources II-B-Permian, LLC, Rosehill Operating Company, LLC, and Rosehill Resources Inc.</u> (3)
2.5	<u>Third Amendment to Purchase and Sale Agreement, dated as of October 24, 2017, among Whitehorse Energy, LLC, Whitehorse Energy Delaware, LLC, Whitehorse Delaware Operating, LLC, Siltstone Resources II - Permian, LLC, Siltstone Resources II-B-Permian, LLC, Rosehill Operating Company, LLC, and Rosehill Resources Inc.</u> (9)
3.1	<u>Second Amended and Restated Certificate of Incorporation of Rosehill Resources Inc.</u> (1)
3.2	<u>Certificate of Amendment of the Second Amended and Restated Certificate of Incorporation of Rosehill Resources Inc.</u> (2)
3.3	<u>Certificate of Designation for the Series A Preferred Stock of Rosehill Resources Inc.</u> (1)
3.4	<u>Amended and Restated Bylaws of Rosehill Resources Inc.</u> (1)
3.5	<u>Certificate of Designations for the Series B Preferred Stock of Rosehill Resources Inc.</u> (3)
4.1	<u>Specimen Unit Certificate</u> (5)
4.2	<u>Specimen Class A Common Stock Certificate</u> (5)
4.3	<u>Specimen Warrant Certificate</u> (5)
4.4	<u>Warrant Agreement, dated March 10, 2016, between the Company and Continental Stock Transfer & Trust Company</u> (7)
4.5	<u>Shareholders' and Registration Rights Agreement, dated as of December 20, 2016, by and among Tema Oil and Gas Company, KLR Energy Sponsor, LLC, KLR Energy Acquisition Corp., Anchorage Illiquid Opportunities V, L.P. and AIO V AIV 3 Holdings, L.P.</u> (7)
4.6*	<u>Description of Registrant's Securities Registered under Section 12 of the Exchange Act.</u>
10.1	<u>Amended and Restated Rosehill Resources Inc. Long-Term Incentive Plan.</u> (4) †
10.2	<u>Global Amendment to Outstanding Awards under the Rosehill Resources Inc. Long-Term Incentive Plan, effective as of July 23, 2018</u> (4) †
10.3	<u>Restricted Stock Grant Notice.</u> (8) †
10.4	<u>Form of Indemnification Agreement.</u> (1) †
10.5*	<u>Form of Amended and Restated Employment Agreement.</u> †
10.6	<u>Tax Receivable Agreement, dated as of April 27, 2017, by and between Rosehill Resources Inc. and Tema</u> (1)
10.7	<u>First Amendment to Note Purchase Agreement, dated as of March 28, 2018, among Rosehill Operating Company, LLC, as issuer, Rosehill Resources Inc., each of the holders from time to time party thereto and U.S. Bank National Association, as agent and collateral agent for the holders.</u> (12)
10.8	<u>Form of Restricted Stock Grant Notice and Agreement for Non-Employee Directors.</u> (1) †
10.9	<u>Form of Performance Share Unit Grant Notice and Agreement for Executives.</u> (10) †
10.10	<u>Form of Restricted Stock Unit Grant Notice and Agreement for Executives.</u> (10) †
10.11	<u>Second Amended and Restated Limited Liability Company Agreement of Rosehill Operating Company, LLC, dated as of December 8, 2017.</u> (3)
10.12	<u>Amended and Restated Credit Agreement, dated as of March 28, 2018, among Rosehill Operating Company, LLC, as borrower, Rosehill Resources Inc., as parent, JPMorgan Chase Bank, N.A., as administrative agent, and the financial institutions party thereto as lenders.</u> (11)
10.13	<u>Crude Oil Gathering Agreement, dated April 27, 2017, by and between Rosehill Operating Company, LLC and Gateway Gathering and Marketing Company.</u> (1)
10.14	<u>Gas Gathering Agreement, dated April 27, 2017, by and between Rosehill Operating Company, LLC and Gateway Gathering and Marketing Company.</u> (1)
10.15	<u>Subscription Agreement, dated as of December 20, 2016, by and between KLR Energy Acquisition Corp. and AIO V AIV 3 Holdings, L.P.</u> (7)
10.16	<u>Subscription Agreement, dated as of December 20, 2016, by and between KLR Energy Acquisition Corp. and Anchorage Illiquid Opportunities V, L.P.</u> (7)

10.17	<u>Subscription Agreement, dated as of December 20, 2016, by and between KLR Energy Acquisition Corp. and Geode Diversified Fund, a segregated account of Geode Capital Master Fund Ltd.</u> (7)
10.18	<u>Subscription Agreement, dated as of December 20, 2016, by and between KLR Energy Acquisition Corp. and The K2 Principal Fund, L.P.</u> (7)
10.19	<u>Securities Subscription Agreement, dated November 20, 2015, between the Registrant and KLR Energy Sponsor, LLC.</u> (12)
10.20	<u>Third Amended and Restated Sponsor Warrants Purchase Agreement between Rosehill Resources Inc. and KLR Energy Sponsor, LLC.</u> (6)
10.21	<u>Registration Rights Agreement, dated March 10, 2016, between Rosehill Resources Inc., KLR Energy Sponsor, LLC, EarlyBird Capital, Inc. and Chardan Capital Markets, LLC.</u> (6)
10.22	<u>Employment Agreement of David L. French, dated as of February 22, 2019.</u> (15)†
10.23*	<u>Amendment No. 1 to Crude Oil Gathering Agreement, dated as of December 9, 2019, by and between Rosehill Operating Company, LLC and Gateway Gathering and Marketing Company.</u>
10.24	<u>Amended and Restated Warrants Purchase Agreement between Rosehill Resources Inc. and EarlyBird Capital, Inc.</u> (6)
10.25	<u>Amended and Restated Employment Agreement, dated June 7, 2019, by and between Robert Craig Owen and Rosehill Operating Company, LLC</u> (14)†
10.26	<u>Amended and Restated Employment Agreement, dated June 7, 2019, by and between Brian Ayers and Rosehill Operating Company, LLC</u> (14)†
10.27*	<u>Form of Cash Performance Award Grant Notice and Agreement</u> †
23.1*	<u>Consent of Independent Registered Public Accounting Firm, BDO USA, LLP</u>
23.2*	<u>Consent of Netherland, Sewell & Associates, Inc.</u>
31.1*	<u>Certification of Chief Executive Officer pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.</u>
31.2*	<u>Certification of Chief Financial Officer pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.</u>
32.1**	<u>Certification of Chief Executive Officer pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.</u>
32.2**	<u>Certification of Chief Financial Officer pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.</u>
99.1*	<u>Netherland, Sewell & Associates, Inc., Summary of Reserves at December 31, 2019.</u>
101.INS*	XBRL Instance Document.
101.SCH*	XBRL Taxonomy Extension Schema.
101.CAL*	XBRL Taxonomy Extension Calculation Linkbase.
101.DEF*	XBRL Taxonomy Extension Definition Linkbase.
101.PRE*	XBRL Taxonomy Extension Label Linkbase.
101.LAB*	XBRL Taxonomy Extension Presentation Linkbase.

* Filed herewith

* Furnished herewith

† Indicates a management contract or compensatory plan or arrangement.

(1) Incorporated by reference to the Company's Form 8-K, filed with the Commission on May 3, 2017.

(2) Incorporated by reference to the Company's Registration Statement on Form S-1, filed with the Commission on May 11, 2018.

(3) Incorporated by reference to the Company's Form 8-K, filed with the Commission on December 14, 2017.

(4) Incorporated by reference to the Company's Form 8-K, filed with the Commission on July 27, 2018.

(5) Incorporated by reference to the Company's Amendment No. 1 to the Registration Statement (File no. 333-209041) on Form S-1/A, filed with the Commission on February 5, 2016.

(6) Incorporated by reference to the Company's Form 8-K, filed with the Commission on March 16, 2016.

(7) Incorporated by reference to the Company's Form 8-K, filed with the Commission on December 20, 2016.

(8) Incorporated by reference to the Company's Form 10-Q, filed with the Commission on November 9, 2018.

(9) Incorporated by reference to the Company's Form 8-K, filed with the Commission on December 22, 2017.

(10) Incorporated by reference to the Company's Form 10-K, filed with the Commission on April 17, 2018.

(11) Incorporated by reference to the Company's Form 8-K, filed with the Commission on March 29, 2018.

(12) Incorporated by reference to the Company's Form 8-K, filed with the Commission on March 29, 2018.

(13) Incorporated by reference to the Company's Quarterly Report on Form 10-Q for the quarterly period ended June 30, 2017, filed with the Commission on August 15, 2017.

(14) Incorporated by reference to the Company's Form 8-K, filed with the Commission on June 12, 2019.

(15) Incorporated by reference to the Company's Form 8-K, filed with the Commission on March 11, 2019.

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, as amended, the registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized.

April 13, 2020

ROSEHILL RESOURCES INC.

By: /s/ R. Craig Owen
R. Craig Owen
Senior Vice President and Chief Financial Officer
(Principal Financial and Accounting Officer)

Pursuant to the requirements of the Securities Act of 1934, this registration statement has been signed by the following persons in the capacities and on the dates indicated.

<u>Signature</u>	<u>Title</u>	<u>Date</u>
<u>/s/ David L. French</u> David L. French	President and Chief Executive Officer (Principal Executive Officer)	April 13, 2020
<u>/s/ R. Craig Owen</u> R. Craig Owen	Senior Vice President and Chief Financial Officer (Principal Financial and Accounting Officer)	April 13, 2020
<u>/s/ Gary Hanna</u> Gary Hanna	Chairman of the Board	April 13, 2020
<u>/s/ Frank Rosenberg</u> Frank Rosenberg	Director	April 13, 2020
<u>/s/ Edward Kovalik</u> Edward Kovalik	Director	April 13, 2020
<u>/s/ Harry Quarls</u> Harry Quarls	Director	April 13, 2020
<u>/s/ William Mayer</u> William Mayer	Director	April 13, 2020
<u>/s/ Francis Contino</u> Francis Contino	Director	April 13, 2020
<u>/s/ Paul J. Ebner</u> Paul J. Ebner	Director	April 13, 2020

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

As of December 31, 2019, Rosehill Resources Inc. ("Rosehill," the "Company," "we," "us" or "our") had three classes of securities registered under Section 12 of the Securities Exchange Act of 1934, as amended (the "Exchange Act"): our Class A Common Stock, par value \$0.0001 per share (the "Class A Common Stock"), our Class A Common Stock Public Warrants (the "Public Warrants") and our Class A Common Stock Public Units (the "Public Units").

The following descriptions of the terms of our Class A Common Stock, Public Warrants, and Public Units are not complete and are qualified in their entirety by reference to our amended and restated certificate of incorporation, our amended and restated bylaws, and the warrant agreement dated March 10, 2016, each of which is incorporated by reference as exhibits to the Annual Report on Form 10-K of which this Exhibit 4.6 is a part.

DESCRIPTION OF CLASS A COMMON STOCK

We are authorized to issue 250,000,000 shares of Class A Common Stock, par value \$0.0001 per share.

The principal stock exchange on which our Class A Common Stock is listed on the Nasdaq Capital Market under the symbol "ROSE." All outstanding shares of Class A Common Stock are validly issued, fully paid and nonassessable.

Voting Rights

The holders of our Class A Common Stock are entitled to one vote for each share held on all matters to be voted on by our stockholders. Holders of the Class A Common Stock, holders of the Class B Common Stock, and holders of the Class F Common Stock, voting together as a single class, have the exclusive right to vote for the election of directors and on all other matters properly submitted to a vote of the stockholders.

Classified Board

Our amended and restated certificate of incorporation and bylaws provide that our board of directors is divided into three classes of directors serving staggered three-year terms. Each class, to the extent possible, will be equal in number. Each class holds office until the third annual stockholders' meeting for election of directors following the most recent election of such class. There is no cumulative voting with respect to the election of directors.

Dividend and Liquidation Rights

Subject to the rights, if any, of the holders of any outstanding series of the preferred stock, the holders of shares of our Class A Common Stock are entitled to receive such dividends

and other distributions (payable in cash, property or capital stock of the Company) when, as and if declared thereon by the board of directors from time to time out of any assets or funds of the Company and will share equally on a per share basis in such dividends and distributions.

Subject to the rights, if any, of the holders of any outstanding series of the preferred stock, in the event of any voluntary or involuntary liquidation, dissolution or winding up of the Company, after payment or provision for payment of the debts and other liabilities of the Company, the holders of shares of Class A Common Stock and Class F Common Stock shall be entitled to receive all the remaining assets of the Company available for distribution to its stockholders, ratably in proportion to the number of shares of Class A Common Stock and Class F Common Stock held by them.

Other Rights

With the exception of Anchorage Illiquid Opportunities V, L.P., a Delaware limited partnership, and AIO V AIV 3 Holdings, L.P., a Delaware limited partnership (collectively, “Anchorage”), which have preemptive rights under the Shareholders’ and Registration Rights Agreement (the “SHRRA”), dated as of December 20, 2016, the holders of our Class A Common Stock have no preemptive or other subscription rights, and there are no sinking fund or redemption provisions applicable to our Class A Common Stock.

DESCRIPTION OF PUBLIC WARRANTS

The principal stock exchange on which our Public Warrants are listed is the Nasdaq Capital Market under the symbol “ROSEW.” Under the terms of our amended and restated certificate of incorporation, Rosehill has the authority to create and issue warrants entitling the holders thereof to acquire from the Company any shares of its capital stock of any class.

Voting Rights

The Public Warrant holders do not have the rights or privileges of common stock holders, including, without limitation, the right to receive dividends or other distributions and any voting rights. Upon exercise of the Public Warrants in accordance with their terms, the holders receive shares of Class A Common Stock.

Terms and Exercise of Public Warrants

Each of our Public Warrants entitles the registered holder to purchase one share of our Class A Common Stock at a price of \$11.50 per share, subject to adjustment as discussed below. The Public Warrants will expire on April 27, 2022, at 5:00 p.m., New York City time, or earlier upon redemption or liquidation.

No Public Warrant will be exercisable for cash or on a cashless basis, and we will not be obligated to issue any shares to holders seeking to exercise their Public Warrants, unless the issuance of the shares upon such exercise is registered or qualified under the securities laws of the state of the exercising holder, or unless an exemption is available. In the event that the

conditions in the immediately preceding sentence are not satisfied with respect to a Public Warrant, the holder of such warrant will not be entitled to exercise such warrant and such warrant may have no value and expire worthless, in which case, the purchaser of a unit containing such warrant will have paid the full purchase price for the unit solely for the share of Class A Common Stock underlying such unit.

On June 29, 2017, registration statement for the registration of the resale of the shares of Class A Common Stock issuable upon exercise of the Public Warrants was declared effective. We will use our best efforts to maintain the effectiveness of such registration statement, and a current prospectus relating thereto, until the expiration of the Public Warrants in accordance with the provisions of the warrant agreement. Notwithstanding the foregoing, Public Warrant holders may, during any period when we shall have failed to maintain an effective registration statement, exercise Public Warrants on a cashless basis pursuant to an available exemption from registration under the Securities Act. In such event, each holder would pay the exercise price by surrendering the Public Warrants for that number of shares of Class A Common Stock equal to the quotient obtained by dividing (x) the product of the number of shares of Class A Common Stock underlying the Public Warrants, multiplied by the difference between the exercise price of the Public Warrants and the “fair market value” (defined below) by (y) the fair market value. The “fair market value” means the average reported last sale price of the shares of Class A Common Stock for the 10 trading days ending on the day prior to the date of exercise. If an exemption from registration is not available, holders will not be able to exercise their Public Warrants on a cashless basis.

Once the Public Warrants become exercisable, the Company may call the Public Warrants for redemption:

- in whole and not in part;
- at a price of \$0.01 per warrant;
- upon not less than 30 days’ prior written notice of redemption (the “30-day redemption period”) to each warrant holder; and
- if, and only if, the reported last sale price of the Class A Common Stock equals or exceeds \$21.00 per share for any 20 trading days within a 30-trading day period ending on the third trading day prior to the date we send the notice of redemption to the warrant holders; *provided* there is an effective registration statement with respect to the shares of Class A Common Stock underlying such Public Warrants and a current prospectus relating to those shares of Class A Common Stock is available throughout the 30-day redemption period.

If the foregoing conditions are satisfied and we issue a notice of redemption of the Public Warrants, each warrant holder will be entitled to exercise its Public Warrant prior to the scheduled redemption date.

If we call the Public Warrants for redemption as described above, we will have the option to require any holder that wishes to exercise its Public Warrants to do so on a “cashless basis.” In determining whether to require all holders to exercise their Public Warrants on a “cashless

basis,” our management will consider, among other factors, our cash position, the number of Public Warrants that are outstanding and the dilutive effect on our stockholders of issuing the maximum number of shares of Class A Common Stock issuable upon the exercise of our Public Warrants. If our management takes advantage of this option, all holders of Public Warrants would pay the exercise price by surrendering their Public Warrants for that number of shares of Class A Common Stock equal to the quotient obtained by dividing (x) the product of the number of shares of Class A Common Stock underlying the Public Warrants, multiplied by the difference between the exercise price of the Public Warrants and the “fair market value” (defined below) by (y) the fair market value. The “fair market value” shall mean the average reported last sale price of the Class A Common Stock for the 10 trading days ending on the third trading day prior to the date on which the notice of redemption is sent to the holders of Public Warrants. If our management takes advantage of this option, the notice of redemption will contain the information necessary to calculate the number of shares of Class A Common Stock to be received upon exercise of the Public Warrants, including the “fair market value” in such case. Requiring a cashless exercise in this manner will reduce the number of shares to be issued and thereby lessen the dilutive effect of a warrant redemption.

A holder of a Public Warrant may notify us in writing in the event it elects to be subject to a requirement that such holder will not have the right to exercise such warrant, to the extent that after giving effect to such exercise, such person (together with such person’s affiliates), to the warrant agent’s actual knowledge, would beneficially own in excess of 9.8% (or such other amount as a holder may specify) of the shares of Class A Common Stock outstanding immediately after giving effect to such exercise.

Procedure for Surrender of Public Warrants

The Public Warrants may be exercised upon surrender of the warrant certificate on or prior to the expiration date at the offices of the warrant agent, with the exercise form on the reverse side of the warrant certificate completed and executed as indicated, accompanied by full payment of the exercise price (or on a cashless basis, if applicable), by certified or official bank check payable to us, for the number of Public Warrants being exercised.

Fractional Public Warrants

Public Warrants may be exercised only for a whole number of shares of Class A Common Stock. No fractional shares will be issued upon exercise of the Public Warrants. If, upon exercise of the Public Warrants, a holder would be entitled to receive a fractional interest in a share, we will, upon exercise, round down to the nearest whole number the number of shares of Class A Common Stock to be issued to the Public Warrant holder.

Dividends and Adjustments

Stock Dividends

If the number of outstanding shares of Class A Common Stock is increased by a stock dividend payable in shares of Class A Common Stock, or by a split-up of shares of Class A

Common Stock or other similar event, then, on the effective date of such stock dividend, split-up or similar event, the number of shares of Class A Common Stock issuable on exercise of each warrant will be increased in proportion to such increase in the outstanding shares of Class A Common Stock. A rights offering to holders of Class A Common Stock entitling holders to purchase shares of Class A Common Stock at a price less than the fair market value will be deemed a stock dividend of a number of shares of Class A Common Stock equal to the product of (i) the number of shares of Class A Common Stock actually sold in such rights offering (or issuable under any other equity securities sold in such rights offering that are convertible into or exercisable for Class A Common Stock) multiplied by (ii) one (1) minus the quotient of (x) the price per share of Class A Common Stock paid in such rights offering divided by (y) the fair market value. For these purposes (i) if the rights offering is for securities convertible into or exercisable for Class A Common Stock, in determining the price payable for Class A Common Stock, there will be taken into account any consideration received for such rights, as well as any additional amount payable upon exercise or conversion and (ii) fair market value means the volume weighted average price of Class A Common Stock as reported during the ten (10) trading day period ending on the trading day prior to the first date on which the shares of Class A Common Stock trade on the applicable exchange or in the applicable market, regular way, without the right to receive such rights.

Extraordinary Dividends

In addition, if we, at any time while the Public Warrants are outstanding and unexpired, pay a dividend or make a distribution in cash, securities or other assets to the holders of Class A Common Stock on account of such shares of Class A Common Stock (or other shares of our capital stock into which the Public Warrants are convertible), other than (a) as described above, or (b) certain ordinary cash dividends, then the warrant exercise price will be decreased, effective immediately after the effective date of such event, by the amount of cash and/or the fair market value of any securities or other assets paid on each share of Class A Common Stock in respect of such event.

Aggregation of Shares

If the number of outstanding shares of our Class A Common Stock is decreased by a consolidation, combination, reverse stock split or reclassification of shares of Class A Common Stock or other similar event, then, on the effective date of such consolidation, combination, reverse stock split, reclassification or similar event, the number of shares of Class A Common Stock issuable on exercise of each warrant will be decreased in proportion to such decrease in outstanding shares of Class A Common Stock.

Adjustments in Exercise Price

Whenever the number of shares of Class A Common Stock purchasable upon the exercise of the Public Warrants is adjusted, as described above, the warrant exercise price will be adjusted by multiplying the warrant exercise price immediately prior to such adjustment by a fraction (x) the numerator of which will be the number of shares of Class A Common Stock purchasable upon the exercise of the Public Warrants immediately prior to such adjustment, and (y) the

denominator of which will be the number of shares of Class A Common Stock so purchasable immediately thereafter.

Replacement of Securities

In case of any reclassification or reorganization of the outstanding shares of Class A Common Stock (other than those described above or that solely affects the par value of such shares of Class A Common Stock), or in the case of any merger or consolidation of us with or into another corporation (other than a consolidation or merger in which we are the continuing corporation and that does not result in any reclassification or reorganization of our outstanding shares of Class A Common Stock), or in the case of any sale or conveyance to another corporation or entity of our assets or other property as an entirety or substantially as an entirety in connection with which we are dissolved, the holders of the Public Warrants will thereafter have the right to purchase and receive, upon the basis and upon the terms and conditions specified in the Public Warrants and in lieu of the shares of our Class A Common Stock immediately theretofore purchasable and receivable upon the exercise of the rights represented thereby, the kind and amount of shares of stock or other securities or property (including cash) receivable upon such reclassification, reorganization, merger or consolidation, or upon a dissolution following any such sale or transfer, that the holder of the Public Warrants would have received if such holder had exercised their Public Warrants immediately prior to such event. However, if such holders were entitled to exercise a right of election as to the kind or amount of securities, cash or other assets receivable upon such consolidation or merger, then the kind and amount of securities, cash or other assets for which each warrant will become exercisable will be deemed to be the weighted average of the kind and amount received per share by such holders in such consolidation or merger that affirmatively make such election, and if a tender, exchange or redemption offer has been made to and accepted by such holders under circumstances in which, upon completion of such tender or exchange offer, the maker thereof, together with members of any group (within the meaning of Rule 13d-5(b)(1) under the Exchange Act) of which such maker is a part, and together with any affiliate or associate of such maker (within the meaning of Rule 12b-2 under the Exchange Act) and any members of any such group of which any such affiliate or associate is a part, own beneficially (within the meaning of Rule 13d-3 under the Exchange Act) more than 50% of the outstanding shares of Class A Common Stock, the holder of a warrant will be entitled to receive the highest amount of cash, securities or other property to which such holder would actually have been entitled as a stockholder if such warrant holder had exercised the warrant prior to the expiration of such tender or exchange offer, accepted such offer and all of the Class A Common Stock held by such holder had been purchased pursuant to such tender or exchange offer, subject to adjustments (from and after the consummation of such tender or exchange offer) as nearly equivalent as possible to the adjustments provided for in the warrant agreement. Additionally, if less than 70% of the consideration receivable by the holders of Class A Common Stock in such a transaction is payable in the form of Class A Common Stock in the successor entity that is listed for trading on a national securities exchange or is quoted in an established over-the-counter market, or is to be so listed for trading or quoted immediately following such event, and if the registered holder of the warrant properly exercises the warrant within thirty days (30) following public disclosure of such transaction, the warrant exercise price

will be reduced as specified in the warrant agreement based on the per share consideration minus Black-Scholes Warrant Value (as defined in the warrant agreement) of the Public Warrant.

Amendments

The Public Warrants were issued in registered form under a warrant agreement between Continental Stock Transfer & Trust Company, as warrant agent, and us. The warrant agreement provides that the terms of the Public Warrants may be amended without the consent of any holder to cure any ambiguity or correct any defective provision, but requires the approval by the holders of at least 65% of the then-outstanding Public Warrants to make any change that adversely affects the interests of the registered holders of Public Warrants.

DESCRIPTION OF PUBLIC UNITS

The principal stock exchange on which our Public Units are listed is the Nasdaq Capital Market under the symbol “ROSEU.” Our Public Units each consist of one share of our Class A Common Stock, par value \$0.0001 per share, and one Public Warrant to purchase one share of our Class A Common Stock at \$11.50 per share, subject to adjustment. Holders have the option to continue to hold Public Units or separate their Public Units into the component securities. The Public Warrants and Class A Common Stock comprising each Public Unit have the same rights and restrictions as described in the sections above.

OUR TRANSFER AGENT AND WARRANT AGENT

The transfer agent for our Class A Common Stock and warrant agent for our Public Warrants is Continental Stock Transfer & Trust Company. We have agreed to indemnify Continental Stock Transfer & Trust Company in its roles as transfer agent and warrant agent, its agents and each of its stockholders, directors, officers and employees against all liabilities, including judgments, costs and reasonable counsel fees that may arise out of acts performed or omitted for its activities in that capacity, except for any liability due to any gross negligence, willful misconduct or bad faith of the indemnified person or entity.

ANTI-TAKEOVER PROVISIONS OF DELAWARE LAW, OUR AMENDED AND RESTATED CERTIFICATE OF INCORPORATION, OUR BYLAWS, AND SHAREHOLDERS’ AND REGISTRATION RIGHTS AGREEMENT

We are currently subject to the provisions of Section 203 of the Delaware General Corporation Law, which we refer to as “Section 203,” regulating corporate takeovers. Section 203 prevents certain Delaware corporations, under certain circumstances, from engaging in a “business combination” with:

- a stockholder who owns 15% or more of our outstanding voting stock (otherwise known as an “interested stockholder”);
- an affiliate of an interested stockholder;
- or

- an associate of an interested stockholder, for three years following the date that the stockholder became an interested stockholder.

A “business combination” includes a merger or sale of more than 10% of our assets. However, the above provisions of Section 203 do not apply if:

- our board of directors approves the transaction that made the stockholder an “interested stockholder,” prior to the date of the transaction;
- after the completion of the transaction that resulted in the stockholder becoming an interested stockholder, that stockholder owned at least 85% of our voting stock outstanding at the time the transaction commenced, other than statutorily excluded shares of common stock; or
- on or subsequent to the date of the transaction, the business combination is approved by our board of directors and authorized at a meeting of our stockholders, and not by written consent, by an affirmative vote of at least two-thirds of the outstanding voting stock not owned by the interested stockholder.

Our amended and restated certificate of incorporation provides that our board of directors is classified into three classes of directors. As a result, in most circumstances, a person can gain control of our board only by successfully engaging in a proxy contest at three or more annual meetings.

Further, our amended and restated certificate of incorporation only allows stockholders to call a special meeting until the first date on which Tema Oil and Gas Company (“Tema”) and KLR Energy Sponsor, LLC (“KLRE Sponsor”), as well as their successors and affiliates (collectively, the “Sponsor Holders”), cease collectively to beneficially own (directly or indirectly) more than 30% of the outstanding shares of our common stock (the “Trigger Date”). After the Trigger Date, our amended and restated certificate of incorporation and bylaws provide that special meetings of stockholders may be called only (a) by the Chairman of our board of directors or the Lead Director, or (b) by our board of directors pursuant to a resolution adopted by a majority of our board of directors.

The amended and restated certificate of incorporation provides that after the Trigger Date, our directors may be removed prior to the expiration of their terms by stockholders only for cause or upon the affirmative vote of 75% of the voting power of all outstanding shares of the combined company.

The amended and restated certificate of incorporation requires that changes or amendments to the certificate of incorporation or the bylaws must be approved (i) before the Trigger Date, by a majority of the voting power of our outstanding common stock, which such majority includes at least 80% of the shares held by Sponsor Holders, and (ii) thereafter, certain changes or amendments must be approved by at least 75% of the voting power of our outstanding common stock.

In addition, our amended and restated certificate of incorporation does not provide for cumulative voting in the election of directors; our board of directors is empowered to elect a director to fill a vacancy created by the expansion of the board of directors or the resignation, death, or removal of a director in certain circumstances; and our stockholders must comply with our advance notice procedures provided in our amended and restated bylaws in order to nominate candidates to our board of directors or to propose matters to be acted upon at a stockholders' meeting.

Further, Anchorage has preemptive rights under the SHRRA to participate in future equity issuances by the Company, subject to certain exceptions, so as to maintain its then-current percentage ownership of the Company's capital stock. Subject to specified ownership thresholds described below, KLRE Sponsor is entitled to designate two directors for appointment to the board of directors, Tema is entitled to designate four directors and Anchorage is entitled to designate one director. The ownership thresholds for KLRE Sponsor, Tema and Anchorage are 30% or greater of Initial Share Ownership (as defined in the SHRRA), 50% or greater of Initial Share Ownership, and 10% or greater of Initial Share Ownership, respectively. Each Sponsor Holder and Tema is entitled to appoint a representative or observer on each committee of our board of directors.

Our authorized but unissued Class A Common Stock is available for future issuances without stockholder approval and could be utilized for a variety of corporate purposes, including future offerings to raise additional capital, acquisitions and employee benefit plans. The existence of authorized but unissued and unreserved Class A Common Stock could render more difficult or discourage an attempt to obtain control of us by means of a proxy contest, tender offer, merger or otherwise.

SECOND AMENDED AND RESTATED EMPLOYMENT AGREEMENT

This Second Amended and Restated Employment Agreement (“**Agreement**”) is executed and agreed to as February __, 2020 (the “Effective Date”) by and between Rosehill Operating Company, LLC, a Delaware limited liability company (the “**Company**”), and [_____] (“**Employee**”), and replaces and supersedes that certain previous Amended and Restated Employment Agreement entered into between the Company and Employee dated as of [_____].

1. **Employment.** During the Employment Period (as defined in Section 4), the Company shall employ Employee, and Employee shall serve, as [_____] of the Company and in such other position or positions as may be assigned from time to time, with Employee’s consent, by the Company or the board of directors (the “**Board**”) of Rosehill Resources Inc. (the “**Parent**”).

2. **Duties and Responsibilities of Employee.**

(a) During the Employment Period, Employee shall devote Employee’s full business time, attention and best efforts to the business of the Parent and its direct and indirect subsidiaries including the Company (collectively, the “**Company Group**”) as may be requested by the Company or Parent from time to time. Employee’s duties shall include those normally incidental to the position(s) identified in Section 1, as well as such additional duties as may be assigned to Employee by the Company or Parent from time to time, which duties may include providing services to other members of the Company Group in addition to the Company. Employee may, without violating this Agreement, (i) as a passive investment, own publicly traded securities in such form or manner as will not require any services by Employee in the operation of the entities in which such securities are owned; (ii) engage in charitable and civic activities; or (iii) with the prior written consent of the Board, engage in other personal and passive investment activities, in each case, so long as such interests or activities do not interfere with Employee’s ability to fulfill Employee’s duties and responsibilities under this Agreement and are not inconsistent with Employee’s obligations to the Company Group or competitive with the business of the Company Group.

(b) Employee hereby represents and warrants that Employee is not the subject of, or a party to, any employment agreement, non-competition, non-solicitation, restrictive covenant, non-disclosure agreement, or any other agreement, obligation, restriction or understanding that would prohibit Employee from executing this Agreement or fully performing each of Employee’s duties and responsibilities hereunder, or would in any manner, directly or indirectly, limit or affect any of the duties and responsibilities that may now or in the future be assigned to Employee hereunder. Employee expressly acknowledges and agrees that Employee is strictly prohibited from using or disclosing any confidential information belonging to any prior employer (excluding any member of the Company Group) in the course of performing services for any member of the Company Group, and Employee shall not do so. Employee shall not introduce documents or other materials containing confidential information of any such prior employer to the premises or property (including computers and computer systems) of any member of the Company Group.

(c) Employee owes each member of the Company Group fiduciary duties (including (i) duties of loyalty and disclosure and (ii) such fiduciary duties that an officer of the Company would have if the Company were a corporation organized under the laws of the State of Delaware), and the

obligations described in this Agreement are in addition to, and not in lieu of, the obligations Employee owes each member of the Company Group under statutory and common law.

3. Compensation.

(a) Base Salary. During the Employment Period, the Company shall pay to Employee an annualized base salary of \$[_____] (the “**Base Salary**”) in consideration for Employee’s services under this Agreement, payable in substantially equal installments in conformity with the Company’s customary payroll practices for similarly situated employees as may exist from time to time, but no less frequently than monthly.

(b) Annual Bonus. Employee shall be eligible for discretionary bonus compensation for each complete calendar year that Employee is employed by the Company hereunder (the “**Annual Bonus**”). The performance targets that must be achieved in order to be eligible for certain bonus levels shall be established by the Board (or a committee thereof) annually, in its sole discretion, and communicated to Employee within the first ninety (90) days of the applicable calendar year (the “**Bonus Year**”). Each Annual Bonus, if any, shall be paid as soon as administratively feasible after the Board (or a committee thereof) certifies whether the applicable performance targets for the applicable Bonus Year have been achieved; and in all events during the calendar year following the calendar year with respect to which such Annual Bonus was earned. Notwithstanding anything in this Section 3(b) to the contrary, no Annual Bonus, if any, nor any portion thereof, shall be payable for any Bonus Year unless Employee remains continuously employed by the Company from the Effective Date through the last day of the applicable Bonus Year, except that, in the event that Employee’s employment terminates pursuant to Section 7(b), 7(c), 7(d) or 7(g), or upon the expiration of the then-existing Initial Term or Renewal Term, as applicable, as a result of a non-renewal of this Agreement by the Company pursuant to Section 4), Employee shall be eligible to receive a *pro rata* bonus for the calendar year in which such termination occurs, payable on the date annual bonuses are paid to similarly situated employees who have continued employment with the Company; *provided* that Employee executes on or before the Release Expiration Date (as defined below), and does not revoke within the time provided by the Company to do so, a Release (as defined below).

(c) Long-Term Incentive Plan Awards. Employee shall be eligible to receive annual awards under the Rosehill Resources Inc. Long-Term Incentive Plan or any successor thereto (such plan, the “**LTIP**”) on such terms and conditions as the Board (or a committee thereof) shall determine from time to time. All awards granted to Employee under the LTIP, if any, shall be subject to and governed by the terms and provisions of the LTIP as in effect from time to time and the award agreements evidencing such awards. Nothing herein shall be construed to give Employee any rights to any amount or type of grant or award except as provided in a written award agreement provided to Employee and authorized by the Board (or a committee thereof).

4. Term of Employment. The initial term of Employee’s employment under this Agreement shall be for the period beginning on the Effective Date, and ending on the second anniversary of the Effective Date (the “**Initial Term**”). On the second anniversary of the Effective Date and on each subsequent anniversary thereafter, the term of Employee’s employment under this Agreement shall automatically renew and extend for a period of twelve (12) months (each such twelve-month period being a “**Renewal Term**”) unless written notice of non-renewal is delivered by either party to the other not less

than thirty (30) days prior to the expiration of the then-existing Initial Term or Renewal Term, as applicable. Notwithstanding any other provision of this Agreement, Employee's employment pursuant to this Agreement may be terminated at any time in accordance with Section 7. In addition, in event the Company delivers a written notice of non-renewal to Employee in anticipation of or during the 18-month period following the occurrence of a Change in Control (as defined below), the termination of Employee's employment upon or following the expiration of the Employment Period (as defined below) shall be treated as a termination of Employee's employment hereunder and shall entitle the Employee to payments and benefits described in Section 7(g) of this Agreement. The period from the Effective Date through the expiration of this Agreement or, if sooner, the termination of Employee's employment pursuant to this Agreement, regardless of the time or reason for such termination, shall be referred to herein as the "**Employment Period**."

5. **Business Expenses.** Subject to Section 22 and the Company's policies then in effect, the Company shall reimburse Employee for Employee's reasonable out-of-pocket business-related expenses actually incurred in the performance of Employee's duties under this Agreement so long as Employee timely submits all documentation for such reimbursement, as required by Company policy in effect from time to time. Any such reimbursement of expenses shall be made by the Company upon or as soon as practicable following receipt of such documentation (but in any event not later than the close of Employee's taxable year following the taxable year in which the expense is incurred by Employee). In no event shall any reimbursement be made to Employee for such expenses incurred after the date of Employee's termination of employment with the Company.

6. **Benefits; Vacation.**

(a) **Benefits.** During the Employment Period, Employee shall be eligible to participate in the same benefit plans and programs in which other similarly situated Company employees are eligible to participate, subject to the terms and conditions of the applicable plans and programs in effect from time to time. The Company shall not, however, by reason of this Section 6, be obligated to institute, maintain, or refrain from changing, amending, or discontinuing, any such plan or policy, so long as such changes are similarly applicable to similarly situated Company employees generally.

(b) **Vacation.** Employee shall be eligible to take up to 288 hours/36 days paid vacation each complete calendar year (an aggregate of forty (40) hours (which equals five days) of which may be carried forward to succeeding calendar years), which shall accrue and be taken, and which may increase, in accordance with the Company's vacation policy as in effect from time to time. Employee shall cease accruing vacation as of any time that Employee has accrued 288 hours of unused vacation, and Employee shall resume accruing vacation in accordance with this Section 6(b) only after Employee's accrued, unused vacation is less than 288 hours.

7. **Termination of Employment.**

(a) **Company's Right to Terminate Employee's Employment for Cause.** The Company shall have the right to terminate Employee's employment hereunder at any time for "Cause." For purposes of this Agreement, "**Cause**" shall mean:

(i) Employee's material breach of this Agreement or any other written agreement between Employee and one or more members of the Company Group, including Employee's breach of any material representation, warranty or covenant made under any such agreement, or Employee's breach of any policy or code of conduct established by a member of the Company Group and applicable to Employee;

(ii) the commission of an act of gross negligence, willful misconduct, breach of fiduciary duty, fraud, theft or embezzlement on the part of Employee;

(iii) the commission by Employee of, or conviction or indictment of Employee for, or plea of *nolo contendere* by Employee to, any felony (or state law equivalent) or any crime involving moral turpitude; or

(iv) Employee's willful failure or refusal, other than due to Disability, to perform Employee's obligations pursuant to this Agreement or to follow any lawful directive from the Board, as determined by the Board (sitting without Employee, if applicable) or the Chief Executive Officer of Parent ("**CEO**"); *provided, however*, that if Employee's actions or omissions as set forth in this Section 7(a)(iv) are of such a nature that the Board or the CEO determines that they are curable by Employee, such actions or omissions must remain uncured thirty (30) days after the Board or the CEO has provided Employee written notice of the obligation to cure such actions or omissions.

(b) Company's Right to Terminate for Convenience. The Company shall have the right to terminate Employee's employment for convenience at any time and for any reason, or no reason at all, upon written notice to Employee.

(c) Employee's Right to Terminate for Good Reason. Employee shall have the right to terminate Employee's employment with the Company at any time for "Good Reason." For purposes of this Agreement, "**Good Reason**" shall mean:

(i) a material diminution in Employee's Base Salary (other than an across-the-board reduction that affects similarly-situated employees in substantially the same proportion as Employee) or authority, duties and responsibilities with the Company or its Subsidiaries; *provided, however*, that if Employee is serving as an officer or member of the board of directors (or similar governing body) of any member of the Company Group or any other entity in which a member of the Company Group holds an equity interest, in no event shall the removal of Employee as an officer or board member, regardless of the reason for such removal, constitute Good Reason;

(ii) a material breach by the Company of any of its covenants or obligations under this Agreement; or

(iii) the relocation of the geographic location of Employee's principal place of employment (1) by more than fifty (50) miles from the location of Employee's principal place of employment as of the Effective Date, or (2) that results in a commute of more than seventy-five (75) miles from Executive's primary residence to his or her principal place of employment.

Notwithstanding the foregoing provisions of this Section 7(c) or any other provision of this Agreement to the contrary, any assertion by Employee of a termination for Good Reason shall not be effective unless all of the following conditions are satisfied: (A) the condition described in Section 7(c)(i), (ii) or (iii) giving rise to Employee's termination of employment must have arisen without Employee's consent; (B) Employee must provide written notice to the Board of the existence of such condition(s) within thirty (30) days of the initial existence of such condition(s); (C) the condition(s) specified in such notice must remain uncorrected for thirty (30) days following the Board's receipt of such written notice; and (D) the date of Employee's termination of employment must occur within sixty (60) days after the initial existence of the condition(s) specified in such notice.

(d) Death or Disability. Upon the death or Disability of Employee, Employee's employment with Company shall terminate with no further obligation under this Agreement of either party hereunder except as provided in Section 3(b). For purposes of this Agreement, a "**Disability**" shall exist if Employee is unable to perform the essential functions of Employee's position (after accounting for reasonable accommodation, if applicable), due to an illness or physical or mental impairment or other incapacity that continues, or can reasonably be expected to continue, for a period in excess of one hundred-twenty (120) consecutive days or one hundred-eighty (180) days in any twelve (12)-month period, whether or not consecutive. The determination of whether Employee has incurred a Disability shall be made in good faith by the Board.

(e) Employee's Right to Terminate for Convenience. In addition to Employee's right to terminate Employee's employment for Good Reason, Employee shall have the right to terminate Employee's employment with the Company for convenience at any time and for any other reason, or no reason at all, upon thirty (30) days' advance written notice to the Company; *provided, however*, that if Employee has provided notice to the Company of Employee's termination of employment, the Company may determine, in its sole discretion, that such termination shall be effective on any date prior to the effective date of termination provided in such notice (and, if such earlier date is so required, then it shall not change the basis for Employee's termination of employment nor be construed or interpreted as a termination of employment pursuant to Section 7(b)).

(f) Effect of Termination.

(i) If Employee's employment hereunder is terminated by the Company without Cause pursuant to Section 7(b) (including upon the expiration of the then-existing Initial Term or Renewal Term, as applicable, as a result of a non-renewal of this Agreement by the Company pursuant to Section 4), or is terminated by Employee for Good Reason pursuant to Section 7(c), then so long as (and only if) Employee: (A) executes on or before the Release Expiration Date, and does not revoke within the time provided by the Company to do so, a release of all claims in a form acceptable to the Company (the "**Release**"), which Release shall release each member of the Company Group and their respective affiliates, and the foregoing entities' respective shareholders, members, partners, officers, managers, directors, fiduciaries, employees, representatives, agents and benefit plans (and fiduciaries of such plans) from any and all claims, including any and all causes of action arising out of Employee's employment with the Company and any other member of the Company Group or the termination of such employment, but excluding all claims to severance payments Employee may have under this Section 7; and (B) abides by the terms of each of Sections 9, 10 and 11, then the Company shall make a severance

payment to Employee in a total amount equal to twelve (12) months' worth of Employee's Base Salary (without regard to any reduction that gives rise to Good Reason) for the year in which such termination occurs (such total severance payments being referred to as the "**Severance Payment**"). The Severance Payment will be paid in a single lump sum on the first business day of the Company that is on or after the date that is sixty (60) days after the date on which Employee's employment terminates (the "**Termination Date**").

(ii) Notwithstanding anything herein to the contrary, the Severance Payment (and any portion thereof) shall not be payable if Employee's employment hereunder terminates upon the expiration of the then-existing Initial Term or Renewal Term, as applicable, as a result of a non-renewal of this Agreement by Employee pursuant to Section 4.

(iii) If the Release is not executed and returned to the Company on or before the Release Expiration Date, or the required revocation period has not fully expired without revocation of the Release by Employee, then Employee shall not be entitled to any portion of the Severance Payment. As used herein, the "**Release Expiration Date**" is that date that is twenty-one (21) days following the date upon which the Company delivers the Release to Employee (which shall occur no later than seven (7) days after the Termination Date) or, in the event that such termination of employment is "in connection with an exit incentive or other employment termination program" (as such phrase is defined in the Age Discrimination in Employment Act of 1967, as amended), the date that is forty-five (45) days following such delivery date.

(a) Termination upon Change in Control. In lieu of the payments and benefits set forth in Section 7(f)(i), in the event Employee's employment terminates without Cause or due to Employee's resignation with Good Reason, in either case, in anticipation of or on or within eighteen (18) months following the date of a Change in Control, subject to Employee signing on or before the Release Expiration Date, and not revoking, the Release, Employee shall receive (x) an amount in cash equal to 18 months' worth of Employee's Base Salary (without regard to any reduction that gives rise to Good Reason) for the year in which such termination occurs; (y) an amount in cash equal to 1.5 times the average Annual Bonus earned by Employee for each of the three completed calendar years (or such shorter period and annualized for partial years as applicable) preceding the date on which Employee's employment terminates; and (z) a lump sum payment in an amount equal to the aggregate premiums that would be payable by Employee for continuation coverage under the Consolidated Omnibus Budget Reconciliation Act, as amended ("COBRA") for Employee and his or her covered dependents' continued health and dental coverage for 18 months following the termination date. All such amounts shall be payable in a single lump sum not later than the first business day of the Company that is on or after the date that is sixty (60) days after the date on which Employee's employment terminates. For the purposes of this Agreement, the term "**Change in Control**" means the occurrence of any of the following events:

(i) The acquisition by any individual, entity or group (within the meaning of Section 13(d)(3) or 14(d)(2) of the Securities Exchange Act of 1934, as amended from time to time (the "**Exchange Act**") of beneficial ownership (within the meaning of Rule 13d-3 promulgated under the Exchange Act) of at least 50% of the combined voting power entitled to vote generally in the election of directors of the Parent ("**Voting Securities**"); provided, however, that the following shall not constitute a Change in Control: (1) any such acquisition by any employee benefit plan (or related trust) sponsored or maintained by any member of the Company

Group, (2) any such acquisition by or transfer to any Affiliate, or (3) any such acquisition resulting from Tema Oil & Gas Company's (or any successor thereto) conversion of its Class B Common Stock in Parent into Class A Common Stock of Parent;

(ii) The individuals constituting the Board on the Effective Date (the "**Incumbent Directors**") cease for any reason (other than death or disability) to constitute at least majority of the Board; provided, however, that any individual becoming a director subsequent to the Effective Date whose election, or nomination for election, by Parent's stockholders was approved by a vote of at least two-thirds of the Incumbent Directors (either by a specific vote or by approval of the proxy statement of Parent in which such person is named as a nominee for director, without objection to such nomination) will be considered as though such individual were an Incumbent Director, but excluding, for purposes of this proviso, any such individual whose initial assumption of office occurs as a result of an actual or threatened proxy contest with respect to election or removal of directors or other actual or threatened solicitation of proxies or consents by or on behalf of a "person" (as used in Section 13(d) of the Exchange Act), in each case, other than the Board, which individual, for the avoidance of doubt, shall not be deemed to be an Incumbent Director for purposes of this definition, regardless of whether such individual was approved by a vote of at least two-thirds of the Incumbent Directors;

(iii) The stockholders of the Parent shall approve a reorganization, merger or consolidation, in each case, with respect to which persons who were the stockholders of the Parent immediately prior to such reorganization, merger or consolidation do not, immediately thereafter, directly or indirectly, own outstanding voting securities representing at least fifty-one percent (51%) of the Voting Securities of the reorganized, merged or consolidated company; or

(iv) a sale of all or substantially all of the assets of the Parent.

For purposes hereof, "Affiliate" means any corporation, partnership, limited liability company, limited liability partnership, association, trust or other organization that, directly or indirectly, controls, is controlled by, or is under common control with, Parent. For purposes of the preceding sentence, "control" (including, with correlative meanings, the terms "controlled by" and "under common control with"), as used with respect to any entity or organization, shall mean the possession, directly or indirectly, of the power (i) to vote more than 50% of the securities having ordinary voting power for the election of directors of the controlled entity or organization or (ii) to direct or cause the direction of the management and policies of the controlled entity or organization, whether through the ownership of voting securities, by contract, or otherwise.

8. **Disclosures.** Promptly upon (and in any event, within three business days following) becoming aware of (a) any actual or potential Conflict of Interest or (b) any lawsuit, claim or arbitration filed against or involving Employee or any trust or vehicle owned or controlled by Employee, in each case, Employee shall disclose such actual or potential Conflict of Interest or such lawsuit, claim or arbitration to the Board. A "**Conflict of Interest**" shall exist when Employee engages in, or plans to engage in, any activities, associations, or interests that conflict with Employee's duties, responsibilities, authorities, or obligations for and to the Company Group.

9. **Confidentiality.** In the course of Employee's employment with the Company and the performance of Employee's duties on behalf of the Company Group, Employee has been and will continue to be provided with, and has had and will continue to have access to, Confidential Information (as defined below). In consideration of Employee's receipt and access to such Confidential Information and in exchange for other valuable consideration provided hereunder, and as a condition of Employee's employment, Employee shall comply with this Section 9.

(a) Both during the Employment Period and thereafter, except as expressly permitted by this Agreement or by directive of the Board, Employee shall not disclose any Confidential Information to any person or entity and shall not use any Confidential Information except for the benefit of the Company Group. Employee acknowledges and agrees that Employee would inevitably use and disclose Confidential Information in violation of this Section 9 if Employee were to violate any of the covenants set forth in Section 10. Employee shall follow all Company policies and protocols regarding the physical security of all documents and other material containing Confidential Information (regardless of the medium on which Confidential Information is stored). The covenants of this Section 9(a) shall apply to all Confidential Information, whether now known or later to become known to Employee during the period that Employee is employed by or affiliated with the Company or any other member of the Company Group.

(b) Notwithstanding any provision of Section 9(a) to the contrary, Employee may make the following disclosures and uses of Confidential Information:

(i) disclosures to other employees of the Company Group who have a need to know the information in connection with the businesses of the Company Group;

(ii) disclosures to customers and suppliers when, in the reasonable and good faith belief of Employee, such disclosure is in connection with Employee's performance of Employee's duties under this Agreement and is in the best interests of the Company Group;

(iii) disclosures and uses that are approved in writing by the Board; or

(iv) disclosures to a person or entity that has (x) been retained by a member of the Company Group to provide services to one or more members of the Company Group and (y) agreed in writing to abide by the terms of a confidentiality agreement.

(c) Upon the expiration of the Employment Period and at any other time upon request of the Company, Employee shall promptly surrender and deliver to the Company all documents (including electronically stored information) and all copies thereof and all other materials of any nature containing or pertaining to all Confidential Information in Employee's possession, custody or control and Employee shall not retain any such document or other materials. Within five (5) business days following any such request, Employee shall certify to the Company in writing that all such documents and materials have been returned to the Company. Notwithstanding any provision herein to the contrary, if Employee and Company are involved in a dispute at the expiration of the Employment Period or at any other time that a return of documents or other materials is requested by the Company, Employee shall be entitled to deliver a record copy of any documents and materials relevant to such dispute to Employee's attorney for

retention until such time as such dispute is resolved; *provided, that* Employee's attorney agrees in writing to be bound by the confidentiality obligations set forth in this Section 9.

(d) All trade secrets, non-public information, designs, ideas, concepts, improvements, product developments, discoveries and inventions, whether patentable or not, that are conceived, made, developed or acquired by or disclosed to Employee, individually or in conjunction with others, during the period that Employee is employed by the Company or any other member of the Company Group (whether during business hours or otherwise and whether on the Company's premises or otherwise) that relate to any member of the Company Group's businesses or properties, products or services (including all such information relating to business opportunities, operations, future plans, methods of doing business, business plans, strategies for developing business and market share, research, financial and sales data, pricing terms, evaluations, opinions, interpretations, analyses, compilations, forecasts, studies, geophysical data, engineering analyses or reports, geological maps and data, well logs, cartographic data, reserve engineering data, samples, acquisition prospects, lists of mineral interests and lease holders, project costs and related details, the identity of customers, producers, gatherers or service providers or their requirements, the identity of key contacts within the organizations of customers, producers, gatherers, service providers or acquisition prospects, or marketing and merchandising techniques, prospective names and marks) is defined as "**Confidential Information**." Moreover, all documents, videotapes, written presentations, brochures, drawings, memoranda, notes, records, files, correspondence, manuals, models, specifications, computer programs, e-mail, voice mail, electronic databases, maps, drawings, architectural renditions, models and all other writings or materials of any type including or embodying any of such information, ideas, concepts, improvements, discoveries, inventions and other similar forms of expression are and shall be the sole and exclusive property of the Company Group and be subject to the same restrictions on disclosure applicable to all Confidential Information pursuant to this Agreement. For purposes of this Agreement, Confidential Information shall not include any information that (i) is or becomes generally available to the public other than as a result of a disclosure or wrongful act of Employee or any of Employee's agents; (ii) was available to Employee on a non-confidential basis before its disclosure by a member of the Company Group; or (iii) becomes available to Employee on a non-confidential basis from a source other than a member of the Company Group; *provided, however*, such source is not bound by a confidentiality agreement with, or other obligation with respect to confidentiality to, a member of the Company Group.

(e) Notwithstanding the rest of this Section 9:

(i) Employee shall not be prevented from, nor shall Employee be criminally or civilly liable under any federal or state trade secret law for, making a disclosure of trade secrets or other Confidential Information that is: (A) made (x) in confidence to a federal, state or local government official, either directly or indirectly, or to an attorney, and (y) solely for the purpose of reporting or investigating a suspected violation of applicable law; (B) made in a complaint or other document filed in a lawsuit or other proceeding, if such filing is made under seal; or (C) protected under the whistleblower provisions of applicable law; and

(ii) in the event Employee files a lawsuit for retaliation by the Company for Employee's reporting of a suspected violation of law, Employee may (A) disclose a trade secret to Employee's attorney and (B) use the trade secret information in the court proceeding related to

such lawsuit, in each case, if Employee (x) files any document containing such trade secret under seal; and (y) does not otherwise disclose such trade secret, except pursuant to court order.

(iii) Employee shall be permitted to disclose only his post-Employment Period restrictions in this Agreement in confidence to any bona fide potential new employer or financing source.

10. Non-Competition; Non-Solicitation.

(a) The Company has provided and shall continue to provide Employee access to Confidential Information for use only during the Employment Period, and Employee acknowledges and agrees that the Company Group will be entrusting Employee, in Employee's unique and special capacity, with developing the goodwill of the Company Group, and in consideration thereof and in consideration of the Company providing Employee with access to Confidential Information and as an express incentive for the Company to enter into this Agreement and continue to employ Employee, Employee has voluntarily agreed to the covenants set forth in this Section 10. Employee agrees and acknowledges that the limitations and restrictions set forth herein, including geographical and temporal restrictions on certain competitive activities, are reasonable in all respects, will not cause Employee undue hardship, and are material and substantial parts of this Agreement intended and necessary to prevent unfair competition and to protect the Company Group's Confidential Information, goodwill and substantial and legitimate business interests.

(b) During the Prohibited Period, Employee shall not, without the prior written approval of the Board, directly or indirectly, for Employee or on behalf of or in conjunction with any other person or entity of any nature:

(i) engage in or participate within the Market Area in competition with any member of the Company Group in any aspect of the Business, which prohibition shall prevent Employee from directly or indirectly owning, managing, operating, joining, becoming an officer, director, employee or consultant of, or loaning money to, or selling or leasing equipment or real estate to or otherwise being affiliated with any person or entity engaged in, or planning to engage in, the Business in the Market Area in competition, or anticipated competition, with any member of the Company Group;

(ii) appropriate any Business Opportunity of, or relating to, the Company Group located in the Market Area;

(iii) solicit, canvass, approach, encourage, entice or induce any customer or supplier of any member of the Company Group to cease or lessen such customer's or supplier's business with the Company Group; or

(iv) solicit, canvass, approach, encourage, entice or induce any employee, consultant or contractor of the Company Group to terminate his, her or its employment or engagement with any member of the Company Group.

(c) Because of the difficulty of measuring economic losses to the Company Group as a result of a breach or threatened breach of the covenants set forth in Section 9 and in this Section 10, and

because of the immediate and irreparable damage that would be caused to the members of the Company Group for which they would have no other adequate remedy, the Company and each other member of the Company Group shall be entitled to enforce the foregoing covenants, in the event of a breach or threatened breach, by injunctions and restraining orders from any court of competent jurisdiction, without the necessity of showing any actual damages or that money damages would not afford an adequate remedy, and without the necessity of posting any bond or other security. The aforementioned equitable relief shall not be the Company's or any other member of the Company Group's exclusive remedy for a breach but instead shall be in addition to all other rights and remedies available to the Company and each other member of the Company Group at law and equity.

(d) The covenants in this Section 10, and each provision and portion hereof, are severable and separate, and the unenforceability of any specific covenant (or portion thereof) shall not affect the provisions of any other covenant (or portion thereof). Moreover, in the event any arbitrator or court of competent jurisdiction shall determine that the scope, time or territorial restrictions set forth are unreasonable, then it is the intention of the parties that such restrictions be enforced to the fullest extent which such arbitrator or court deems reasonable, and this Agreement shall thereby be reformed.

(e) The following terms shall have the following meanings:

(i) “**Business**” shall mean the business and operations that are the same or similar to those performed by the Company and any other member of the Company Group for which Employee provides services or about which Employee obtains Confidential Information during the Employment Period, which business and operations include the exploration or production of oil or natural gas.

(ii) “**Business Opportunity**” shall mean any commercial, investment or other business opportunity relating to the Business.

(iii) “**Market Area**” shall mean (a) Loving, Reeves, Culberson, Pecos, Ward, Winkler counties in the State of Texas; (b) Lea and Eddy counties in the State of New Mexico; (c) Wise County, Texas (for so long as a member of the Company Group owns or leases any assets within such county); and (d) any other any county in which any member of the Company Group conducts Business during the Employment Period.

(iv) “**Prohibited Period**” shall mean the period during which Employee is employed by the Company or any other member of the Company Group and continuing for a period of twelve (12) months following the date that Employee is no longer employed by the Company or any other member of the Company Group; provided, however, that the Prohibited Period shall end immediately in the event the Company Group terminates Employee's employment without Cause or Employee resigns with Good Reason, in either case, in anticipation of or on or within eighteen (18) months following the date of a Change in Control.

(f) Notwithstanding anything in this Section 10 to the contrary, nothing in this Section 10 shall be deemed to prohibit Employee from becoming employed or engaged by, or providing services to or for the benefit of any publicly traded company (whether or not such company directly or indirectly owns assets or conducts business in the Market Area) so long as Employee provides services to

a separate business segment of such Company that is not directly or indirectly engaged in the Business and is otherwise not actively involved in the Business within the Market Area.

11. **Ownership of Intellectual Property.** Employee agrees that the Company shall own, and Employee shall (and hereby does) assign, all right, title and interest (including patent rights, copyrights, trade secret rights, mask work rights, trademark rights, and all other intellectual and industrial property rights of any sort throughout the world) relating to any and all inventions (whether or not patentable), works of authorship, mask works, designs, know-how, ideas and information authored, created, contributed to, made or conceived or reduced to practice, in whole or in part, by Employee during the period in which Employee is or has been employed by or affiliated with the Company or any other member of the Company Group that either (a) relate, at the time of conception, reduction to practice, creation, derivation or development, to any member of the Company Group's businesses or actual or anticipated research or development, or (b) were developed on any amount of the Company's or any other member of the Company Group's time or with the use of any member of the Company Group's equipment, supplies, facilities or trade secret information (all of the foregoing collectively referred to herein as "**Company Intellectual Property**"), and Employee shall promptly disclose all Company Intellectual Property to the Company. All of Employee's works of authorship and associated copyrights created during the period in which Employee is employed by or affiliated with the Company or any member of the Company Group and in the scope of Employee's employment shall be deemed to be "works made for hire" within the meaning of the Copyright Act. Employee shall perform, during and after the period in which Employee is or has been employed by or affiliated with the Company or any other member of the Company Group, all reasonable acts deemed necessary by the Company to assist the Company Group, at the Company's expense, in obtaining and enforcing its rights throughout the world in the Company Intellectual Property. Such acts may include execution of documents and assistance or cooperation (i) in the filing, prosecution, registration, and memorialization of assignment of any applicable patents, copyrights, mask work, or other applications, (ii) in the enforcement of any applicable patents, copyrights, mask work, moral rights, trade secrets, or other proprietary rights, and (iii) in other legal proceedings related to the Company Intellectual Property.

12. **Defense of Claims.** During the Employment Period and thereafter, upon request from the Company, Employee shall cooperate with the Company Group in the defense of any claims or actions that may be made by or against any member of the Company Group that relate to Employee's actual or prior areas of responsibility. The Company shall pay or reimburse Employee for all of Employee's reasonable travel and other direct expenses reasonably incurred, to comply with Employee's obligations under this Section 12, so long as Employee provides reasonable documentation of such expenses and obtains the Company's prior approval before incurring such expenses.

13. **Withholdings; Deductions.** The Company may withhold and deduct from any benefits and payments made or to be made pursuant to this Agreement (a) all federal, state, local and other taxes as may be required pursuant to any law or governmental regulation or ruling and (b) any deductions consented to in writing by Employee.

14. **Title and Headings; Construction.** Titles and headings to Sections hereof are for the purpose of reference only and shall in no way limit, define or otherwise affect the provisions hereof. Unless the context requires otherwise, all references herein to an agreement, instrument or other document shall be deemed to refer to such agreement, instrument or other document as amended,

supplemented, modified and restated from time to time to the extent permitted by the provisions thereof. All references to “dollars” or “\$” in this Agreement refer to United States dollars. The words “herein”, “hereof”, “hereunder” and other compounds of the word “here” shall refer to the entire Agreement and not to any particular provision hereof. Wherever the context so requires, the masculine gender includes the feminine or neuter, and the singular number includes the plural and conversely. All references to the word “including” shall be construed as meaning “including without limitation.” Neither this Agreement nor any uncertainty or ambiguity herein shall be construed or resolved against any party hereto, whether under any rule of construction or otherwise. On the contrary, this Agreement has been reviewed by each of the parties hereto and shall be construed and interpreted according to the ordinary meaning of the words used so as to fairly accomplish the purposes and intentions of the parties hereto.

15. **Applicable Law; Submission to Jurisdiction.** This Agreement shall in all respects be construed according to the laws of the State of Texas without regard to its conflict of laws principles that would result in the application of the laws of another jurisdiction. With respect to any claim or dispute related to or arising under this Agreement, the parties hereby consent to the exclusive jurisdiction, forum and venue of the state and federal courts (as applicable) located in the Houston, Texas.

16. **Entire Agreement and Amendment.** This Agreement contains the entire agreement of the parties with respect to the matters covered herein and supersedes all prior and contemporaneous agreements and understandings, oral or written, between the parties hereto concerning the subject matter hereof. This Agreement may be amended only by a written instrument executed by both parties hereto.

17. **Waiver of Breach.** Any waiver of this Agreement must be executed by the party to be bound by such waiver. No waiver by either party hereto of a breach of any provision of this Agreement by the other party, or of compliance with any condition or provision of this Agreement to be performed by such other party, will operate or be construed as a waiver of any subsequent breach by such other party or any similar or dissimilar provision or condition at the same or any subsequent time. The failure of either party hereto to take any action by reason of any breach will not deprive such party of the right to take action at any time.

18. **Assignment.** This Agreement is personal to Employee, and neither this Agreement nor any rights or obligations hereunder shall be assignable or otherwise transferred by Employee. The Company may assign this Agreement without Employee’s consent, including to any member of the Company Group and to any successor (whether by merger, purchase or otherwise) to all or substantially all of the equity, assets or businesses of the Company.

19. **Notices.** Notices provided for in this Agreement shall be in writing and shall be deemed to have been duly received (a) when delivered in person, (b) when sent by facsimile transmission (with confirmation of transmission) on a Business Day to the number set forth below, if applicable; *provided, however*, that if a notice is sent by facsimile transmission after normal business hours of the recipient or on a non-Business Day, then it shall be deemed to have been received on the next Business Day after it is sent, (c) on the first Business Day after such notice is sent by express overnight courier service, or (d) on the second Business Day following deposit with an internationally-recognized second-day courier service with proof of receipt maintained, in each case, to the following address, as applicable:

If to the Company, addressed to:

Rosehill Operating Company, LLC
16200 Park Row, Suite 300
Houston, TX 77084
Facsimile: (281) 829-0856
Attention: Chief Executive Officer

If to Employee, addressed to:

Employee's last known address on file with the Company.

20. **Counterparts.** This Agreement may be executed in any number of counterparts, including by electronic mail or facsimile, each of which when so executed and delivered shall be an original, but all such counterparts shall together constitute one and the same instrument. Each counterpart may consist of a copy hereof containing multiple signature pages, each signed by one party, but together signed by both parties hereto.

21. **Deemed Resignations.** Except as otherwise determined by the Board or as otherwise agreed to in writing by Employee and any member of the Company Group prior to the termination of Employee's employment with the Company or any member of the Company Group, any termination of Employee's employment shall constitute, as applicable, an automatic resignation of Employee: (a) as an officer of the Company and each member of the Company Group; (b) from the Board; and (c) from the board of directors or board of managers (or similar governing body) of any member of the Company Group and from the board of directors or board of managers (or similar governing body) of any corporation, limited liability entity, unlimited liability entity or other entity in which any member of the Company Group holds an equity interest and with respect to which board of directors or board of managers (or similar governing body) Employee serves as such Company Group member's designee or other representative.

22. **Section 409A.**

(a) Notwithstanding any provision of this Agreement to the contrary, all provisions of this Agreement are intended to comply with Section 409A of the Internal Revenue Code of 1986, as amended (the "**Code**"), and the applicable Treasury regulations and administrative guidance issued thereunder (collectively, "**Section 409A**") or an exemption therefrom and shall be construed and administered in accordance with such intent. Any payments under this Agreement that may be excluded from Section 409A either as separation pay due to an involuntary separation from service or as a short-term deferral shall be excluded from Section 409A to the maximum extent possible. For purposes of Section 409A, each installment payment provided under this Agreement shall be treated as a separate payment. Any payments to be made under this Agreement upon a termination of Employee's employment shall only be made if such termination of employment constitutes a "separation from service" under Section 409A.

(b) To the extent that any right to reimbursement of expenses or payment of any benefit in-kind under this Agreement constitutes nonqualified deferred compensation (within the meaning

of Section 409A), (i) any such expense reimbursement shall be made by the Company no later than the last day of the taxable year following the taxable year in which such expense was incurred by Employee, (ii) the right to reimbursement or in-kind benefits shall not be subject to liquidation or exchange for another benefit, and (iii) the amount of expenses eligible for reimbursement or in-kind benefits provided during any taxable year shall not affect the expenses eligible for reimbursement or in-kind benefits to be provided in any other taxable year; *provided*, that the foregoing clause shall not be violated with regard to expenses reimbursed under any arrangement covered by Section 105(b) of the Code solely because such expenses are subject to a limit related to the period in which the arrangement is in effect.

(c) Notwithstanding any provision in this Agreement to the contrary, if any payment or benefit provided for herein would be subject to additional taxes and interest under Section 409A if Employee's receipt of such payment or benefit is not delayed until the earlier of (i) the date of Employee's death or (ii) the date that is six (6) months after the Termination Date (such date, the "**Section 409A Payment Date**"), then such payment or benefit shall not be provided to Employee (or Employee's estate, if applicable) until the Section 409A Payment Date. Notwithstanding the foregoing, the Company makes no representations that the payments and benefits provided under this Agreement are exempt from, or compliant with, Section 409A and in no event shall any member of the Company Group be liable for all or any portion of any taxes, penalties, interest or other expenses that may be incurred by Employee on account of non-compliance with Section 409A.

23. **Certain Excise Taxes.** Notwithstanding anything to the contrary in this Agreement, if Employee is a "disqualified individual" (as defined in Section 280G(c) of the Code), and the payments and benefits provided for in this Agreement, together with any other payments and benefits which Employee has the right to receive from the Company or any of its affiliates, would constitute a "parachute payment" (as defined in Section 280G(b)(2) of the Code), then the payments and benefits provided for in this Agreement shall be either (i) reduced (but not below zero) so that the present value of such total amounts and benefits received by Employee from the Company or any of its affiliates shall be one dollar (\$1.00) less than three times Employee's "base amount" (as defined in Section 280G(b)(3) of the Code) and so that no portion of such amounts and benefits received by Employee shall be subject to the excise tax imposed by Section 4999 of the Code or (ii) paid in full, whichever produces the better net after-tax position to Employee (taking into account any applicable excise tax under Section 4999 of the Code and any other applicable taxes). The reduction of payments and benefits hereunder, if applicable, shall be made by reducing, first, payments or benefits to be paid in cash hereunder in the order in which such payment or benefit would be paid or provided (beginning with such payment or benefit that would be made last in time and continuing, to the extent necessary, through to such payment or benefit that would be made first in time) and, then, reducing any benefit to be provided in-kind hereunder in a similar order. The determination as to whether any such reduction in the amount of the payments and benefits provided hereunder is necessary shall be made by the Company in good faith. If a reduced payment or benefit is made or provided and through error or otherwise that payment or benefit, when aggregated with other payments and benefits from the Company or any of its affiliates used in determining if a "parachute payment" exists, exceeds one dollar (\$1.00) less than three times Employee's base amount, then Employee shall immediately repay such excess to the Company upon notification that an overpayment has been made. Nothing in this Section 24 shall require the Company to be responsible for, or have any liability or obligation with respect to, Employee's excise tax liabilities under Section 4999 of the Code.

24. **Clawback.** To the extent required by applicable law or any applicable securities exchange listing standards, or as otherwise determined by the Board (or a committee thereof), amounts paid or payable under this Agreement shall be subject to the provisions of any applicable clawback policies or procedures adopted by the Company, which clawback policies or procedures may provide for forfeiture and/or recoupment of amounts paid or payable under this Agreement. Notwithstanding any provision of this Agreement to the contrary, the Company reserves the right, without the consent of Employee, to adopt any such clawback policies and procedures, including such policies and procedures applicable to this Agreement with retroactive effect.

25. **Effect of Termination.** The provisions of Sections 7, 9-13 and 21 and those provisions necessary to interpret and enforce them, shall survive any termination of this Agreement and any termination of the employment relationship between Employee and the Company.

26. **Third-Party Beneficiaries.** Each member of the Company Group that is not a signatory to this Agreement shall be a third-party beneficiary of Employee's obligations under Sections 8, 9, 10, 11 and 12 and shall be entitled to enforce such obligations as if a party hereto.

27. **Severability.** If an arbitrator or court of competent jurisdiction determines that any provision of this Agreement (or portion thereof) is invalid or unenforceable, then the invalidity or unenforceability of that provision (or portion thereof) shall not affect the validity or enforceability of any other provision of this Agreement, and all other provisions shall remain in full force and effect.

*[Remainder of Page Intentionally Blank;
Signature Page Follows]*

IN WITNESS WHEREOF, Employee and the Company each have caused this Agreement to be executed and effective as of the date first above written.

EMPLOYEE

By: _____
Name: _____

ROSEHILL OPERATING COMPANY, LLC

By: _____
Name: David L. French
Title: President and Chief Executive Officer

SIGNATURE PAGE TO
SECOND AMENDED AND RESTATED EMPLOYMENT AGREEMENT

**AMENDMENT NO. 1 TO
CRUDE OIL GATHERING AGREEMENT**

This Amendment No. 1 to Crude Oil Gathering Agreement (this “Amendment”) is dated as of the 9th day of December, 2019 but effective as of October 1, 2018 (the “Effective Date”), by and between Gateway Gathering and Marketing Company (“Gatherer”) and Rosehill Operating Company, LLC (“Producer”). Gatherer and Producer are sometimes referred to in this Amendment individually as a “Party” and collectively as the “Parties.” Capitalized terms used and not defined in this Amendment have the respective meanings assigned to them in the Existing Agreement.

RECITALS

WHEREAS, Gatherer and Producer are parties to that certain Crude Oil Gathering Agreement dated April 27, 2017 (the “Existing Agreement”); and

WHEREAS, Gatherer and Producer desire to amend the Existing Agreement as hereinafter set forth.

AGREEMENT

In consideration of the premises and of the mutual covenants in this Amendment, together with other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged by each Party, the Parties agree as follows:

1. Amendments to Article 5 of the Existing Agreement.

a. The Parties hereby amend the Existing Agreement by adding capitalized term (in alphabetical order) to Section 1.1 of the Existing Agreement:

“Third Party Marketer” has the meaning given to it in Section 5.7.

b. The Parties hereby amend the Existing Agreement by adding a new Section 5.7 as follows:

Section 5.7 Third Party Shipper. Producer may assign or delegate this Agreement or any of its rights, interests or obligations hereunder to a third party marketer or to purchaser of Producer’s Dedicated Production (“Third Party Marketer”) to deliver the Dedicated Production on the System, which assignment will be subject to all terms, conditions and requirements of this Agreement. Such assignment or delegation shall not be subject to the prior written consent of Gatherer provided that Third Party Marketer enters into a Crude Oil Transportation or Crude Oil Shipping Agreement (which agreement will contain the same fee structure as set forth in this Agreement) with Gatherer’s subsidiary Raven Gathering System LLC; provided, that Gatherer shall use good faith efforts to timely enter into such agreement. Concurrently with any assignment by Producer to a Third Party Marketer pursuant to this Section 5.7, Producer must notify Gatherer in writing of: (i) the name, address, contact person and telephone number of the purchaser(s), agent for or recipient of the Dedicated Production, (ii) confirmation that the Third Party Marketer has been designated an agent to act on Producer’s behalf with regard to making nominations or scheduling Barrels of Product for delivery hereunder, (iv) the effective date or dates of sale and/or delivery and (v) the applicable sales point.

Further, notwithstanding any assignment by Producer to a Third Party Marketer under this Section 5.7, Producer shall not be relieved of any of its obligations under this Agreement and shall continue to remain liable for all such obligations.

2. Limited Effect. Except as expressly provided in this Amendment, all of the terms and provisions of the Existing Agreement are and will remain in full force and effect and are hereby ratified and confirmed by the Parties. On and after the Effective Date, each reference in the Existing Agreement to “this Agreement,” “the Agreement,” “hereunder,” “hereof,” “herein” or words of like import will mean and be a reference to the Existing Agreement as amended by this Amendment.

3. Representations and Warranties. Each Party hereby represents and warrants to the other Party that: (a) it has the full right, power and authority to enter into this Amendment and to perform its obligations hereunder and under the Existing Agreement as amended by this Amendment; (b) the execution of this Amendment by the individual whose signature is set forth at the end of this Amendment on behalf of such Party, and the delivery of this Amendment by such Party, have been duly authorized by all necessary action on the part of such Party; and (c) this Amendment has been executed and delivered by such Party and (assuming due authorization, execution and delivery by the other Party hereto) constitutes the legal, valid and binding obligation of such Party, enforceable against such Party in accordance with its terms.

4. Miscellaneous.

- a. This Amendment shall inure to the benefit of and be binding upon each of the Parties and each of their respective permitted successors and permitted assigns.
- b. The headings in this Amendment are for reference only and do not affect the interpretation of this Amendment.
- c. The Existing Agreement, as amended by this Amendment, constitutes the entire agreement of the Parties pertaining to the subject matter hereof and thereof, and supersedes all prior agreements, understandings, negotiations, and discussions, whether oral or written, of the Parties pertaining to the subject matter hereof and thereof. There are no warranties, representations, or other agreements among the Parties relating to the subject matter hereof or thereof except as specifically set forth in this Amendment or the Existing Agreement (as amended by this Amendment), including the exhibits thereto, and no Party shall be bound by or liable for any alleged representation, promise, inducement, or statement of intention not so set forth.
- d. Sections 17.4 - 17.11 of the Existing Agreement shall apply (and be incorporated herein) mutatis mutandis to this Amendment.

[SIGNATURE PAGE FOLLOWS]

IN WITNESS WHEREOF, the Parties have executed this Amendment as of the date set forth above.

GATHERER:

GATEWAY GATHERING AND MARKETING COMPANY

By: /s/ Paul J. Ebner
Name: Paul J. Ebner
Title: President

PRODUCER:

ROSEHILL OPERATING COMPANY, LLC

By: /s/ David Mora
Name: David Mora
Title: Vice President Commercial & Reserves

**ROSEHILL RESOURCES INC.
LONG-TERM INCENTIVE PLAN**

FORM OF CASH PERFORMANCE AWARD GRANT NOTICE

Pursuant to the terms and conditions of the Rosehill Resources Inc. Long-Term Incentive Plan, as amended from time to time (the “**Plan**”), Rosehill Resources Inc. (the “**Company**”) hereby grants to the individual listed below (“**you**” or the “**Participant**”) a Cash Performance Award (this “**Award**”), eligible to be earned in an amount ranging from [] to [] of the Target Aggregate Award as set forth below in this Cash Performance Award Grant Notice (this “**Grant Notice**”). This Award is subject to the terms and conditions set forth herein, in the Cash Performance Award Agreement attached hereto as Exhibit A (the “**Agreement**”), the Cash Performance Award Vesting Criteria and Methodology attached hereto as Exhibit B and the Plan attached hereto as Exhibit C, each of which is incorporated herein by reference. Capitalized terms used but not defined herein shall have the meanings set forth in the Plan.

Participant: _____

Date of Grant: _____ (“**Date of Grant**”)

Target Aggregate Award: _____ (“**Target Aggregate Award**”)

Target Quarterly Award Vesting Schedule: _____ (“**Target Quarterly Award**”)

Subject to the terms and conditions of the Agreement, the Plan and the other terms and conditions set forth herein, except as otherwise expressly provided in Section 2 of the Agreement, for each Performance Period (as defined below), you will be eligible to earn a percentage of the Target Quarterly Award (which may range from []% to []% in accordance with Exhibit B) (the “**Quarterly Cash Performance Award**”) which shall vest on the applicable Payment Date (as defined in Section 3 of the Agreement) provided that you remain continuously employed by the Company or an Affiliate, as applicable, from the Date of Grant through the end of the applicable Payment Date. The quarterly periods over which the Company’s performance will be measured for purposes of applying the methodology set forth in Exhibit B shall be from [] until [] (each quarterly period, a “**Performance Period**”).

For the final Performance Period ending [], you are eligible to earn a Quarterly Cash Performance Award *plus* the Annual Catch-Up Award (as defined in Exhibit B), upon the satisfaction of the aggregate performance criteria set forth in Exhibit B, as determined by the Committee in its discretion.

By signing below, you agree to be bound by the terms and conditions of the Plan, the Agreement and this Grant Notice. You acknowledge that you have reviewed in their entirety and fully understand all provisions of the Agreement, the Plan and this Grant Notice. You hereby agree to accept as binding, conclusive and final all decisions or interpretations of the Committee regarding any questions or determinations arising under the Agreement, the Plan or this Grant Notice.

In lieu of receiving documents in paper format, you agree, to the fullest extent permitted by applicable law, to accept electronic delivery of any documents that the Company may be required to deliver (including, but not limited to, prospectuses, prospectus supplements, account statements, annual and quarterly reports and all other forms of communications) in connection with this Award. Electronic delivery may be via a Company electronic mail system or by reference to a location on a Company intranet to which you have

access. You hereby consent to all procedures the Company has established or may establish for an electronic signature system for delivery and acceptance of any such documents.

[Remainder of Page Intentionally Blank;

Signature Page Follows]

IN WITNESS WHEREOF, the Company has caused this Grant Notice to be executed by an officer thereunto duly authorized, effective for all purposes as provided above.

ROSEHILL RESOURCES INC.

By: _____

Name:

Title:

PARTICIPANT

By: _____

Name:

Title:

EXHIBIT A

CASH PERFORMANCE AWARD AGREEMENT

This Cash Performance Award Agreement (together with the Grant Notice to which this Agreement is attached, this “**Agreement**”) is made as of the Date of Grant set forth in the Grant Notice (the “**Date of Grant**”) by and between Rosehill Resources Inc., a Delaware corporation (the “**Company**”), and _____ (the “**Participant**”). Capitalized terms used but not specifically defined herein shall have the meanings specified in the Plan or the Grant Notice.

1. **Award.** In consideration of the Participant’s past and/or continued employment with the Company or its Affiliates and for other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, effective as of the Date of Grant, the Company hereby grants to the Participant this Award, which entitles the Participant to an amount equal to between [] and [] of the Target Aggregate Award set forth in the Grant Notice, based on the achievement of the performance criteria set forth on Exhibit B, and subject to the terms and conditions set forth in the Grant Notice, this Agreement and the Plan, which is incorporated herein by reference as a part of this Agreement. In the event of any inconsistency between the Plan and this Agreement, the terms of the Plan shall control. This Award is a Cash Award granted pursuant to Section 6(i) of the Plan. Prior to payment, this Award represents an unsecured obligation of the Company, payable only from the general assets of the Company.

2. **Vesting.**

(a) Except as otherwise set forth in Section 2(b) or Section 2(c), the Award shall vest in accordance with the vesting schedule set forth in the Grant Notice based on the level of performance attainment with respect to the applicable performance criteria provided in Exhibit B, which shall be determined by the Committee in its sole discretion following the end of each Performance Period. In the event of the termination of the Participant’s employment prior to the Payment Date for the Performance Period ending [] (the “**Final Payment Date**”), but after giving effect to any accelerated vesting pursuant to Section 2(b) and Section 2(c), any unpaid and unvested portion of the Award will terminate automatically without any further action by the Company and will be forfeited without consideration or notice.

(b) Notwithstanding anything to the contrary in Section 2(a), in the event that, prior to the Final Payment Date, the Participant’s employment with the Company or an Affiliate, as applicable, is terminated by the Company without Cause, by the Participant for Good Reason, or due to the Participant’s death or Disability (as each term is defined below), then, *provided* that the Participant (or the Participant’s estate in the case of death) timely executes and delivers an effective release of claims (within the applicable twenty-one (21) or forty-five (45) day period specified in the release, which is not subsequently revoked) in a form provided by the Company, the Quarterly Cash Performance Award for such Performance Period shall vest based on actual performance, as determined by the Committee for such Performance Period at such time that determinations are made with respect to Cash Performance Awards held by other Company employees and will be settled in accordance with the terms of this Agreement; *provided* that the portion of the Quarterly Performance Award that shall vest shall be pro-rated based on the number of days the Participant is employed by the Company during the applicable Performance Period up to and including the termination date, divided by the total number of days in the Performance Period.

(c) Notwithstanding anything to the contrary in Section 2(a) or Section 2(b), in the event that, during the period immediately following a Change in Control and prior to the Final Payment Date, the Participant’s employment with the Company or an Affiliate, as applicable, is terminated by the Company without Cause (as defined below) or by the Participant for Good Reason (as defined below), then, *provided* that the Participant timely executes and delivers an effective release of claims (within the applicable twenty-one (21) or forty-five (45) day period specified in the release, which is not subsequently revoked)

in a form provided by the Company, the Quarterly Cash Performance Awards for each remaining Performance Period, including the Performance Period in process on the termination date, and the Annual Catch-Up Award, shall vest, without regard to continued service, based on the target level of performance and will be settled in accordance with the terms of this Agreement. Notwithstanding any term of this Award, if the Participant's employment is terminated and the Participant becomes entitled to receive any payment or benefit under an employment agreement or other severance or incentive plan of the Company, this Award shall not be taken into consideration in determining the amount of such payment or benefit, except that there shall be no duplication of benefits.

For purposes of this Agreement, “**Cause**” shall mean: (i) the Participant's material breach of this Agreement or any other written agreement between the Participant and the Company or an Affiliate, including the Participant's breach of any material representation, warranty or covenant made under any such agreement, or the Participant's breach of any policy or code of conduct established by the Company or an Affiliate and applicable to the Participant; (ii) the commission of an act of gross negligence, willful misconduct, breach of fiduciary duty, fraud, theft or embezzlement on the part of the Participant; (iii) the commission by the Participant of, or conviction or indictment of the Participant for, or plea of *nolo contendere* by the Participant to, any felony (or state law equivalent) or any crime involving moral turpitude; or (iv) the Participant's willful failure or refusal, other than due to disability, to perform the Participant's obligations pursuant to this Agreement, any employment agreement with the Company or an Affiliate, as applicable, or to follow any lawful directive from the Company, as determined by the Company; *provided, however*, that if the Participant's actions or omissions as set forth in this clause (iv) of this definition are of such a nature that the Company determines that they are curable by the Participant, such actions or omissions must remain uncured thirty (30) days after the Company has provided the Participant written notice of the obligation to cure such actions or omissions.

For purposes of this Agreement, “**Disability**” shall mean “disability” (or a word of like import) as defined under any written employment agreement entered into by and between the Participant and the Company or an Affiliate, as applicable, or, in the absence of such an agreement or definition, a Disability shall exist if the Participant is unable to perform the essential functions of the Participant's position (after accounting for any reasonable accommodation, if applicable and required by law), due to an illness or physical or mental impairment or other incapacity that continues, or can reasonably be expected to continue, for a period in excess of 120 consecutive days or 180 days in any 12-month period, whether or not consecutive. The determination of whether the Participant has incurred a Disability shall be made in good faith by the Company.

For purposes of this Agreement, “**Good Reason**” shall mean: (i) a material diminution in the Participant's base salary (other than an across-the-board reduction that affects similarly situated employees in substantially the same proportion as the Participant) or authority, duties and responsibilities with the Company or an Affiliate; *provided, however*, that if the Participant is serving as an officer or member of the board of directors (or similar governing body) of any member of the Company, an Affiliate or any other entity in which the Company or an Affiliate holds an equity interest, in no event shall the removal of the Participant as an officer or board member, regardless of the reason for such removal, constitute Good Reason; (ii) a material breach by the Company of any of its covenants or obligations under this Agreement; or (iii) the relocation of the geographic location of the Participant's principal place of employment by more than 75 miles from the location of the Participant's principal place of employment as of the date of this Agreement. Notwithstanding the foregoing provisions of this definition or any other provision of this Agreement to the contrary, any assertion by the Participant of a termination for Good Reason shall not be effective unless all of the following conditions are satisfied: (A) the condition described in clause (i), (ii) or (iii) of this definition giving rise to such termination must have arisen without the Participant's consent; (B) the Participant must provide written notice to the Company of the existence of such condition(s) within 30 days of the initial existence of such

condition(s); (C) the condition(s) specified in such notice must remain uncorrected for 30 days following the Company's receipt of such written notice; and (D) the date of the termination of the Participant's employment with the Company or an Affiliate, as applicable, must occur within 60 days after the initial existence of the condition(s) specified in such notice.

(d) Notwithstanding any provision herein to the contrary, in the event of any inconsistency between this Section 2 and any written employment agreement entered into by and between the Participant and the Company or an Affiliate, as applicable, the terms of this Agreement shall control.

3. **Settlement.** As soon as administratively practicable following the Committee's certification of the level of attainment of the performance criteria for the applicable Performance Period, but in no event later than 60 days following the end of the Performance Period, the Company shall pay the applicable Quarterly Cash Performance Award to the Participant in accordance with the Company's normal payroll procedures and subject to all applicable withholding taxes and other authorized payroll deductions (such date of payment, the "**Payment Date**"). Neither this Section 3 nor any action taken pursuant to or in accordance with this Agreement shall be construed to create a trust or a funded or secured obligation of any kind.

4. **Non-Transferability.** This Award and any rights therein to any Quarterly Cash Performance Award shall not be sold, pledged, assigned or transferred in any manner other than by will or the laws of descent and distribution. Neither the Award nor any rights therein to any Quarterly Cash Performance Award shall be liable for the debts, contracts or engagements of the Participant or his or her successors in interest or shall be subject to disposition by transfer, alienation, anticipation, pledge, encumbrance, assignment or any other means, whether such disposition be voluntary or involuntary or by operation of law by judgment, levy, attachment, garnishment or any other legal or equitable proceedings (including bankruptcy), and any attempted disposition thereof shall be null and void and of no effect against the Company and its Affiliates, except to the extent that such disposition is expressly permitted by the preceding sentence.

5. **No Right to Continued Employment or Awards.** Nothing in the adoption of the Plan, the Grant Notice nor this Agreement shall confer upon the Participant the right to continued employment by the Company or any Affiliate, or any other entity, or affect in any way the right of the Company or any such Affiliate, or any other entity to terminate such employment at any time. The grant of the Award does not create any contractual or other right to receive a grant of Awards or benefits in lieu of Awards in the future. Any future Awards will be granted at the sole discretion of the Company. Unless otherwise provided in a written employment agreement or by applicable law, the Participant's employment by the Company or any Affiliate, or any other entity shall be on an at-will basis, and the employment relationship may be terminated at any time by either the Participant, the Company, any Affiliate, or other entity for any reason whatsoever, with or without Cause or notice. Any question as to whether and when there has been a termination of such employment, and the cause of such termination, shall be determined by the Committee or its delegate, and such determination shall be final, conclusive and binding for all purposes.

6. **Notices.** All notices and other communications under this Agreement shall be in writing and shall be delivered to the parties at the following addresses (or at such other address for a party as shall be specified by like notice):

(a) If to the Company, unless otherwise designated by the Company in a written notice to the Participant (or other holder):

Rosehill Resources Inc.
Attn: Legal Department
16200 Park Row, Suite 300
Houston, Texas 77084

(b) If to the Participant, to the address for the Participant indicated on the signature page to the Grant Notice (as such address may be updated by the Participant providing written notice to such effect to the Company).

Any notice that is delivered personally or by overnight courier or telecopier in the manner provided herein shall be deemed to have been duly given to the Participant when it is mailed by the Company or, if such notice is not mailed to the Participant, upon receipt by the Participant. Any notice that is addressed and mailed in the manner herein provided shall be conclusively presumed to have been given to the party to whom it is addressed at the close of business, local time of the recipient, on the fourth day after the day it is so placed in the mail.

7. **Agreement to Furnish Information.** The Participant agrees to furnish to the Company all information requested by the Company to enable it to comply with any reporting or other requirement imposed upon the Company by or under any applicable statute or regulation.

8. **Entire Agreement; Amendment.** This Agreement, the Grant Notice and the Plan constitute the entire agreement of the parties with regard to the subject matter hereof, and contains all the covenants, promises, representations, warranties and agreements between the parties with respect to the Award; *provided, however*, that the terms of this Agreement shall not modify the terms and conditions of any employment, consulting and/or severance agreement between the Company (or an Affiliate or other entity) and the Participant in effect as of the date a determination is to be made under this Agreement. Without limiting the scope of the preceding sentence, except as provided therein, all prior understandings and agreements, if any, among the parties hereto relating to the subject matter hereof are hereby null and void and of no further force and effect. The Committee may, in its sole discretion, amend this Agreement from time to time in any manner that is not inconsistent with the Plan; *provided, however*, that except as otherwise provided in the Plan or this Agreement, any such amendment that materially reduces the rights of the Participant shall be effective only if it is in writing and signed by both the Participant and an authorized officer of the Company.

9. **Governing Law.** This Agreement shall be governed by, and construed in accordance with, the laws of the State of Delaware, without regard to conflicts of law principles thereof.

10. **Successors and Assigns.** The Company may assign any of its rights under this Agreement without the Participant's consent. This Agreement will be binding upon and inure to the benefit of the successors and assigns of the Company. Subject to the restrictions on transfer set forth herein and in the Plan, this Agreement will be binding upon the Participant and the Participant's beneficiaries, executors, administrators and the person(s) to whom this Award may be transferred by will or the laws of descent or distribution.

11. **Clawback.** Notwithstanding any provision in this Agreement, the Grant Notice or the Plan to the contrary, to the extent required by (a) applicable law, including, without limitation, the requirements of the Dodd-Frank Wall Street Reform and Consumer Protection Act of 2010, any Securities and Exchange Commission rule or any applicable securities exchange listing standards and/or (b) any policy that may be adopted or amended by the Board from time to time, all Quarterly Cash Performance Awards hereunder shall be subject to forfeiture, repurchase, recoupment and/or cancellation to the extent necessary to comply with such law(s) and/or policy.

12. **Severability.** If a court of competent jurisdiction determines that any provision of this Agreement (or any portion thereof) is invalid or unenforceable, then the invalidity or unenforceability of such provision (or portion thereof) shall not affect the validity or enforceability of any other provision of this Agreement, and all other provisions shall remain in full force and effect.

13. **Headings.** Headings are for convenience only and are not deemed to be part of this Agreement.

14. **Section 409A.** Notwithstanding anything herein or in the Plan to the contrary, the Award is intended to be exempt from the applicable requirements of the Nonqualified Deferred Compensation Rules and shall be limited, construed and interpreted in accordance with such intent. For purposes of the Nonqualified Deferred Compensation Rules, each Quarterly Cash Performance Award shall be treated as a separate

payment. Nevertheless, to the extent that the Committee determines that any portion of the Award may not be exempt from the Nonqualified Deferred Compensation Rules, then, if the Participant is deemed to be a "specified employee" within the meaning of the Nonqualified Deferred Compensation Rules, as determined by the Committee, at a time when the Participant becomes eligible for payment of any Quarterly Cash Performance Award upon his or her "separation from service" within the meaning of the Nonqualified Deferred Compensation Rules, then to the extent necessary to prevent any accelerated or additional tax under the Nonqualified Deferred Compensation Rules, such payment will be delayed until the earlier of: (a) the date that is six months following the Participant's separation from service and (b) the Participant's death. Notwithstanding the foregoing, the Company and its Affiliates make no representations that any portion of the Award provided under this Agreement is exempt from or compliant with the Nonqualified Deferred Compensation Rules and in no event shall the Company or any Affiliate be liable for all or any portion of any taxes, penalties, interest or other expenses that may be incurred by the Participant on account of non-compliance with the Nonqualified Deferred Compensation Rules. The Participant's employment shall terminate on the date that he or she experiences a "separation from service" as defined under the Nonqualified Deferred Compensation Rules.

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EXHIBIT B

AWARD VESTING CRITERIA AND METHODOLOGY

This Exhibit B to the Grant Notice contains the performance requirements and methodology applicable to the Award. Subject to the terms and conditions set forth in the Plan, the Agreement and the Grant Notice, the amount of each Quarterly Cash Performance Award and the Annual Catch-Up Award, if any, that becomes due will be determined in accordance with this Exhibit B. Following the completion of each Performance Period, the Committee shall have the sole discretion to determine whether the applicable performance goals have been met. Capitalized terms used but not defined herein or in the Grant Notice shall have the same meaning assigned to them in the Agreement or the Plan.

A. **Performance
Criteria**

[_____]

Minimum, Target and Maximum Levels

[_____]

[Remainder of Page Intentionally Blank]

Exhibit C

Rosehill Resources Inc. Long-Term Incentive Plan

[SEE ATTACHED]

Consent of Independent Registered Public Accounting Firm

Rosehill Resources, Inc.
Houston, Texas

We hereby consent to the incorporation by reference in the Registration Statements on Form S-3 (No. 333-217683) and Form S-8 (No. 333-218023) of Rosehill Resources, Inc. of our report dated April 13, 2020, relating to the consolidated financial statements which appears in this Annual Report on Form 10-K. Our report contains an explanatory paragraph regarding the Company's ability to continue as a going concern.

/s/ BDO USA, LLP

Houston, Texas
April 13, 2020

CONSENT OF INDEPENDENT PETROLEUM ENGINEERS AND GEOLOGISTS

We hereby consent to the references to our firm in this Annual Report on Form 10-K for Rosehill Resources Inc., and to the use of information from, and the inclusion of, our report, dated March 2, 2020, with respect to the estimates of the proved reserves, future production and income as of December 31, 2019, attributable to certain leasehold and royalty interests of Rosehill Resources Inc. (our "Report") in this Annual Report on Form 10-K. We further consent to the reference to our firm under the heading "Experts" in this Annual Report on Form 10-K and to the incorporation by reference of our Report and of references to us in Rosehill Resources Inc.'s Registration Statements on Form S-3 (No. 333-217683) and Form S-8 (Nos. 333-218023 and 333-231462).

NETHERLAND, SEWELL & ASSOCIATES, INC.

By: /s/ Richard B. Talley, Jr.

Richard B. Talley, Jr., P.E.

Senior Vice President

Houston, Texas

April 13, 2020

Please be advised that the digital document you are viewing is provided by Netherland, Sewell & Associates, Inc. (NSAI) as a convenience to our clients. The digital document is intended to be substantively the same as the original signed document maintained by NSAI. The digital document is subject to the parameters, limitations, and conditions stated in the original document. In the event of any differences between the digital document and the original document, the original document shall control and supersede the digital document.

CERTIFICATION
PURSUANT TO RULE 13a-14(a) AND 15d-14(a)
UNDER THE SECURITIES EXCHANGE ACT OF 1934, AS AMENDED

I, David L. French, certify that:

1. I have reviewed this Annual Report on Form 10-K (this "report") of Rosehill Resources Inc. (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 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 consolidated 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 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: April 13, 2020

	/s/ David L. French
Name:	David L. French
Title:	President and Chief Executive Officer (Principal Executive Officer)

CERTIFICATION
PURSUANT TO RULE 13a-14(a) AND 15d-14(a)
UNDER THE SECURITIES EXCHANGE ACT OF 1934, AS AMENDED

I, R. Craig Owen, certify that:

1. I have reviewed this Annual Report on Form 10-K (this "report") of Rosehill Resources Inc. (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 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 consolidated 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 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: April 13, 2020

	/s/ R. Craig Owen
Name:	R. Craig Owen
Title:	Senior Vice President and Chief Financial Officer (Principal Financial and Accounting Officer)

**CERTIFICATION PURSUANT TO
18 U.S.C. SECTION 1350
AS ADOPTED PURSUANT TO
SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002**

In connection with the Annual Report on Form 10-K for the period ended December 31, 2019 of Rosehill Resources Inc. (the “Company”), as filed with the Securities and Exchange Commission on the date hereof (the “Report”), the undersigned, in the capacities and on the date indicated below, hereby certifies pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that, to his knowledge:

1. The Report fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934, as amended; and
2. The information contained in the Report fairly presents, in all material respects, the financial condition and results of operation of the Company.

Dated: April 13, 2020

	/s/ David L. French
Name:	David L. French
Title:	President and Chief Executive Officer (Principal Executive Officer)

**CERTIFICATION PURSUANT TO
18 U.S.C. SECTION 1350
AS ADOPTED PURSUANT TO
SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002**

In connection with the Annual Report on Form 10-K for the period ended December 31, 2019 of Rosehill Resources Inc. (the "Company"), as filed with the Securities and Exchange Commission on the date hereof (the "Report"), the undersigned, in the capacities and on the date indicated below, hereby certifies pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that, to his knowledge:

1. The Report fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934, as amended; and
2. The information contained in the Report fairly presents, in all material respects, the financial condition and results of operation of the Company.

Dated: April 13, 2020

	/s/ R. Craig Owen
Name:	R. Craig Owen
Title:	Senior Vice President and Chief Financial Officer (Principal Financial and Accounting Officer)

March 2, 2020

Mr. David Mora
Rosehill Resources Inc.
16200 Park Row, Suite 300
Houston, Texas 77084

Dear Mr. Mora:

In accordance with your request, we have estimated the proved reserves and future revenue, as of December 31, 2019, to the Rosehill Resources Inc. (Rosehill) interest in certain oil and gas properties located in New Mexico and Texas. We completed our evaluation on or about the date of this letter. It is our understanding that the proved reserves estimated in this report constitute all of the proved reserves owned by Rosehill. The estimates in this report have been prepared in accordance with the definitions and regulations of the U.S. Securities and Exchange Commission (SEC) and, with the exception of the exclusion of future income taxes, conform to the FASB Accounting Standards Codification Topic 932, Extractive Activities—Oil and Gas. Definitions are presented immediately following this letter. This report has been prepared for Rosehill's use in filing with the SEC; in our opinion the assumptions, data, methods, and procedures used in the preparation of this report are appropriate for such purpose.

We estimate the net reserves and future net revenue to the Rosehill interest in these properties, as of December 31, 2019, to be:

Category	Net Reserves			Future Net Revenue (M\$)	
	Oil (MBBL)	NGL (MBBL)	Gas (MMCF)	Total	Present Worth at 10%
Proved Developed Producing	23,966.9	6,300.7	36,643.2	906,905.0	566,553.9
Proved Undeveloped	16,748.7	5,053.3	27,516.9	395,954.2	170,558.2
Total Proved	40,715.6	11,354.0	64,160.2	1,302,858.6	737,112.3

Totals may not add because of rounding.

The oil volumes shown include crude oil and condensate. Oil and natural gas liquids (NGL) volumes are expressed in thousands of barrels (MBBL); a barrel is equivalent to 42 United States gallons. Gas volumes are expressed in millions of cubic feet (MMCF) at standard temperature and pressure bases.

Reserves categorization conveys the relative degree of certainty; reserves subcategorization is based on development and production status. There are no proved developed non-producing reserves at the price and cost parameters used in this report. No study was made to determine whether probable or possible reserves might be established for these properties. The estimates of reserves and future revenue included herein have not been adjusted for risk. This report does not include any value that could be attributed to interests in undeveloped acreage beyond those tracts for which undeveloped reserves have been estimated.

Gross revenue is Rosehill's share of the gross (100 percent) revenue from the properties prior to any deductions. Future net revenue is after deductions for Rosehill's share of production taxes, ad valorem taxes, capital costs, abandonment costs, and operating expenses but before consideration of any income taxes. The future net revenue has been discounted at an annual rate of 10 percent to determine its present worth, which is shown to indicate the effect of time on the value of money. Future net revenue presented in this report, whether discounted or undiscounted, should not be construed as being the fair market value of the properties.

2100 ROSS AVENUE, SUITE 2200 • DALLAS, TEXAS 75201 • PH: 214-969-5401 • FAX: 214-969-5411
1301 MCKINNEY STREET, SUITE 3200 • HOUSTON, TEXAS 77010 • PH: 713-654-4950 • FAX: 713-654-4951

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Prices used in this report are based on the 12-month unweighted arithmetic average of the first-day-of-the-month price for each month in the period January through December 2019. For oil and NGL volumes, the average West Texas Intermediate spot price of \$55.85 per barrel is adjusted for quality, transportation fees, and market differentials. For gas volumes, the average Henry Hub spot price of \$2.578 per MMBTU is adjusted for energy content, transportation fees, and market differentials. All prices are held constant throughout the lives of the properties. The average adjusted product prices weighted by production over the remaining lives of the properties are \$51.76 per barrel of oil, \$15.09 per barrel of NGL, and \$0.286 per MCF of gas.

Operating costs used in this report are based on operating expense records of Rosehill, the operator of the majority of the properties. As requested, operating costs are limited to direct lease- and field-level costs and Rosehill's estimate of the portion of its headquarters general and administrative overhead expenses necessary to operate the properties. Operating costs have been divided into region-level costs, per-well costs, and per-unit-of-production costs and are not escalated for inflation.

Capital costs used in this report were provided by Rosehill and are based on authorizations for expenditure and actual costs from recent activity. Capital costs are included as required for new development wells and production equipment. Based on our understanding of future development plans, a review of the records provided to us, and our knowledge of similar properties, we regard these estimated capital costs to be reasonable. Abandonment costs used in this report are Rosehill's estimates of the costs to abandon the wells and production facilities, net of any salvage value. Capital costs and abandonment costs are not escalated for inflation.

For the purposes of this report, we did not perform any field inspection of the properties, nor did we examine the mechanical operation or condition of the wells and facilities. We have not investigated possible environmental liability related to the properties; therefore, our estimates do not include any costs due to such possible liability.

We have made no investigation of potential volume and value imbalances resulting from overdelivery or underdelivery to the Rosehill interest. Therefore, our estimates of reserves and future revenue do not include adjustments for the settlement of any such imbalances; our projections are based on Rosehill receiving its net revenue interest share of estimated future gross production. Additionally, we have made no specific investigation of any firm transportation contracts that may be in place for these properties; our estimates of future revenue include the effects of such contracts only to the extent that the associated fees are accounted for in the historical lease-level accounting statements.

The reserves shown in this report are estimates only and should not be construed as exact quantities. Proved reserves are those quantities of oil and gas which, by analysis of engineering and geoscience data, can be estimated with reasonable certainty to be economically producible; probable and possible reserves are those additional reserves which are sequentially less certain to be recovered than proved reserves. Estimates of reserves may increase or decrease as a result of market conditions, future operations, changes in regulations, or actual reservoir performance. In addition to the primary economic assumptions discussed herein, our estimates are based on certain assumptions including, but not limited to, that the properties will be developed consistent with current development plans as provided to us by Rosehill, that the properties will be operated in a prudent manner, that no governmental regulations or controls will be put in place that would impact the ability of the interest owner to recover the reserves, and that our projections of future production will prove consistent with actual performance. If the reserves are recovered, the revenues therefrom and the costs related thereto could be more or less than the estimated amounts. Because of governmental policies and uncertainties of supply and demand, the sales rates, prices received for the reserves, and costs incurred in recovering such reserves may vary from assumptions made while preparing this report.

For the purposes of this report, we used technical and economic data including, but not limited to, well logs, geologic maps, well test data, production data, historical price and cost information, and property ownership interests. The reserves in this report have been estimated using deterministic methods; these estimates have been prepared in accordance with the Standards Pertaining to the Estimating and Auditing of Oil and Gas Reserves Information promulgated by the Society of Petroleum Engineers (SPE Standards). We used standard engineering and

promulgated by the Society of Petroleum Engineers (SPE Standards). We used standard engineering and

geoscience methods, or a combination of methods, including performance analysis and analogy, that we considered to be appropriate and necessary to categorize and estimate reserves in accordance with SEC definitions and regulations. A substantial portion of these reserves are for undeveloped locations; such reserves are based on analogy to properties with similar geologic and reservoir characteristics. As in all aspects of oil and gas evaluation, there are uncertainties inherent in the interpretation of engineering and geoscience data; therefore, our conclusions necessarily represent only informed professional judgment.

The data used in our estimates were obtained from Rosehill, public data sources, and the nonconfidential files of Netherland, Sewell & Associates, Inc. (NSAI) and were accepted as accurate. Supporting work data are on file in our office. We have not examined the titles to the properties or independently confirmed the actual degree or type of interest owned. The technical persons primarily responsible for preparing the estimates presented herein meet the requirements regarding qualifications, independence, objectivity, and confidentiality set forth in the SPE Standards. Neil H. Little, a Licensed Professional Engineer in the State of Texas, has been practicing consulting petroleum engineering at NSAI since 2011 and has over 9 years of prior industry experience. Mike K. Norton, a Licensed Professional Geoscientist in the State of Texas, has been practicing consulting petroleum geoscience at NSAI since 1989 and has over 10 years of prior industry experience. We are independent petroleum engineers, geologists, geophysicists, and petrophysicists; we do not own an interest in these properties nor are we employed on a contingent basis.

Sincerely,

NETHERLAND, SEWELL & ASSOCIATES, INC.
Texas Registered Engineering Firm F-2699

/s/ C.H. (Scott) Rees III

By:

C.H. (Scott) Rees III, P.E.
Chairman and Chief Executive Officer

/s/ Neil H. Little

By:

Neil H. Little, P.E. 117966
Vice President

/s/ Mike K. Norton

By:

Mike K. Norton, P.G. 441
Senior Vice President

Date Signed: March 2, 2020

Date Signed: March 2, 2020

NHL:SMD

Please be advised that the digital document you are viewing is provided by Netherland, Sewell & Associates, Inc. (NSAI) as a convenience to our clients. The digital document is intended to be substantively the same as the original signed document maintained by NSAI. The digital document is subject to the parameters, limitations, and conditions stated in the original document. In the event of any differences between the digital document and the original document, the original document shall control and supersede the digital document.

DEFINITIONS OF OIL AND GAS RESERVES

Adapted from U.S. Securities and Exchange Commission Regulation S-X Section 210.4-10(a)

The following definitions are set forth in U.S. Securities and Exchange Commission (SEC) Regulation S-X Section 210.4-10(a). Also included is supplemental information from (1) the 2018 Petroleum Resources Management System approved by the Society of Petroleum Engineers, (2) the FASB Accounting Standards Codification Topic 932, Extractive Activities—Oil and Gas, and (3) the SEC's Compliance and Disclosure Interpretations.

(1) Acquisition of properties. Costs incurred to purchase, lease or otherwise acquire a property, including costs of lease bonuses and options to purchase or lease properties, the portion of costs applicable to minerals when land including mineral rights is purchased in fee, brokers' fees, recording fees, legal costs, and other costs incurred in acquiring properties.

(2) Analogous reservoir. Analogous reservoirs, as used in resources assessments, have similar rock and fluid properties, reservoir conditions (depth, temperature, and pressure) and drive mechanisms, but are typically at a more advanced stage of development than the reservoir of interest and thus may provide concepts to assist in the interpretation of more limited data and estimation of recovery. When used to support proved reserves, an "analogous reservoir" refers to a reservoir that shares the following characteristics with the reservoir of interest:

- (i) Same geological formation (but not necessarily in pressure communication with the reservoir of interest);
- (ii) Same environment of deposition;
- (iii) Similar geological structure; and
- (iv) Same drive mechanism.

Instruction to paragraph (a)(2): Reservoir properties must, in the aggregate, be no more favorable in the analog than in the reservoir of interest.

(3) Bitumen. Bitumen, sometimes referred to as natural bitumen, is petroleum in a solid or semi-solid state in natural deposits with a viscosity greater than 10,000 centipoise measured at original temperature in the deposit and atmospheric pressure, on a gas free basis. In its natural state it usually contains sulfur, metals, and other non-hydrocarbons.

(4) Condensate. Condensate is a mixture of hydrocarbons that exists in the gaseous phase at original reservoir temperature and pressure, but that, when produced, is in the liquid phase at surface pressure and temperature.

(5) Deterministic estimate. The method of estimating reserves or resources is called deterministic when a single value for each parameter (from the geoscience, engineering, or economic data) in the reserves calculation is used in the reserves estimation procedure.

(6) Developed oil and gas reserves. Developed oil and gas reserves are reserves of any category that can be expected to be recovered:

- (i) Through existing wells with existing equipment and operating methods or in which the cost of the required equipment is relatively minor compared to the cost of a new well; and
- (ii) Through installed extraction equipment and infrastructure operational at the time of the reserves estimate if the extraction is by means not involving a well.

Supplemental definitions from the 2018 Petroleum Resources Management System:

Developed Producing Reserves – Expected quantities to be recovered from completion intervals that are open and producing at the effective date of the estimate. Improved recovery Reserves are considered producing only after the improved recovery project is in operation.

Developed Non-Producing Reserves – Shut-in and behind-pipe Reserves. Shut-in Reserves are expected to be recovered from (1) completion intervals that are open at the time of the estimate but which have not yet started producing, (2) wells which were shut-in for market conditions or pipeline connections, or (3) wells not capable of production for mechanical reasons. Behind-pipe Reserves are expected to be recovered from zones in existing wells that will require additional completion work or future re-completion before start of production with minor cost to access these reserves. In all cases, production can be initiated or restored with relatively low expenditure compared to the cost of drilling a new well.

(7) Development costs. Costs incurred to obtain access to proved reserves and to provide facilities for extracting, treating, gathering and storing the oil and gas. More specifically, development costs, including depreciation and applicable operating costs of support equipment and facilities and other costs of development activities, are costs incurred to:

- (i) Gain access to and prepare well locations for drilling, including surveying well locations for the purpose of determining specific development drilling sites, clearing ground, draining, road building, and relocating public roads, gas lines, and power lines, to the extent necessary in developing the proved reserves.
- (ii) Drill and equip development wells, development-type stratigraphic test wells, and service wells, including the costs of platforms and of well equipment such as casing, tubing, pumping equipment, and the wellhead assembly.

or platforms and or well equipment such as casing, tubing, pumping equipment, and the wellhead assembly.

DEFINITIONS OF OIL AND GAS RESERVES

Adapted from U.S. Securities and Exchange Commission Regulation S-X Section 210.4-10(a)

- (iii) Acquire, construct, and install production facilities such as lease flow lines, separators, treaters, heaters, manifolds, measuring devices, and production storage tanks, natural gas cycling and processing plants, and central utility and waste disposal systems.
 - (iv) Provide improved recovery systems.
- (8) Development project. A development project is the means by which petroleum resources are brought to the status of economically producible. As examples, the development of a single reservoir or field, an incremental development in a producing field, or the integrated development of a group of several fields and associated facilities with a common ownership may constitute a development project.
- (9) Development well. A well drilled within the proved area of an oil or gas reservoir to the depth of a stratigraphic horizon known to be productive.
- (10) Economically producible. The term economically producible, as it relates to a resource, means a resource which generates revenue that exceeds, or is reasonably expected to exceed, the costs of the operation. The value of the products that generate revenue shall be determined at the terminal point of oil and gas producing activities as defined in paragraph (a)(16) of this section.
- (11) Estimated ultimate recovery (EUR). Estimated ultimate recovery is the sum of reserves remaining as of a given date and cumulative production as of that date.
- (12) Exploration costs. Costs incurred in identifying areas that may warrant examination and in examining specific areas that are considered to have prospects of containing oil and gas reserves, including costs of drilling exploratory wells and exploratory-type stratigraphic test wells. Exploration costs may be incurred both before acquiring the related property (sometimes referred to in part as prospecting costs) and after acquiring the property. Principal types of exploration costs, which include depreciation and applicable operating costs of support equipment and facilities and other costs of exploration activities, are:
- (i) Costs of topographical, geographical and geophysical studies, rights of access to properties to conduct those studies, and salaries and other expenses of geologists, geophysical crews, and others conducting those studies. Collectively, these are sometimes referred to as geological and geophysical or "G&G" costs.
 - (ii) Costs of carrying and retaining undeveloped properties, such as delay rentals, ad valorem taxes on properties, legal costs for title defense, and the maintenance of land and lease records.
 - (iii) Dry hole contributions and bottom hole contributions.
 - (iv) Costs of drilling and equipping exploratory wells.
 - (v) Costs of drilling exploratory-type stratigraphic test wells.
- (13) Exploratory well. An exploratory well is a well drilled to find a new field or to find a new reservoir in a field previously found to be productive of oil or gas in another reservoir. Generally, an exploratory well is any well that is not a development well, an extension well, a service well, or a stratigraphic test well as those items are defined in this section.
- (14) Extension well. An extension well is a well drilled to extend the limits of a known reservoir.
- (15) Field. An area consisting of a single reservoir or multiple reservoirs all grouped on or related to the same individual geological structural feature and/or stratigraphic condition. There may be two or more reservoirs in a field which are separated vertically by intervening impervious strata, or laterally by local geologic barriers, or by both. Reservoirs that are associated by being in overlapping or adjacent fields may be treated as a single or common operational field. The geological terms "structural feature" and "stratigraphic condition" are intended to identify localized geological features as opposed to the broader terms of basins, trends, provinces, plays, areas-of-interest, etc.
- (16) Oil and gas producing activities.
- (i) Oil and gas producing activities include:
 - (A) The search for crude oil, including condensate and natural gas liquids, or natural gas ("oil and gas") in their natural states and original locations;
 - (B) The acquisition of property rights or properties for the purpose of further exploration or for the purpose of removing the oil or gas from such properties;
 - (C) The construction, drilling, and production activities necessary to retrieve oil and gas from their natural reservoirs, including the acquisition, construction, installation, and maintenance of field gathering and storage systems, such as:
 - (1) Lifting the oil and gas to the surface; and
 - (2) Gathering, treating, and field processing (as in the case of processing gas to extract liquid hydrocarbons); and

DEFINITIONS OF OIL AND GAS RESERVES

Adapted from U.S. Securities and Exchange Commission Regulation S-X Section 210.4-10(a)

- (D) Extraction of saleable hydrocarbons, in the solid, liquid, or gaseous state, from oil sands, shale, coalbeds, or other nonrenewable natural resources which are intended to be upgraded into synthetic oil or gas, and activities undertaken with a view to such extraction.

Instruction 1 to paragraph (a)(16)(i): The oil and gas production function shall be regarded as ending at a "terminal point", which is the outlet valve on the lease or field storage tank. If unusual physical or operational circumstances exist, it may be appropriate to regard the terminal point for the production function as:

- a. The first point at which oil, gas, or gas liquids, natural or synthetic, are delivered to a main pipeline, a common carrier, a refinery, or a marine terminal; and
- b. In the case of natural resources that are intended to be upgraded into synthetic oil or gas, if those natural resources are delivered to a purchaser prior to upgrading, the first point at which the natural resources are delivered to a main pipeline, a common carrier, a refinery, a marine terminal, or a facility which upgrades such natural resources into synthetic oil or gas.

Instruction 2 to paragraph (a)(16)(i): For purposes of this paragraph (a)(16), the term saleable hydrocarbons means hydrocarbons that are saleable in the state in which the hydrocarbons are delivered.

- (ii) Oil and gas producing activities do not include:

- (A) Transporting, refining, or marketing oil and gas;
- (B) Processing of produced oil, gas, or natural resources that can be upgraded into synthetic oil or gas by a registrant that does not have the legal right to produce or a revenue interest in such production;
- (C) Activities relating to the production of natural resources other than oil, gas, or natural resources from which synthetic oil and gas can be extracted; or
- (D) Production of geothermal steam.

(17) Possible reserves. Possible reserves are those additional reserves that are less certain to be recovered than probable reserves.

- (i) When deterministic methods are used, the total quantities ultimately recovered from a project have a low probability of exceeding proved plus probable plus possible reserves. When probabilistic methods are used, there should be at least a 10% probability that the total quantities ultimately recovered will equal or exceed the proved plus probable plus possible reserves estimates.
- (ii) Possible reserves may be assigned to areas of a reservoir adjacent to probable reserves where data control and interpretations of available data are progressively less certain. Frequently, this will be in areas where geoscience and engineering data are unable to define clearly the area and vertical limits of commercial production from the reservoir by a defined project.
- (iii) Possible reserves also include incremental quantities associated with a greater percentage recovery of the hydrocarbons in place than the recovery quantities assumed for probable reserves.
- (iv) The proved plus probable and proved plus probable plus possible reserves estimates must be based on reasonable alternative technical and commercial interpretations within the reservoir or subject project that are clearly documented, including comparisons to results in successful similar projects.
- (v) Possible reserves may be assigned where geoscience and engineering data identify directly adjacent portions of a reservoir within the same accumulation that may be separated from proved areas by faults with displacement less than formation thickness or other geological discontinuities and that have not been penetrated by a wellbore, and the registrant believes that such adjacent portions are in communication with the known (proved) reservoir. Possible reserves may be assigned to areas that are structurally higher or lower than the proved area if these areas are in communication with the proved reservoir.
- (vi) Pursuant to paragraph (a)(22)(iii) of this section, where direct observation has defined a highest known oil (HKO) elevation and the potential exists for an associated gas cap, proved oil reserves should be assigned in the structurally higher portions of the reservoir above the HKO only if the higher contact can be established with reasonable certainty through reliable technology. Portions of the reservoir that do not meet this reasonable certainty criterion may be assigned as probable and possible oil or gas based on reservoir fluid properties and pressure gradient interpretations.

(18) Probable reserves. Probable reserves are those additional reserves that are less certain to be recovered than proved reserves but which, together with proved reserves, are as likely as not to be recovered.

- (i) When deterministic methods are used, it is as likely as not that actual remaining quantities recovered will exceed the sum of estimated proved plus probable reserves. When probabilistic methods are used, there should be at

least a 50% probability that the actual quantities recovered will equal or exceed the proved plus probable reserves estimates.

DEFINITIONS OF OIL AND GAS RESERVES

Adapted from U.S. Securities and Exchange Commission Regulation S-X Section 210.4-10(a)

- (ii) Probable reserves may be assigned to areas of a reservoir adjacent to proved reserves where data control or interpretations of available data are less certain, even if the interpreted reservoir continuity of structure or productivity does not meet the reasonable certainty criterion. Probable reserves may be assigned to areas that are structurally higher than the proved area if these areas are in communication with the proved reservoir.
 - (iii) Probable reserves estimates also include potential incremental quantities associated with a greater percentage recovery of the hydrocarbons in place than assumed for proved reserves.
 - (iv) See also guidelines in paragraphs (a)(17)(iv) and (a)(17)(vi) of this section.
- (19) Probabilistic estimate. The method of estimation of reserves or resources is called probabilistic when the full range of values that could reasonably occur for each unknown parameter (from the geoscience and engineering data) is used to generate a full range of possible outcomes and their associated probabilities of occurrence.
- (20) Production costs.
- (i) Costs incurred to operate and maintain wells and related equipment and facilities, including depreciation and applicable operating costs of support equipment and facilities and other costs of operating and maintaining those wells and related equipment and facilities. They become part of the cost of oil and gas produced. Examples of production costs (sometimes called lifting costs) are:
 - (A) Costs of labor to operate the wells and related equipment and facilities.
 - (B) Repairs and maintenance.
 - (C) Materials, supplies, and fuel consumed and supplies utilized in operating the wells and related equipment and facilities.
 - (D) Property taxes and insurance applicable to proved properties and wells and related equipment and facilities.
 - (E) Severance taxes.
 - (ii) Some support equipment or facilities may serve two or more oil and gas producing activities and may also serve transportation, refining, and marketing activities. To the extent that the support equipment and facilities are used in oil and gas producing activities, their depreciation and applicable operating costs become exploration, development or production costs, as appropriate. Depreciation, depletion, and amortization of capitalized acquisition, exploration, and development costs are not production costs but also become part of the cost of oil and gas produced along with production (lifting) costs identified above.
- (21) Proved area. The part of a property to which proved reserves have been specifically attributed.
- (22) Proved oil and gas reserves. Proved oil and gas reserves are those quantities of oil and gas, which, by analysis of geoscience and engineering data, can be estimated with reasonable certainty to be economically producible—from a given date forward, from known reservoirs, and under existing economic conditions, operating methods, and government regulations—prior to the time at which contracts providing the right to operate expire, unless evidence indicates that renewal is reasonably certain, regardless of whether deterministic or probabilistic methods are used for the estimation. The project to extract the hydrocarbons must have commenced or the operator must be reasonably certain that it will commence the project within a reasonable time.
- (i) The area of the reservoir considered as proved includes:
 - (A) The area identified by drilling and limited by fluid contacts, if any, and
 - (B) Adjacent undrilled portions of the reservoir that can, with reasonable certainty, be judged to be continuous with it and to contain economically producible oil or gas on the basis of available geoscience and engineering data.
 - (ii) In the absence of data on fluid contacts, proved quantities in a reservoir are limited by the lowest known hydrocarbons (LKH) as seen in a well penetration unless geoscience, engineering, or performance data and reliable technology establishes a lower contact with reasonable certainty.
 - (iii) Where direct observation from well penetrations has defined a highest known oil (HKO) elevation and the potential exists for an associated gas cap, proved oil reserves may be assigned in the structurally higher portions of the reservoir only if geoscience, engineering, or performance data and reliable technology establish the higher contact with reasonable certainty.
 - (iv) Reserves which can be produced economically through application of improved recovery techniques (including, but not limited to, fluid injection) are included in the proved classification when:
 - (A) Successful testing by a pilot project in an area of the reservoir with properties no more favorable than in the reservoir as a whole, the operation of an installed program in the reservoir or an analogous reservoir,

or other evidence using reliable technology establishes the reasonable certainty of the engineering analysis on which the project or program was based; and

DEFINITIONS OF OIL AND GAS RESERVES

Adapted from U.S. Securities and Exchange Commission Regulation S-X Section 210.4-10(a)

- (B) The project has been approved for development by all necessary parties and entities, including governmental entities.
- (v) Existing economic conditions include prices and costs at which economic producibility from a reservoir is to be determined. The price shall be the average price during the 12-month period prior to the ending date of the period covered by the report, determined as an unweighted arithmetic average of the first-day-of-the-month price for each month within such period, unless prices are defined by contractual arrangements, excluding escalations based upon future conditions.
- (23) Proved properties. Properties with proved reserves.
- (24) Reasonable certainty. If deterministic methods are used, reasonable certainty means a high degree of confidence that the quantities will be recovered. If probabilistic methods are used, there should be at least a 90% probability that the quantities actually recovered will equal or exceed the estimate. A high degree of confidence exists if the quantity is much more likely to be achieved than not, and, as changes due to increased availability of geoscience (geological, geophysical, and geochemical), engineering, and economic data are made to estimated ultimate recovery (EUR) with time, reasonably certain EUR is much more likely to increase or remain constant than to decrease.
- (25) Reliable technology. Reliable technology is a grouping of one or more technologies (including computational methods) that has been field tested and has been demonstrated to provide reasonably certain results with consistency and repeatability in the formation being evaluated or in an analogous formation.
- (26) Reserves. Reserves are estimated remaining quantities of oil and gas and related substances anticipated to be economically producible, as of a given date, by application of development projects to known accumulations. In addition, there must exist, or there must be a reasonable expectation that there will exist, the legal right to produce or a revenue interest in the production, installed means of delivering oil and gas or related substances to market, and all permits and financing required to implement the project.

Note to paragraph (a)(26): Reserves should not be assigned to adjacent reservoirs isolated by major, potentially sealing, faults until those reservoirs are penetrated and evaluated as economically producible. Reserves should not be assigned to areas that are clearly separated from a known accumulation by a non-productive reservoir (i.e., absence of reservoir, structurally low reservoir, or negative test results). Such areas may contain prospective resources (i.e., potentially recoverable resources from undiscovered accumulations).

Excerpted from the FASB Accounting Standards Codification Topic 932, Extractive Activities—Oil and Gas:

932-235-50-30 A standardized measure of discounted future net cash flows relating to an entity's interests in both of the following shall be disclosed as of the end of the year:

- a. Proved oil and gas reserves (see paragraphs 932-235-50-3 through 50-11B)
- b. Oil and gas subject to purchase under long-term supply, purchase, or similar agreements and contracts in which the entity participates in the operation of the properties on which the oil or gas is located or otherwise serves as the producer of those reserves (see paragraph 932-235-50-7).

The standardized measure of discounted future net cash flows relating to those two types of interests in reserves may be combined for reporting purposes.

932-235-50-31 All of the following information shall be disclosed in the aggregate and for each geographic area for which reserve quantities are disclosed in accordance with paragraphs 932-235-50-3 through 50-11B:

- a. Future cash inflows. These shall be computed by applying prices used in estimating the entity's proved oil and gas reserves to the year-end quantities of those reserves. Future price changes shall be considered only to the extent provided by contractual arrangements in existence at year-end.
- b. Future development and production costs. These costs shall be computed by estimating the expenditures to be incurred in developing and producing the proved oil and gas reserves at the end of the year, based on year-end costs and assuming continuation of existing economic conditions. If estimated development expenditures are significant, they shall be presented separately from estimated production costs.
- c. Future income tax expenses. These expenses shall be computed by applying the appropriate year-end statutory tax rates, with consideration of future tax rates already legislated, to the future pretax net cash flows relating to the entity's proved oil and gas reserves, less the tax basis of the properties involved. The future income tax expenses shall give effect to tax deductions and tax credits and allowances relating to the entity's proved oil and gas reserves.
- d. Future net cash flows. These amounts are the result of subtracting future development and production costs and future income tax expenses from future cash inflows.

DEFINITIONS OF OIL AND GAS RESERVES

Adapted from U.S. Securities and Exchange Commission Regulation S-X Section 210.4-10(a)

- e. Discount. This amount shall be derived from using a discount rate of 10 percent a year to reflect the timing of the future net cash flows relating to proved oil and gas reserves.
- f. Standardized measure of discounted future net cash flows. This amount is the future net cash flows less the computed discount.

(27) Reservoir. A porous and permeable underground formation containing a natural accumulation of producible oil and/or gas that is confined by impermeable rock or water barriers and is individual and separate from other reservoirs.

(28) Resources. Resources are quantities of oil and gas estimated to exist in naturally occurring accumulations. A portion of the resources may be estimated to be recoverable, and another portion may be considered to be unrecoverable. Resources include both discovered and undiscovered accumulations.

(29) Service well. A well drilled or completed for the purpose of supporting production in an existing field. Specific purposes of service wells include gas injection, water injection, steam injection, air injection, salt-water disposal, water supply for injection, observation, or injection for in-situ combustion.

(30) Stratigraphic test well. A stratigraphic test well is a drilling effort, geologically directed, to obtain information pertaining to a specific geologic condition. Such wells customarily are drilled without the intent of being completed for hydrocarbon production. The classification also includes tests identified as core tests and all types of expendable holes related to hydrocarbon exploration. Stratigraphic tests are classified as "exploratory type" if not drilled in a known area or "development type" if drilled in a known area.

(31) Undeveloped oil and gas reserves. Undeveloped oil and gas reserves are reserves of any category that are expected to be recovered from new wells on undrilled acreage, or from existing wells where a relatively major expenditure is required for recompletion.

- (i) Reserves on undrilled acreage shall be limited to those directly offsetting development spacing areas that are reasonably certain of production when drilled, unless evidence using reliable technology exists that establishes reasonable certainty of economic producibility at greater distances.
- (ii) Undrilled locations can be classified as having undeveloped reserves only if a development plan has been adopted indicating that they are scheduled to be drilled within five years, unless the specific circumstances, justify a longer time.

From the SEC's Compliance and Disclosure Interpretations (October 26, 2009):

Although several types of projects — such as constructing offshore platforms and development in urban areas, remote locations or environmentally sensitive locations — by their nature customarily take a longer time to develop and therefore often do justify longer time periods, this determination must always take into consideration all of the facts and circumstances. No particular type of project per se justifies a longer time period, and any extension beyond five years should be the exception, and not the rule.

Factors that a company should consider in determining whether or not circumstances justify recognizing reserves even though development may extend past five years include, but are not limited to, the following:

- The company's level of ongoing significant development activities in the area to be developed (for example, drilling only the minimum number of wells necessary to maintain the lease generally would not constitute significant development activities);
- The company's historical record at completing development of comparable long-term projects;
- The amount of time in which the company has maintained the leases, or booked the reserves, without significant development activities;
- The extent to which the company has followed a previously adopted development plan (for example, if a company has changed its development plan several times without taking significant steps to implement any of those plans, recognizing proved undeveloped reserves typically would not be appropriate); and
- The extent to which delays in development are caused by external factors related to the physical operating environment (for example, restrictions on development on Federal lands, but not obtaining government permits), rather than by internal factors (for example, shifting resources to develop properties with higher priority).

- (iii) Under no circumstances shall estimates for undeveloped reserves be attributable to any acreage for which an application of fluid injection or other improved recovery technique is contemplated, unless such techniques have been proved effective by actual projects in the same reservoir or an analogous reservoir, as defined in paragraph (a)(2) of this section, or by other evidence using reliable technology establishing reasonable certainty.

(32) Unproved properties. Properties with no proved reserves

