

**UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549**

FORM 10-Q

Quarterly report pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934

For the quarterly period ended September 30, 2020

OR

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 001-37697

CENTENNIAL RESOURCE DEVELOPMENT, INC.

(Exact Name of Registrant as Specified in its Charter)

Delaware

(State of Incorporation)

47-5381253

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

1001 Seventeenth Street, Suite 1800

Denver, Colorado 80202

(Registrant's telephone number, including area code): (720) 499-1400

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, par value \$0.0001 per share	CDEV	The NASDAQ Stock Market LLC

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, smaller reporting company, or an emerging growth company. See the definitions of "large accelerated filer," "accelerated filer," "smaller reporting company," and "emerging growth company" in Rule 12b-2 of the Exchange Act.

Large accelerated filer	Accelerated filer	Non-accelerated filer	Smaller reporting company	Emerging growth company
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

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 Exchange Act). Yes No

As of October 31, 2020, there were 278,341,440 shares of Class A Common Stock, par value \$0.0001 per share outstanding.

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GLOSSARY OF OIL AND NATURAL GAS TERMS

The following are abbreviations and definitions of certain terms used in this Quarterly Report on Form 10-Q, which are commonly used in the oil and natural gas industry:

Bbl. One stock tank barrel of 42 U.S. gallons liquid volume used herein in reference to crude oil, condensate or NGLs.

Bbl/d. One Bbl per day.

Boe. One barrel of oil equivalent, calculated by converting natural gas to oil equivalent barrels at a ratio of six Mcf of natural gas to one Bbl of oil. This is an energy content correlation and does not reflect a value or price relationship between the commodities.

Boe/d. One Boe per day.

Btu. One British thermal unit, which is the quantity of heat required to raise the temperature of a one-pound mass of water by one-degree Fahrenheit.

Completion. The process of preparing an oil and gas wellbore for production through the installation of permanent production equipment, as well as perforation and fracture stimulation to optimize production.

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 and/or location of oil or natural gas.

Exploratory well. 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 natural gas in another 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. The field name refers to the surface area, although it may refer to both the surface and the underground productive formations.

Flush production. First yield from a flowing oil well during its most productive period after it is first completed and put online.

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

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 within a specified interval.

ICE Brent. Brent crude oil traded on the Intercontinental Exchange, Inc. (ICE).

LIBOR. London Interbank Offered Rate.

MBbl. One thousand barrels of crude oil, condensate or NGLs.

MBoe. One thousand Boe.

Mcf. One thousand cubic feet of natural gas.

Mcf/d. One Mcf per day.

MMBtu. One million British thermal units.

MMcf. One million cubic feet of natural gas.

NGL. Natural gas liquids. These are naturally occurring substances found in natural gas, including ethane, butane, isobutane, propane and natural gasoline, that can be collectively removed from produced natural gas, separated into these substances and sold.

NYMEX. The New York Mercantile Exchange.

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

Proved developed reserves. Reserves that can be expected to be recovered through existing wells with existing equipment and operating methods or in which the cost of the required equipment is relatively minor compared with the cost of a new well.

Proved reserves. The estimated quantities of oil, NGLs and natural gas that geological and engineering data demonstrate with reasonable certainty to be commercially recoverable in future years from known reservoirs under existing economic and operating conditions.

Proved undeveloped reserves or PUD. Proved 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 completion or recompletion.

Realized price. The cash market price less differentials.

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

Reserves. 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 market and all permits and financing required to implement the project.

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

Royalty interest. An interest in an oil or gas property entitling the owner to shares of the production free of costs of exploration, development and production operations.

Spot market price. The cash market price without reduction for expected quality, transportation and demand adjustments.

Wellbore. The hole drilled by a drill bit that is equipped for oil and natural gas production once the well has been completed. Also called well or borehole.

Working interest. The interest in an oil and gas property (typically a leasehold interest) that gives the owner the right to drill, produce and conduct operations on the property and to a share of production, subject to all royalties and other burdens and to all costs of exploration, development and operations and all risks in connection therewith.

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

WTI. West Texas Intermediate is a grade of crude oil used as a benchmark in oil pricing.

GLOSSARY OF CERTAIN OTHER TERMS

The following are definitions of certain other terms that are used in this Quarterly Report on Form 10-Q:

Business Combination. The acquisition of approximately 89% of the outstanding membership interests in CRP from the Centennial Contributors, which closed on October 11, 2016, and the other transactions contemplated by the Contribution Agreement.

Centennial Contributors. The legacy owners of CRP, who sold approximately 89% of the outstanding membership interests in CRP to the Company in connection with the Business Combination. On April 2, 2020, the Centennial Contributors converted all of their remaining CRP Common Units (and corresponding shares of Class C Common Stock) for Class A Common Stock, which eliminated their entire ownership interest in CRP.

The Company, we, our or us. (i) Centennial Resource Development, Inc. and its consolidated subsidiaries including CRP, following the closing of the Business Combination and (ii) Silver Run Acquisition Corporation prior to the closing of the Business Combination.

Class A Common Stock. Our Class A Common Stock, par value \$0.0001 per share.

Class C Common Stock. Our Class C Common Stock, par value \$0.0001 per share, which was issued to the Centennial Contributors in connection with the Business Combination.

Contribution Agreement. The Contribution Agreement, dated as of July 6, 2016, among the Centennial Contributors, CRP and NewCo, as amended by Amendment No. 1 thereto, dated as of July 29, 2016, and the Joinder Agreement, dated as of October 7, 2016, by the Company.

CRP. Centennial Resource Production, LLC, a Delaware limited liability company.

CRP Common Units. The units representing common membership interests in CRP.

NewCo. New Centennial, LLC, a Delaware limited liability company controlled by affiliates of Riverstone.

Riverstone. Riverstone Investment Group LLC and its affiliates, including Silver Run Sponsor, LLC, a Delaware limited liability company, collectively.

Voting common stock. Our Class A Common Stock and Class C Common Stock.

CAUTIONARY STATEMENT CONCERNING FORWARD-LOOKING STATEMENTS

This Quarterly Report on Form 10-Q (“Quarterly Report”) 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 Quarterly Report, 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 Quarterly Report, the words “could,” “may,” “believe,” “anticipate,” “intend,” “estimate,” “expect,” “project,” “goal,” “plan,” “target” 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 as to the outcome and timing of future events. When considering forward-looking statements, you should keep in mind the risk factors and other cautionary statements described under “Item 1A. Risk Factors” in this Quarterly Report and in our Annual Report on Form 10-K for the year ended December 31, 2019 (the “2019 Annual Report”) and the risk factors and other cautionary statements contained in our other filings with the United States Securities and Exchange Commission (“SEC”).

Forward-looking statements may include statements about:

- volatility of oil, natural gas and NGL prices or a prolonged period of low oil, natural gas or NGL prices and the effects of actions by, or disputes among or between, members of the Organization of Petroleum Exporting Countries (“OPEC”), such as Saudi Arabia, and other oil and natural gas producing countries, such as Russia, with respect to production levels or other matters related to the price of oil;
- the effects of excess supply of oil and natural gas resulting from the reduced demand caused by the COVID-19 pandemic and the actions by certain oil and natural gas producing countries;
- our business strategy and future drilling plans;
- our reserves and our ability to replace the reserves we produce through drilling and property acquisitions;
- our drilling prospects, inventories, projects and programs;
- 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 competition and government regulations;
- our ability to obtain permits and governmental approvals;
- our pending legal or environmental matters;
- the marketing and transportation of our oil, natural gas and NGLs;
- our leasehold or business acquisitions;
- cost of developing our properties;
- our anticipated rate of return;
- general economic conditions;
- credit markets;
- uncertainty regarding our future operating results; and
- our plans, objectives, expectations and intentions contained in this Quarterly Report 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 “Item 1A. Risk Factors” in this Quarterly Report and in our 2019 Annual Report. 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 Quarterly Report 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 Quarterly Report 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.

All forward-looking statements, expressed or implied, are made only as of the date of this Quarterly Report. Except as otherwise required by applicable law, we disclaim any duty to update any forward-looking statements to reflect events or circumstances after the date of this Quarterly Report.

PART I. FINANCIAL INFORMATION
Item 1. Financial Statements
**CENTENNIAL RESOURCE DEVELOPMENT, INC.
CONSOLIDATED BALANCE SHEETS (unaudited)
(in thousands, except share and per share amounts)**

	September 30, 2020	December 31, 2019
ASSETS		
Current assets		
Cash and cash equivalents	\$ 5,177	\$ 10,223
Accounts receivable, net	51,352	101,912
Prepaid and other current assets	7,980	7,994
Total current assets	64,509	120,129
Property and Equipment		
Oil and natural gas properties, successful efforts method		
Unproved properties	1,282,833	1,470,903
Proved properties	4,319,617	3,962,175
Accumulated depreciation, depletion and amortization	(1,804,014)	(931,737)
Total oil and natural gas properties, net	3,798,436	4,501,341
Other property and equipment, net	13,319	14,612
Total property and equipment, net	3,811,755	4,515,953
Noncurrent assets		
Operating lease right-of-use assets	4,025	11,841
Other noncurrent assets	42,747	40,365
TOTAL ASSETS	\$ 3,923,036	\$ 4,688,288
LIABILITIES AND EQUITY		
Current liabilities		
Accounts payable and accrued expenses	\$ 116,377	\$ 244,309
Operating lease liabilities	3,415	9,232
Other current liabilities	913	925
Total current liabilities	120,705	254,466
Noncurrent liabilities		
Long-term debt, net	1,092,241	1,057,389
Asset retirement obligations	18,125	16,874
Deferred income taxes	2,589	85,504
Operating lease liabilities	1,097	3,354
Other noncurrent liabilities	456	—
Total liabilities	1,235,213	1,417,587
Commitments and contingencies (Note 11)		
Shareholders' equity		
Preferred stock, \$0.0001 par value, 1,000,000 shares authorized:		
Series A: No shares issued and outstanding at September 30, 2020 and 1 share issued and outstanding at December 31, 2019	—	—
Common stock, \$0.0001 par value, 620,000,000 shares authorized:		
Class A: 290,104,427 shares issued and 278,317,272 shares outstanding at September 30, 2020 and 280,650,341 shares issued and 275,811,346 shares outstanding at December 31, 2019	29	28
Class C (Convertible): No shares issued and outstanding at September 30, 2020 and 1,034,119 shares issued and outstanding at December 31, 2019	—	—
Additional paid-in capital	2,999,640	2,975,756
Retained earnings (accumulated deficit)	(311,846)	282,336
Total shareholders' equity	2,687,823	3,258,120
Noncontrolling interest	—	12,581
Total equity	2,687,823	3,270,701
TOTAL LIABILITIES AND EQUITY	\$ 3,923,036	\$ 4,688,288

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

CENTENNIAL RESOURCE DEVELOPMENT, INC.
CONSOLIDATED STATEMENTS OF OPERATIONS (unaudited)
(in thousands, except per share data)

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2020	2019	2020	2019
Operating revenues				
Oil and gas sales	\$ 149,101	\$ 229,130	\$ 432,379	\$ 687,938
Operating expenses				
Lease operating expenses	24,543	42,330	83,021	107,077
Severance and ad valorem taxes	7,839	12,213	30,108	45,519
Gathering, processing and transportation expenses	19,130	20,853	53,353	52,120
Depreciation, depletion and amortization	89,444	112,720	283,722	321,392
Impairment and abandonment expense	19,904	6,745	650,629	42,427
Exploration and other expenses	2,670	2,869	10,730	9,246
General and administrative expenses	17,582	20,036	54,446	56,589
Total operating expenses	181,112	217,766	1,166,009	634,370
Net gain (loss) on sale of long-lived assets	145	(22)	388	(15)
Income (loss) from operations	(31,866)	11,342	(733,242)	53,553
Other income (expense)				
Interest expense	(17,718)	(15,246)	(51,510)	(39,843)
Gain on exchange of debt	—	—	143,443	—
Net gain (loss) on derivative instruments	(1,968)	1,522	(40,330)	(2,221)
Other income (expense)	23	62	(29)	321
Total other income (expense)	(19,663)	(13,662)	51,574	(41,743)
Income (loss) before income taxes	(51,529)	(2,320)	(681,668)	11,810
Income tax (expense) benefit	—	(1,393)	85,124	(5,058)
Net income (loss)	(51,529)	(3,713)	(596,544)	6,752
Less: Net (income) loss attributable to noncontrolling interest	—	128	2,362	(572)
Net income (loss) attributable to Class A Common Stock	\$ (51,529)	\$ (3,585)	\$ (594,182)	\$ 6,180
Income (loss) per share of Class A Common Stock:				
Basic	\$ (0.19)	\$ (0.01)	\$ (2.14)	\$ 0.02
Diluted	\$ (0.19)	\$ (0.01)	\$ (2.14)	\$ 0.02

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

CENTENNIAL RESOURCE DEVELOPMENT, INC.
CONSOLIDATED STATEMENTS OF CASH FLOWS (unaudited)
(in thousands)

	Nine Months Ended September 30,	
	2020	2019
Cash flows from operating activities:		
Net income (loss)	\$ (596,544)	\$ 6,752
Adjustments to reconcile net income to net cash provided by operating activities:		
Depreciation, depletion and amortization	283,722	321,392
Stock-based compensation expense	16,164	21,351
Impairment and abandonment expense	650,629	42,427
Deferred tax expense (benefit)	(85,124)	5,058
Net (gain) loss on sale of long-lived assets	(388)	15
Non-cash portion of derivative (gain) loss	(1,103)	14
Amortization of debt issuance costs and discount	4,112	2,070
Gain on exchange of debt	(143,443)	—
Changes in operating assets and liabilities:		
(Increase) decrease in accounts receivable	48,139	(47,771)
(Increase) decrease in prepaid and other assets	(2,825)	(995)
Increase (decrease) in accounts payable and other liabilities	(43,107)	34,562
Net cash provided by operating activities	130,232	384,875
Cash flows from investing activities:		
Acquisition of oil and natural gas properties	(7,689)	(73,346)
Drilling and development capital expenditures	(300,660)	(644,945)
Purchases of other property and equipment	(1,035)	(8,207)
Proceeds from sales of oil and natural gas properties	1,375	28,378
Net cash used in investing activities	(308,009)	(698,120)
Cash flows from financing activities:		
Proceeds from borrowings under revolving credit facility	490,000	345,000
Repayment of borrowings under revolving credit facility	(310,000)	(525,000)
Proceeds from issuance of senior notes	—	496,175
Debt exchange and debt issuance costs	(6,650)	(7,200)
Restricted stock used for tax withholdings	(598)	(911)
Net cash provided by financing activities	172,752	308,064
Net increase (decrease) in cash, cash equivalents and restricted cash	(5,025)	(5,181)
Cash, cash equivalents and restricted cash, beginning of period	15,543	21,422
Cash, cash equivalents and restricted cash, end of period	\$ 10,518	\$ 16,241

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

CENTENNIAL RESOURCE DEVELOPMENT, INC.
CONSOLIDATED STATEMENTS OF CASH FLOWS (unaudited) (continued)
(in thousands)

	Nine Months Ended September 30,	
	2020	2019
Supplemental cash flow information		
Cash paid for interest	\$ 48,331	\$ 27,985
Operating lease liability payments:		
Cash used in operating activities	5,510	16,808
Cash used in investing activities	2,019	13,946
Supplemental non-cash activity		
Accrued capital expenditures included in accounts payable and accrued expenses	\$ 13,593	\$ 120,238
Asset retirement obligations incurred, including revisions to estimates	579	1,075
Right-of-use assets recognized (derecognized) with offsetting operating lease liabilities	(3,711)	35,686
Change in Senior Notes from debt exchange		
Senior Secured Notes issued in the debt exchange, net of debt discount	106,030	—
2026 Senior Notes extinguished in the debt exchange, net of unamortized debt issue costs	(108,632)	—
2027 Senior Notes extinguished in the debt exchange, net of unamortized discount and debt issue costs	(140,840)	—

Reconciliation of cash, cash equivalents and restricted cash presented on the consolidated statements of cash flows for the periods presented:

	Nine Months Ended September 30,	
	2020	2019
Cash and cash equivalents	\$ 5,177	\$ 10,933
Restricted cash ⁽¹⁾	5,341	5,308
Total cash, cash equivalents and restricted cash	\$ 10,518	\$ 16,241

⁽¹⁾ Included in *Prepaid and other current assets* and *Other noncurrent assets* line items in the consolidated balance sheets.

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

CENTENNIAL RESOURCE DEVELOPMENT, INC.
CONSOLIDATED STATEMENTS OF SHAREHOLDERS' EQUITY (unaudited)
(in thousands)

	Common Stock				Preferred Stock		Additional Paid-In Capital	Retained Earnings (Accumulated Deficit)	Total Shareholders' Equity	Non- controlling Interest	Total Equity
	Class A		Class C		Series A						
	Shares	Amount	Shares	Amount	Shares	Amount					
Balance at December 31, 2019	280,650	\$ 28	1,034	\$ —	—	\$ —	\$2,975,756	\$ 282,336	\$ 3,258,120	\$ 12,581	\$3,270,701
Restricted stock issued	1,305	—	—	—	—	—	—	—	—	—	—
Restricted stock forfeited	(406)	—	—	—	—	—	—	—	—	—	—
Restricted stock used for tax withholding	(78)	—	—	—	—	—	(208)	—	(208)	—	(208)
Issuance of Class A common stock under Employee Stock Purchase Plan	59	—	—	—	—	—	230	—	230	—	230
Stock-based compensation	—	—	—	—	—	—	6,409	—	6,409	—	6,409
Net income (loss)	—	—	—	—	—	—	—	(547,983)	(547,983)	(2,362)	(550,345)
Balance at March 31, 2020	281,530	28	1,034	—	—	—	2,982,187	(265,647)	2,716,568	10,219	2,726,787
Restricted stock issued	80	—	—	—	—	—	—	—	—	—	—
Restricted stock forfeited	(352)	—	—	—	—	—	—	—	—	—	—
Restricted stock used for tax withholding	(83)	—	—	—	—	—	(93)	—	(93)	—	(93)
Stock-based compensation	—	—	—	—	—	—	4,727	—	4,727	—	4,727
Conversion of common stock from Class C to Class A, net of tax	1,034	—	(1,034)	—	—	—	8,011	—	8,011	(10,219)	(2,208)
Net income (loss)	—	—	—	—	—	—	—	5,330	5,330	—	5,330
Balance at June 30, 2020	282,209	28	—	—	—	—	2,994,832	(260,317)	2,734,543	—	2,734,543
Restricted stock issued	8,272	1	—	—	—	—	(1)	—	—	—	—
Restricted stock forfeited	(104)	—	—	—	—	—	—	—	—	—	—
Restricted stock used for tax withholding	(377)	—	—	—	—	—	(297)	—	(297)	—	(297)
Issuance of Class A common stock under Employee Stock Purchase Plan	104	—	—	—	—	—	78	—	78	—	78
Stock-based compensation	—	—	—	—	—	—	5,028	—	5,028	—	5,028
Net income (loss)	—	—	—	—	—	—	—	(51,529)	(51,529)	—	(51,529)
Balance at September 30, 2020	290,104	\$ 29	—	\$ —	—	\$ —	\$2,999,640	\$ (311,846)	\$ 2,687,823	\$ —	\$2,687,823

CENTENNIAL RESOURCE DEVELOPMENT, INC.
CONSOLIDATED STATEMENTS OF SHAREHOLDERS' EQUITY (unaudited) (continued)
(in thousands)

	Common Stock				Preferred Stock		Additional Paid-In Capital	Retained Earnings (Accumulated Deficit)	Total Shareholders' Equity	Non- controlling Interest	Total Equity
	Class A		Class C		Series A						
	Shares	Amount	Shares	Amount	Shares	Amount					
Balance at December 31, 2018	265,859	\$ 27	12,003	\$ 1	—	\$ —	\$2,833,611	\$ 266,538	\$ 3,100,177	\$ 143,692	\$3,243,869
Restricted stock issued	436	—	—	—	—	—	—	—	—	—	—
Restricted stock forfeited	—	—	—	—	—	—	—	—	—	—	—
Restricted stock used for tax withholding	(24)	—	—	—	—	—	(291)	—	(291)	—	(291)
Stock-based compensation	—	—	—	—	—	—	6,483	—	6,483	—	6,483
Net income (loss)	—	—	—	—	—	—	—	(8,112)	(8,112)	(425)	(8,537)
Balance at March 31, 2019	266,271	27	12,003	1	—	—	2,839,803	258,426	3,098,257	143,267	3,241,524
Restricted stock issued	4	—	—	—	—	—	—	—	—	—	—
Restricted stock forfeited	(16)	—	—	—	—	—	—	—	—	—	—
Restricted stock used for tax withholding	(4)	—	—	—	—	—	(41)	—	(41)	—	(41)
Stock-based compensation	—	—	—	—	—	—	6,758	—	6,758	—	6,758
Net income (loss)	—	—	—	—	—	—	—	17,877	17,877	1,125	19,002
Balance at June 30, 2019	266,255	27	12,003	1	—	—	2,846,520	276,303	3,122,851	144,392	3,267,243
Restricted stock issued	3,466	—	—	—	—	—	—	—	—	—	—
Restricted stock forfeited	(30)	—	—	—	—	—	—	—	—	—	—
Restricted stock used for tax withholding	(107)	—	—	—	—	—	(579)	—	(579)	—	(579)
Stock-based compensation	—	—	—	—	—	—	8,110	—	8,110	—	8,110
Conversion of common stock from Class C to Class A, net of tax	10,860	1	(10,860)	(1)	—	—	113,098	—	113,098	(130,345)	(17,247)
Net income (loss)	—	—	—	—	—	—	—	(3,585)	(3,585)	(128)	(3,713)
Balance at September 30, 2019	280,444	\$ 28	1,143	\$ —	—	\$ —	\$2,967,149	\$ 272,718	\$ 3,239,895	\$ 13,919	\$3,253,814

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

CENTENNIAL RESOURCE DEVELOPMENT, INC.
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Note 1—Basis of Presentation and Summary of Significant Accounting Policies

Description of Business

Centennial Resource Development, Inc. is an independent oil and natural gas company focused on the development 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, and its properties consist of large, contiguous acreage blocks located in West Texas and New Mexico. Unless otherwise specified or the context otherwise requires, all references in these notes to "Centennial" or the "Company" are to Centennial Resource Development, Inc. and its consolidated subsidiary, Centennial Resource Production, LLC ("CRP").

Principles of Consolidation and Basis of Presentation

The accompanying unaudited consolidated financial statements have been prepared in accordance with generally accepted accounting principles in the United States of America ("GAAP") and the rules and regulations of the United States Securities and Exchange Commission ("SEC") for interim financial reporting. Accordingly, certain disclosures normally included in an Annual Report on Form 10-K have been omitted. The consolidated financial statements and related notes included in this Quarterly Report should be read in conjunction with the Company's consolidated financial statements and related notes included in the Company's Annual Report on Form 10-K for the period ended December 31, 2019 (the "2019 Annual Report"). Except as disclosed herein, there have been no material changes to the information disclosed in the notes to the consolidated financial statements included in the Company's 2019 Annual Report.

In the opinion of management, all normal, recurring adjustments and accruals considered necessary to present fairly, in all material respects, the Company's interim financial results have been included. Operating results for the periods presented are not necessarily indicative of expected results for the full year.

The consolidated financial statements include the accounts of the Company and its subsidiary CRP, and CRP's wholly-owned subsidiaries. Noncontrolling interest represents third-party ownership in CRP and is presented as a component of equity. As of December 31, 2019, the noncontrolling interest ownership of CRP was 0.4%.

On April 2, 2020, the legacy owners of CRP converted all of their remaining 1,034,119 CRP Common Units (and corresponding shares of Class C Common Stock) into Class A Common Stock (the "Conversion"), which eliminated the noncontrolling interest ownership in CRP. As a result, CRP was a wholly-owned subsidiary of Centennial Resource Development, Inc. for the three month periods ended June 30, 2020 and September 30, 2020. No cash proceeds were received by the Company in connection with the Conversion, and deferred tax expense of \$2.2 million was recorded in equity with an offsetting deferred tax liability for the same amount, upon conversion.

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 and expenses, and 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 established.

The more significant areas requiring the use of assumptions, judgments and estimates include: (i) oil and natural gas reserves; (ii) cash flow estimates used in impairment tests for long-lived assets; (iii) impairment expense of unproved properties; (iv) depreciation, depletion and amortization; (v) asset retirement obligations; (vi) determining fair value and allocating purchase price in connection with business combinations and asset acquisitions; (vii) accrued revenues and related receivables; (viii) accrued liabilities; (ix) derivative valuations; and (x) deferred income taxes.

Income Taxes

Historically, CRP has been treated as a partnership for U.S. federal and most applicable state and local income tax purposes. As a partnership, CRP was not subject to U.S. federal and certain state and local income taxes, and any taxable income or loss generated by CRP was passed through to and included in the taxable income or loss of its members, including Centennial Resource Development, Inc., on a pro rata basis. Following the Conversion, CRP is no longer a partnership for tax purposes. As a result, the deferred tax assets and liabilities previously recorded within the partnership, and previously reported by the Company as a net deferred tax balance related to its investment in the CRP partnership, are now directly included within the Company's

**CENTENNIAL RESOURCE DEVELOPMENT, INC.
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deferred tax assets and liabilities. Further, the Company is now subject to U.S. federal and applicable state and local income taxes for its entire consolidated taxable income or loss.

Income tax expense recognized during interim periods is based on applying an estimated annual effective income tax rate to the Company's year-to-date income, plus any significant unusual or infrequently occurring items which are recorded in the interim period. The computation of the annual estimated effective tax rate at each interim period requires certain estimates and significant judgment including, but not limited to, the expected operating income for the year, projections of the proportion of income earned and taxed in various state jurisdictions, permanent and temporary differences and the likelihood of recovering deferred tax assets generated. The accounting estimates used to compute the provision for income taxes may change as new events occur, additional information becomes known or as the tax environment changes.

During the first nine months of 2020, the Company determined that it is more-likely-than-not that a portion of its deferred tax assets will not be realized. Accordingly, a valuation allowance against its deferred tax assets in the amount of \$58.0 million was recognized as of September 30, 2020, which caused the Company's provision for income taxes for the three and nine months ended September 30, 2020 to differ from the amounts that would be provided by applying the statutory U.S. federal income tax rate of 21% to pre-tax book loss.

Shareholders' Equity

In July 2020, the Company redeemed its one outstanding share of Series A Preferred Stock at par value, \$0.0001 per share (the "Series A Preferred Stock"), held by NGP X US Holdings, L.P. ("NGP"), a former indirect equity owner of CRP. The Series A Preferred Stock became redeemable by the Company as NGP ceased to own at least 5,000,000 shares of the Company's Class A Common Stock.

Risks and Uncertainties

The prices received for oil, natural gas and NGL production heavily influence the Company's revenue, profitability, liquidity, access to capital, future rate of growth and carrying value of its properties. Oil, natural gas and NGLs are commodities, and their prices have been volatile in response to recent changes in global and domestic supply, the global COVID-19 pandemic and demand, and market uncertainty. The Company generally funds its operations and capital expenditures with its cash flows from operations, borrowings under CRP's credit agreement, and offerings of debt and equity securities. The Company expects to be able to fund its operations, planned capital expenditures and working capital requirements during the next 12 months and the foreseeable future. However, continued volatility of oil and gas prices could have an adverse effect on the Company's future business, financial condition, results of operations, operating cash flows, liquidity, production levels and quantities of oil and gas reserves that may be economically produced, which could in turn impact the Company's ability to comply with the financial covenants under its borrowing agreements and could also limit the amount of borrowings available to fund the Company's capital expenditures and potential acquisitions. Additionally, if forward prices decline, the Company could incur additional impairments of its oil and gas assets.

Note 2—Property Divestiture

On February 24, 2020, the Company entered into a purchase and sale agreement (the "Agreement") to sell certain of its water disposal assets. On May 15, 2020, the Agreement was terminated after the purchaser failed to close the transaction as set forth in the Agreement.

The purchaser deposited \$10.0 million of cash in an escrow account (the "Deposit") which, in the event of termination, was to be distributed to the Company or the purchaser in accordance with the remedy provisions of the Agreement. Centennial believes it has a right to receive the Deposit, pursuant to the terms of the Agreement. However, the purchaser advised the Company that it disputes this position, and as a result, the distribution of the Deposit is under ongoing litigation between the Company and the purchaser.

CENTENNIAL RESOURCE DEVELOPMENT, INC.
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Note 3—Accounts Receivable, Accounts Payable and Accrued Expenses

Accounts receivable are comprised of the following:

(in thousands)	September 30, 2020	December 31, 2019
Accrued oil and gas sales receivable, net	\$ 38,812	\$ 76,578
Joint interest billings, net	12,428	25,136
Other	112	198
Accounts receivable, net	<u>\$ 51,352</u>	<u>\$ 101,912</u>

Accounts payable and accrued expenses are comprised of the following:

(in thousands)	September 30, 2020	December 31, 2019
Accounts payable	\$ 10,270	\$ 21,484
Accrued capital expenditures	9,793	83,002
Revenues payable	42,907	82,539
Accrued interest	20,210	19,405
Accrued derivative settlements payable	9,597	—
Accrued employee compensation and benefits	8,860	12,979
Accrued expenses and other	14,740	24,900
Accounts payable and accrued expenses	<u>\$ 116,377</u>	<u>\$ 244,309</u>

Note 4—Long-Term Debt

The following table provides information about the Company's long-term debt as of the dates indicated:

(in thousands)	September 30, 2020	December 31, 2019
Credit Facility due 2023	\$ 355,000	\$ 175,000
8.00% Senior Secured Notes due 2025	127,073	—
5.375% Senior Notes due 2026	289,448	400,000
6.875% Senior Notes due 2027	356,351	500,000
Unamortized debt issuance costs on Senior Notes	(13,298)	(14,061)
Unamortized debt discount	(22,333)	(3,550)
Senior Notes, net	737,241	882,389
Total long-term debt, net	<u>\$ 1,092,241</u>	<u>\$ 1,057,389</u>

Credit Agreement

CRP, the Company's consolidated subsidiary, has a credit agreement with a syndicate of banks that provides for a five-year secured revolving credit facility, maturing on May 4, 2023 (the "Credit Agreement"). On May 1, 2020, CRP, as borrower, and the Company, as parent guarantor, entered into the second and third amendments to the Credit Agreement (the "Q2 2020 Amendments"), which, among other things, established a new borrowing base and level of elected commitments of \$700.0 million. The Q2 2020 Amendments that the lenders approved also permitted the issuance of the Senior Secured Notes in connection with the Debt Exchange (defined below), and they implemented an availability blocker equal to 25% of the newly issued amount of Senior Secured Notes. As of September 30, 2020, the Company had \$355.0 million in borrowings outstanding and \$304.4 million in available borrowing capacity, which was net of \$8.8 million in letters of credit outstanding and the availability blocker of \$31.8 million.

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The amount available to be borrowed under CRP's Credit Agreement is equal to the lesser of (i) the borrowing base less the availability blocker, (ii) aggregate elected commitments, which was set at \$700.0 million pursuant to the Q2 2020 Amendments, or (iii) \$1.5 billion. The borrowing base is redetermined semi-annually in the spring and fall by the lenders in their sole discretion. It also allows for two optional borrowing base redeterminations on January 1 and July 1. The borrowing base depends on, among other things, the quantities of CRP's proved oil and natural gas reserves, estimated cash flows from these reserves, and the Company's commodity hedge positions. Upon a redetermination of the borrowing base, if actual borrowings exceed the revised borrowing capacity, CRP could be required to immediately repay a portion of its debt outstanding. Borrowings under the Credit Agreement are guaranteed by certain of CRP's subsidiaries and the Company. In connection with the Credit Agreement's fall 2020 semi-annual borrowing base redetermination, the borrowing base and amount of elected commitments were reaffirmed at \$700.0 million.

Borrowings under the Credit Agreement may be base rate loans or LIBOR loans. Interest is payable quarterly for base rate loans and at the end of the applicable interest period for LIBOR loans. LIBOR loans bear interest at LIBOR (adjusted for statutory reserve requirements and subject to 1% floor) plus an applicable margin, which ranged from 200 to 300 basis points as of September 30, 2020, depending on the percentage of the borrowing base utilized. Base rate loans bear interest at a rate per annum equal to the greatest of: (i) the agent bank's prime rate; (ii) the federal funds effective rate plus 50 basis points; or (iii) the adjusted LIBOR rate for a one-month interest period plus 100 basis points, plus an applicable margin, which ranged from 100 to 200 basis points as of September 30, 2020, depending on the percentage of the borrowing base utilized. CRP also pays a commitment fee of 37.5 to 50 basis points on unused amounts under its facility.

CRP's Credit Agreement contains restrictive covenants that limit its ability to, among other things: (i) incur additional indebtedness; (ii) make investments and loans; (iii) enter into mergers; (iv) make or declare dividends; (v) enter into commodity hedges exceeding a specified percentage of the Company's expected production; (vi) enter into interest rate hedges exceeding a specified percentage of its outstanding indebtedness; (vii) incur liens; (viii) sell assets; and (ix) engage in transactions with affiliates.

CRP's Credit Agreement also requires it to maintain compliance with the following financial ratios:

(i) a current ratio, which is the ratio of CRP's consolidated current assets (including unused commitments under its revolving credit facility and excluding non-cash derivative assets and certain restricted cash) to its consolidated current liabilities (excluding any current portion of long-term debt due under the credit agreement and non-cash derivative liabilities), of not less than 1.0 to 1.0;

(ii) a first lien leverage ratio, as defined within the Credit Agreement as the ratio of first lien debt to EBITDAX for the rolling four fiscal quarter period, which may not exceed 2.75 to 1.00 beginning with the quarter ending June 30, 2020 and extending through the quarter ending December 31, 2021, after which the maximum ratio shall decrease to 2.50 to 1.00 for each of the quarters ending in 2022; and

(iii) a leverage ratio, as also defined in the Credit Agreement as the ratio of total funded debt to consolidated EBITDAX for the rolling four fiscal quarter period. Pursuant to the Q2 2020 Amendments, the leverage ratio is suspended until March 31, 2022, at which time, the ratio may not exceed 5.00 to 1.00, with such maximum ratio declining at a rate of 0.25 for each succeeding quarter until March 31, 2023 when the ratio is set at not greater than 4.0 to 1.0.

CRP was in compliance with the covenants and the financial ratios described above as of September 30, 2020 and through the filing of this Quarterly Report.

Senior Unsecured Notes Debt Exchange

On May 22, 2020, CRP completed its private exchange of debt pursuant to which a \$254.2 million aggregate principal amount of Senior Unsecured Notes (defined below) was validly tendered and exchanged by certain eligible bondholders for consideration consisting of \$127.1 million aggregate principal amount (the "Debt Exchange") of newly issued 8.00% second lien senior secured notes due 2025 (the "Senior Secured Notes").

Whether a debt exchange should be accounted for pursuant to Financial Accounting Standards Board's Accounting Standard Codification ("ASC") Topic 470-60, *Troubled Debt Restructurings by Debtors*, or pursuant to ASC Topic 470-50, *Modifications and Extinguishments ("ASC 470-50")*, requires judgments to be made with respect to whether or not an entity is experiencing financial difficulty. As it was determined that Centennial was not experiencing financial difficulty and could obtain funds at market rates it could afford (i.e. non-investment grade but nontroubled debtor rates), the Company's Debt Exchange was accounted for as an extinguishment of debt in accordance with ASC 470-50. As a result, a gain on the exchange of debt of \$143.4 million was recognized in the consolidated statement of operations, which consisted of the carrying values of the Senior

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Unsecured Notes exchanged less the aggregate principal amount of the new Senior Secured Notes issued, net of their associated debt discount of \$21.0 million (which was based on the Senior Secured Notes' estimated fair value on the exchange date).

Senior Secured Notes

In connection with the Debt Exchange, on May 22, 2020, the Company issued \$127.1 million aggregate principal amount of Senior Secured Notes. The Senior Secured Notes were recorded at their fair value on the date of issuance equal to 83.44% of par (a debt discount of \$21.0 million) and net of their associated debt issuance costs of \$4.2 million. The Senior Secured Notes bear interest at an annual rate of 8.00% and are due on June 1, 2025. Interest is payable semi-annually in arrears on each June 1 and December 1, commencing on December 1, 2020.

The Senior Secured Notes are guaranteed, subject to certain exceptions, by the Company and each of CRP's subsidiaries and are secured on a second-priority basis (subject in priority only to certain exceptions) by substantially all of the assets of CRP and the Company, including deposit accounts and substantially all proved reserves and undeveloped acreage.

The Company has the option to redeem all (but not less than all) of the Senior Secured Notes, at any time prior to May 22, 2021 on a single occasion, at a redemption price equal to 100% of the principal amount, plus accrued and unpaid interest to the date of redemption, if such redemption is made entirely with proceeds from equity offerings or the issuance of unsecured indebtedness.

At any time prior to June 1, 2022, the Company has the option to redeem the Senior Secured Notes, in whole or in part, at a redemption price equal to 100% of the principal amount of the Senior Secured Notes redeemed plus accrued and unpaid interest and a "make-whole" premium. The Senior Secured Notes are redeemable at the Company's option, in whole or in part, at any time on or after June 1, 2022, at specified redemption prices, together with accrued and unpaid interest. In addition, at any time prior to June 1, 2022, the Company may redeem up to 35% of the aggregate principal amount of each of the Senior Secured Notes, including any permitted additional Senior Secured Notes, with an amount of cash not greater than the net proceeds of certain equity offerings at a redemption price equal to 108% of the principal amount of such Senior Secured Notes, plus any accrued and unpaid interest to, but excluding, the redemption date.

Senior Unsecured Notes

On March 15, 2019, CRP issued \$500.0 million of 6.875% senior notes due 2027 (the "2027 Senior Notes") in a 144A private placement at a price equal to 99.235% of par that resulted in net proceeds to CRP of \$489.0 million, after deducting the original issuance discount of \$3.8 million and debt issuance costs of \$7.2 million. Interest is payable on the 2027 Senior Notes semi-annually in arrears on each April 1 and October 1, which commenced on October 1, 2019. In May 2020 in connection with the Debt Exchange, \$143.7 million aggregate principal amount of the 2027 Senior Notes was exchanged for Senior Secured Notes. As of September 30, 2020, the remaining aggregate principal amount of 2027 Senior Notes outstanding was \$356.4 million.

On November 30, 2017, CRP issued at par \$400.0 million of 5.375% senior notes due 2026 (the "2026 Senior Notes" and collectively with the 2027 Senior Notes, the "Senior Unsecured Notes") in a 144A private placement that resulted in net proceeds to CRP of \$391.0 million, after deducting \$9.0 million in debt issuance costs. Interest is payable on the 2026 Senior Notes semi-annually in arrears on each January 15 and July 15, which commenced on July 15, 2018. In May 2020 in connection with the Debt Exchange, \$110.6 million aggregate principal amount of the 2026 Senior Notes was exchanged for Senior Secured Notes. As of September 30, 2020, the remaining aggregate principal amount of 2026 Senior Notes outstanding was \$289.4 million.

The Senior Unsecured Notes are fully and unconditionally guaranteed on a senior unsecured basis by the Company and each of CRP's current subsidiaries that guarantee CRP's revolving credit facility.

At any time prior to January 15, 2021 (for the 2026 Senior Notes) and April 1, 2022 (for the 2027 Senior Notes), the "Optional Redemption Dates," CRP may, on any one or more occasions, redeem up to 35% of the aggregate principal amount of either series of Senior Unsecured Notes with an amount of cash not greater than the net cash proceeds of certain equity offerings at a redemption price equal to 105.375% (for the 2026 Senior Notes) and 106.875% (for the 2027 Senior Notes) of the principal amount of the Senior Unsecured Notes of the applicable series redeemed, plus any accrued and unpaid interest to the date of redemption; provided that at least 65% of the aggregate principal amount of each such series of Senior Unsecured Notes remains outstanding immediately after such redemption, and the redemption occurs within 180 days of the closing date of such equity offering.

At any time prior to the Optional Redemption Dates, CRP may, on any one or more occasions, redeem all or a part of the Senior Unsecured Notes at a redemption price equal to 100% of the principal amount of the Senior Unsecured Notes redeemed, plus a "make-whole" premium, and any accrued and unpaid interest as of the date of redemption. On and after the Optional Redemption Dates, CRP may redeem the Senior Unsecured Notes, in whole or in part, at redemption prices expressed as percentages of principal amount plus accrued and unpaid interest to the redemption date.

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Senior Notes

The following section discusses the general terms of the indentures applicable to the Company's Senior Unsecured Notes and the Senior Secured Notes (collectively, the "Senior Notes").

The indentures governing the Senior Notes contain covenants that, among other things and subject to certain exceptions and qualifications, limit CRP's ability and the ability of CRP's restricted subsidiaries to: (i) incur or guarantee additional indebtedness or issue certain types of preferred stock; (ii) pay dividends on capital stock or redeem, repurchase or retire capital stock or subordinated indebtedness; (iii) transfer or sell assets; (iv) make investments; (v) create certain liens; (vi) enter into agreements that restrict dividends or other payments from their subsidiaries to them; (vii) consolidate, merge or transfer all or substantially all of their assets; (viii) engage in transactions with affiliates; and (ix) create unrestricted subsidiaries. CRP was in compliance with these covenants as of September 30, 2020 and through the filing of this Quarterly Report.

Upon an Event of Default (as defined in the indentures governing the Senior Notes), the trustee or the holders of at least 25% of the aggregate principal amount of then outstanding Senior Notes may declare the Senior Notes immediately due and payable. In addition, a default resulting from certain events of bankruptcy or insolvency with respect to CRP, any restricted subsidiary of CRP that is a significant subsidiary, or any group of restricted subsidiaries that, taken together, would constitute a significant subsidiary, will automatically cause all outstanding Senior Notes to become due and payable.

If CRP experiences certain defined changes of control (and, in some cases, followed by a ratings decline), each holder of the Senior Notes may require CRP to repurchase all or a portion of its Senior Notes for cash at a price equal to 101% of the aggregate principal amount of such Senior Notes, plus any accrued but unpaid interest to the date of repurchase.

Note 5—Asset Retirement Obligations

The following table summarizes changes in the Company's asset retirement obligations ("ARO") associated with its working interests in oil and gas properties for the nine months ended September 30, 2020:

(in thousands)

Asset retirement obligations, beginning of period	\$	16,874
Liabilities incurred and acquired		630
Liabilities divested and settled		(306)
Accretion expense		831
Revisions to estimated cash flows		96
Asset retirement obligations, end of period	\$	<u>18,125</u>

ARO reflect the present value of the estimated future costs associated with the plugging and abandonment of oil and natural gas wells, removal of equipment and facilities from leased acreage and land restoration in accordance with applicable local, state and federal laws. Inherent in the fair value calculation of ARO are numerous assumptions and judgments including the ultimate plug and abandonment settlement amounts, inflation factors, credit adjusted discount rates and timing of settlement. To the extent future revisions to these assumptions impact the value of the existing ARO liability, a corresponding offsetting adjustment is made to the oil and gas property balance. Changes in the liability due to the passage of time are recognized as an increase in the carrying amount of the liability and as accretion expense.

Note 6—Stock-Based Compensation

On October 7, 2016, the stockholders of the Company approved the Centennial Resource Development, Inc. 2016 Long Term Incentive Plan (the "LTIP"), which authorized an aggregate of 16,500,000 shares of Class A Common Stock for issuance. On April 29, 2020, the stockholders of the Company approved the amended and restated LTIP, which, among other things, increased the number of shares of Class A Common Stock authorized for issuance by 8,250,000 shares. As of September 30, 2020, the Company had 7,063,352 shares of Class A Common Stock available for future grants. The LTIP provides for grants of restricted stock, stock options (including incentive stock options and nonqualified stock options), restricted stock units, stock appreciation rights and other stock or cash-based awards.

As a result of the decline in crude oil and natural gas prices, ongoing uncertainty regarding the oil supply-demand macro environment and the related temporary suspension of the Company's drilling and completion activities, the Company implemented a reduction to its workforce in the second quarter of 2020. In connection with this reduction, the Compensation Committee of the Company's Board of Directors approved an accelerated partial vesting of certain unvested stock options and restricted stock awards held by 36 of the terminated employees. The acceleration changed the terms of the vesting conditions and

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are therefore treated as modifications in accordance with ASC Topic 718, *Compensation-Stock Compensation* (“ASC 718”). The modification resulted in a decrease to total stock-based compensation expense of \$2.6 million associated with the decrease in the fair value of the modified awards compared to the original awards’ fair value. The shares and options that were accelerated are included within the vested line item in the below tables.

Stock-based compensation expense is recognized within both *General and administrative expenses* and *Exploration and other expenses* in the consolidated statements of operations. The Company accounts for forfeitures of awards granted under the LTIP as they occur in determining compensation expense.

The following table summarizes stock-based compensation expense recognized for the periods presented:

(in thousands)	Three Months Ended September 30,		Nine Months Ended September 30,	
	2020	2019	2020	2019
Equity Awards				
Restricted stock awards	\$ 3,864	\$ 4,569	\$ 11,605	\$ 11,159
Stock option awards	399	2,557	1,674	7,766
Performance stock units	653	918	2,659	2,360
Other stock-based compensation expense ⁽¹⁾	112	66	226	66
Total stock-based compensation - equity awards	5,028	8,110	16,164	21,351
Liability Awards				
Restricted stock units	290	—	290	—
Performance stock units	197	—	197	—
Total stock-based compensation - liability awards	487	—	487	—
Total stock-based compensation expense	\$ 5,515	\$ 8,110	\$ 16,651	\$ 21,351

⁽¹⁾ Includes expenses related to the Company’s Employee Stock Purchase Plan (the “ESPP”). In May 2019, an aggregate of 2,000,000 shares were authorized by stockholders for issuance under the ESPP, which became effective on July 1, 2019. As of September 30, 2020, the Company had 1,837,381 shares of Class A Common Stock available for future issuance.

Equity Awards

The Company has restricted stock awards, stock options and performance stock units (“PSUs”) outstanding that were granted under the LTIP as discussed below. Each award has service-based and, in the case of the PSUs, market-based vesting requirements, and are expected to be settled in shares of the Company’s Class A Common Stock upon vesting. As a result, these awards are classified as equity-based awards in accordance with ASC 718.

Restricted Stock

The following table provides information about restricted stock activity during the nine months ended September 30, 2020:

	Awards	Weighted Average Grant-Date Fair Value
Unvested balance as of December 31, 2019	4,838,996	\$ 8.51
Granted	9,657,211	1.10
Vested	(1,847,059)	8.69
Forfeited	(861,992)	5.79
Unvested balance as of September 30, 2020	11,787,156	2.45

The Company grants service-based restricted stock awards to executive officers and employees, which vest ratably over a three-year service period, and to directors, which vest over a one-year service period. Compensation cost for the service-based restricted stock awards is based on the closing market price of the Company’s Class A common stock on the grant date, and such costs are recognized ratably over the applicable vesting period. The weighted average grant-date fair value for restricted stock awards granted during the period was \$1.10 and \$6.70 per share for the nine months ended September 30, 2020 and 2019, respectively. The total fair value of restricted stock awards that vested during the nine months ended September 30, 2020 and 2019 was \$16.1 million and \$9.1 million, respectively, and includes awards with vesting terms that were accelerated as discussed above. Unrecognized compensation cost related to restricted shares that were unvested as of September 30, 2020 was \$24.2 million, which the Company expects to recognize over a weighted average period of 2.1 years.

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Stock Options

Stock options that have been granted under the LTIP expire ten years from the grant date and vest ratably over a three-year service period. The exercise price for an option granted under the LTIP is the closing market price of the Company's Class A Common Stock on the grant date.

Compensation cost for stock options is based on the grant-date fair value of the award which is then recognized ratably over the vesting period of three years. The Company estimates the fair value using the Black-Scholes option-pricing model. Expected volatilities are based on the weighted average asset volatility of the Company and an identified set of comparable companies. Expected term is based on the simplified method and is estimated as the mid-point between the weighted average vesting term and the time to expiration as of the grant date. The Company uses U.S. Treasury bond rates in effect at the grant date for its risk-free interest rates.

The following table summarizes the assumptions and related information used to determine the grant-date fair value of stock option awards for the periods presented:

	Nine Months Ended September 30,	
	2020	2019
Weighted average grant-date fair value per share	\$ 1.16	\$ 4.47
Expected term (in years)	6	6
Expected stock volatility	86%	46%
Dividend yield	—%	—%
Risk-free interest rate	1.0%	2.3%

The following table provides information about stock option awards outstanding during the nine months ended September 30, 2020:

	Options	Weighted Average Exercise Price	Weighted Average Remaining Term (in years)	Aggregate Intrinsic Value (in thousands)
Outstanding as of December 31, 2019	4,764,167	\$ 15.99		
Granted	124,000	2.13		
Exercised	(366)	0.25		\$ —
Forfeited	(129,757)	13.15		
Expired	(2,325,391)	16.37		
Outstanding as of September 30, 2020	2,432,653	15.07	6.6	\$ 22
Exercisable as of September 30, 2020	1,955,295	15.78	6.2	\$ —

The total fair value of stock options that vested during the nine months ended September 30, 2020 and 2019 was \$4.7 million and \$4.4 million, respectively, and includes awards with vesting terms that were accelerated as discussed above. The intrinsic value of the stock options exercised was minimal for the nine months ended September 30, 2020 and there were no stock options exercised during the nine months ended September 30, 2019. As of September 30, 2020, there was \$1.2 million of unrecognized compensation cost related to unvested stock options, which the Company expects to recognize on a pro-rata basis over a weighted-average period of 1.3 years.

Performance Stock Units

The Company grants performance stock units to certain executive officers that are subject to market-based vesting criteria as well as a three-year service period. Vesting at the end of the three-year service period is subject to the condition that the Company's stock price increases by a greater percentage, or decreases by a lesser percentage, than the average percentage increase or decrease, respectively, of the stock prices of a peer group of companies. The market-based conditions must be met in order for the stock awards to vest, and it is, therefore, possible that no shares could ultimately vest. However, the Company recognizes compensation expense for the performance stock 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.

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The following table provides information about performance stock units outstanding during the nine months ended September 30, 2020.

	Awards	Weighted Average Grant- Date Fair Value
Unvested balance as of December 31, 2019	872,672	\$ 13.44
Vested	—	—
Granted	—	—
Canceled	(193,391)	21.53
Forfeited	—	—
Unvested balance as of September 30, 2020	679,281	11.13

As of September 30, 2020, there was \$3.1 million of unrecognized compensation cost related to performance stock units that were unvested, which the Company expects to recognize on a pro-rata basis over a weighted average period of 1.4 years.

Liability Awards

The Company has restricted stock units and performance stock units that were granted under the LTIP, which will be settled in cash and are classified as liability awards in accordance with ASC 718. Compensation cost for the liability awards is based on the fair value of the units as of the balance sheet date as further discussed below, and such costs are recognized ratably over the period in which the liability is expected to be paid. As the fair value of liability awards is required to be re-measured each period end, amounts recognized in future periods will vary. The estimated future cash payments of these awards are presented as liabilities within the consolidated balances sheets within *Other current liabilities* and *Other long-term liabilities*.

Restricted Stock Units

During the three months ended September 30, 2020, the Company granted 5.5 million restricted stock units to certain officers and employees that will be settled in cash. The restricted stock units vest annually in one-third increments over a three-year service period, with the first portion vesting on September 1, 2021. After one year from the grant date, however, the restricted stock units can vest immediately on an accelerated basis if they meet certain market-based vesting criteria (equal to the maximum return percentage discussed below for at least 20 out of any 30 consecutive trading days). Additionally, the restricted stock units include maximum and minimum return amounts equal to 400% and 25%, respectively, of the closing market price of the Company's common stock on the grant date. As of September 30, 2020, there was \$2.5 million of unrecognized compensation cost, which represents the unvested portion of the fair value of the restricted stock units and will be recognized over a weighted average period of 2.9 years.

Performance Stock Units

During the three months ended September 30, 2020, the Company granted 5.5 million performance stock units to certain executive officers that will be settled in cash and are subject to market-based vesting criteria as well as a three-year service condition. Vesting at the end of the three-year service period is subject to the condition that the Company's stock price increases by a greater percentage, or decreases by a lesser percentage, than the average percentage increase or decrease, respectively, of the stock price of a peer group of companies. The market-based conditions must be met in order for the awards to vest, and it is therefore possible that no units could ultimately vest. As of September 30, 2020, there was \$3.1 million of unrecognized compensation cost that represents the unvested portion of the fair value of the performance stock units and will be recognized over a weighted average period of 2.75 years.

Liability Awards Fair Value

The fair value of the restricted stock units and performance stock units was estimated using a Monte Carlo valuation model as of the balance sheet date. 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 Company's common stock as well as the peer companies that are specified in the award agreement for the performance stock units, and the risk-free rate is based on U.S. Treasury yield curve rates with maturities consistent with the remaining vesting or performance period.

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The following table summarizes the key assumptions and related information used to determine the fair value of the liability awards as of September 30, 2020:

	<u>Restricted stock units</u>	<u>Performance stock units</u>
Number of simulations	10,000,000	10,000,000
Expected stock volatility	113.8%	118.5%
Dividend yield	—%	—%
Risk-free interest rate	0.2%	0.2%

Note 7—Derivative Instruments

The Company is exposed to certain risks relating to its ongoing business operations and may use derivative instruments to manage its exposure to commodity price risk from time to time.

Commodity Derivative Contracts

Historically, prices received for crude oil and natural gas production have been volatile because of supply and demand factors, worldwide political factors, general economic conditions and seasonal weather patterns. The Company may periodically use derivative instruments, such as swaps, costless collars and basis swaps, to mitigate its exposure to declines in commodity prices and to the corresponding negative impacts such declines can have on its cash flows from operations, returns on capital and other financial results. While the use of these instruments limits the downside risk of adverse price changes, their use may also limit future revenues from favorable price changes. The Company does not enter into derivative contracts for speculative or trading purposes.

Commodity Swap and Collar Contracts. The Company may use commodity derivative instruments known as fixed price swaps to realize a known price for a specific volume of production, basis swaps to hedge the difference between the index price and a local index price, or costless collars to establish fixed price floors and ceilings. All transactions are settled in cash with one party paying the other for the resulting difference in price multiplied by the contract volume.

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The following table summarizes the approximate volumes and average contract prices of derivative contracts the Company had in place as of September 30, 2020:

	Period	Volume (Bbls)	Volume (Bbls/d)	Weighted Average Fixed Price (\$/Bbl) ⁽¹⁾
Crude oil swaps				
NYMEX WTI	October 2020 - December 2020	1,196,000	13,000	\$38.89
	January 2021 - March 2021	225,000	2,500	43.07
	April 2021 - June 2021	91,000	1,000	45.15
	July 2021 - September 2021	92,000	1,000	45.53
	October 2021 - December 2021	92,000	1,000	45.65
ICE Brent	January 2021 - March 2021	270,000	3,000	\$46.85
	April 2021 - June 2021	182,000	2,000	48.01
	July 2021 - September 2021	184,000	2,000	48.25
	October 2021 - December 2021	184,000	2,000	48.50

	Period	Volume (Bbls)	Volume (Bbls/d)	Weighted Average Differential (\$/Bbl) ⁽²⁾
Crude oil basis swaps				
	October 2020 - December 2020	1,196,000	13,000	\$0.51
	April 2021 - June 2021	91,000	1,000	0.25
	July 2021 - September 2021	92,000	1,000	0.20
	October 2021 - December 2021	92,000	1,000	0.20

	Period	Volume (Bbls)	Volume (Bbls/d)	Weighted Average Collar Price Ranges (\$/Bbl) ⁽³⁾
Crude oil collars	October 2020 - December 2020	276,000	3,000	\$ 39.33 - \$ 45.02

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- ⁽¹⁾ These crude oil swap transactions are settled based on the NYMEX WTI or ICE Brent oil price on each trading day within the specified monthly settlement period.
- ⁽²⁾ These oil basis swap transactions are settled based on the difference between the arithmetic average of ARGUS MIDLAND WTI and ARGUS WTI CUSHING indices, during each applicable settlement period.
- ⁽³⁾ These crude oil collars are settled based on the NYMEX WTI price on each trading day within the specified monthly settlement period and establish floor and ceiling prices for the contracted volumes.

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	<u>Period</u>	<u>Volume (MMBtu)</u>	<u>Volume (MMBtu/d)</u>	<u>Weighted Average Fixed Price (\$/MMBtu)⁽¹⁾</u>
Natural gas swaps	October 2020 - December 2020	3,370,000	36,630	\$2.65
	January 2021 - March 2021	4,500,000	50,000	2.89
	April 2021 - June 2021	910,000	10,000	2.92
	July 2021 - September 2021	920,000	10,000	2.92
	October 2021 - December 2021	920,000	10,000	2.92

	<u>Period</u>	<u>Volume (MMBtu)</u>	<u>Volume (MMBtu/d)</u>	<u>Weighted Average Differential (\$/MMBtu)⁽²⁾</u>
Natural gas basis swaps	October 2020 - December 2020	930,000	10,109	\$(1.62)

	<u>Period</u>	<u>Volume (MMBtu)</u>	<u>Volume (MMBtu/d)</u>	<u>Weighted Average Collar Price Ranges (\$/MMBtu)⁽³⁾</u>
Natural gas collars	October 2020 - December 2020	1,220,000	13,261	\$ 2.90 - \$ 3.64
	January 2021 - March 2021	1,800,000	20,000	2.90 - 3.64

⁽¹⁾ These natural gas swap contracts are settled based on the NYMEX Henry Hub price on each trading day within the specified monthly settlement period.

⁽²⁾ These natural gas basis swap contracts are settled based on the difference between the Inside FERC's West Texas WAHA price and the NYMEX price of natural gas, during each applicable settlement period.

⁽³⁾ These natural gas collars are settled based on the NYMEX Henry Hub price on each trading day within the specified monthly settlement period and establish floor and ceiling prices for the contracted volumes.

Derivative Instrument Reporting. The Company's oil and natural gas derivative instruments have not been designated as hedges for accounting purposes. Therefore, all gains and losses are recognized in the Company's consolidated statements of operations. All derivative instruments are recorded at fair value in the consolidated balance sheets, other than derivative instruments that meet the "normal purchase normal sale" exclusion, and any fair value gains and losses are recognized in current period earnings.

The following table presents the impact of the Company's derivative instruments in its consolidated statements of operations for the periods presented:

(in thousands)	<u>Three Months Ended September 30,</u>		<u>Nine Months Ended September 30,</u>	
	<u>2020</u>	<u>2019</u>	<u>2020</u>	<u>2019</u>
Net gain (loss) on derivative instruments	\$ (1,968)	\$ 1,522	\$ (40,330)	\$ (2,221)

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Offsetting of Derivative Assets and Liabilities. The Company's commodity derivatives are included in the accompanying consolidated balance sheets as derivative assets and liabilities. The Company nets its financial derivative instrument fair value amounts executed with the same counterparty pursuant to ISDA master netting agreements, which provide for net settlement over the term of the contract and in the event of default or termination of the contract. The tables below summarize the fair value amounts and the classification in the consolidated balance sheets of the Company's derivative contracts outstanding at the respective balance dates, as well as the gross recognized derivative assets, liabilities and offset amounts:

(in thousands)	Balance Sheet Classification	Gross Fair Value Asset/Liability Amounts		Gross Amounts Offset ⁽¹⁾		Net Recognized Fair Value Assets/Liabilities	
		September 30, 2020					
Derivative Assets							
Commodity contracts	Prepaid and other current assets	\$	5,415	\$	(4,474)	\$	941
	Other noncurrent assets		752		(46)		706
Derivative Liabilities							
Commodity contracts	Other current liabilities		5,343		(4,474)		869
	Other noncurrent liabilities		46		(46)		—
December 31, 2019							
Derivative Liabilities							
Commodity contracts	Other current liabilities	\$	325	\$	—	\$	325

⁽¹⁾ The Company has agreements in place with each of its counterparties that allow for the financial right of offset for derivative assets against derivative liabilities at settlement or in the event of a default under the agreements or contract termination.

Contingent Features in Financial Derivative Instruments. None of the Company's derivative instruments contain credit-risk-related contingent features. Counterparties to the Company's financial derivative contracts are high credit-quality financial institutions that are lenders under CRP's credit agreement. The Company uses only credit agreement participants to hedge with, since these institutions are secured equally with the holders of any CRP bank debt, which eliminates the potential need to post collateral when Centennial is in a derivative liability position. As a result, the Company is not required to post letters of credit or corporate guarantees for its derivative counterparties in order to secure contract performance obligations.

In addition, the Company is exposed to credit risk associated with its derivative contracts from non-performance by its counterparties. The Company mitigates its exposure to any single counterparty by contracting with a number of financial institutions, each of which has a high credit rating and is a member under CRP's credit facility as referenced above.

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Note 8—Fair Value Measurements**Recurring Fair Value Measurements**

The Company follows ASC Topic 820, *Fair Value Measurement and Disclosure*, which establishes a three-level valuation hierarchy for disclosure of fair value measurements. The valuation hierarchy categorizes assets and liabilities measured at fair value into one of three different levels depending on the observability of the inputs employed in the measurement. The three levels are defined as follows:

- Level 1: Quoted Prices in Active Markets for Identical Assets – inputs to the valuation methodology are quoted prices (unadjusted) for identical assets or liabilities in active markets.
- Level 2: Significant Other Observable Inputs – inputs to the valuation methodology include quoted prices for similar assets and liabilities in active markets, and inputs that are observable for the asset or liability, either directly or indirectly, for substantially the full term of the financial instrument.
- Level 3: Significant Unobservable Inputs – inputs to the valuation methodology are unobservable and significant to the fair value measurement.

The following table presents, for each applicable level within the fair value hierarchy, the Company's net derivative assets and liabilities, including both current and noncurrent portions, measured at fair value on a recurring basis:

(in thousands)	Level 1	Level 2	Level 3
September 30, 2020			
Total assets	\$ —	\$ 1,647	\$ —
Total liabilities	—	869	—
December 31, 2019			
Total assets	\$ —	\$ —	\$ —
Total liabilities	—	325	—

Both financial and non-financial assets and liabilities are categorized within the above fair value hierarchy based on the lowest level of input that is significant to the fair value measurement. The Company's assessment of the significance of a particular input to the fair value measurement in its entirety requires judgment and considers factors specific to the asset or liability. The following is a description of the valuation methodologies used by the Company as well as the general classification of such instruments pursuant to the above fair value hierarchy. There were no transfers between any of the fair value levels during any period presented.

Derivatives

The Company uses Level 2 inputs to measure the fair value of its oil and natural gas commodity derivatives. The Company uses industry-standard models that consider various assumptions including current market and contractual prices for the underlying instruments, implied market volatility, time value, nonperformance risk, as well as other relevant economic measures. Substantially all of these inputs are observable in the marketplace throughout the full term of the instrument and can be supported by observable data. The Company utilizes its counterparties' valuations to assess the reasonableness of its own valuations. Refer to *Note 7—Derivative Instruments* for details of the gross and net derivatives assets, liabilities and offset amounts presented in the consolidated balance sheets.

Nonrecurring Fair Value Measurements

The Company applies the provisions of the fair value measurement standard on a nonrecurring basis to its non-financial assets and liabilities, including proved oil and gas properties. These assets and liabilities are not measured at fair value on an ongoing basis but are subject to fair value adjustments in certain circumstances.

Impairment of Oil and Natural Gas Properties. The Company reviews its proved oil and natural gas properties for impairment whenever events and circumstances indicate that the fair value of these assets may be below their carrying value. The significant decrease in the forward price curves for crude oil and natural gas in March of 2020 resulted in a triggering event which required the Company to reassess its proved oil and natural gas properties for impairment as of March 31, 2020. An impairment loss is indicated if the sum of the expected undiscounted future net cash flows from oil and gas properties is less than the carrying amount of the assets. In this circumstance, the Company then recognizes impairment expense for the amount by which the carrying amount of proved properties exceeds their estimated fair value. The Company reviews its oil and natural gas properties on a field-by-field basis.

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The Company calculates the estimated fair values of its oil and natural gas properties using an income approach that is based on inputs that are not observable in the market and therefore represent Level 3 inputs. Significant inputs to the expected future net cash flows used for the impairment review and the related fair value measurement of oil and natural gas proved properties include estimates of: (i) reserves; (ii) future production decline rates; (iii) future operating and development costs; (iv) future commodity prices, including price differentials; and (v) a market participant-based weighted average cost of capital rate. These inputs require significant judgments and estimates by the Company's management.

The impairment test performed by the Company indicated that a proved property impairment had occurred with respect to certain of its oil and gas fields, and therefore a non-cash impairment charge to reduce the carrying value of the impaired property to its fair value was recorded. Proved oil and natural gas properties with a previous carrying value of \$771.4 million were partially written down to their fair value of \$179.6 million, resulting in a non-cash impairment charge of \$591.8 million being recorded in the first quarter of 2020. All of the Company's proved oil and gas properties were included in the impairment assessment performed as of March 31, 2020. Two of the Company's fields were subject to an impairment write-down as quantified above, but the remaining five fields were not impaired due to their undiscounted cash flows exceeding their carrying values by 30% to over 100%. There were no triggering events identified as of September 30, 2020 or 2019 and therefore the Company did not recognize any impairment write-downs with respect to its proved property for the three months ended September 30, 2020 and for the three and nine months ended September 30, 2019. Impairment expense for proved properties is presented as part of *Impairment and Abandonment Expense* in the consolidated statements of operations.

Asset Retirement Obligations. 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, plant and equipment. Significant Level 3 inputs used in the calculation of ARO include the estimated future costs to plug and abandon oil and gas properties and reserve lives. Refer to *Note 5—Asset Retirement Obligations* for additional information on the Company's ARO.

Senior Secured Notes. The Company's Senior Secured Notes were measured and recorded at their fair value on the date of issuance equal to 83.44% of par. The fair value was determined utilizing the Black-Derman-Toy binomial lattice model, which is a one-factor binomial lattice model that determines the future evolution of the relevant yields. For each node on the lattice, it is determined whether it is preferable to redeem, or not, based on the yields. The model utilizes both a yield curve and a yield volatility as of the valuation date, both of which are estimated based on yields of comparable debt instruments and are inputs that are not observable for the Senior Secured Notes for the term of the debt instrument (a Level 3 classification in the fair value hierarchy). The fair value was measured by the model using the following inputs: (i) the treasury yield curve as of the valuation date, (ii) 12% credit spread, (iii) 45% yield volatility, and (iv) a corporate credit rating of B. The Company has not elected the fair value option, which would require remeasurement at fair value each period, to account for this debt instrument.

Other Financial Instruments

The carrying amounts of the Company's cash, cash equivalents, accounts receivable, accounts payable, and accrued liabilities approximate their fair values because of the short-term maturities and/or liquid nature of these assets and liabilities.

The Company's Senior Notes and borrowings under its credit agreement are accounted for at cost, and the cost basis of the Company's Senior Secured Notes issued in the Debt Exchange was measured based on their fair value on the date of the exchange, as discussed above. The following table summarizes the carrying values, principal amounts and fair values of these instruments as of the dates indicated:

	September 30, 2020			December 31, 2019		
	Carrying Value	Principal Amount	Fair Value	Carrying Value	Principal Amount	Fair value
Credit facility due 2023 ⁽¹⁾	\$ 355,000	\$ 355,000	\$ 355,000	\$ 175,000	\$ 175,000	\$ 175,000
8.00% Senior Secured Notes due 2025 ⁽²⁾	102,916	127,073	101,658	—	—	—
5.375% Senior Notes due 2026 ⁽²⁾	284,675	289,448	117,226	392,623	400,000	394,480
6.875% Senior Notes due 2027 ⁽²⁾	349,650	356,351	144,322	489,766	500,000	520,000

⁽¹⁾ The carrying values of the amounts outstanding under CRP's credit agreement approximate fair value because its variable interest rates are tied to current market rates and the applicable credit spreads represent current market rates for the credit risk profile of the Company.

⁽²⁾ The carrying values include associated unamortized debt issuance costs and any debt discounts as reflected in the consolidated balance sheets. The fair values are determined using quoted market prices for these debt securities, a Level 1 classification in the fair value hierarchy, and are based on the aggregate principal amount of the Senior Notes outstanding.

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Note 9—Earnings Per Share

Basic earnings per share (“EPS”) is calculated by dividing net income available to Class A Common Stock by the weighted average shares of Class A Common Stock outstanding during each period. Diluted EPS is calculated by dividing adjusted net income available to Class A Common Stock by the weighted average shares of diluted Class A Common Stock outstanding, which includes the effect of potentially dilutive securities. Potentially dilutive securities for the diluted EPS calculation consists of (i) unvested equity based restricted stock and performance stock units, outstanding stock options, withholding amounts from employee stock purchase plan and warrants using the treasury stock method, and (ii) the Company’s Class C Common Stock outstanding prior to the Conversion using the “if-converted” method, which is net of tax.

The following table reflects the allocation of net income to common shareholders and EPS computations for the periods indicated based on a weighted average number of common shares outstanding for the period:

(in thousands, except per share data)	Three Months Ended September 30,		Nine Months Ended September 30,	
	2020	2019	2020	2019
Net income (loss) attributable to Class A Common Stock	\$ (51,529)	\$ (3,585)	\$ (594,182)	\$ 6,180
Basic weighted average shares of Class A Common Stock outstanding	278,017	266,205	277,038	265,025
Add: Dilutive effects of potential common stock	—	—	—	60
Diluted weighted average shares of Class A Common Stock outstanding	278,017	266,205	277,038	265,085
Basic net earnings (loss) per share of Class A Common Stock	\$ (0.19)	\$ (0.01)	\$ (2.14)	\$ 0.02
Diluted net earnings (loss) per share of Class A Common Stock	\$ (0.19)	\$ (0.01)	\$ (2.14)	\$ 0.02

The Company recognized a net loss during the three and nine months ended September 30, 2020 and during the three months ended September 30, 2019. As a result, all potential common shares were anti-dilutive and were excluded from the calculation of diluted net earnings per share. The following table presents shares excluded from the diluted earnings per share calculation for the periods presented as their impact was anti-dilutive:

(in thousands)	Three Months Ended September 30,		Nine Months Ended September 30,	
	2020	2019	2020	2019
Out-of-the-money stock options	2,469	4,817	3,983	4,680
Restricted stock	9,572	3,827	6,607	2,313
Employee Stock Purchase Plan	—	8	93	—
Weighted average shares of Class C Common Stock	—	10,351	348	11,446
Warrants	8,000	8,000	8,000	8,000

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Note 10—Transactions with Related Parties

Riverstone and its affiliates (“Riverstone”) beneficially own a more than 10% equity interest in the Company and are therefore considered related parties. The Company has a marketing agreement with Lucid Energy Delaware, LLC (“Lucid”), an affiliate of Riverstone. The Company believes that the terms of the marketing agreement with Lucid are no less favorable to either party than those held with unaffiliated parties. The following table summarizes the revenues recognized and the associated processing fees incurred from this marketing agreement as presented in the consolidated statements of operations for the periods indicated as well as the related net receivables outstanding as of the balance sheet dates:

(in thousands)	Three Months Ended September 30,		Nine Months Ended September 30,	
	2020	2019	2020	2019
Oil and gas sales	\$ 1,610	\$ 715	\$ 3,272	\$ 2,511
Gathering, processing and transportation expenses	1,464	793	3,526	1,719

(in thousands)	September 30, 2020	December 31, 2019
Receivable from Lucid ⁽¹⁾	\$ 409	\$ 91

⁽¹⁾ Represents amounts due from Lucid and are presented net of unpaid processing fees as of the indicated period end date.

Senior Secured Notes

During 2020, Riverstone acquired an aggregate of \$100.7 million and \$111.9 million of the Company’s 2026 Senior Notes and 2027 Senior Notes, respectively, in open market purchases. Subsequently, on May 22, 2020, Riverstone participated in the Company’s Debt Exchange, discussed in *Note 4—Long-Term Debt*, and exchanged all of its Senior Unsecured Notes for \$106.3 million of the Company’s Senior Secured Notes. Riverstone’s participation in the Debt Exchange represented \$106.3 million (or 74%) of the total extinguishment gain recognized in the consolidated statements of operations.

Note 11—Commitments and Contingencies**Commitments**

The Company routinely enters into, extends or amends operating agreements in the ordinary course of business. During the nine months ended September 30, 2020, the Company amended one of its firm crude oil sales agreements, which moved the start date of its physical delivery commitments of 30,000 Bbls/d from 2020 to January 1, 2021, and affirmed May 31, 2025 as the end of the initial term of the agreement. There have been no other material, non-routine changes in commitments during the nine months ended September 30, 2020. Please refer to *Note 13—Commitments and Contingencies* included in Part II, Item 8 in the Company’s 2019 Annual Report.

Contingencies

The Company may at times be subject to various commercial or regulatory claims, litigation or other legal proceedings that arise in the ordinary course of business. While the outcome of these lawsuits and claims cannot be predicted with certainty, management believes it is remote that the impact of such matters that are reasonably possible to occur will have a material adverse effect on the Company’s financial position, results of operations, or cash flows. Management is unaware of any pending litigation brought against the Company requiring a contingent liability to be recognized as of the date of these consolidated financial statements.

Note 12—Revenues**Revenue from Contracts with Customers**

Crude oil, natural gas and NGL sales are recognized at the point that control of the product is transferred to the customer and collectability is reasonably assured. Virtually all of the Company’s contract pricing provisions are tied to a market index, with certain adjustments based on, among other factors, transportation costs to an active spot market and quality differentials. As a result, the Company’s realized prices of oil, natural gas, and NGLs fluctuate to remain competitive with other available oil, natural gas, and NGLs supplies both globally (in the case of crude oil) and locally.

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Oil and gas revenues presented within the consolidated statements of operations relate to the sale of oil, natural gas and NGLs as shown below:

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2020	2019	2020	2019
Operating revenues (in thousands):				
Oil sales	\$ 119,966	\$ 200,196	\$ 363,571	\$ 590,055
Natural gas sales	11,907	11,070	29,052	31,655
NGL sales	17,228	17,864	39,756	66,228
Oil and gas sales	\$ 149,101	\$ 229,130	\$ 432,379	\$ 687,938

Oil sales

The Company's crude oil sales contracts are generally structured whereby oil is delivered to the purchaser at a contractually agreed-upon delivery point at which the purchaser takes title of the product. This delivery point is usually at the wellhead or at the inlet of a transportation pipeline. Revenue is recognized when control transfers to the purchaser at the delivery point based on the net price received from the purchaser. Any downstream transportation costs incurred by crude purchasers are reflected as a net reduction to oil sales revenues.

Natural gas and NGL sales

Under the Company's natural gas processing contracts, liquids rich natural gas is delivered to a midstream gathering and processing entity at the inlet of the gas gathering system. The midstream processing entity gathers and processes the raw gas and then remits proceeds to Centennial for the resulting sales of NGLs, while the Company generally elects to take its residue gas product "in-kind" at the plant tailgate. For these contracts, the Company evaluates when control is transferred and revenue should be recognized. Where the Company has concluded that control transfers at the tailgate of the processing facility, fees incurred prior to transfer of control are presented as gathering, processing and transportation expenses ("GP&T") within the consolidated statements of operations. Any transportation and fractionation costs incurred subsequent to the point of transfer of control are reflected as a net reduction to natural gas and NGL sales revenues presented in the table above.

Performance obligations

For all commodity products, the Company records revenue in the month production is delivered to the purchaser. Settlement statements for natural gas and NGL sales may not be received for 30 to 90 days after the date production volumes are delivered and for crude oil, generally within 30 days after delivery has occurred. However, payment is unconditional once the performance obligations have been satisfied. At such time, the volumes delivered and sales prices can be reasonably estimated and amounts due from customers are accrued in *Accounts receivable, net* in the consolidated balance sheets. As of September 30, 2020 and December 31, 2019, such receivable balances were \$38.8 million and \$76.6 million, respectively.

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 nine months ended September 30, 2020 and 2019, revenue recognized in the reporting period related to performance obligations satisfied in prior reporting periods were 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, *Revenue from contracts with Customers*, 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.

Note 13—Leases

At contract inception, the Company determines whether or not an arrangement contains a lease. However, in connection with the implementation of ASC Topic 842, *Leases* ("ASC 842"), this assessment was made as of the adoption date of ASC 842. Upon determination of a lease, a lease right-of-use ("ROU") asset and related liability are recorded based on the present value of the future lease payments over the lease term. ROU assets represent the Company's right to use an underlying asset for the lease term, and lease liabilities represent the obligation to make future lease payments arising from the lease.

The Company has operating leases for drilling rig contracts, office rental agreements, and other wellhead equipment. As of September 30, 2020, these leases have remaining lease terms ranging from two months to 1.4 years, some of which include options to extend the lease term for up to five years, and some of which include options to early terminate. These options are considered in determining the lease term and are included in the present value of future payments that are recorded for leases when the Company is reasonably certain to exercise the option. Leases with an initial term of one year or less are not recorded in the consolidated balance sheets. Additionally, none of the Company's lease agreements contain any material residual value guarantees or material restrictive covenants.

The present value of future lease payments is determined at the lease commencement date based upon the Company's incremental borrowing rate. The incremental borrowing rate is calculated using a risk-free interest rate adjusted for the Company's specific risk and the specific lease term. The table below summarizes the Company's weighted-average discount rate and weighted-average remaining lease term as of the period presented.

	As of September 30, 2020
Weighted-average discount rate	4.96%
Weighted-average remaining lease term (years)	1.27

The Company's drilling rig contracts, office rental agreements, and wellhead equipment agreements contain both lease and non-lease components, which are combined and accounted for as a single lease component.

Variable lease payments are recognized in the period in which they are incurred and include operating expenses related to the office rental agreements and expenses incurred on the drilling rig contracts in excess of the contractual rate. Expenses related to short-term leases are recognized on a straight-line basis over the lease term. The following table presents the various components of the Company's lease expenses for the periods presented.

(in thousands)	Three Months Ended September 30,		Nine Months Ended September 30,	
	2020	2019	2020	2019
Lease costs ⁽¹⁾				
Operating lease cost	\$ 1,258	\$ 9,361	\$ 7,529	\$ 30,754
Variable lease cost	53	1,819	5,074	3,323
Short-term lease cost ⁽²⁾	5,823	18,679	37,650	47,587
Total lease cost	\$ 7,134	\$ 29,859	\$ 50,253	\$ 81,664

⁽¹⁾ The majority of the Company's operating leases relate to the operations, drilling or completion of the Company's wells. Therefore, the lease costs presented in the above table represent the total gross costs the Company incurs, which are not comparable to the Company's net costs recorded to the consolidated statements of operations, consolidated statements of cash flows or capitalized in the consolidated balance sheets, as amounts therein are reflected net of amounts billed to the Company's working interest partners.

⁽²⁾ Includes drilling rig lease costs of \$15.8 million for the nine months ended September 30, 2020, which may not necessarily be recurring in these amounts in the near-term based on the Company's reduction in its drilling plan.

CENTENNIAL RESOURCE DEVELOPMENT, INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS
(Unaudited)

Maturities of the Company's long-term operating lease liabilities by fiscal year as of September 30, 2020 are as follows:

(in thousands)	Total⁽²⁾
2020 ⁽¹⁾	\$ 1,068
2021	3,178
2022	425
Total lease payments	4,671
Less: imputed interest	(159)
Present value of lease liabilities ⁽³⁾	\$ 4,512

⁽¹⁾ Excludes payments made during the nine months ended September 30, 2020.

⁽²⁾ Total lease payments exclude variable lease payments which can be charged under the terms of the lease agreements.

⁽³⁾ Of the total present value of lease liabilities, \$3.4 million was recorded to current *Operating lease liabilities* and \$1.1 million was recorded in noncurrent *Operating lease liabilities* in the consolidated balance sheets as of September 30, 2020.

Note 14—Subsequent Events

Credit Facility Amendment

On October 8, 2020, CRP, as borrower, and the Company, as parent guarantor, entered into the fourth amendment to the Credit Agreement, which reaffirmed the Company's \$700.0 million borrowing base and elected commitment levels in connection with the scheduled semi-annual fall borrowing base redetermination process. Furthermore, the Company reduced its letters of credit outstanding under the Credit Agreement to \$4.3 million as of October 31, 2020, from \$8.8 million as of September 30, 2020.

Item 2. Management’s Discussion and Analysis of Financial Condition and Results of Operation

The following discussion and analysis of our financial condition and results of operation should be read in conjunction with the accompanying consolidated financial statements and related notes. The following discussion and analysis 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 our control. 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, continued and future impacts of Coronavirus Disease 2019 (“COVID-19”) and other uncertainties, as well as those factors discussed above in “Cautionary Statement Regarding Forward-Looking Statements” and under the heading “Item 1A. Risk Factors” in this Quarterly Report and our 2019 Annual Report, all of which are difficult to predict. In light of these risks, uncertainties and assumptions, the forward-looking events discussed may not occur. We do not undertake any obligation to publicly update any forward-looking statements except as otherwise required by applicable law.

Overview

Centennial Resource Development, Inc. (“Centennial,” “we,” “us,” or “our”) is an independent oil and natural gas company focused on the development of unconventional oil and associated liquids-rich natural gas reserves in the Permian Basin. Our assets are primarily in the Delaware Basin, a sub-basin of the Permian Basin. Our capital programs are specifically focused on projects that we believe provide the highest return on capital. Unless otherwise specified or the context otherwise requires, all references in these discussions to “Centennial,” “we,” “us,” or “our” are to Centennial Resource Development, Inc. and its consolidated subsidiary, Centennial Resource Production, LLC (“CRP”).

Market Conditions

The recent worldwide outbreak of COVID-19, the uncertainty regarding the impact of COVID-19 and various governmental actions taken to mitigate the impact of COVID-19, have resulted in an unprecedented decline in the demand for oil and natural gas. At the same time, the decision by Saudi Arabia in March 2020 to drastically reduce export prices and increase oil production (the “Saudi-Russia oil price war”) followed by curtailment agreements among OPEC and other countries such as Russia further increased uncertainty and volatility around global oil supply-demand dynamics. As a result, there was a significant decline in commodity prices starting at the end of the first quarter of 2020. However, during the second quarter of 2020, OPEC and other oil producing countries agreed to reduce their crude oil production, while U.S. producers substantially reduced or suspended drilling activity and in most cases curtailed production due to low oil prices and poor economics. The current oil production cuts by OPEC and other producing countries have since been extended through the end of 2020, and U.S. drilling activity has remained low throughout the third quarter of 2020. These actions have aided in a partial recovery of global commodity prices. Specifically, WTI spot prices for crude oil fell to a low of negative (\$37.63 per barrel) on April 20, 2020 (due to depressed demand and insufficient storage capacity, particularly at the WTI physical settlement location in Cushing, Oklahoma) and have since partially recovered to a high of \$43.39 per barrel on August 26, 2020.

The oil and natural gas industry is cyclical, and it is likely that commodity prices, as well as commodity price differentials, will continue to be volatile and fluctuate due to global supply and demand, inventory levels, the continued effects from COVID-19, geopolitical events, weather conditions and other factors. The following table highlights the quarterly average NYMEX price trends for crude oil and natural gas since the first quarter of 2018:

	2018				2019				2020		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3
Crude oil (per Bbl)	\$ 62.91	\$ 68.07	\$ 69.50	\$ 58.81	\$ 54.90	\$ 59.81	\$ 56.45	\$ 56.94	\$ 46.19	\$ 28.00	\$ 40.93
Natural gas (per MMBtu)	\$ 3.08	\$ 2.85	\$ 2.93	\$ 3.77	\$ 2.88	\$ 2.51	\$ 2.33	\$ 2.34	\$ 1.88	\$ 1.65	\$ 1.95

A sustained drop in oil, natural gas and NGL prices, such as those we have experienced during 2020, will not only decrease our revenues on a per unit basis but can also reduce the amount of oil, natural gas and NGLs that we can produce economically and can therefore potentially lower our oil, natural gas and NGL reserve quantities.

Lower commodity prices (including realized differentials) and lower futures curves for oil and gas prices, can also result in further impairments of our proved oil and natural gas properties or undeveloped acreage (such as the impairments discussed below under “Results of Operations”) and may materially and adversely affect our future business, financial condition, results of operations, operating cash flows, liquidity and/or ability to finance planned capital expenditures. Lower realized prices may also reduce the borrowing base under CRP’s credit agreement (such as the reduction discussed below under “Financing Highlights”), which is determined at the discretion of the lenders and is based on the collateral value of our proved reserves that have been mortgaged to the lenders. Upon a redetermination, if any borrowings in excess of the revised borrowing capacity were

outstanding, we could be forced to immediately repay a portion of the debt outstanding under the credit agreement. Additionally, the lower price environment and its impact to our operations could impact our ability to comply with the covenants under our credit agreement and senior notes.

COVID-19 Outbreak

The COVID-19 outbreak and its development into a pandemic in March 2020 have required that we take precautionary measures intended to help minimize the risk to our business, employees, customers, contractors, suppliers and the communities in which we operate. Our operational employees have been and are currently able to work on site, while the vast majority of our non-operational employees worked remotely during the months of March and April but reported back to our offices on a limited basis starting in mid-May. We have taken various precautionary measures with respect to our operational employees, direct contractors and employees who returned to our offices or job sites such as (i) requiring them to verify they have not experienced any symptoms consistent with COVID-19, or been in close contact with someone showing such symptoms, before reporting to the work site or office, (ii) self-quarantining any employees or contractors who have shown signs or symptoms of COVID-19 (regardless of whether such person has been confirmed to be infected), (iii) imposing social distancing requirements on work sites and at our offices that are in accordance with the guidelines released by the Center for Disease Control (the "CDC") as well as local and state authorities, (iv) requiring all employees and contractors to have a fit-test for and wear KN-95 type respirators while in our offices and work sites, and (v) encouraging all employees and contractors to follow the CDC recommended preventive measures (including those mentioned above) to limit the spread of COVID-19. We have not experienced any operational disruptions (including disruptions from our suppliers and service providers) as a result of the COVID-19 outbreak.

2020 Highlights and Future Considerations

The changes in the macro environment and related volatility in commodity prices that occurred during the first nine months of 2020 discussed above have significantly impacted our results of operations for the three and nine months ended September 30, 2020, and we believe that our future operating results and near-term financial condition could continue to be impacted, until such time that oil supply and demand dynamics re-balance and stabilize. Further, our results of operations for the three and nine months ended September 30, 2020 discussed within this Quarterly Report will likely not be indicative of our operating results for the remainder of 2020 due to the timing of operational changes and continued volatility of commodity prices.

Operational Highlights

We operated a five-rig drilling program during the majority of the first quarter of 2020, which enabled us to complete and bring online 26 gross operated wells with an average effective lateral length of approximately 7,200 feet during the first half of 2020. Due to the decline in crude oil prices and ongoing uncertainty regarding the oil supply-demand macro environment, we suspended all drilling and completion activities in order to preserve capital. Specifically, we reduced our operated drilling rig program to zero rigs starting in April of 2020 and continued with no drilling rigs in operation until the end of the third quarter. In addition, given the weakness in realized oil prices, we voluntarily curtailed or shut-in a portion of our production volumes in May of 2020. Specifically, we curtailed approximately 20% of our production during the month of May, but were able to bring the majority of this production back online in June as crude oil prices recovered, with minimal incremental cost. In addition, we filled our on-site tank batteries with crude oil during May in order to minimize the number of wells that we needed to shut-in, ultimately selling these barrels in June at higher prices.

During the third quarter of 2020, we did not experience any further curtailments to our production and recommenced drilling and completion activity. We completed 5 gross operated wells during the third quarter, which were previously drilled during the first quarter of 2020, with an effective lateral length of approximately 9,000 feet. Additionally, we initiated a one-rig drilling program at the end of the third quarter, which we expect to operate through the remainder of 2020.

Financing Highlights

On May 22, 2020, we completed an opportunistic private exchange of our debt pursuant to which \$110.6 million aggregate principal amount of CRP's 5.375% senior notes due 2026 (the "2026 Senior Notes") and \$143.7 million aggregate principal amount of CRP's 6.875% senior notes due 2027 (the "2027 Senior Notes" and, together with the 2026 Senior Notes, the "Senior Unsecured Notes") were validly tendered and exchanged by certain eligible bondholders for consideration consisting of \$127.1 million aggregate principal amount (the "Debt Exchange") of newly issued 8.00% second lien senior secured notes due 2025 (the "Senior Secured Notes"). This transaction resulted in the removal of \$127.1 million in aggregate principal amount of Senior Unsecured Notes from the long-term debt balance in our consolidated balance sheets.

On May 1, 2020, we entered into the second and third amendments to CRP's amended and restated credit agreement (the "Q2 2020 Amendments") with the lenders to our existing credit agreement. Pursuant to the Q2 2020 Amendments, the borrowing base and level of elected commitments were both reduced to \$700.0 million from their previous amounts of \$1.2 billion and \$800 million, respectively. The Q2 2020 Amendments, which were approved by the lenders, permitted the issuance of the Senior Secured Notes in connection with the Debt Exchange, and they implemented an availability blocker of \$31.8 million equal to 25%

of the newly issued and outstanding Senior Secured Notes. Among other things, the Q2 2020 Amendments also suspended the total funded debt to EBITDAX ratio (as specified in the existing credit agreement) through year-end 2021 and introduced a new financial covenant testing the ratio of first lien debt to EBITDAX.

In connection with CRP's credit facility fall 2020 semi-annual borrowing base redetermination, the borrowing base and amount of elected commitments were reaffirmed at \$700.0 million.

Results of Operations

Three Months Ended September 30, 2020 Compared to Three Months Ended September 30, 2019

The following table provides the components of our net revenues and net production (net of all royalties, overriding royalties and production due to others) for the periods indicated, as well as each period's average prices and average daily production volumes:

	Three Months Ended September 30,		Increase/(Decrease)	
	2020	2019	\$	%
Net revenues (in thousands):				
Oil sales	\$ 119,966	\$ 200,196	\$ (80,230)	(40)%
Natural gas sales	11,907	11,070	837	8 %
NGL sales	17,228	17,864	(636)	(4)%
Oil and gas sales	<u>\$ 149,101</u>	<u>\$ 229,130</u>	<u>\$ (80,029)</u>	<u>(35)%</u>
Average sales prices:				
Oil (per Bbl)	\$ 36.95	\$ 51.71	\$ (14.76)	(29)%
Effect of derivative settlements on average price (per Bbl)	(9.82)	(3.00)	(6.82)	(227)%
Oil net of hedging (per Bbl)	<u>\$ 27.13</u>	<u>\$ 48.71</u>	<u>\$ (21.58)</u>	<u>(44)%</u>
Average NYMEX price for oil (per Bbl)	\$ 40.93	\$ 56.45	\$ (15.52)	(27)%
Oil differential from NYMEX	(3.98)	(4.74)	0.76	16 %
Natural gas (per Mcf)	\$ 1.15	\$ 0.96	\$ 0.19	20 %
Effect of derivative settlements on average price (per Mcf)	(0.25)	0.30	(0.55)	(183)%
Natural gas net of hedging (per Mcf)	<u>\$ 0.90</u>	<u>\$ 1.26</u>	<u>\$ (0.36)</u>	<u>(29)%</u>
Average NYMEX price for natural gas (per Mcf)	\$ 1.95	\$ 2.33	\$ (0.38)	(16)%
Natural gas differential from NYMEX	(0.80)	(1.37)	0.57	42 %
NGL (per Bbl)	\$ 12.58	\$ 14.47	\$ (1.89)	(13)%
Net production:				
Oil (MBbbls)	3,247	3,872	(625)	(16)%
Natural gas (MMcf)	10,354	11,491	(1,137)	(10)%
NGL (MBbbls)	1,370	1,234	136	11 %
Total (MBoe) ⁽¹⁾	<u>6,342</u>	<u>7,021</u>	<u>(679)</u>	<u>(10)%</u>
Average daily net production:				
Oil (Bbbls/d)	35,292	42,079	(6,787)	(16)%
Natural gas (Mcf/d)	112,545	124,896	(12,351)	(10)%
NGL (Bbbls/d)	14,885	13,417	1,468	11 %
Total (Boe/d) ⁽¹⁾	<u>68,934</u>	<u>76,312</u>	<u>(7,378)</u>	<u>(10)%</u>

⁽¹⁾ Calculated by converting natural gas to oil equivalent barrels at a ratio of six Mcf of natural gas to one Boe.

Oil, Natural Gas and NGL Sales Revenues. Total net revenues for the three months ended September 30, 2020 were \$80.0 million (or 35%) lower than total net revenues for the three months ended September 30, 2019. Revenues are a function of oil, natural gas and NGL volumes sold and average commodity prices realized.

Average realized sales prices for oil and NGLs decreased in the third quarter of 2020 compared to the same 2019 period. The average price for oil before the effects of hedging decreased 29% and the average price for NGLs decreased 13% between periods. The 29% decrease in the average realized oil price was the result of lower NYMEX crude prices between periods (average NYMEX prices decreased 27%), which was partially offset by improved oil differentials (\$0.76 per Bbl). The 13% decrease in average realized NGL prices between periods was primarily attributable to lower Mont Belvieu spot prices for plant products in the third quarter of 2020 as compared to the third quarter of 2019. Conversely, the average realized sales price of natural gas before the effects of hedging increased 20% in the third quarter 2020 compared to the same 2019 period. This increase was mainly due to improved gas differentials (\$0.57 per Mcf), which was partially offset by lower average NYMEX gas prices between periods (average NYMEX prices decreased 16%). The improvement in gas differentials is the result of higher natural gas prices realized in West Texas as several producers shut-in wells and curtailed production in the Permian Basin during the third quarter and as new pipelines have been placed into service. These pipelines have provided relief from the gas takeaway capacity constraints experienced in 2019. The market prices for oil, natural gas and NGLs have all been significantly impacted by lower demand globally for oil and gas as a result of COVID-19 as well as by supply disruptions from the Russia-Saudi oil price war, which combined have resulted in significant price declines starting in March 2020 as discussed in the market conditions section above.

Net production volumes for oil and natural gas decreased 16% and 10%, respectively, while NGLs increased 11% between periods. The crude oil production volume decrease was the result of (i) limited drilling and completion activity in the third quarter of 2020, which resulted in only five new wells completed and brought online during the second half of the quarter as compared to 17 wells completed and brought online in the third quarter of 2019, and (ii) normal field production declines across our existing wells. These production decreases were partially offset by 58 gross operated wells placed on production in the Delaware Basin since the third quarter of 2019, which added 1,363 MBbls of net oil production to the three months ended September 30, 2020. Natural gas and NGLs are produced concurrently with our crude oil volumes, typically resulting in a high correlation between fluctuations in oil quantities sold and natural gas and NGL quantities sold. However, during the third quarter of 2020, we flared significantly less wellhead gas as compared to the same 2019 period, resulting in a higher ratio of natural gas and NGL sales compared to oil sales during the period. In addition, the main processor of our raw gas operated in full ethane-recovery during the third quarter of 2020, as compared to operating in partial ethane-rejection for two-thirds of the third quarter of 2019. As a result, we sold less natural gas from our wet gas stream and recovered more NGLs during the 2020 period, which resulted in natural gas volumes decreasing (10%) and NGL volumes increasing (11%) between periods.

Operating Expenses. The following table sets forth selected operating expense data for the periods indicated:

	Three Months Ended September 30,		Increase/(Decrease)	
	2020	2019	\$	%
Operating costs (in thousands):				
Lease operating expenses	\$ 24,543	\$ 42,330	\$ (17,787)	(42)%
Severance and ad valorem taxes	7,839	12,213	(4,374)	(36)%
Gathering, processing and transportation expenses	19,130	20,853	(1,723)	(8)%
Operating costs per Boe:				
Lease operating expenses	\$ 3.87	\$ 6.03	\$ (2.16)	(36)%
Severance and ad valorem taxes	1.24	1.74	(0.50)	(29)%
Gathering, processing and transportation expenses	3.02	2.97	0.05	2%

Lease Operating Expenses. Lease operating expenses (“LOE”) for the three months ended September 30, 2020 decreased \$17.8 million compared to the three months ended September 30, 2019. Lower LOE for the third quarter of 2020 was primarily related to a \$12.4 million decrease in expenses associated with cost reduction initiatives, described below, and lower variable and semi-variable costs as a result of lower production activity between periods. In addition, there was a \$5.4 million decrease in workover expense as a result of lower workover activity between periods. These decreases were partially offset by LOE costs associated with our higher well count. We had 387 gross operated horizontal wells as of September 30, 2020 compared to 319 gross operated horizontal wells as of September 30, 2019. The net increase in well count was mainly the result of our drilling activity adding 58 gross operated wells since the third quarter of 2019, which was further adjusted for acquisitions and divestitures.

LOE on a per Boe basis decreased when comparing the third quarter of 2020 to the same 2019 period. LOE per Boe was \$3.87 for the third quarter of 2020, which represents a decrease of \$2.16 per Boe (or 36%) from the third quarter of 2019. This

decrease in rate was achieved as a result of oilfield cost reduction initiatives during the 2020 period including (i) moving multiple wells off generators to more cost-efficient electrical line-power, (ii) switching wells away from electric submersible pumps (“ESPs”) to more reliable and lower cost gas lift, (iii) lowering water disposal costs on producing wells through water recycling and reduced hauling fees, and (v) performing field reviews to reduce various costs for contract labor, oilfield equipment and supplies. In addition, our LOE per Boe rate for the third quarter of 2020 benefited from significantly lower electricity rates due to lower consumer and industry demand in West Texas compared to the 2019 period, and lower levels of workover activity between periods.

Severance and Ad Valorem Taxes. Severance and ad valorem taxes for the three months ended September 30, 2020 decreased \$4.4 million compared to the three months ended September 30, 2019. Severance taxes are primarily based on the market value of production at the wellhead, while ad valorem taxes are generally based on the assessed taxable value of proved developed oil and natural gas reserves and vary across the different counties in which we operate. Severance and ad valorem taxes as a percentage of total net revenues were 5.3% for both the third quarter of 2020 and 2019, and they remained lower than our historical rates of 7% to 8% due to tax credits received of \$2.2 million and \$3.2 million, in each respective period, on wells designated as “high cost gas” by the state of Texas.

Gathering, Processing and Transportation Expenses. Gathering, processing and transportation expenses (“GP&T”) for the three months ended September 30, 2020 decreased \$1.7 million as compared to the three months ended September 30, 2019 primarily due to a \$2.7 million decrease in plant processing, transportation and gathering fees as a result of lower wellhead gas and crude oil production between periods. This was partially offset by a \$1.0 million decrease in reimbursements (net of related fees) received from third parties for their usage of our available firm transport (“FT”) capacity.

On a per Boe basis, GP&T increased from \$2.97 for the third quarter of 2019 to \$3.02 for the third quarter of 2020. However, these fees are mainly incurred on our volumes of natural gas and NGLs processed, and the Boe rate on a natural gas and NGL volumes basis (i.e. excluding crude oil barrels) decreased between periods to \$6.18 from \$6.62 for the three months ended September 30, 2020 and 2019, respectively. The decrease in rate was mainly attributable to (i) lower NGL prices between periods, as NGLs are a primary cost component of plant processing fees, and (ii) lower oil trucking fees incurred during the third quarter of 2020 as compared to the same 2019 period. These decreases, however, were partially offset by a lower amount of FT reimbursements (net of related fees) for the usage of our available FT capacity as referenced above.

Depreciation, Depletion and Amortization. The following table summarizes our depreciation, depletion and amortization (“DD&A”) for the periods indicated:

(in thousands, except per Boe data)	Three Months Ended September 30,	
	2020	2019
Depreciation, depletion and amortization	\$ 89,444	\$ 112,720
Depreciation, depletion and amortization per Boe	\$ 14.10	\$ 16.06

Our DD&A rate can fluctuate as a result of finding and development costs incurred, acquisitions, impairments, as well as changes in proved developed and proved undeveloped reserves. For the three months ended September 30, 2020, DD&A expense amounted to \$89.4 million, a decrease of \$23.3 million over the same 2019 period. The primary factor contributing to lower DD&A expense in 2020 was our lower DD&A rates between periods, which decreased DD&A expense by \$12.4 million, while the decrease in our overall production volumes between periods lowered our DD&A expense by \$10.9 million during the three months ended September 30, 2020.

DD&A per Boe was \$14.10 for the third quarter of 2020 compared to \$16.06 for the same period in 2019. This decrease in DD&A rate was primarily due to the proved property impairment recognized in the first quarter of 2020, which lowered the carrying value of our depletion base by \$591.8 million. The effect of this impairment, however, was partially offset by net downward revisions in our proved reserves since the third quarter of 2019, which are mainly due to lower SEC reserve pricing.

Impairment and Abandonment Expense. Impairment and abandonment expense for the three months ended September 30, 2020 was \$19.9 million as compared to \$6.7 million for the three months ended September 30, 2019 due to an increase of \$13.2 million in the amortization of leasehold expiration costs associated with individually insignificant unproved properties. This higher amortization was due to an increase in our estimated number of undeveloped acres subject to expiration, and this change in estimate was due to our revised 2020 development plan as well as changes made to our future drilling plans due to lower prices.

Exploration and Other Expenses. The following table summarizes our exploration and other expenses for the periods indicated:

(in thousands)	Three Months Ended September 30,	
	2020	2019
Geological and geophysical costs	\$ 1,055	\$ 2,116
Stock-based compensation	256	753
Other expenses	1,359	—
Exploration and other expenses	\$ 2,670	\$ 2,869

Exploration and other expenses were \$2.7 million for the three months ended September 30, 2020 compared to \$2.9 million for the three months ended September 30, 2019. Exploration and other expenses mainly consist of topographical studies, geographical and geophysical (“G&G”) projects, salaries and expenses of G&G personnel and includes other operating costs. The period over period decrease was primarily related to (i) a \$0.7 million decrease in costs incurred on G&G projects and seismic studies, and (ii) \$0.4 million in lower ongoing G&G personnel costs and \$0.5 million in lower stock-based compensation incurred in the 2020 period. The G&G compensation cost reductions were associated with our lower headcount from the workforce reduction that occurred in the second quarter of 2020 (as further described below under *General and Administrative Expenses*). These decreases were partially offset by \$1.4 million in environmental remediation costs incurred in the third quarter of 2020 associated with a recently acquired proved property.

General and Administrative Expenses. The following table summarizes our general and administrative (“G&A”) expenses for the periods indicated:

(in thousands)	Three Months Ended September 30,	
	2020	2019
Cash general and administrative expenses	\$ 11,741	\$ 12,679
Stock-based compensation - equity awards	4,772	7,357
Stock-based compensation - liability awards	487	—
Severance payments	582	—
General and administrative expenses	\$ 17,582	\$ 20,036

G&A expenses for the three months ended September 30, 2020 were \$17.6 million compared to \$20.0 million for the three months ended September 30, 2019. The lower G&A expenses incurred in the third quarter of 2020 was primarily the result of a reduction to our workforce, effective May 1, 2020, and reduced salaries for the employees retained. These two factors combined resulted in a \$0.6 million decrease in payroll and other personnel related costs and a \$2.6 million decrease in equity-based stock compensation expense between periods. These decreases were partially offset by charges incurred during the three months ended September 30, 2020 related to \$0.6 million in severance payments paid to G&A employees included in the workforce reduction and \$0.5 million in stock compensation expense related to liability awards granted to G&A employees in the third quarter of 2020, that will be paid in cash upon award vesting (refer to *Note 6—Stock-Based Compensation* for additional information regarding the liability awards).

Other Income and Expenses.

Interest Expense. The following table summarizes our interest expense for the periods indicated:

(in thousands)	Three Months Ended September 30,	
	2020	2019
Credit facility	\$ 3,930	\$ 1,566
8.00% Senior Secured Notes due 2025	2,514	—
5.375% Senior Notes due 2026	3,889	5,375
6.875% Senior Notes due 2027	6,125	8,594
Amortization of debt issuance costs and discount	1,778	783
Interest capitalized	(518)	(1,072)
Total	\$ 17,718	\$ 15,246

Interest expense was \$2.5 million higher for the three months ended September 30, 2020 as compared to the three months ended September 30, 2019 primarily due to (i) \$2.5 million in interest incurred on our new Senior Secured Notes issued in May of 2020 in connection with the Debt Exchange; (ii) \$2.4 million in increased interest expense incurred on our credit facility

borrowings; and (iii) \$1.0 million in higher amortization of the debt issuance costs and debt discount recognized in May 2020 in connection with the Debt Exchange discussed in *Note 4—Long-Term Debt* under Part I, Item I of this Quarterly Report. These increases were partially offset by lower interest expense incurred on our Senior Unsecured Notes during the third quarter of 2020, as \$110.6 million of the 2026 Senior Notes and \$143.7 million of the 2027 Senior Notes were extinguished in the Debt Exchange transaction.

Our weighted average borrowings outstanding under our credit facility were \$389.6 million versus \$101.0 million for the three months ended September 30, 2020 and 2019, respectively. Our credit facility’s weighted average effective interest rate (which is a LIBOR-based rate) was 3.5% and 3.9% for the three months ended September 30, 2020 and 2019, respectively, as a result of lower LIBOR in the third quarter of 2020 versus the prior year quarter.

Net Gain (Loss) on Derivative Instruments. Net gains and losses are a function of (i) fluctuations in mark-to-market derivative fair values associated with changes in the forward price curves for the commodities underlying our hedge contracts outstanding and (ii) monthly settlements on our hedged derivative positions.

The following table presents gains and losses on our derivative instruments for the periods indicated:

(in thousands)	Three Months Ended September 30,	
	2020	2019
Settlement gains (losses)	\$ (34,486)	\$ (8,218)
Non-cash mark-to-market derivative gain (loss)	32,518	9,740
Total	\$ (1,968)	\$ 1,522

Income Tax (Expense) Benefit. The following table summarizes our pre-tax income (loss) and income tax (expense) benefit for the periods indicated:

(in thousands)	Three Months Ended September 30,	
	2020	2019
Income (loss) before income taxes	\$ (51,529)	\$ (2,320)
Income tax (expense) benefit	—	(1,393)

Our provisions for income taxes for the three months ended September 30, 2020 and 2019 differs from the amounts that would be provided by applying the statutory U.S. federal income tax rate of 21% to pre-tax book income (loss) primarily due to (i) state income taxes, (ii) permanent differences, and (iii) any changes during the period in our deferred tax asset valuation allowance.

For the three months ended September 30, 2020, we recognized (i) a discrete permanent item of \$3.5 million for lower deductions on stock awards that vested during the period, and (ii) a deferred tax asset valuation allowance of \$8.3 million against net operating losses (“NOLs”) that we generated during the quarter, which are estimated as unlikely to be realized in future periods. The permanent item together with the increase in valuation allowance were the primary factors reducing our income tax benefit for the third quarter of 2020 (which is based on the U.S. statutory rate) to zero.

For the three months ended September 30, 2019, we recognized a discrete permanent item of \$1.1 million. This permanent item was the primary factor reducing our income tax benefit for the third quarter of 2019 (which is based on the U.S. statutory rate) to income tax expense of \$1.4 million.

Nine Months Ended September 30, 2020 Compared to Nine Months Ended September 30, 2019

The following table provides the components of our net revenues and net production (net of all royalties, overriding royalties and production due to others) for the periods indicated, as well as each period's average prices and average daily production volumes:

	Nine Months Ended September 30,		Increase/(Decrease)	
	2020	2019	\$	%
Net revenues (in thousands):				
Oil sales	\$ 363,571	\$ 590,055	\$ (226,484)	(38)%
Natural gas sales	29,052	31,655	(2,603)	(8)%
NGL sales	39,756	66,228	(26,472)	(40)%
Oil and gas sales	\$ 432,379	\$ 687,938	\$ (255,559)	(37)%
Average sales prices:				
Oil (per Bbl)	\$ 34.86	\$ 51.58	\$ (16.72)	(32)%
Effect of derivative settlements on average price (per Bbl)	(3.58)	(1.15)	(2.43)	(211)%
Oil net of hedging (per Bbl)	\$ 31.28	\$ 50.43	\$ (19.15)	(38)%
Average NYMEX price for oil (per Bbl)	\$ 38.37	\$ 57.05	\$ (18.68)	(33)%
Oil differential from NYMEX	(3.51)	(5.47)	1.96	36 %
Natural gas (per Mcf)	\$ 0.93	\$ 1.04	\$ (0.11)	(11)%
Effect of derivative settlements on average price (per Mcf)	(0.13)	0.36	(0.49)	(136)%
Natural gas net of hedging (per Mcf)	\$ 0.80	\$ 1.40	\$ (0.60)	(43)%
Average NYMEX price for natural gas (per Mcf)	\$ 1.82	\$ 2.57	\$ (0.75)	(29)%
Natural gas differential from NYMEX	(0.89)	(1.53)	0.64	42 %
NGL (per Bbl)	\$ 11.50	\$ 16.88	\$ (5.38)	(32)%
Net production:				
Oil (MBbls)	10,429	11,440	(1,011)	(9)%
Natural gas (MMcf)	31,209	30,409	800	3 %
NGL (MBbls)	3,458	3,923	(465)	(12)%
Total (MBoe) ⁽¹⁾	19,088	20,431	(1,343)	(7)%
Average daily net production:				
Oil (Bbls/d)	38,061	41,903	(3,842)	(9)%
Natural gas (Mcf/d)	113,900	111,388	2,512	2 %
NGLs (Bbls/d)	12,619	14,371	(1,752)	(12)%
Total (Boe/d) ⁽¹⁾	69,664	74,839	(5,175)	(7)%

⁽¹⁾ Calculated by converting natural gas to oil equivalent barrels at a ratio of six Mcf of natural gas to one Boe.

Oil, Natural Gas and NGL Sales Revenues. Total net revenues for the nine months ended September 30, 2020 were \$255.6 million, or 37%, lower than total net revenues for the nine months ended September 30, 2019. Revenues are a function of oil, natural gas and NGL volumes sold and average commodity prices realized.

Average realized sales prices for oil, natural gas and NGLs for the first nine months of 2020 all decreased when compared to the same 2019 period. The average price for oil before the effects of hedging decreased 32%, the average price for natural gas before the effects of hedging decreased 11%, and the average price for NGLs decreased 32% between periods. The 32% decrease in the average realized oil price was mainly the result of lower NYMEX crude prices between periods (average NYMEX prices decreased 33%), which was minimally offset by improved oil differentials (\$1.96 per Bbl). The average realized sales price of natural gas decreased 11% due to lower average NYMEX gas prices between periods (average NYMEX prices decreased 29%), but this decrease was largely offset by improved gas differentials (\$0.64 per Mcf). The 32% decrease in average realized NGL prices between periods was primarily attributable to lower Mont Belvieu spot prices for plant products for the first nine months of 2020 compared to the first nine months of 2019. The market prices for oil, natural gas and NGLs have all been significantly impacted by lower demand globally for oil and gas as a result of COVID-19 as well as by supply disruptions from the Russia-Saudi oil price war, which combined have resulted in significant price declines starting in March 2020 as discussed in the market conditions section above.

Net production volumes for oil and NGLs decreased 9% and 12%, respectively, while natural gas production volumes increased 3% between periods. The oil production volume decrease was the result of (i) the temporary suspension of our drilling and completion activity during most of the second and third quarter of 2020, which resulted in only 31 new wells being completed and brought online during the first nine months of 2020 as compared to 57 wells completed and brought online during the same 2019 period, (ii) the curtailment of a portion of our production during the second quarter of 2020, and (iii) normal field production declines across our existing wells. These production decreases were partially offset by 58 operated wells placed on production in the Delaware Basin since the third quarter of 2019, which added 4,036 MBbls of net oil production to the nine months ended September 30, 2020. Natural gas and NGLs are produced concurrently with our crude oil volumes, typically resulting in a high correlation between fluctuations in oil quantities sold and natural gas and NGL quantities sold. However, for over half of the first nine months of 2020, the main processor of our raw gas operated in ethane-rejection as compared to operating in ethane-recovery during the majority of the 2019 comparable period. As a result, we sold an increased amount of natural gas from our wet gas stream and recovered fewer NGLs during the 2020 period, resulting in an increase (3%) in natural gas volumes and a decrease (12%) in NGL volumes between periods.

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

	Nine Months Ended September 30,		Increase/(Decrease)	
	2020	2019	\$	%
Operating costs (in thousands):				
Lease operating expenses	\$ 83,021	\$ 107,077	\$ (24,056)	(22)%
Severance and ad valorem taxes	30,108	45,519	(15,411)	(34)%
Gathering, processing and transportation expenses	53,353	52,120	1,233	2 %
Operating costs per Boe:				
Lease operating expenses	\$ 4.35	\$ 5.24	\$ (0.89)	(17)%
Severance and ad valorem taxes	1.58	2.23	(0.65)	(29)%
Gathering, processing and transportation expenses	2.80	2.55	0.25	10 %

Lease Operating Expenses. LOE for the nine months ended September 30, 2020 decreased \$24.1 million as compared to the nine months ended September 30, 2019. Lower LOE for the first nine months of 2020 was primarily related to a \$15.8 million decrease in workover expense between periods as a result of less workover activity and an \$8.3 million decrease in expense associated with cost reduction initiatives, described below, as well as lower variable and semi-variable costs as a result of lower production activity between periods. These decreases were partially offset by LOE costs associated with our higher well count. We had 387 gross operated horizontal wells as of September 30, 2020 compared to 319 gross operated horizontal wells as of September 30, 2019. The net increase in well count was mainly the result of our drilling activity adding 58 gross operated wells since the third quarter of 2019, which was further adjusted for acquisitions and divestitures.

LOE on a per Boe basis decreased when comparing the first nine months of 2020 to the same 2019 period. LOE per Boe was \$4.35 for the nine months ended September 30, 2020, which represents a decrease of \$0.89 per Boe (or 17%) from the comparable 2019 period. This decrease in rate was mainly due to the lower level of workover activity as well as cost reduction initiatives we have undertaken such as (i) moving multiple wells off generators to more cost-efficient electrical line-power, (ii) switching wells away from ESP lift to more reliable and lower cost gas lift, and (iii) performing field reviews to reduce or eliminate various costs for contract labor, oilfield equipment and supplies. These decreases were partially offset by per BOE cost

increases in the first nine months of 2020 compared to the same 2019 period associated with fixed and semi-variable costs that don't decrease at the same rate as declines in production such as monthly rental fees for compressors and other equipment, wellhead chemical costs, and water handling costs.

Severance and Ad Valorem Taxes. Severance and ad valorem taxes for the nine months ended September 30, 2020 decreased \$15.4 million compared to the nine months ended September 30, 2019. Severance taxes are primarily based on the market value of our production at the wellhead, while ad valorem taxes are generally based on the assessed taxable value of our proved developed oil and natural gas reserves and vary across the different counties in which we operate. Severance taxes for the first nine months of 2020 decreased \$12.1 million compared to the same 2019 period primarily due to lower oil, natural gas and NGL revenues between periods. Ad valorem taxes decreased \$3.3 million between periods due to lower tax assessments on our oil and gas reserve values. Severance and ad valorem taxes as a percentage of total net revenues increased to 7.0% for the first nine months of 2020 as compared to 6.6% for the same 2019 period. This increase in rate was due to the 2020 ad valorem tax assessment, which while lower between periods (down 25%), declined less than our oil and gas sales which decreased 37% between periods.

Gathering, Processing and Transportation Expenses. GP&T for the nine months ended September 30, 2020 increased \$1.2 million compared to the nine months ended September 30, 2019 primarily due to a \$6.6 million decrease in reimbursements (net of related fees) received from third parties for their usage of our available FT capacity. This was partially offset by a \$5.4 million decrease in plant processing, transportation and gathering fees incurred between periods.

On a per Boe basis, GP&T increased from \$2.55 for the first nine months of 2019 to \$2.80 per Boe for the same 2020 period. On a natural gas and NGL volume basis (i.e. excluding crude oil barrels) the Boe rate likewise increased between periods from \$5.80 to \$6.16 for the nine months ended September 30, 2019 and 2020, respectively. These rate increases were mainly attributable to a lower amount of FT reimbursements (net of related fees) for the usage of our available FT capacity as referenced above.

Depreciation, Depletion and Amortization. The following table summarizes our DD&A for the periods indicated:

(in thousands, except per Boe data)	Nine Months Ended September 30,	
	2020	2019
Depreciation, depletion and amortization	\$ 283,722	\$ 321,392
Depreciation, depletion and amortization per Boe	\$ 14.86	\$ 15.73

Our DD&A rate can fluctuate as a result of finding and development costs incurred, acquisitions, impairments, as well as changes in proved developed and proved undeveloped reserves. For the nine months ended September 30, 2020, DD&A expense amounted to \$283.7 million, a decrease of \$37.7 million over the same 2019 period. The primary factor contributing to lower DD&A expense in 2020 was the decrease in our overall production volumes between periods, which decreased DD&A expense by \$21.0 million during the first nine months of 2020, while lower DD&A rates between periods lowered DD&A expense by \$16.7 million.

DD&A per Boe was \$14.86 for the first nine months of 2020 compared to \$15.73 for the same period in 2019. This decrease in DD&A rate was primarily due to the proved property impairment recognized in the first quarter of 2020, which lowered the carrying value of our depletion base by \$591.8 million. The effect of this impairment, however, was partially offset by net downward revisions in our proved reserves since the third quarter of 2019, which were mainly due to lower SEC reserve pricing.

Impairment and Abandonment Expense. During the nine months ended September 30, 2020, \$650.6 million of impairment and abandonment expense was incurred related to certain of our oil and natural gas properties. This expense consisted of (i) a \$591.8 million non-cash impairment of our proved oil and gas properties as a result of depressed oil, natural gas and NGL commodity prices; and (ii) \$58.8 million related to the amortization of leasehold expiration costs associated with individually insignificant unproved properties.

We review our proved oil and natural gas properties for impairment whenever events and circumstances indicate that the fair value of these assets may be below their carrying value. Fair values of our oil and natural gas properties are estimated using an income approach that is based on the discounted expected future net cash flows from these assets. These valuations are based on inputs which require significant judgment and include estimates of: (i) reserves; (ii) future production decline rates; (iii) future operating and development costs; (iv) future commodity prices, including price differentials; and (v) a market participant-based weighted average cost of capital rate.

We performed an impairment assessment of all our proved oil and gas properties as of March 31, 2020. Two of our fields were subject to impairment write-downs as quantified above, but the remaining five fields were not impaired due to their undiscounted cash flows exceeding their carrying values by 30% to over 100%. This impairment assessment was performed using commodity price futures curves as of March 31, 2020. If future oil, natural gas and NGL prices were to decline to lower levels, or

other estimates impacting future net cash flows deteriorate (e.g. reserves, price differentials, future operating and/or development costs), our proved oil and gas properties could be subject to additional impairment write-downs in future periods. We did not recognize any additional impairment write-downs with respect to our proved oil and gas properties for the three months ended September 30, 2020 or June 30, 2020.

During the nine months ended September 30, 2019, \$42.4 million of impairment and abandonment expense was incurred related to undeveloped leasehold acreage. This expense consisted of (i) \$19.1 million related to non-core acreage that expired during the first nine months of 2019 after efforts to extend, sell or trade these leases were unsuccessful, (ii) \$16.6 million for impaired acreage following an acreage sale initiated in the first quarter of 2019, and (iii) \$6.7 million related to the amortization of leasehold expiration costs associated with individually insignificant unproved properties.

Exploration and Other Expenses. The following table summarizes our exploration and other expenses for the periods indicated:

(in thousands)	Nine Months Ended September 30,	
	2020	2019
Geological and geophysical costs	\$ 4,129	\$ 6,928
Rig termination fees	3,046	284
Stock-based compensation	1,230	2,034
Severance payments	722	—
Other expenses	1,603	—
Exploration and other expenses	\$ 10,730	\$ 9,246

Exploration and other expenses were \$10.7 million for the nine months ended September 30, 2020 compared to \$9.2 million for the same prior year period. Exploration and other expenses mainly consist of topographical studies, G&G projects, salaries and expenses of G&G personnel and includes other operating costs. The period over period increase was primarily due to (i) rig termination fees that were \$2.8 million higher in the first nine months of 2020, as a result of reducing our operated drilling activity in 2020; (ii) \$0.7 million in nonrecurring severance payments to G&G personnel, resulting from our workforce reduction that took place in the second quarter of 2020; and (iii) \$1.4 million in environmental remediation costs that we incurred in the third quarter of 2020 associated with a recently acquired proved property. These increases were partially offset by (i) a \$1.6 million decrease in costs incurred on G&G projects and seismic studies, and (ii) \$1.2 million in lower ongoing G&G personnel costs and \$0.8 million in lower stock-based compensation incurred in the 2020 period, both of which were associated with the lower headcount from our workforce reduction that occurred in the second quarter of 2020.

General and Administrative Expenses. The following table summarizes our G&A expenses for the periods indicated:

(in thousands)	Nine Months Ended September 30,	
	2020	2019
Cash general and administrative expenses	\$ 35,559	\$ 37,272
Stock-based compensation expense - equity awards	14,934	19,317
Stock-based compensation expense - liability awards	487	—
Severance payments	3,466	—
General and administrative expenses	\$ 54,446	\$ 56,589

G&A expenses for the nine months ended September 30, 2020 were \$54.4 million compared to \$56.6 million for the nine months ended September 30, 2019. The lower G&A expenses incurred in the first nine months of 2020 was primarily the result of a reduction to our workforce and reduced salaries for the employees retained, effective May 1, 2020. These two factors combined resulted in a \$2.6 million decrease in payroll and other personnel related costs and a \$4.4 million decrease in equity-based stock compensation expense between periods. These decreases were partially offset by (i) \$3.5 million of nonrecurring severance payments paid to G&A employees who were included in our workforce reduction; (ii) \$0.5 million in stock compensation expense related to liability awards granted to G&A employees in the third quarter of 2020 that will be paid in cash upon award vesting (refer to *Note 6—Stock-Based Compensation* for additional information regarding the liability awards); and (iii) \$0.5 million in transaction costs that were expensed when the water disposal asset sale was terminated and are included in cash G&A (see *Note 2—Property Divestiture* for additional information).

Other Income and Expenses.

Interest Expense. The following table summarizes our interest expense for the periods indicated:

(in thousands)	Nine Months Ended September 30,	
	2020	2019
Credit facility	\$ 9,256	\$ 6,179
8.00% Senior Secured Notes due 2025	3,643	—
5.375% Senior Notes due 2026	13,995	16,124
6.875% Senior Notes due 2027	22,243	18,716
Amortization of debt issuance costs and discount	4,112	2,070
Interest capitalized	(1,739)	(3,246)
Total	\$ 51,510	\$ 39,843

Interest expense was \$11.7 million higher for the nine months ended September 30, 2020 compared to the same 2019 period. The higher interest expense incurred in the first nine months of 2020 was mainly due to (i) \$3.6 million in interest incurred on our new Senior Secured Notes issued in May of 2020 in connection with the Debt Exchange, (ii) \$3.5 million in increased interest expense related to our 2027 Senior Notes that were issued in March 2019 and only outstanding for six and half months during the prior year period, (iii) \$3.1 million in higher interest expense incurred on our credit facility borrowings, and (iv) \$2.0 million in higher amortization related to the debt issuance costs and debt discount recognized in May 2020 in connection with the Debt Exchange discussed in *Note 4—Long-Term Debt* under Part I, Item I of this Quarterly Report. These increases were partially offset by lower interest expense incurred on our Senior Unsecured Notes during the 2020 period, as \$110.6 million of the 2026 Senior Notes and \$143.7 million of the 2027 Senior Notes were extinguished in the Debt Exchange transaction.

Our weighted average borrowings outstanding under our credit facility were \$322.3 million and \$138.3 million for the first nine months of 2020 and 2019, respectively. Our credit facility's weighted average effective interest rate (which is a LIBOR-based rate) was 3.2% and 3.9% for the nine months ended September 30, 2020 and 2019, respectively. LIBOR was lower in the first nine months of 2020 versus the same prior year period.

Gain on exchange of debt. A gain of \$143.4 million was recognized for the nine months ended September 30, 2020 related to our opportunistic Debt Exchange that was executed in the second quarter of 2020. This gain was determined based on the difference between the carrying value of the Senior Unsecured Notes extinguished less the fair value of our newly issued Senior Secured Notes on their date of issuance. Refer to *Note 4—Long-Term Debt* for additional information regarding the gain on exchange of debt.

Net Gain (Loss) on Derivative Instruments. Net gains and losses are a function of (i) fluctuations in mark-to-market derivative fair values associated with changes in the forward price curves for the commodities underlying our hedge contracts outstanding and (ii) monthly settlements of our hedged derivative positions.

The following table presents gains and losses for derivative instruments for the periods indicated:

(in thousands)	Nine Months Ended September 30,	
	2020	2019
Settlement gains (losses)	\$ (41,433)	\$ (2,207)
Non-cash mark-to-market derivative gain (loss)	1,103	(14)
Total	\$ (40,330)	\$ (2,221)

Income Tax (Expense) Benefit. The following table summarizes our pre-tax income (loss) and income tax (expense) benefit for the periods indicated:

(in thousands)	Nine Months Ended September 30,	
	2020	2019
Income (loss) before income taxes	\$ (681,668)	\$ 11,810
Income tax (expense) benefit	85,124	(5,058)

Our provisions for income taxes for the first nine months of 2020 and 2019 differs from the amounts that would be provided by applying the statutory U.S. federal income tax rate of 21% to pre-tax book income (loss) primarily due to (i) state income taxes; (ii) permanent differences; and (iii) any changes during the period in our deferred tax asset valuation allowance.

For the nine months ended September 30, 2020, we recognized a deferred tax asset valuation allowance of \$58.0 million against NOLs that we generated during the period, which are estimated as unlikely to be realized in future periods. This increase in valuation allowance was the primary factor reducing our income tax benefit for the first nine months of 2020 from the U.S. statutory rate to \$85.1 million.

For the nine months ended September 30, 2019, we recognized a discrete permanent item of \$1.3 million for lower deductions on stock awards that vested during the period and a projected permanent item of \$1.8 million related to future stock compensation not expected to be deductible. These items were the primary factors increasing our income tax expense for the first nine months of 2020 from the U.S. statutory rate to \$5.1 million.

Liquidity and Capital Resources

Overview

Our drilling and completion and land acquisition activities require us to make significant capital expenditures. Historically, our primary sources of liquidity have been cash flows from operations, borrowings under CRP's revolving credit facility, and proceeds from offerings of debt or equity securities. Future cash flows are subject to a number of variables, including oil and natural gas prices. Prices for oil and natural gas began to decline significantly in March 2020 and have remained volatile since. These lower commodity prices negatively impact our cash flows and our ability to access debt or equity markets, and sustained low oil and natural gas prices could have a material and adverse effect on our liquidity position. To date, our primary use of capital has been for drilling and development capital expenditures and the acquisition of oil and natural gas properties. The following table summarizes our capital expenditures ("capex") incurred for the nine months ended September 30, 2020:

(in millions)	Nine Months Ended September 30, 2020	
Drilling and completion capital expenditures	\$	187.9
Facilities, infrastructure and other		33.2
Land		3.8
Total capital expenditures incurred	\$	224.9

We continually evaluate our capital needs and compare them to our capital resources. As a result of the decline in crude oil prices and ongoing uncertainty regarding the oil supply-demand macro environment, we temporarily suspended all drilling and completion activities at the end of the first quarter of 2020 in order to preserve capital. Specifically, we reduced our operated drilling rig program to zero rigs starting in April of 2020 and continued with no drilling rigs in operation until the end of September 2020 when we resumed drilling activity with a one-rig drilling program. With respect to our completion activity, during the third quarter of 2020 we recommenced activity by completing 5 gross operated wells, which were drilled but not completed during the first quarter of 2020. These changes in our drilling rig program and completion activity levels represents a reduction from the four-rig program that we initially announced with our 2020 operational guidance at the beginning of the year. Consequently, we expect our total capex budget for 2020 will now be between \$240.0 million to \$265.0 million, which represents an approximate 60% reduction from the mid-point of our original estimated capex budget for 2020 of \$590 million to \$690 million. We expect to fund the remainder of our 2020 capital expenditures with cash flows from operations. In addition, we expect to be free cash flow positive over the remainder of 2020 such that we plan on continuing to pay down borrowings under our credit agreement during the fourth quarter of 2020.

Because we are the operator of a high percentage of our acreage, we can control the amount and timing of our capital expenditures. We can choose to defer or accelerate a portion of our planned capex depending on a variety of factors, including but not limited to: prevailing and anticipated prices for oil and natural gas; oil storage or transportation constraints; the success of our drilling activities; the availability of necessary equipment, infrastructure and capital; the receipt and timing of required regulatory permits and approvals; seasonal conditions; property or land acquisition costs; and the level of participation by other working interest owners.

Given the weakness in realized oil prices, we voluntarily curtailed or shut-in a portion of our second quarter 2020 production volumes. Specifically, we curtailed approximately 20% of our production during the month of May, but were able to bring the majority of our production back online in June as crude oil prices recovered and did not experience any further curtailments of our production during the third quarter 2020. The potential for any future curtailment decisions will continue to be evaluated and made on a month-to-month basis subject to market conditions, storage and transportation constraints, and contractual obligations. Any decision in the future to further curtail or shut-in our production or reduced our drilling and completion activity could adversely affect our business, financial condition, results of operations, liquidity, and ability to finance planned capital expenditures.

We cannot ensure that cash flows from operations will be available or other sources of needed capital on acceptable terms or at all. Further, our ability to access the public or private debt or equity capital markets at economic terms in the future will be affected by general economic conditions, the domestic and global oil and financial markets, our operational and financial performance, the value and performance of our debt or equity securities, prevailing commodity prices and other macroeconomic factors outside of our control.

Moreover, to manage our future financing cash outflows and liquidity position, we completed the Debt Exchange with respect to our Senior Unsecured Notes in May 2020 which reduced the total principal amounts due of our aggregated secured and unsecured notes by \$127.1 million and also reduced future interest payments.

Analysis of Cash Flow Changes

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

(in thousands)	Nine Months Ended September 30,	
	2020	2019
Net cash provided by operating activities	\$ 130,232	\$ 384,875
Net cash used in investing activities	(308,009)	(698,120)
Net cash provided by financing activities	172,752	308,064

For the nine months ended September 30, 2020, we generated \$130.2 million of cash from operating activities, a decrease of \$254.6 million from the same period in 2019. Cash provided by operating activities decreased primarily due to lower realized prices for all commodities, lower production volumes for crude oil and NGLs, higher GP&T costs, exploration and other expenses, cash G&A expenses, interest payments, cash settlement losses on derivatives, and the timing of supplier payments during the nine months ended September 30, 2020. These declining factors were partially offset by lower lease operating expenses, production taxes, and the timing of our receivable collections for the nine months ended September 30, 2020 as compared to the same 2019 period. Refer to “Results of Operations” for more information on the impact of volumes and prices on revenues and on fluctuations in our operating expenses between periods.

During the nine months ended September 30, 2020, cash flows from operating activities, cash on hand, and net borrowings of \$180.0 million under our credit facility were used to finance \$300.7 million of drilling and development cash expenditures, to fund \$7.7 million in oil and gas property acquisitions, and to finance \$6.7 million of debt issuance and exchange costs.

During the nine months ended September 30, 2019, cash flows from operating activities, cash on hand, proceeds from sales of oil and gas properties and proceeds from the issuance of our 2027 Senior Notes were used to repay net borrowings of \$180.0 million under our credit facility, to finance \$644.9 million of drilling and development cash expenditures, to fund \$73.3 million in oil and gas property acquisitions, and to purchase \$8.2 million of other property and equipment.

Credit Agreement

CRP, our consolidated subsidiary, has a credit agreement with a syndicate of banks that provides for a five-year secured revolving credit facility, maturing on May 4, 2023 (the “Credit Agreement”). On May 1, 2020, CRP as borrower and we, as parent guarantor, entered into the Q2 2020 Amendments, which among other things established a new borrowing base and level of elected commitments of \$700.0 million. The Q2 2020 Amendments that the lenders approved permitted the issuance of the Senior Secured Notes in connection with the Debt Exchange (discussed below), and they implemented an availability blocker equal to 25% of the newly issued amount of Senior Secured Notes. As of September 30, 2020, we had \$355.0 million in borrowings outstanding and \$304.4 million in available borrowing capacity, which was net of \$8.8 million in letters of credit outstanding and the availability blocker of \$31.8 million. In connection with the Credit Agreement’s fall 2020 semi-annual borrowing base redetermination, the borrowing base and amount of elected commitments were reaffirmed at \$700.0 million. Furthermore, we reduced our letters of credit outstanding under the Credit Agreement to \$4.3 million as of October 31, 2020, from \$8.8 million outstanding as of September 30, 2020.

CRP’s Credit Agreement contains restrictive covenants that limit its ability to, among other things: (i) incur additional indebtedness; (ii) make investments and loans; (iii) enter into mergers; (iv) make or declare dividends; (v) enter into commodity hedges exceeding a specified percentage of our expected production; (vi) enter into interest rate hedges exceeding a specified percentage of its outstanding indebtedness; (vii) incur liens; (viii) sell assets; and (ix) engage in transactions with affiliates.

CRP’s Credit Agreement also requires us to maintain compliance with the following financial ratios:

(i) a current ratio, which is the ratio of CRP’s consolidated current assets (including unused commitments under its revolving credit facility and excluding non-cash derivative assets and certain restricted cash) to its consolidated current liabilities (excluding any current portion of long-term debt due under the credit agreement and non-cash derivative liabilities), of not less than 1.0 to 1.0;

(ii) a first lien leverage ratio, as defined within the Credit Agreement as the ratio of first lien debt to EBITDAX for the rolling four fiscal quarter period, which may not exceed 2.75 to 1.00 beginning with the quarter ending June 30, 2020 and extending through the quarter ending December 31, 2021, after which the maximum ratio shall decrease to 2.50 to 1.00 for each of the quarters ending in 2022; and

(iii) a leverage ratio, as defined with the Credit Agreement as the ratio of total funded debt to consolidated EBITDAX for the rolling four fiscal quarter period. Pursuant to the Q2 2020 Amendments, the leverage ratio is suspended until March 31, 2022, at which time, the ratio may not exceed 5.00 to 1.00, with such maximum ratio declining at a rate of 0.25 for each succeeding quarter until March 31, 2023 when the ratio is set at not greater than 4.0 to 1.0.

CRP was in compliance with the covenants and the financial ratios described above as of September 30, 2020 and through the filing of this Quarterly Report.

For further information on the Credit Agreement, refer to *Note 4—Long-Term Debt* under Part I, Item I of this Quarterly Report.

Senior Unsecured Notes Debt Exchange and Senior Secured Notes

On May 22, 2020, CRP completed the Debt Exchange pursuant to which \$110.6 million aggregate principal amount of CRP's 2026 Senior Notes and \$143.7 million aggregate principal amount of CRP's 2027 Senior Notes were validly tendered and exchanged by certain eligible bondholders for consideration consisting of \$127.1 million aggregate principal amount of newly issued Senior Secured Notes. The Senior Secured Notes bear interest at an annual rate of 8% and are due on June 1, 2025. Interest is payable semi-annually in arrears on each June 1 and December 1, commencing on December 1, 2020.

The Debt Exchange was accounted for as an extinguishment of debt in accordance with Financial Accounting Standards Board's Accounting Standard Codification Topic 470-50, *Modifications and Extinguishments*. As a result, a gain on the exchange of debt of \$143.4 million was recognized in the consolidated statement of operations, which consisted of the carrying values of the Senior Unsecured Notes exchanged less the aggregate principal amount of new Senior Secured Notes issued, net of their associated debt discount of \$21.0 million (which was based on the notes' estimated fair value on the exchange date).

The Senior Secured Notes are guaranteed, subject to certain exceptions, by us and each of CRP's subsidiaries and are secured on a second-priority basis (subject in priority only to certain exceptions) by substantially all of CRP's and our assets, including deposit accounts and substantially all proved reserves and undeveloped acreage.

Senior Unsecured Notes

On November 30, 2017, CRP issued \$400.0 million of 5.375% senior notes due 2026 and on March 15, 2019, CRP issued \$500.0 million of 6.875% senior notes due 2027 in 144A private placements. The Senior Unsecured Notes are fully and unconditionally guaranteed on a senior unsecured basis by Centennial and each of CRP's current subsidiaries that guarantee CRP's revolving credit facility.

In May 2020, a portion of the Senior Unsecured Notes were exchanged for Senior Secured Notes (see above discussion for details of the exchange).

The indentures governing the Senior Unsecured Notes and Senior Secured Notes (collectively, the "Senior Notes") contain covenants that, among other things and subject to certain exceptions and qualifications, limit CRP's ability and the ability of CRP's restricted subsidiaries to: (i) incur or guarantee additional indebtedness or issue certain types of preferred stock; (ii) pay dividends on capital stock or redeem, repurchase or retire capital stock or subordinated indebtedness; (iii) transfer or sell assets; (iv) make investments; (v) create certain liens; (vi) enter into agreements that restrict dividends or other payments from their subsidiaries to them; (vii) consolidate, merge or transfer all or substantially all of their assets; (viii) engage in transactions with affiliates; and (ix) create unrestricted subsidiaries. CRP was in compliance with these covenants as of September 30, 2020 and through the filing of this Quarterly Report.

For further information on our Senior Notes, refer to *Note 4—Long-Term Debt* under Part I, Item I of this Quarterly Report.

Contractual Obligations

Our contractual obligations include operating and transportation agreements, drilling rig contracts, office and equipment leases, asset retirement obligations, long-term debt obligations and cash interest expense on long-term debt obligations, which we routinely enter into, modify or extend. Since December 31, 2019, there have not been any significant, non-routine changes in our contractual obligations, other than the changes to certain of our operating lease commitments and principal and interest due under our Senior Unsecured Notes as a result of the Debt Exchange discussed above. Refer to *Note 13—Leases* under Part I, Item I of this Quarterly Report for updated contractual obligations associated with our operating leases as of September 30, 2020.

Critical Accounting Policies and Estimates

There have been no material changes during the nine months ended September 30, 2020 to the critical accounting policies previously disclosed in our 2019 Annual Report. Please refer to Part II, Item 7. *Management's Discussion and Analysis of Financial Condition and Results of Operations—Critical Accounting Policies and Estimates* in our 2019 Annual Report for a discussion of our critical accounting policies and estimates.

New Accounting Pronouncements

There were no significant new accounting standards adopted or new accounting pronouncements that would have a potential effect on us as of September 30, 2020.

Item 3. Quantitative and Qualitative Disclosures About Market Risk

The term “market risk” as it applies to our business refers to the risk of loss arising from adverse changes in oil and natural gas prices and interest rates, and we are exposed to market risk as described below. The primary objective of the following information is to provide quantitative and qualitative information about our potential exposure to market risks. The disclosures are not meant to be precise indicators of expected future losses, but rather indicators of reasonably possible losses. All of our market risk sensitive instruments were entered into for purposes other than speculative trading.

Commodity Price Risk

Our primary market risk exposure is in the pricing that we receive for our oil, natural gas and NGL production. Pricing for oil, natural gas and NGLs has been volatile and unpredictable for several years, and we expect this volatility to continue for the foreseeable future. Based on our production for the first nine months of 2020, our oil and gas sales for the nine months ended September 30, 2020 would have moved up or down \$36.3 million for each 10% change in oil prices per Bbl, \$4.0 million for each 10% change in NGL prices per Bbl, and \$2.9 million for each 10% change in natural gas prices per Mcf.

Due to this volatility, we have historically used, and we may elect to continue to selectively use, commodity derivative instruments (such as collars, swaps and basis swaps) to mitigate price risk associated with a portion of our anticipated production. Our derivative instruments allow us to reduce, but not eliminate, the potential effects of the variability in cash flows from operations due to fluctuations in oil and natural gas prices and thereby provide increased certainty of cash flows for our drilling program and debt service requirements. These instruments provide only partial price protection against declines in oil and natural gas prices, but alternatively they may partially limit our potential gains from future increases in prices. Our credit agreement limits our ability to enter into commodity hedges covering greater than 85% of our reasonably anticipated projected production from proved properties.

The table below summarizes the terms of the derivative contracts we had in place as of September 30, 2020 and additional contracts entered into through October 31, 2020. Refer to *Note 7—Derivative Instruments* in Item 1 of Part I of this Quarterly Report for open derivative positions as of September 30, 2020.

	Period	Volume (Bbls)	Volume (Bbls/d)	Weighted Average Fixed Price (\$/Bbl) ⁽¹⁾
Crude oil swaps				
NYMEX WTI	October 2020 - December 2020	1,196,000	13,000	\$38.89
	January 2021 - March 2021	810,000	9,000	41.81
	April 2021 - June 2021	273,000	3,000	42.89
	July 2021 - September 2021	92,000	1,000	45.53
	October 2021 - December 2021	92,000	1,000	45.65
ICE Brent	January 2021 - March 2021	270,000	3,000	\$46.85
	April 2021 - June 2021	182,000	2,000	48.01
	July 2021 - September 2021	184,000	2,000	48.25
	October 2021 - December 2021	184,000	2,000	48.50
	Period	Volume (Bbls)	Volume (Bbls/d)	Weighted Average Differential (\$/Bbl) ⁽²⁾
Crude oil basis swaps				
	October 2020 - December 2020	1,196,000	13,000	\$0.51
	January 2021 - March 2021	810,000	9,000	0.01
	April 2021 - June 2021	91,000	1,000	0.25
	July 2021 - September 2021	92,000	1,000	0.20
	October 2021 - December 2021	92,000	1,000	0.20
	Period	Volume (Bbls)	Volume (Bbls/d)	Weighted Average Collar Price Ranges (\$/Bbl) ⁽³⁾
Crude oil collars	October 2020 - December 2020	276,000	3,000	\$39.33 - \$45.02

⁽¹⁾ These crude oil swap transactions are settled based on the NYMEX WTI or ICE Brent oil price on each trading day within the specified monthly settlement period.

⁽²⁾ These oil basis swap transactions are settled based on the difference between the arithmetic average of ARGUS MIDLAND WTI and ARGUS WTI CUSHING indices, during each applicable settlement period.

⁽³⁾ These crude oil collars are settled based on the NYMEX WTI price on each trading day within the specified monthly settlement period and establish floor and ceiling prices for the contracted volumes.

	Period	Volume (MMBtu)	Volume (MMBtu/d)	Weighted Average Fixed Price (\$/MMBtu) ⁽¹⁾
Natural gas swaps	October 2020 - December 2020	3,370,000	36,630	\$2.65
	January 2021 - March 2021	5,400,000	60,000	2.91
	April 2021 - June 2021	3,640,000	40,000	2.89
	July 2021 - September 2021	3,680,000	40,000	2.89
	October 2021 - December 2021	3,680,000	40,000	2.95

	Period	Volume (MMBtu)	Volume (MMBtu/d)	Weighted Average Differential (\$/MMBtu) ⁽²⁾
Natural gas basis swaps	October 2020 - December 2020	930,000	10,109	\$(1.62)
	January 2021 - March 2021	1,800,000	20,000	(0.30)
	April 2021 - June 2021	3,640,000	40,000	(0.30)
	July 2021 - September 2021	3,680,000	40,000	(0.30)
	October 2021 - December 2021	3,680,000	40,000	(0.28)

	Period	Volume (MMBtu)	Volume (MMBtu/d)	Weighted Average Collar Price Ranges (\$/MMBtu) ⁽³⁾		
Natural gas collars	October 2020 - December 2020	1,220,000	13,261	\$2.90	-	\$3.64
	January 2021 - March 2021	1,800,000	20,000	2.90	-	3.64

⁽¹⁾ These natural gas swap contracts are settled based on the NYMEX Henry Hub price on each trading day within the specified monthly settlement period.

⁽²⁾ These natural gas basis swap contracts are settled based on the difference between the Inside FERC's West Texas WAHA price and the NYMEX price of natural gas, during each applicable settlement period.

⁽³⁾ These natural gas collars are settled based on the NYMEX Henry Hub price on each trading day within the specified monthly settlement period and establish floor and ceiling prices for the contracted volumes.

Changes in the fair value of derivative contracts from December 31, 2019 to September 30, 2020, are presented below:

(in thousands)	Commodity derivative asset (liability)
Net fair value of oil and gas derivative contracts outstanding as of December 31, 2019	\$ (325)
Contract settlements	41,433
Change in the futures curve of forecasted commodity prices ⁽¹⁾	(40,330)
Net fair value of oil and gas derivative contracts outstanding as of September 30, 2020	\$ 778

⁽¹⁾ At inception, new derivative contracts entered into by us have no intrinsic value.

A hypothetical upward or downward shift of 10% per Bbl in the NYMEX forward curve for crude oil as of September 30, 2020 would cause a \$11.3 million increase or decrease, respectively, in this fair value position, and a hypothetical upward or downward shift of 10% per Mcf in the NYMEX forward curve for natural gas as of September 30, 2020 would cause a \$3.7 million increase or decrease, respectively, in this same fair value position.

Interest Rate Risk

Our ability to borrow and the rates offered by lenders can be adversely affected by deteriorations in the credit markets and/or downgrades in our credit rating. The uncertainties regarding the impact of COVID-19 as well as the significant decline in March and April of 2020 in global oil and gas prices and their continued volatility throughout 2020 has impacted the credit markets, resulting in increases in market interest rates for new debt issuances. CRP's credit facility interest rate is based on a LIBOR spread (subject to a 1% floor), which exposes us to interest rate risk on our borrowings outstanding to the extent LIBOR increases above the floor.

As of September 30, 2020, we had \$355.0 million of debt outstanding under our credit agreement, with a weighted average interest rate of 3.5%. Assuming no change in the amount outstanding, the impact on interest expense of a 1.0% increase or decrease in the assumed weighted average interest rate would be approximately \$3.6 million per year. We do not currently have or intend to enter into any derivative arrangements to protect against fluctuations in interest rates applicable to our outstanding indebtedness.

The remaining long-term debt balance of \$737.2 million consists of our Senior Notes, which have fixed interest rates. Therefore, this balance is not affected by interest rate movements. For additional information regarding our debt instruments, see *Note 4—Long-Term Debt*, in Item 1 of Part I of this Quarterly Report.

Item 4. Controls and Procedures

Evaluation of Disclosure Control and Procedures

In accordance with Rules 13a-15 and 15d-15 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(e) and 15d-15(e) under the Exchange Act) as of September 30, 2020. Our disclosure controls and procedures are designed to provide reasonable assurance that the information required to be disclosed in reports that we file under the Exchange Act is accumulated and communicated to our 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, our principal executive officer and principal financial officer concluded that our disclosure controls and procedures were effective as of September 30, 2020 at the reasonable assurance level.

Changes in Internal Control over Financial Reporting

There were no changes in the system of internal control over financial reporting (as defined in Rule 13a-15(f) and Rule 15d-15(f) under the Exchange Act) during the three months ended September 30, 2020 that have materially affected, or are reasonably likely to materially affect, the Company's internal control over financial reporting.

PART II. OTHER INFORMATION

Item 1. Legal Proceedings

From time to time, we are party to ongoing legal proceedings in the ordinary course of business, including workers' compensation claims and employment-related disputes. While the outcome of these proceedings cannot be predicted with certainty, we believe it is remote that the results of such proceedings, individually or in the aggregate, that are reasonably possible to occur will have a material adverse effect on our business, financial condition, results of operations or liquidity.

Item 1A. Risk Factors

In addition to the other information set forth in this Quarterly Report, you should carefully consider the risk factors and other cautionary statements described under the heading "Item 1A. Risk Factors" included in our 2019 Annual Report and the risk factors and other cautionary statements contained in our other SEC filings as well as additional risk factors set forth below. Other than with respect to the additional risk factors below, there have been no material changes in our risk factors from those described in our 2019 Annual Report. The risks described in the 2019 Annual Report and below are not the only risks facing us. Additional risks and uncertainties not currently known to us or that we currently deem to be immaterial also may materially adversely affect our business, financial condition or future results.

The excess supply of oil and natural gas resulting from the reduced demand caused by the COVID-19 pandemic and the effects of actions by, or disputes among or between, oil and natural gas producing countries may result in transportation and storage constraints, reduced production and shut-in of our wells, any of which would adversely affect our business, financial condition, results of operations, liquidity, and ability to finance planned capital expenditures.

The recent worldwide outbreak of COVID-19, the uncertainty regarding the impact of COVID-19 and various governmental actions taken to mitigate the impact of COVID-19, have resulted in an unprecedented decline in demand for oil and natural gas. At the same time, the decision by Saudi Arabia in March 2020 to drastically reduce export prices and increase oil production followed by the curtailment agreements amongst OPEC and other countries such as Russia further increased uncertainty and volatility around global oil supply-demand dynamics. As a result, there was a significant decline in commodity prices starting at the end of the first quarter of 2020. Subsequent commitments made by OPEC and other oil producing countries to reduce their crude oil production, taken together with U.S. producers substantially reducing drilling and producing activities, resulted in higher commodity prices in the third quarter of 2020, but commodity prices remain volatile. The recent increasing spread of the COVID-19 outbreak, and governmental actions taken to mitigate and control such spread, have negatively impacted commodity prices due to expected lower demand for oil and natural gas. To the extent that the outbreak of COVID-19 continues to negatively impact demand and OPEC members, other oil exporting nations, and oil producers fail to implement production cuts or take other actions that are sufficient to support and stabilize commodity prices, we expect there to be excess supply of oil and natural gas for a sustained period.

This excess supply has and could, in turn, continue to result in transportation and storage capacity constraints in the United States, or even the elimination of available storage, including in the Permian Basin. If, in the future, our transportation or storage arrangements become constrained or unavailable, we may incur significant operational costs if there is an increase in price for services or we may be required to shut-in or curtail production or flare our natural gas. In addition, given the weakness in realized oil prices at the end of the first quarter of 2020, we voluntarily curtailed or shut-in a portion of our second quarter 2020

production volumes. In the future, we may again curtail some or all of our production depending on market conditions, storage or transportation constraints, and contractual obligations. Any action we take to shut-in wells may result in obligations to pay certain demand charges for gathering and processing services and firm transportation charges for pipeline capacity we have reserved. Further, any prolonged shut-in of our wells may result in materially decreased well productivity once we are able to resume operations, and any cessation of drilling and development of our acreage could result in the expiration, in whole or in part, of our leases. If we again curtail our production during a low commodity price environment, these impacts on our operations, together with the lower price we would receive for our continuing production of oil and gas, could impact our ability to comply with the covenants under CRP's credit agreement and Senior Notes. All of these impacts may adversely affect our business, financial condition, results of operations, liquidity, and ability to finance planned capital expenditures.

Due to the commodity price environment, we postponed or eliminated a portion of our developmental drilling compared to our original 2020 plans. A sustained period of weakness in oil, natural gas and NGLs prices, and the resultant effects of such prices on our drilling economics and ability to raise capital, will require us to reevaluate and further postpone or eliminate additional drilling. Such actions would likely result in the reduction of our proved undeveloped reserves and related reserve values and a reduction in our ability to service our debt obligations.

Additionally, as of December 31, 2019, approximately 13% of our total net acreage was not held by production and we had leases representing 3,162 and 3,750 undeveloped net acres scheduled to expire during 2020 and during 2021, respectively, in each case assuming no exercise of lease extension options where applicable. Any action we may implement in the future to curtail production and shut-in wells may result in our inability to continue to hold our existing leases. Further, the suspension or reduction of our drilling and completion activity levels may result in our inability to retain leases not held by production that are scheduled to expire. The loss of any acreage has the potential to reduce our reserves. As a result, if oil, natural gas and/or NGL prices experience a sustained period of weakness, our future business, financial condition, results of operations, liquidity, and ability to finance planned capital expenditures may be materially and adversely affected.

Our production is not fully hedged, and we are exposed to fluctuations in oil, natural gas and NGL prices and will be affected by continuing and prolonged declines in oil, natural gas and NGL prices.

Our production is not fully hedged, and we are exposed to fluctuations in oil, natural gas and NGL prices and will be affected by continuing and prolonged declines in oil, natural gas and NGL prices. We have entered into fixed price oil swaps for October 2020 through December of 2021 to protect against possible, additional near-term declines in oil prices. During this period, CRP has hedged an average of approximately 7,184 barrels per day of oil at a weighted average price of \$42.54 per Bbl. We intend to continue to hedge our production, but we may not be able to do so at favorable prices. Accordingly, our revenues and cash flows are subject to increased volatility and may be subject to significant reduction in prices which would have a material negative impact on our results of operations.

If commodity prices continue to decrease or remain at current levels such that our future undiscounted cash flows from our properties are less than their carrying value, we may be required to take additional write-downs of the carrying values of our properties.

Accounting guidance requires that we periodically review 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. Due to the recent depressed commodity prices, we recorded a \$591.8 million non-cash impairment to the carrying value of our oil and natural gas properties, which had an adverse effect on our results of operations. Further impairments will be required if oil and natural gas prices remain low or decline further, our undeveloped property leases expire in whole or in part in excess of our estimated expiration expectation, estimated proved reserve volumes are revised downward or the net capitalized cost of proved oil and gas properties otherwise exceeds the present value of estimated future net cash flows.

The Pre-Tax PV10% of our proved reserves at December 31, 2019 may not be the same as the current market value of our estimated oil, natural gas and NGLs reserves.

You should not assume that the Pre-Tax PV10% value of our proved reserves as of December 31, 2019 as disclosed in our 2019 Annual Report is the current market value of our estimated oil, natural gas and NGLs reserves. We base the discounted future net cash flows from our proved reserves on the 12-month first-day-of-the-month oil and natural gas average prices without giving effect to derivative transactions. Actual future net cash flows from our oil and natural gas properties will be affected by factors such as:

- the actual prices we receive for oil, natural gas and NGLs;
- the actual development and production expenditures;
- the amount and timing of actual production; and

- changes in governmental regulations or taxation.

The timing of both our production and expenses incurred in connection with the development and production of oil and natural gas properties will affect the timing and amount of actual future net revenues from proved reserves, and thus their actual present value. In addition, the 10% discount factor we use when calculating Pre-Tax PV10% 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. Actual future prices and costs may differ materially from those used in the present value estimates included in the Annual Report, which could have a material effect on the value of our reserves. The oil and natural gas prices used in computing our Pre-Tax PV10% as of December 31, 2019 under SEC guidelines were \$52.19 per Bbl and \$2.58 per MMBtu, respectively, before price differentials. Using more recent prices in estimating proved reserves results in a reduction in proved reserve volumes due to economic limits, which would further reduce the Pre-Tax PV10% value of our proved reserves.

The marketability of our production is dependent upon transportation and other facilities, certain of which we do not control. If these facilities are unavailable, or if we are unable to access these facilities on commercially reasonable terms, our operations could be interrupted and our revenues reduced.

The marketability of our oil, natural gas and NGL production depends in part upon the availability, proximity, capacity and availability of transportation and storage facilities owned by third parties. In general, we do not control these facilities, and our access to them may be limited or denied. Our oil production is generally transported from the wellhead to our tank batteries by a gathering system. Our purchasers then transport the oil by pipeline to a larger pipeline for transportation to markets. The majority of our natural gas production is generally transported by gathering lines from the wellhead to a central delivery point and is then gathered by third-party lines to a gas processing facility. We do not control these third-party transportation, gathering or processing facilities and our access to them 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 production and thereby cause a significant interruption in our operations.

If we cannot meet the continued listing requirements of the Nasdaq, the Nasdaq may delist our common stock, which would have an adverse impact on the trading volume, liquidity and market price of our common stock.

On August 10, 2020, we received written notification (the “Notice”) from the Listing Qualifications Department of the Nasdaq Stock Market LLC (“Nasdaq”) indicating that, for the last thirty consecutive business days, the bid price for our Class A Common Stock, par value \$0.0001 per share (our “Common Stock”), had closed below the minimum \$1.00 per share requirement for continued listing on the Nasdaq Capital Market under Nasdaq Listing Rule 5550(a)(2) (the “Minimum Bid Requirement”). The Notice has no immediate effect on the listing or trading of our Common Stock on the Nasdaq Capital Market. In accordance with Nasdaq Listing Rule 5810(c)(3)(A), we were provided an initial period of 180 calendar days, or until February 6, 2021, to regain compliance.

If we do not regain compliance with the Minimum Bid Requirement by February 6, 2021, we may be eligible for an additional 180 calendar day compliance period. To qualify, we would be required to meet the continued listing requirement for market value of publicly held shares and all other initial listing standards for the Nasdaq Capital Market, with the exception of the bid price requirement, and would need to provide written notice of our intention to cure the deficiency during the second compliance period. However, if it appears to the Nasdaq staff that we will not be able to cure the deficiency, or if we do not meet the other listing standards, Nasdaq could provide notice that our Common Stock will become subject to delisting. In the event we receive notice that our Common Stock is being delisted, Nasdaq rules permit us to appeal any delisting determination by the Nasdaq staff to a Hearings Panel.

We intend to actively monitor the closing bid price of our Common Stock and will evaluate available options to remain within or regain compliance with the Minimum Bid Requirement, as necessary. There can be no assurance that we will be able to remain within or regain compliance with the Minimum Bid Requirement or maintain compliance with the other listing requirements of the Nasdaq. If our Common Stock ultimately were to be delisted for any reason, it could negatively impact us as it would likely reduce the liquidity and market price of our Common Stock; reduce the number of investors willing to hold or acquire our Common Stock; and negatively impact our ability to access equity markets and obtain financing.

Item 6. Exhibits

Exhibit Number	Description of Exhibit
3.1	Third Amended and Restated Certificate of Incorporation (incorporated by reference to Exhibit 3.1 to the Company's Quarterly Report on Form 10-Q filed with the SEC on May 6, 2019).
3.2	Second Amended and Restated Bylaws (incorporated by reference to Exhibit 3.2 to the Company's Current Report on Form 8-K filed with the SEC on May 1, 2019).
3.3	Fifth Amended and Restated Limited Liability Company Agreement of Centennial Resource Production, LLC dated as of October 11, 2016 (incorporated by reference to Exhibit 10.5 to the Company's Current Report on Form 8-K filed with the SEC on October 11, 2016).
3.4	Amendment No. 1 to Fifth Amended and Restated Limited Liability Company Agreement of Centennial Resource Production, LLC dated as of December 28, 2016 (incorporated by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K filed with the SEC on December 29, 2016).
3.5	Amendment No. 2 to Fifth Amended and Restated Limited Liability Company Agreement of Centennial Resource Production, LLC dated as of March 20, 2017 (incorporated by reference to Exhibit 3.5 to the Company's Annual Report on Form 10-K filed with the SEC on March 23, 2017).
3.6	Amendment No. 3 to Fifth Amended and Restated Limited Liability Company Agreement of Centennial Resource Production, LLC dated as of June 15, 2018 (incorporated by reference to Exhibit 3.6 to the Company's Quarterly Report on Form 10-Q filed with the SEC on August 6, 2018).
10.1#	Form of Cash-Settled Performance Restricted Stock Unit Agreement under the Centennial Resource Development, Inc. 2016 Long Term Incentive Plan (incorporated by reference to Exhibit 10.7 to the Company's Quarterly Report on Form 10-Q filed with the SEC on August 3, 2020).
10.2#	Form of Cash-Settled Restricted Stock Unit Agreement under the Centennial Resource Development, Inc. 2016 Long Term Incentive Plan (incorporated by reference to Exhibit 10.8 to the Company's Quarterly Report on Form 10-Q filed with the SEC on August 3, 2020).
10.3	Fourth Amendment to Second Amended and Restated Credit Agreement, dated October 8, 2020, among Centennial Resource Production, LLC, as borrower, Centennial Resource Development, Inc., as parent guarantor, the other guarantors party thereto, JP Morgan Chase Bank, N.A., as administrative agent and the lenders party thereto (incorporated by reference to Exhibit 10.1 to the Registrant's Current Report on Form 8-K filed with the SEC on October 13, 2020).
31.1*	Certification of the Chief Executive Officer pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.
31.2*	Certification of the Chief Financial Officer pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.
32.1*	Certification of Chief Executive Officer pursuant to 18 U.S.C. Section 1350.
32.2*	Certification of Chief Financial Officer pursuant to 18 U.S.C. Section 1350.
101.INS*	Inline XBRL Instance Document - The instance document does not appear in the Interactive Data File because its XBRL tags are embedded within the Inline XBRL document.
101.SCH*	Inline XBRL Taxonomy Extension Schema Document.
101.CAL*	Inline XBRL Taxonomy Extension Calculation Linkbase Document.
101.DEF*	Inline XBRL Taxonomy Extension Definition Linkbase Document.
101.LAB*	Inline XBRL Taxonomy Extension Label Linkbase Document.
101.PRE*	Inline XBRL Taxonomy Extension Presentation Linkbase Document.

Management contract or compensatory plan or agreement.

* Filed herewith.

SIGNATURES

Pursuant to the requirements of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned thereto duly authorized.

CENTENNIAL RESOURCE DEVELOPMENT, INC.

By: /s/ GEORGE S. GLYPHIS

George S. Glyphis

Vice President, Chief Financial Officer and Assistant Secretary

Date: November 3, 2020

**CERTIFICATION OF CHIEF EXECUTIVE OFFICER
PURSUANT TO RULES 13a-14(a) AND 15d-14(a)
OF THE SECURITIES EXCHANGE ACT OF 1934, AS AMENDED**

I, Sean R. Smith, certify that:

1. I have reviewed this Quarterly Report on Form 10-Q (this “report”) of Centennial Resource Development, 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)) for the registrant and have:
 - a. Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
 - b. Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
 - c. Evaluated the effectiveness of the registrant’s disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
 - d. Disclosed in this report any change in the registrant’s internal control over financial reporting that occurred during the registrant’s most recent fiscal quarter (the registrant’s fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant’s internal control over financial reporting; and
5. The registrant’s other certifying officer 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: November 3, 2020

CENTENNIAL RESOURCE DEVELOPMENT, INC.

By: /s/ SEAN R. SMITH

Sean R. Smith

Chief Executive Officer (Principal Executive Officer)

**CERTIFICATION OF CHIEF FINANCIAL OFFICER
PURSUANT TO RULES 13a-14(a) AND 15d-14(a)
OF THE SECURITIES EXCHANGE ACT OF 1934, AS AMENDED**

I, George S. Glyphis, certify that:

1. I have reviewed this Quarterly Report on Form 10-Q (this “report”) of Centennial Resource Development, 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)) for the registrant and have:
 - a. Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
 - b. Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
 - c. Evaluated the effectiveness of the registrant’s disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
 - d. Disclosed in this report any change in the registrant’s internal control over financial reporting that occurred during the registrant’s most recent fiscal quarter (the registrant’s fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant’s internal control over financial reporting; and
5. The registrant’s other certifying officer 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: November 3, 2020

CENTENNIAL RESOURCE DEVELOPMENT, INC.

By: /s/ GEORGE S. GLYPHIS

George S. Glyphis

Vice President, Chief Financial Officer and Assistant Secretary (Principal Financial 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 Quarterly Report on Form 10-Q for the quarter ended September 30, 2020 of Centennial Resource Development, Inc. (the “Company”), as filed with the Securities and Exchange Commission on the date hereof (the “Report”), I, Sean R. Smith, Chief Executive Officer of the Company, certify, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that:

- (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 operations of the Company.

Date: November 3, 2020

CENTENNIAL RESOURCE DEVELOPMENT, INC.

By: /s/ SEAN R. SMITH

Sean R. Smith

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 Quarterly Report on Form 10-Q for the quarter ended September 30, 2020 of Centennial Resource Development, Inc. (the "Company"), as filed with the Securities and Exchange Commission on the date hereof (the "Report"), I, George S. Glyphis, Chief Financial Officer of the Company, certify, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that:

- (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 operations of the Company.

Date: November 3, 2020

CENTENNIAL RESOURCE DEVELOPMENT, INC.

By: /s/ GEORGE S. GLYPHIS

George S. Glyphis

Vice President, Chief Financial Officer and Assistant Secretary (Principal Financial Officer)