CARDINAL ENERGY LTD.

Q3 2020

MANAGEMENT DISCUSSION & ANALYSIS

MANAGEMENT'S DISCUSSION AND ANALYSIS

This management's discussion and analysis ("MD&A") is a review of operations, financial position and outlook for Cardinal Energy Ltd. ("Cardinal" or the "Company") for the three and nine months ended September 30, 2020 and is dated November 4, 2020. The MD&A should be read in conjunction with Cardinal's unaudited interim condensed financial statements as at and for the three and nine months ended September 30, 2020 and the audited financial statements for the year ended December 31, 2019. Financial data presented has been prepared in accordance with International Financial Reporting Standards ("IFRS" or, alternatively, "GAAP"), unless otherwise indicated. Certain prior period amounts have been reclassified to conform to current period presentation.

All figures in tables are stated in thousands of Canadian dollars (except operational and per share amounts or as noted).

DESCRIPTION OF BUSINESS

Cardinal is engaged in the acquisition, development, optimization and production of crude oil and natural gas in the provinces of Alberta and Saskatchewan.

FUTURE OPERATIONS

On August 5, 2020, the Company's existing revolving credit facilities were confirmed at $225 million, comprised of a $205 million revolving facility and a $20 million operating facility with the revolving period extended to August 31, 2020, subject to certain conditions. Subsequently, the revolving period, term out date and next scheduled redetermination have been extended until November 30, 2020. The maturity date of the credit facilities remains May 23, 2021. Due to the maturity date, the total outstanding amount drawn under the facilities has been reclassified to current liabilities as at September 30, 2020.

The available lending limits are based on the syndicate's interpretation of the Company's reserves, future commodity prices and costs. Forecasted commodity prices decreased significantly in the second quarter of 2020 due to the continued adverse impact created by coronavirus ("COVID-19"). Oil prices have stabilized in the third quarter of 2020 but will influence the syndicate's interpretation of the future value of the Company's reserves. No assurance can be provided that the amount of the facilities will not be adjusted on November 30, 2020. In addition, no assurance can be provided that the Company will be able to further renew or extend or replace the current facilities on terms that are favorable to the Company. The Company and its lenders continue to work towards a long-term solution on the facilities. As the COVID-19 pandemic continues to evolve, its implications on the Company's current and forecasted operating cash flows remains uncertain.

The Company's 5.5% convertible debentures have a maturity date of December 31, 2020 and their indenture agreement provides for settlement in cash or, subject to receipt of applicable regulatory approvals, in common shares at the discretion of the Company. If prior to the maturity date of the 5.5% convertible debentures, the Company has not extended, replaced or converted the convertible debentures to equity the maturity date of the credit facilities will be deemed to be December 10, 2020.

The federal government has announced liquidity support programs for the junior and intermediate exploration and production industry that the Company feels it would be eligible for however there is no assurance that Cardinal will be successful in obtaining assistance under any of these programs.

The Company's ability to continue as a going concern is dependent upon the Company's ability to maintain the credit facility at or above amounts currently drawn and its ability to renew the credit facility prior to its repayment/maturity date. These matters cause material uncertainties which may cast significant doubt with respect to the Company's ability to continue as a going concern, if the Company's credit facilities mature and become payable.

COVID-19

In March 2020, the World Health Organization declared a global pandemic due to the rapid outbreak of the COVID-19. The measures taken in response to the outbreak such as quarantine and travel restrictions have led to an unprecedented disruption to the global economy and significantly reducing worldwide demand for crude oil resulting in a buildup of supply and inventory. The continued uncertainty created by COVID-19 has had an adverse impact on the global economy and the impact is anticipated to be far-reaching.

Consequently, the effect of the COVID-19 pandemic has created a dramatic decrease in commodity prices which resulted in a decline in Cardinal’s share price and market capitalization since year-end 2019. The potential risk and impact of COVID-19 relating to the Company has been taken into consideration in management’s estimates used for the period end. However, there could be a further prospective material impacts in future periods.

COVID-19 also poses a risk on the financial capacity of Cardinal's contract counterparties and potentially their ability to perform contractual obligations.

On March 17, 2020, Cardinal announced it had significantly reduced its 2020 capital budget from $67 million to $31 million. Subsequently we shut-in approximately 20% to 25% of our production pending a recovery in oil prices but have subsequently brought back on approximately 10% of our corporate production. The Company has also done a full review of its operating costs and eliminated all non-essential well reactivations, reduced field salaries, wages and personnel and approached key service companies to negotiate cost reductions.

From a corporate and a general and administrative (“G&A”) expense perspective, Cardinal reduced Board retainers and executive and office staff salaries, ceased our bonus incentive program, applied for and received the federal wage subsidy and eliminated our monthly dividend effective March 2020.

The full extent of the impact of COVID-19 on the Company’s operations and future financial performance is currently unknown. It will depend on future developments that are uncertain and unpredictable, including the duration and spread of COVID-19, its continued impact on capital and financial markets on a macro-scale and any new information that may emerge concerning the severity of the virus. These uncertainties may persist beyond when it is determined how to contain the virus or treat its impact. The outbreak presents uncertainty and risk with respect to the Company, its performance, and estimates and assumptions used by Management in the preparation of its financial results.

A full list of the key sources of estimation uncertainty can be found in the Company’s annual financial statements for the year ended December 31, 2019. The outbreak and current market conditions have increased the complexity of estimates and assumptions used to prepare the interim financial results, particularly related to the following key sources of estimation uncertainty:

Recoverable Amounts
Determining the recoverable amount of a cash-generating unit (“CGU”) or an individual asset requires the use of estimates and assumptions, which are subject to change as new information becomes available. The severe drop in commodity prices, due to reasons noted above, have increased the risk of measurement uncertainty in determining the recoverable amounts, especially estimating economic crude oil and natural gas reserves and estimating forward commodity prices.

Decommissioning Costs
Provisions are recorded for the future decommissioning and restoration of the Company’s production facilities, wells and pipelines at the end of their economic lives. Management uses judgment to assess the existence and to estimate the future liability. Market volatility at September 30, 2020 increased the measurement uncertainty inherent in determining the appropriate credit-adjusted discount rate that is used in the estimation of decommissioning liabilities. As at September 30, 2020, the Company has adjusted its credit-adjusted discount rate used to calculate its asset retirement obligation to 9% to reflect current market conditions.

Income Tax Provisions
Income taxes on earnings or loss in the interim periods are accrued using the income tax rate that would be applicable to the expected total annual earnings or loss. In the current economic environment, the expected total annual earnings or expected earnings is subject to measurement uncertainty. Changes to these assumptions could result in a material adjustment to the carrying amount of assets and liabilities within the next financial year.

Accounts receivable

The Company has increased its monitoring of receivables due from petroleum and natural gas marketers and from joint asset partners to manage credit risk. The Company historically has not experienced any collection issues with petroleum and natural gas marketers as a significant portion of these receivables are with creditworthy purchasers. To protect against credit losses from joint asset partners, Cardinal has the ability to withhold production in the event of non-payment and the ability to obtain the partners' share of capital expenditures in advance of a project. The Company continues to expect that its receivables are substantially collectible at September 30, 2020.

Non-GAAP Measures

The terms "funds flow", "adjusted funds flow", "adjusted funds flow per share", "adjusted funds flow per diluted share", "development capital expenditures", "net operating expenses", "netback", "netback after risk management contracts", "net debt", "net debt to adjusted funds flow", "net bank debt", "simple payout ratio" and "total payout ratio" in this MD&A are not recognized under GAAP. Management believes that in addition to earnings and cash flow from operating activities as defined by GAAP, these terms are useful supplemental measures to evaluate operating performance. Users are cautioned however, that these measures should not be construed as an alternative to earnings or cash flow from operating activities determined in accordance with GAAP as an indication of Cardinal's performance and may not be comparable with the calculation of similar measurements by other entities.

Management utilizes "adjusted funds flow" as a key measure to assess the ability of the Company to generate the funds necessary to finance operating activities, capital expenditures and dividends. Adjusted funds flow excludes the change in non-cash working capital, decommissioning expenditures, and transaction costs since Cardinal believes the timing of collection, payment or incurrence of these items involves a high degree of discretion and variability. Expenditures on decommissioning obligations vary from period to period depending on the maturity of the Company's operating areas and availability of adjusted funds flow and are viewed as part of the Company's capital budgeting process. Funds flow excludes the change in non-cash operating working capital. Funds flow and adjusted funds flow are not intended to represent net cash provided by (used in) operating activities calculated in accordance with IFRS. The following table reconciles cash flow from operating activities to funds flow and adjusted funds flow:

	Three months ended			Nine months ended		
	Sep 30, 2020	Sep 30, 2019	Change %	**Sep 30, 2020**	Sep 30, 2019	Change %
Cash flow from operating activities	**18,950**	24,836	(24)	**30,715**	88,265	(65)
Change in non-cash working capital	**(5,982)**	1,487	n/m	**(2,749)**	1,044	n/m
Funds flow	**12,968**	26,323	(51)	**27,966**	89,309	(69)
Decommissioning expenditures	**238**	1,248	(81)	**2,253**	3,637	(38)
Adjusted funds flow	**13,206**	27,571	(52)	**30,219**	92,946	(67)

"Adjusted funds flow per share" is calculated using adjusted funds flow divided by the number of weighted average basic shares outstanding and adjusted for shares held in treasury.

"Adjusted funds flow per diluted share" is calculated using adjusted funds flow divided by the number of weighted average diluted shares outstanding and adjusted for shares held in treasury.

"Development capital expenditures" represents expenditures on property, plant and equipment (excluding capitalized G&A, other assets and acquisitions) as shown in the *Capital Expenditures* section below.

"Net operating expenses" is calculated as operating expense less processing and other revenue primarily generated by processing third party volumes at processing facilities where the Company has an ownership interest, and can be expressed on a per boe basis. As the Company's principal business is not that of a midstream entity, management believes this is a useful supplemental measure to reflect the true cash outlay at its processing facilities by utilizing spare capacity through processing third party volumes.

"Netback" is calculated on a boe basis and is determined by deducting royalties, net operating expenses, and transportation expenses from petroleum and natural gas revenue in accordance with the Canadian Oil and Gas Evaluation (“COGE”) Handbook. Netback is utilized by Cardinal to better analyze the operating performance of its petroleum and natural gas assets against prior periods.

"Netback after risk management contracts" is calculated as netback adjusted for the effect of realized gains or losses on commodity contracts. It is utilized by Cardinal to analyze operating performance taking into account realized gains and losses on commodity contracts which the Company takes into account in addition to its oil and gas pricing.

The term "net debt" is not recognized under GAAP and is calculated as bank debt plus the principal amount of convertible unsecured subordinated debentures ("convertible debentures") and current liabilities less current assets (adjusted for the fair value of financial instruments, current decommissioning obligation, current lease liabilities, current portion of bank debt, and the current portion of the liability component of convertible debentures). Net debt is used by management to analyze the financial position, liquidity and leverage of Cardinal.

"Net debt to adjusted funds flow" is calculated as net debt divided by adjusted funds flow for the trailing twelve month period. The ratio of net debt to adjusted funds flow is used to measure the Company's overall debt position and to measure the strength of the Company's balance sheet. Cardinal monitors this ratio and uses this as a key measure in making decisions regarding financing, capital expenditures and dividend levels.

"Net bank debt" is calculated as net debt less the principal amount of convertible debentures. Net bank debt is used by management to analyze the financial position, liquidity, leverage and borrowing capacity on Cardinal’s bank line.

"Simple payout ratio" represents the ratio of the amount of dividends declared divided by adjusted funds flow.

"Total payout ratio" represents the ratio of the sum of dividends declared plus development capital expenditures divided by adjusted funds flow. Simple payout ratio and total payout ratio are other key measures to assess Cardinal's ability to finance operating activities, capital expenditures and dividends.

51-101 Advisory

In accordance with S*tandards for Disclosure of Oil and Gas Activities* ("NI 51-101"), natural gas volumes have been converted to barrels of oil equivalent using a conversion rate of six thousand cubic feet of natural gas to one barrel of oil. This ratio is based on an energy equivalency conversion method primarily applicable at the burner tip. It does not represent a value equivalency at the wellhead and is not based on either energy content or current prices. The term "boe" is useful for comparative measures and observing trend, it does not accurately reflect individual product value and may be misleading, particularly if used in isolation. Based on the current price of crude oil to natural gas, using a 6:1 conversion ratio may be misleading as an indication of value.

HIGHLIGHTS

- A focus on cost control led to an 18% reduction in net operating costs to $16.82/boe in the third quarter of 2020 as compared to the same period in 2019;
- Reduced the Company's G&A costs by 19% to $1.64/boe for the third quarter of 2020;
- Decreased our capital expenditures by 71% to $4.7 million for the third quarter of 2020 as compared to the same period in 2019 demonstrating our cost control and debt reduction strategy;
- Reduced our bank indebtedness by $13.2 million while net bank debt decreased by $7.3 million over the prior quarter;
- Exchanged $28.2 million of our 5.5% maturing convertible debentures for a new issuance of 8% convertible debentures with a maturity date of December 31, 2022.

OPERATIONS

PRODUCTION

	Three months ended			Nine months ended		
	Sep 30, 2020	Sep 30, 2019	Change %	**Sep 30, 2020**	Sep 30, 2019	Change %
Light oil (bbl/d)	**6,861**	7,890	(13)	**7,255**	8,058	(10)
Medium / heavy oil (bbl/d)	**7,721**	8,733	(12)	**8,051**	8,744	(8)
Crude oil (bbl/d)	**14,582**	16,623	(12)	**15,306**	16,802	(9)
Natural gas (mcf/d)	**13,448**	15,022	(10)	**13,562**	15,616	(13)
NGL (bbl/d)	**834**	932	(11)	**814**	945	(14)
boe/d	**17,657**	20,059	(12)	**18,380**	20,350	(10)
% Crude oil and NGL production	**87%**	88%	(1)	**88%**	87%	1

Third quarter 2020 production decreased 12% over the same period in 2019 as the Company has voluntarily shut-in a portion of its production pending a recovery in oil prices. During the third quarter of 2020, the Company has also deferred certain well reactivation costs resulting in lower production as compared to the same period in 2019. Approximately 10% to 15% of the Company's production remains shut-in until the reactivation economics justify bringing the production back online.

Production for the first nine months of 2020 decreased 10% over the same period in 2019. Due to the effects of COVID-19 on the commodity price environment, late in the first quarter of 2020, the Company shut-in higher cost production and chose to delay full production of the wells from Cardinal's first quarter 2020 drilling program to retain the long term value of the reserves.

PETROLEUM AND NATURAL GAS REVENUE

	Three months ended			Nine months ended		
	Sep 30, 2020	Sep 30, 2019	Change %	**Sep 30, 2020**	Sep 30, 2019	Change %
Light oil	**28,696**	45,463	(37)	**75,444**	141,570	(47)
Medium / heavy oil	**29,991**	47,578	(37)	**72,604**	143,545	(49)
Crude oil	**58,687**	93,041	(37)	**148,048**	285,115	(48)
NGL	**1,340**	1,332	1	**3,805**	4,465	(15)
Natural gas	**1,955**	1,110	76	**5,313**	6,119	(13)
Petroleum and natural gas revenue	**61,982**	95,483	(35)	**157,166**	295,699	(47)
Cardinal average prices						
Light oil ($/bbl)	**45.47**	62.63	(27)	**37.95**	64.35	(41)
Medium / heavy oil ($/bbl)	**42.22**	59.21	(29)	**32.91**	60.14	(45)
Natural gas ($/mcf)	**1.58**	0.80	97	**1.43**	1.44	-
Equivalent ($/boe)	**38.16**	51.74	(26)	**31.21**	53.23	(41)
Benchmark prices						
Crude oil - WTI (US $/bbl)	**40.93**	56.45	(27)	**38.32**	57.06	(33)
Crude oil - Edmonton light (Cdn $/bbl)	**49.55**	68.21	(27)	**43.58**	69.40	(37)
Crude oil - WCS (Cdn $/bbl)	**42.40**	58.39	(27)	**32.98**	60.27	(45)
Natural gas - AECO Spot (Cdn $/gj)	**2.12**	0.86	147	**1.98**	1.44	38
Exchange rate - (US/Cdn)	**0.75**	0.76	(1)	**0.74**	0.75	(1)

Petroleum and natural gas revenue decreased 35% in the third quarter of 2020 as compared to the same period in 2019 due to a 26% decrease in realized commodity prices combined with decreased production. In the third quarter of 2020, the Company’s Edmonton light benchmark price decreased 27% as compared to a 27% decrease in the Company's light oil price while Cardinal's medium/heavy oil Western Canadian Select ("WCS") benchmark price decreased 27% which was comparable to the 29% decrease in Cardinal's medium/heavy oil price. The Company's third quarter 2020 natural gas price increased 97% as compared to the AECO benchmark increase of 147% due to a portion of Cardinal's natural gas sales being linked to Chicago pricing which was lower than the AECO benchmark price during the third quarter of 2020.

For the first nine months of 2020, revenue has decreased 47% over the same period in 2019 due to a 41% decrease in commodity pricing combined with decreased production. The Company's light and medium heavy oil prices have decreased 41% and 45%, respectively, which approximates the Edmonton light and WCS benchmark decreases of 37% and 45%, respectively, in the first nine months of 2020 as compared to the same period in 2019.

FINANCIAL INSTRUMENTS - COMMODITY

	Three months ended			Nine months ended		
	Sep 30, 2020	Sep 30, 2019	Change %	**Sep 30, 2020**	Sep 30, 2019	Change %
Realized loss - commodity contracts	**(5,893)**	(4,182)	41	**5,636**	(13,188)	(143)
Unrealized gain/(loss) - commodity contracts	**1,633**	238	n/m	**(4,175)**	(14,152)	(70)

Managing the variability in funds flow and adjusted funds flow is an integral component of Cardinal's business strategy. Changing business conditions are monitored regularly and reviewed with our Board of Directors to establish risk management guidelines used by management in carrying out the Company's risk management program. The risk exposure inherent in movements in the price of crude oil, natural gas and foreign exchange rates are proactively managed by Cardinal through the use of derivatives with investment-grade counterparties. The Company considers these derivative contracts to be an effective means to manage cash flow from operating activities, funds flow and adjusted funds flow.

Cardinal utilizes a variety of derivatives including swaps, collars and puts to protect against downward commodity price movements and foreign exchange fluctuations and avoids entering into more complex derivative structures. Contracts settled in the period result in realized gains or losses based on the market price compared to the contract price. Changes in the fair value of the contracts, as measured at the balance sheet date, are reported as unrealized gains or losses in the period as the forward markets for commodities and currencies fluctuate and as new contracts are executed. For commodities, Cardinal's risk management program allows for hedging a forward profile of three years, of up to 75% of average forecasted 12 months of gross production and up to 50% and 30% of the following 12 and 24 months, respectively.

As of the date of this MD&A Cardinal had the following commodity derivatives, referenced to WTI, WCS, MSW and AECO outstanding:

Commodity	Financial Instrument	Period	Average Volume			Average Strike Price
Crude Oil						
	CDN WTI Swap	Oct - Dec 2020	8,500	bbl/d		$ 52.34
		Jan - Jun 2021	1,423	bbl/d		$ 56.43
		Jan - Dec 2021	1,500	bbl/d		$ 55.83
	CDN WTI Collar	Oct 2020 - Mar 2021	1,000	bbl/d	Floor	$ 50.00
					Ceiling	$ 60.20
		Jan - Jun 2021	500	bbl/d	Floor	$ 50.00
					Ceiling	$ 65.00
	CDN WCS Swap	Oct - Dec 2020	750	bbl/d		$ 28.93
	CDN WCS Differential Swap	Oct 2020	2,500	bbl/d		$ (16.64)
		Oct - Dec 2020	2,500	bbl/d		$ (17.63)
		Jan - Jun 2021	500	bbl/d		$ (15.70)
	CDN MSW Differential Swap	Oct - Dec 2020	500	bbl/d		$ (6.90)
	USD WCS Differential Swap	Oct - Dec 2020	1,000	bbl/d	USD	$ (15.10)
		Jan - Jun 2021	500	bbl/d	USD	$ (12.20)
Natural Gas						
	AECO Swap	Oct - Dec 2020	2,000	gj/d		$ 1.74
		Jan - Dec 2021	11,000	gj/d		$ 2.52

ROYALTIES

	Three months ended			**Nine months ended**		
	Sep 30, 2020	Sep 30, 2019	Change %	**Sep 30, 2020**	Sep 30, 2019	Change %
Royalties	**8,799**	18,004	(51)	**23,137**	48,340	(52)
Percent of revenue	**14.2%**	18.9%	(25)	**14.7%**	16.3%	(10)
$/boe	**5.42**	9.76	(44)	**4.59**	8.70	(47)

Royalties are either paid or taken in kind and are owed to land and mineral rights owners and to provincial governments. The terms of the land and mineral rights owner agreements and provincial royalty regimes impact Cardinal's overall corporate royalty rate.

Royalties and royalties as a percentage of revenue decreased during the third quarter and first nine months of 2020 as compared to the same periods in 2019 due to the significant oil price decrease and the effect that had on Cardinal's crown royalty rate due to the sliding scale royalty percentage calculation.

NET OPERATING EXPENSES

	Three months ended			Nine months ended		
	Sep 30, 2020	Sep 30, 2019	Change %	**Sep 30, 2020**	Sep 30, 2019	Change %
Operating expenses	**28,523**	38,682	(26)	**90,730**	119,583	(24)
Less: Processing and other revenue	**(1,200)**	(716)	68	**(2,200)**	(2,066)	6
	27,323	37,966	(28)	**88,530**	117,517	(25)
$/boe	**16.82**	20.57	(18)	**17.58**	21.15	(17)

During the third quarter of 2020, net operating expenses and net operating expenses per boe were 28% and 18% lower, respectively, than the same period in 2019. Lower workover and reactivation costs, reduced labor costs and government subsidies combined with decreased environmental costs were the primary drivers in the $10.6 million decrease in net operating expenses. In response to the significant decline in oil prices, Cardinal has significantly reduced its well reactivation program and reduced it labor costs throughout the Company's operations. In addition, Cardinal's proactive pipeline monitoring and upgrading program has decreased environmental spill costs in the third quarter of 2020 as compared to the same period in 2019. Cardinal continues to look for opportunities to maximize the output of its underutilized facilities as evidenced by the 68% increase in third party processing fees during the third quarter.

For the first nine months of 2020, operating costs per boe have decreased 17% over the same period in 2019 due to lower power costs, reduced labor costs combined with decreased well servicing and reactivation costs as the Company has chosen to keep higher cost production shut-in until a recovery in oil prices occurs.

TRANSPORTATION EXPENSES

	Three months ended			Nine months ended		
	Sep 30, 2020	Sep 30, 2019	Change %	**Sep 30, 2020**	Sep 30, 2019	Change %
Transportation expenses	**556**	670	(17)	**1,501**	1,933	(22)
$/boe	**0.34**	0.36	(6)	**0.30**	0.35	(14)

Transportation costs and transportation costs per boe decreased in the third quarter and first nine months of 2020 as compared with the same periods in 2019 as the Company's clean oil trucking decreased due to reduced higher cost oil production which requires additional trucking costs.

NETBACK

	Three months ended			Nine months ended		
	Sep 30, 2020	Sep 30, 2019	Change %	**Sep 30, 2020**	Sep 30, 2019	Change %
Petroleum and natural gas revenue	**38.16**	51.74	(26)	**31.21**	53.23	(41)
Royalties	**5.42**	9.76	(44)	**4.59**	8.70	(47)
Net operating expenses	**16.82**	20.57	(18)	**17.58**	21.15	(17)
Transportation expenses	**0.34**	0.36	(6)	**0.30**	0.35	(14)
Netback (1)	**15.58**	21.05	(26)	**8.74**	23.03	(62)

(1) See non-GAAP measures.

Cardinal's third quarter and first nine months of 2020 netback decreased 26% and 62%, respectively, over the same periods in 2019 due to lower oil prices partially offset by reduced royalties and net operating expenses.

GENERAL AND ADMINISTRATIVE ("G&A")

	Three months ended			Nine months ended		
	Sep 30, 2020	Sep 30, 2019	Change %	**Sep 30, 2020**	Sep 30, 2019	Change %
Gross G&A	**3,464**	5,138	(33)	**12,847**	15,366	(16)
Capitalized G&A and overhead recoveries	**(807)**	(1,406)	(43)	**(2,392)**	(3,704)	(35)
G&A	**2,657**	3,732	(29)	**10,455**	11,662	(10)
$/boe	**1.64**	2.02	(19)	**2.08**	2.10	(1)

In the third quarter of 2020, G&A costs and G&A costs per boe were 29% and 19% lower, respectively, than the same period in 2019. In response to the COVID-19 pandemic, Cardinal has been proactive in reducing compensation costs throughout the Company by reducing Board retainers and executive and office salaries. In addition, the Company suspended its bonus program and reduced savings plan contributions in 2020. The Company has also applied for and received government subsidies which have reduced G&A costs by $0.8 million during the third quarter.

For the first nine months of 2020, gross G&A costs decreased 16% over the same period in 2019 while net G&A costs decreased 10% over the same period in 2019. Reduced compensation costs were partially offset by reduced capitalized G&A and overhead recoveries due to reduced capital activity in the first nine months of 2020 compared to the same period in 2019.

SHARE-BASED COMPENSATION ("SBC")

	Three months ended			Nine months ended		
	Sep 30, 2020	Sep 30, 2019	Change %	**Sep 30, 2020**	Sep 30, 2019	Change %
Gross SBC	**794**	2,041	(61)	**3,348**	6,190	(46)
Capitalized SBC	**(131)**	(287)	(54)	**(403)**	(794)	(49)
SBC	**663**	1,754	(62)	**2,945**	5,396	(45)
$/boe	**0.41**	0.95	(57)	**0.58**	0.97	(40)

SBC expense decreased in the third quarter and first nine months of 2020 as compared to the same periods in 2019 due to a decrease in the grant fair value of restricted awards ("RAs") outstanding.

As at September 30, 2020, Cardinal had 4.1 million RAs and 0.8 million performance awards (“PAs”) outstanding.

FINANCE

	Three months ended			Nine months ended		
	Sep 30, 2020	Sep 30, 2019	Change %	**Sep 30, 2020**	Sep 30, 2019	Change %
Interest - bank debt	**2,450**	2,352	4	**5,948**	7,220	(18)
Other finance charges, net	**288**	278	4	**807**	756	7
Interest - convertible debentures	**736**	621	19	**1,966**	1,859	6
Interest - capital leases	**74**	107	(31)	**239**	278	(14)
Accretion	**2,271**	2,388	(5)	**6,670**	7,050	(5)
Unrealized foreign exchange (gain) loss	**-**	-	-	**(23)**	-	-
Finance	**5,819**	5,746	1	**15,607**	17,163	(9)
$/boe	**3.58**	3.11	15	**3.10**	3.09	-
Average bank debt	**209,060**	206,980	1	**205,452**	213,570	(4)
Interest rate - bank debt	**4.7%**	4.5%	4	**3.9%**	4.5%	(13)

In the third quarter, slightly increased average debt levels and higher bank rates combined with the Company's new issuance of 8% convertible debentures increased Cardinal's finance costs by 1% compared to the same period in 2019.

For the first nine months of 2020, lower interest rates combined with lower average debt levels decreased the Company's finance costs by 9% over the same period in 2019.

DEPLETION AND DEPRECIATION ("D&D")

	Three months ended			Nine months ended		
	Sep 30, 2020	Sep 30, 2019	Change %	**Sep 30, 2020**	Sep 30, 2019	Change %
Depletion and depreciation	**14,333**	22,960	(38)	**51,895**	68,350	(24)
$/boe	**8.82**	12.44	(29)	**10.30**	12.30	(16)

Depletion is calculated based on capital expenditures incurred since inception of the Company, future development costs associated with proved plus probable reserves, production rates, and proved plus probable reserves. In addition to depletion, Cardinal records depreciation on other capital equipment and right-of-use assets not directly associated with proved plus probable reserves.

D&D costs and D&D costs per boe decreased 38% and 29%, respectively, in the third quarter of 2020 due to a lower property, plant and equipment depletable base from the Company’s impairment charge taken in the first quarter of 2020. A significant decrease in forecasted oil prices caused by COVID-19 forced the Company to take an impairment charge of $343 million in the first quarter of 2020.

D&D costs per boe decreased 16% in the first nine months of 2020 as compared to the same period in 2019 due to the aforementioned decrease in the depletable base of the Company's asset from the impairment charge in the first quarter of 2020.

DEFERRED TAXES

During the first quarter of 2020, the Company derecognized its deferred tax asset resulting in an expense of $102.9 million for the first nine months of 2020. With the significant decrease in forecast prices caused by the demand reduction as a result of COVID-19, Cardinal did not feel there was sufficient certainty regarding the future utilization of all of its tax pools.

The Company has approximately $1.4 billion of tax pools ($1.3 billion are unrestricted) available to be applied against future income for tax purposes. Based on available pools and current commodity prices, Cardinal does not expect to pay current income taxes until 2026 or beyond. Any potential taxes payable beyond 2026 would be affected by commodity prices, capital expenditures and production.

EARNINGS (LOSS), CASH FLOW FROM OPERATING ACTIVITIES, ADJUSTED FUNDS FLOW AND PAYOUT RATIOS

	Three months ended			Nine months ended		
	Sep 30, 2020	Sep 30, 2019	Change %	**Sep 30, 2020**	Sep 30, 2019	Change %
Earnings (loss)	**(4,659)**	359	n/m	**(483,149)**	(19,246)	n/m
$/share						
Basic and diluted	**(0.04)**	-	n/m	**(4.26)**	(0.17)	n/m
Cash flow from operating activities	**18,950**	24,836	(24)	**30,715**	88,265	(65)
Adjusted funds flow	**13,206**	27,571	(52)	**30,219**	92,946	(67)
$/share						
Basic and diluted	**0.12**	0.24	(50)	**0.27**	0.80	(66)
Total payout ratio	**34%**	77%	(56)	**101%**	61%	66
Simple payout ratio	**-**	19%	(100)	**12%**	14%	(14)

In the third quarter and first nine months of 2020, decreased oil demand due to the COVID-19 virus caused a significant reduction in oil prices reducing the Company's revenue in comparison with the same periods in 2019. In addition, in the first quarter of 2020, a reduction in forecast pricing caused the Company to record a $343 million impairment of its property, plant and equipment and derecognize its deferred tax asset resulting in an expense of $102.9 million for the first nine months of 2020.

CAPITAL EXPENDITURES

In the third quarter of 2020, the Company significantly decreased its capital expenditure program in response to low oil prices. Capital expenditures were limited to required CO_2 expenditures for the Company's enhanced oil recovery project at Midale, Saskatchewan, a land earning well completion in the Company's Southern Alberta area and miscellaneous expenditures on recompletions and pipeline integrity. There were no wells drilled during the third quarter of 2020.

	Three months ended			**Nine months ended**		
	Sep 30, 2020	Sep 30, 2019	Change %	**Sep 30, 2020**	Sep 30, 2019	Change %
Land	**315**	208	51	**435**	653	(33)
Drilling and completion	**704**	6,672	(89)	**15,672**	19,191	(18)
Equipment, facilities and pipelines	**3,491**	8,909	(61)	**10,961**	24,138	(55)
Total development capital expenditures (1)	**4,510**	15,789	(71)	**27,068**	43,982	(38)
Capitalized G&A	**215**	378	(43)	**752**	1,133	(34)
Other assets	**17**	65	(74)	**119**	135	(12)
Acquisitions, net	-	52	n/m	-	284	n/m
Total capital expenditures (2)	**4,742**	16,284	(71)	**27,939**	45,534	(39)

(1) Represents the total of exploration and evaluation and property, plant and equipment expenditures from the statements of cash flows less amounts recorded for capitalized G&A and other assets (included in the table of expenditures above).
(2) Expenditures exclude expenditures for the decommissioning obligation and non-cash capitalized share-based compensation.

The Company's Board of Directors has approved a 2020 capital budget of $31 million which has taken into consideration the decrease in commodity prices as a result of the COVID-19.

DECOMMISSIONING OBLIGATION

Due to the significant decline in global oil prices and increased levels of market volatility, the Company's credit-adjusted discount rate increased to 9% during the third quarter while the inflation rate decreased to 1%. Reflecting these rate changes, the discounted decommissioning obligation decreased to $83.7 million from $113.8 million at the end of 2019. In addition, the Company has revised the timing of certain future expenditures related to government subsidy abandonment and reclamation programs which are now expected to be moved forward and completed within the next two years. During the first nine months of 2020, the Company settled $2.3 million of decommissioning obligations, incurred $0.1 million of future liabilities and increased the liability with $6.0 million of accretion.

LIQUIDITY AND CAPITAL RESOURCES

	As at		
Capitalization table	**Sep 30, 2020**	Dec 31, 2019	Change %
Net bank debt (1)	**214,916**	202,599	6
Convertible debentures	**44,451**	45,000	(1)
Common shares, outstanding	**113,495,658**	113,657,247	-
Market price at end of period ($ per share)	**$ 0.44**	$ 2.60	(83)
Market capitalization	**49,938**	295,509	(83)
Total capitalization	**309,305**	543,108	(43)

(1) See non-GAAP measures.

CAPITAL FUNDING

The Company has a reserves-based revolving credit facility of $225 million is comprised of a $205 million syndicated term credit facility and a $20 million non-syndicated operating line credit facility (the "Facilities"). The Facilities are available on a revolving basis until November 30, 2020. The available lending limits of the Facilities are reviewed semi-annually based on the syndicate's interpretation of the Company's reserves, future commodity prices and costs. As the available lending limit of the Facilities is based on the syndicate's interpretation of the Company's reserves and future commodity prices and costs, there can be no assurance that the amount of the Facilities will not decrease at the next scheduled review.

If the Facilities are not amended, the Facilities will cease to revolve, the applicable margins will increase by 0.5% and all outstanding advances will be repayable on May 23, 2021. The lenders could reduce the borrowing base to below the current drawn amount, in this case, the short fall would have to be repaid within 30 days.

There are no financial covenants related to the Facilities provided that Cardinal is not in default of the terms of the Facilities. Cardinal was in compliance with the terms of the Facilities at September 30, 2020 and remains in compliance at the date of this MD&A.

During the third quarter, Cardinal exchanged $28.2 million of its convertible debentures due on December 31, 2020 for new convertible debentures with a maturity date of December 31, 2022 as described below. Cardinal now has $16.2 million (December 31, 2019 - $45 million) of convertible debentures which have a maturity date of December 31, 2020. These convertible debentures have a conversion price of $10.50 per common share and bear interest at 5.5% per annum, payable semi-annually on June 30 and December 31 each year. The convertible debentures are repayable by the Company in cash or, subject to receipt of applicable regulatory approvals, in common shares at the Company's discretion. The NCIB previously announced in 2019 was renewed on December 18, 2019 with an expiry of December 18, 2020. In the renewed NCIB, the Company can purchase up to $4.5 million aggregate principal with a daily purchase limit of $10,000 aggregate principal amount of convertible debenture. In 2020, the Company has repurchased and cancelled convertible debentures with a face value of $0.5 million for $0.2 million at an average rate of 31.07.

On August 5, 2020, Cardinal exchanged $28.2 million of its existing debentures for new convertible debentures. The new debentures will be similar in all material ways to the existing debentures except that the new debentures:

- have a maturity date of December 31, 2022, compared to December 31, 2020, for the existing debentures;
- bear interest at the rate of 8.00% per annum, payable in equal instalments semi-annually in arrears on June 30 and December 31 in each year, compared to 5.50% for the existing debentures;
- are convertible into our common shares at a conversion price (as defined in the Indenture) of $1.25 per share, compared to $10.50 per share for the existing debentures; and
- are not redeemable by Cardinal prior to December 31, 2020.

CAPITAL STRUCTURE

Cardinal manages its capital to provide a flexible structure to support production maintenance, capital programs and other operational strategies. Maintaining a strong financial position enables Cardinal to enhance business opportunities and supports Cardinal's strategy of providing shareholder return through growth of the business and reducing its cost structure.

One of the key measures that the Company utilizes in evaluating its capital structure is the credit available from the syndicate in relation to the Company's budgeted capital expenditure program and the ratio of net debt to adjusted funds flow (see non-GAAP measures).

To manage its capital structure, Cardinal considers its net debt to adjusted funds flow ratio, its capital expenditures program, the current level of credit available from the Facilities, the level of credit that may be attainable due to changes in petroleum and natural gas reserves and new equity if available on favourable terms. The Company prepares an annual capital expenditure budget, which is monitored monthly and updated as necessary.

		Twelve months ended		
		Sep 30, 2020		Dec 31, 2019
Bank debt	**$**	**204,018**	$	173,308
Principal amount of Convertible Debentures		**44,451**		45,000
Working capital deficiency[(1)]		**10,898**		29,291
Net debt [(2)]	**$**	**259,367**	$	247,599
Cash flow from operating activities	**$**	**62,429**	$	119,979
Change in non-cash working capital		**(8,533)**		(4,740)
Funds flow [(2)]	**$**	**53,896**	$	115,239
Decommissioning obligation expenditures		**5,187**		6,571
Adjusted funds flow [(2)]		**59,083**		121,810
Net debt to adjusted funds flow [(2)]		**4.4**		2.0

(1) Excludes the fair value of financial instruments, current decommissioning obligation, current lease liabilities, current portion of bank debt, and the current portion of the liability component of convertible debentures
(2) See non-GAAP measures

Cardinal's ratio of net debt to adjusted funds flow as at September 30, 2020 was 4.4 to 1, higher than the ratio at December 31, 2019 of 2.0 to 1 due to lower adjusted funds flow and higher debt levels from reduced oil prices. Due to the oil demand reduction caused by COVID-19, Cardinal expects the major oil price collapse will significantly impact this ratio in the future. Cardinal expects this ratio will significantly increase through 2020 and will be above its targeted level of 2.0 to 1. As discussed below in the *Liquidity* section, the Company currently has available capacity on its Facilities to satisfy its capital and asset retirement obligations for 2020 however the preparation of financial forecasts is challenging in the current environment. The Company will continue to monitor this ratio and endeavors to return to a level of a 2.0 to 1 target ratio.

LIQUIDITY

The Company relies on cash flow from operating activities, the unused portion of the Facilities and equity issuances to fund its capital requirements and provide liquidity. Cardinal had sufficient credit capacity to cover its working capital deficiency and continues to have sufficient available capacity as at the date of this MD&A.

The Company believes that it is positioned to take advantage of its internally developed opportunities funded through its currently available Facilities combined with anticipated cash flow from operating activities. Present sources of capital are anticipated to be sufficient to satisfy the Company's capital program and decommissioning obligations for the 2020 fiscal year and beyond. The Company's reduced cost structure and robust commodity risk program has provided for increased cash flow from operating activities through the remainder of 2020 and moving into 2021. The Company and its lenders continue to work towards a long-term solution and Cardinal is exploring other financing options which may involve government support programs; however, if the Company's lenders further reduce our Facilities, the Company may need to review alternative sources of financing. For further information on the Company's liquidity, see the Future Operations section.

The current challenging economic climate may lead to further adverse changes in cash flows, working capital levels and/or debt balances, which may also have a direct impact on the Company’s operating results and financial position. These and other factors may adversely affect the Company’s liquidity and the Company’s ability to generate income and cash flows in the future. At September 30, 2020, the Company remains in compliance with all terms of our Facilities and based on current available information, management expects to comply with all terms during the subsequent 12 month period. However in light of the current volatility in commodity prices and uncertainty regarding the timing for recovery in such prices, pipeline and transportation capacity constraints, and the effect of COVID-19, the preparation of financial forecasts is challenging.

DIVIDENDS

	Three months ended			Nine months ended		
	Sep 30, 2020	Sep 30, 2019	Change %	**Sep 30, 2020**	Sep 30, 2019	Change %
Dividends declared	-	5,372	n/m	**3,511**	12,597	(72)
Dividends declared per share	**$ -**	$ 0.045	n/m	**$ 0.030**	$ 0.105	(71)

In the first nine months of 2020, the Company declared $3.5 million (2019 – $12.6 million) of dividends. In March 2020, due to the effect of the effect of the COVID-19 pandemic which caused a collapse in the price of crude oil, Cardinal has elected to suspend its dividend. The Company will continue to evaluate market conditions to determine when we could reinstate a dividend in the future.

SHARE CAPITAL

The Company has a bonus award plan whereby RAs and PAs may be granted to directors, officers, employees and other service providers. In the case of PAs, the award value is adjusted for a payout multiplier which can range from 0.0 to 1.5 and is dependent on the performance of the Company relative to pre-defined corporate performance measures for a particular period. Awards are adjusted for dividends declared, either with a cash payment or incremental common shares, and may be settled in cash, common shares issued from treasury or common shares acquired by an independent trustee in the open market for such purposes. The trustee purchased 303,495 treasury shares in 2020 at an average price of $2.31 for the potential settlement of vesting RAs and PAs while settling 1,039,406 RAs with shares held by the trustee. At September 30, 2020, the trustee held a remaining balance of 1,080,171 treasury shares.

In the first nine months of 2020, Cardinal granted 1.7 million RAs and 0.8 million PAs to officers, directors and employees pursuant to the Company's bonus award plan.

In the third quarter of 2019, the Company announced that the Toronto Stock Exchange ("TSX") accepted the Company's intention to commence an NCIB. Pursuant to the NCIB, the Company was permitted to purchase up to 11,128,148 common shares (representing approximately 10% of its public float as of July 23, 2019) between August 2, 2019 and August 2, 2020. In 2020, the Company repurchased and cancelled 897,500 common shares at average price of $2.77 per common share, for a total cost of $2.5 million. The NCIB expired in August 2020 and the Company did not renew it.

Equity Instruments as at	Nov 4, 2020	Sep 30, 2020	Dec 31, 2019
Common shares, issued	114,575,829	114,575,829	115,473,329
Treasury shares	(1,037,792)	(1,080,171)	(1,816,082)
Convertible debentures	24,112,648	24,112,648	4,285,715
RAs	4,067,652	4,147,648	4,613,495
PAs	846,369	846,369	-

OFF BALANCE SHEET ARRANGEMENTS

Cardinal does not have any special purpose entities nor is it a party to any arrangements that would be excluded from the balance-sheet, other than the operating leases summarized in *Contractual Obligations*.

CONTRACTUAL OBLIGATIONS

At September 30, 2020, the Company had contractual obligations as follows:

	2020	2021	2022	2023	2024	Thereafter
Trade and other payables	40,239	-	-	-	-	-
Lease liabilities	570	1,877	1,306	1,045	8	-
Bank debt	-	204,018	-	-	-	-
Convertible debentures	16,691	2,257	30,464	-	-	-
Total contractual obligations	**$ 57,500**	**$ 208,152**	**31,770**	**1,045**	**8**	**-**

ADDITIONAL INFORMATION

CRITICAL ACCOUNTING ESTIMATES

There have been no changes in Cardinal's critical accounting estimates in the nine months ended September 30, 2020. Further information on the Company's critical accounting policies and estimates can be found in the notes to the annual financial statements and MD&A for the year ended December 31, 2019.

INTERNAL CONTROLS UPDATE

Cardinal is required to comply with National Instrument 52-109 "Certification of Disclosure on Issuers' Annual and Interim Filings". The certificate requires that Cardinal disclose in the interim MD&A any change in the Company's internal control over financial reporting ("ICOFR") that occurred during the period that have materially affected, or are reasonably likely to materially affect Cardinal's ICOFR. As of the date of this MD&A Cardinal confirms that there have been no such changes in Cardinal's ICOFR during the third quarter of 2020.

ENVIRONMENTAL RISKS

The oil and gas industry has a number of environmental risks and hazards and is subject to regulation by all levels of government. Environmental legislation includes, but is not limited to, operational controls, site restoration requirements and restrictions on emissions of various substances produced in association with oil and natural gas operations. Compliance with such legislation could require additional expenditures and a failure to comply may result in fines and penalties which could, in the aggregate and under certain unlikely assumptions, become material.

Operations are continuously monitored to minimize the environmental impact and capital is allocated to reclamation and other activities to mitigate the impact on the areas in which we operate.

OUTLOOK

As the effects of the COVID-19 pandemic continue to impact global economies and our industry, Cardinal's focus continues to be on the health and safety of our employees and service providers and managing our liquidity through disciplined efficient operation of our assets. Our corporate debt reduction strategy continued through the third quarter and with our strong hedging position, is forecasted to continue through the fourth quarter.

To date in 2020, we have spent $27.9 million of capital expenditures and we expect to be on target with our $31 million forecast for the year. Despite a minimal capital program, our top tier low decline rate should allow us to maintain our current production levels through the fourth quarter.

QUARTERLY DATA

	Sep 30, 2020	Jun 30, 2020	Mar 31, 2020	Dec 31, 2019
Production				
Oil (bbl/d)	**14,582**	14,251	17,093	16,757
Natural gas (mcf/d)	**13,448**	12,873	14,368	15,459
NGL (bbl/d)	**834**	772	836	893
Oil equivalent (boe/d)	**17,657**	17,169	20,323	20,227
Financial				
Revenue	**61,982**	31,711	63,473	93,272
Loss	**(4,659)**	(27,546)	(450,944)	(15,094)
Basic per share ($)	**(0.04)**	(0.24)	(3.98)	(0.13)
Diluted per share ($)	**(0.04)**	(0.24)	(3.98)	(0.13)
Cash flow from operating activities	**18,950**	(10,276)	22,041	31,714
Adjusted funds flow(1)	**13,206**	2,065	14,948	28,864
Basic per share ($)	**0.12**	0.02	0.13	0.25
Diluted per share ($)	**0.12**	0.02	0.13	0.25
Working capital deficiency(2)	**(10,898)**	(5,012)	(35,909)	(29,291)
Total assets	**633,024**	676,560	703,401	1,149,827
Bank debt	**204,018**	217,206	192,965	173,308
Principal amount of convertible debentures	**44,451**	44,451	44,931	45,000
Total long-term liabilities(3)	**102,579**	115,559	306,973	284,251
Shareholders' equity	**251,859**	253,804	280,608	737,902
Common shares outstanding, net (000's)(4)	**113,496**	113,382	113,354	113,657
Diluted shares outstanding, net (000's)(4)(5)	**118,490**	118,712	118,820	118,271

	Sep 30, 2019	Jun 30, 2019	Mar 31, 2019	Dec 31, 2018
Production				
Oil (bbl/d)	16,624	16,997	16,788	16,650
Natural gas (mcf/d)	15,022	15,906	15,930	16,460
NGL (bbl/d)	932	939	964	972
Oil equivalent (boe/d)	20,059	20,587	20,407	20,365
Financial				
Revenue	95,483	106,166	94,050	59,077
Earnings (loss)	359	(3,099)	(16,506)	84,760
Basic per share ($)	-	(0.03)	(0.14)	0.73
Diluted per share ($)	-	(0.03)	(0.14)	0.70
Cash flow from operating activities	24,836	35,923	27,506	6,968
Adjusted funds flow(1)	27,571	35,736	29,639	5,513
Basic per share ($)	0.24	0.31	0.25	0.05
Diluted per share ($)	0.24	0.31	0.25	0.05
Working capital deficiency(2)	(10,325)	(9,159)	(6,729)	(8,246)
Total assets	1,186,151	1,190,950	1,218,439	1,206,336
Bank debt	192,435	195,468	206,151	211,443
Principal amount of convertible debentures	45,000	45,000	45,000	50,000
Total long-term liabilities(3)	359,809	362,500	372,245	376,651
Shareholders' equity	758,263	763,655	771,674	792,622
Common shares outstanding, net (000's)	114,333	115,203	116,617	116,197
Diluted shares outstanding, net (000's)(5)	119,088	120,220	121,669	119,654

(1) See non-GAAP measures
(2) Excluding the fair value of financial instruments, current decommissioning obligation, current lease liabilities, current portion of bank debt and the current portion of the liability component of convertible debentures
(3) Includes lease liabilities and decommissioning obligation.
(4) Net of treasury shares
(5) Excludes the impact of convertible debentures

Since the fourth quarter of 2018, production has been relatively consistent but fluctuations in commodity prices have resulted in revenue variances. In the fourth quarter of 2018, concern over high inventory levels and egress options significantly widened the Canadian crude oil price differentials to record levels which negatively impacted revenue as fourth quarter revenue was approximately 48% lower than the average of the previous two quarters in 2018. In the first quarter of 2019, Canadian pricing differentials normalized and revenue, adjusted funds flow and cash flow from operating activities returned to historical levels. In 2020, reduced oil demand due to concerns over the effect of COVID-19 has significantly impacted oil pricing and revenue.

Similarly, adjusted funds flow has been relatively consistent over the past eight quarters except in the fourth quarter of 2018 and first three quarters of 2020 when oil prices have decreased. The second quarter of 2019 produced record cash flow from operating activities and adjusted funds flow as Canadian oil differentials narrowed due to the Alberta oil production curtailment program combined with reduced hedging losses. During the second half of 2019, while Canadian oil price differentials remained relatively narrow in comparison to historical averages, WTI pricing decreased impacting adjusted funds flow and cash flow from operating activities.

Cardinal's quarterly earnings and losses have varied significantly due to non-cash unrealized gains and losses on risk management contracts. With the decline in forward oil prices in the fourth quarter of 2018, the Company's unrealized gain on risk management contracts increased to $62.2 million which was partially reversed with a $25.5 million unrealized loss in the first quarter of 2019 as commodity prices recovered. The Company's earnings also fluctuate with non-cash impairment charges and reversals of previous impairments on its assets as shown with a reversal of previous impairments of $76.5 million in the fourth quarter of 2018, a $23.4 million impairment charge in the fourth quarter of 2019 and impairment charges of $343 million in the first quarter of 2020. In the second quarter of 2019, the Company's deferred tax expense increased by $16.5 million as the deferred tax asset was reduced due to the Alberta governments decrease in tax rates from 12% to 8% over the next four years. As the Company did not have sufficient certainty regarding future utilization of all of its tax pools, Cardinal derecognized its deferred tax asset and recognized an expense of $102.9 million in the first quarter of 2020.

FORWARD LOOKING STATEMENTS

This MD&A contains certain forward-looking statements and forward-looking information (collectively referred to herein as "forward-looking statements") within the meaning of applicable Canadian securities laws. All statements other than statements of present or historical fact are forward-looking statements. Forward-looking information is often, but not always, identified by the use of words such as "anticipate", "believe", "plan", "intend", "objective", "continuous", "ongoing", "estimate", "expect", "may", "will", "project", "should", or similar words suggesting future outcomes. In particular, this MD&A contains forward-looking statements relating, but not limited to:

- the effect of COVID-19 on the Company's results;
- the Company's COVID-19 response plans;
- expectations regarding the Company's eligibility for federal government liquidity support programs;
- plans to maximize the output of underutilized facilities;
- expectations that the Company's receivables are substantially collectible;
- estimated tax pools, future taxability and future taxable income;
- the renewal of the Company's Facilities and the amount of such Facilities;
- plans to manage assets with a long-term sustainability view;
- plans to manage liquidity and continue to reduce debt;
- 2020 capital expenditure plans;
- production decline rate and future production levels and plans;
- Cardinal's business strategy, goals and management focus;
- Cardinal's dividend plans;
- targeted net debt to adjusted funds flow ratio and plans to monitor this ratio;
- Cardinal's risk management strategy including the mitigation of our exposure to commodity price risk, medium crude oil differentials, foreign exchange risk on borrowings and the benefits to be obtained therefrom;
- sources of funds for the Company's operations, capital expenditures, decommissioning obligations and dividend payments;

- plans to minimize the environmental impact of our operations;
- abandonment and reclamation spending plans including the timing thereof;
- anticipated costs of compliance with environmental legislation;
- future liquidity and the Company's access to sufficient debt and equity capital;
- the Company's ability to generate income and cash flows in the future;
- the Company's ability to continue as a going concern;
- Cardinal's asset base;
- expectations regarding the business environment, industry conditions, future commodity prices and differentials;
- Cardinal's capital management strategies;
- future capital expenditures; and
- treatment under governmental and other regulatory regimes and tax, environmental and other laws.

Forward-looking statements regarding Cardinal are based on certain key expectations and assumptions of Cardinal concerning the impact of the COVID-19 pandemic; anticipated financial performance, business prospects, strategies, regulatory developments, current and future commodity prices and exchange rates, applicable royalty rates, tax laws, production shut-ins, future well production rates and reserve volumes, future operating costs, the performance of existing and future wells, the success of our exploration and development activities, the sufficiency and timing of budgeted capital expenditures in carrying out planned activities, the timing and success of our cost cutting initiatives, the renewal of the Facility and level of liquidity, the availability and cost of labor and services, the impact of increasing competition, conditions in general economic and financial markets, availability of drilling and related equipment, effects of regulation by governmental agencies, the ability to obtain financing on acceptable terms which are subject to change based on commodity prices, market conditions, and drilling success .

These forward-looking statements are subject to numerous risks and uncertainties, certain of which are beyond Cardinal's control. Such risks and uncertainties include, without limitation: the impact of general economic conditions; volatility in market prices for crude oil and natural gas; impact of the COVID-19 pandemic and the ability of the Company to carry on operations as contemplated in light of the COVID-19 pandemic; the renewal of our Facility and level of liquidity; determinations by OPEC and other countries as to production levels; industry conditions; currency fluctuations; imprecision of reserve estimates; liabilities inherent in crude oil and natural gas operations; environmental risks; incorrect assessments of the value of acquisitions and exploration and development programs; competition from other producers; the lack of availability of qualified personnel, drilling rigs or other services; changes in income tax laws or changes in royalty rates and incentive programs relating to the oil and gas industry including government curtailment programs; hazards such as fire, explosion, blowouts, and spills, each of which could result in substantial damage to wells, production facilities, other property and the environment or in personal injury; and ability to access sufficient capital from internal and external sources.

Management has included the forward-looking statements above and a summary of assumptions and risks related to forward-looking statements provided in this MD&A in order to provide readers with a more complete perspective on Cardinal's future operations and such information may not be appropriate for other purposes. Cardinal's actual results, performance or achievement could differ materially from those expressed in, or implied by, these forward-looking statements and, accordingly, no assurance can be given that any of the events anticipated by the forward-looking statements will transpire or occur, or if any of them do so, what benefits that Cardinal will derive there from. Readers are cautioned that the foregoing lists of factors are not exhaustive. These forward-looking statements are made as of the date of this MD&A and Cardinal disclaims any intent or obligation to update publicly any forward-looking statements, whether as a result of new information, future events or results or otherwise, other than as required by applicable securities laws.

Supplemental Information Regarding Product Types

This MD&A includes references to 2018, 2019 and 2020 production. The Company discloses crude oil production based on the pricing index that the oil is priced off of. The following table is intended to provide the product type composition as defined by NI 51-101.

	LIGHT/MEDIUM CRUDE OIL	HEAVY OIL	NGL	CONVENTIONAL NATURAL GAS	TOTAL (BOE/D)
Q3/20	56%	27%	5%	12%	17,657
Q2/20	57%	27%	4%	12%	17,169
Q1/20	56%	28%	4%	12%	20,323
Q4/19	56%	27%	4%	13%	20,227
Q3/19	54%	29%	5%	12%	20,059
Q2/19	54%	29%	5%	13%	20,587
Q1/19	54%	28%	5%	13%	20,407
Q4/18	54%	28%	5%	14%	20,365
3Q/20	56%	27%	4%	12%	18,380
3Q/19	54%	28%	5%	13%	20,350

Frequently Used Terms

Term or abbreviation	
"bbl"	Barrel(s)
"bbl/d"	Barrel(s) per day
"boe"	Barrel(s) of oil equivalent
"boe/d"	Barrel(s) of oil equivalent per day
"COGE Handbook"	Canadian Oil and Gas Evaluation Handbook
"GJ"	Gigajoule
"gj/d"	Gigajoule(s) per day
"m" preceding a volumetric measure	1,000 units of the volumetric measure
"mcf"	Thousand cubic feet
"mcf/d"	Thousand cubic feet per day
"NGL"	Natural gas liquids
"n/m"	Not meaningful ie. absolute value greater than 300%
"US"	United States
"USD"	United States dollars
"WCS"	Western Canadian Select
"WTI"	West Texas Intermediate