CARDINAL ENERGY LTD.

Q1 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 months ended March 31, 2020 and is dated May 7, 2020. The MD&A should be read in conjunction with Cardinal's unaudited interim condensed financial statements as at and for the three months ended March 31, 2020 and the audited financial statements for the years ended December 31, 2019 and 2018. 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 the Business
Cardinal is engaged in the acquisition, development, optimization and production of crude oil and natural gas in the provinces of Alberta and Saskatchewan.

COVID-19
In March 2020, the World Health Organization declared a global pandemic due to the rapid outbreak of the coronavirus ("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.

In addition, increased global supply due to a disagreement over production restrictions to match demand between Russia and Saudi Arabia resulted in substantial negative pressure on commodity prices. Consequently, the effect of these two events 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 due to the events described above 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 impact 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 with $22 million being spent in the first quarter of 2020. Subsequently we have shut-in approximately 20% to 25% of our production pending a recovery in oil prices. The Company has also done a full review of its operating costs and eliminated all non-essential well reactivations, reduced field salaries and wages by 20% and approached key service companies to negotiate cost reductions.

From a corporate and a general and administrative ("G&A") expense perspective, Cardinal reduced Board, executive and office staff retainers and compensation by 20%, ceased our bonus incentive program, applied for the federal wage subsidy program 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 March 31, 2020 increased the measurement uncertainty inherent in determining the appropriate credit-adjusted discount rate that is used in the estimation of decommissioning liabilities.

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.

Bank Facility

The Company's reserves-based revolving credit facility of $325 million is available on a revolving basis until May 23, 2020 and may be extended for a further 364 day period, subject to approval by the syndicate. The available lending limits are 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. Forecasted commodity prices have decreased significantly at March 31, 2020 which could impact the syndicate's interpretation of the future value of the Company's reserves. 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 certainty Cardinal will be successful with these programs.

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 March 31, 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		
	Mar 31, 2020	Mar 31, 2019	Change %
Cash flow from operating activities	**22,041**	27,506	(20)
Change in non-cash working capital	**(8,565)**	1,242	n/m
Funds flow	**13,476**	28,748	(53)
Decommissioning expenditures	**1,472**	891	65
Adjusted funds flow	**14,948**	29,639	(50)

"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, 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

- First quarter 2020 total production was consistent with the same period in 2019 while oil production increased 2% over the same period.
- Operating costs per boe decreased 9% in the first quarter of 2020 over the same period in 2019 due to additional power generation projects coming online and reduced well reactivation costs.
- Decreased average debt levels and lower interest rates led to a 14% decrease in interest costs.

OPERATIONS

PRODUCTION

	Three months ended		
	Mar 31, 2020	Mar 31, 2019	Change %
Light oil (bbl/d)	**7,792**	8,246	(6)
Medium / heavy oil (bbl/d)	**9,301**	8,542	9
Crude oil (bbl/d)	**17,093**	16,788	2
Natural gas (mcf/d)	**14,368**	15,930	(10)
NGL (bbl/d)	**836**	964	(13)
boe/d	**20,323**	20,407	-
% Crude oil and NGL production	**88%**	87%	1

During the first quarter of 2020, production was consistent with the same period in 2019 as increased medium/heavy oil production from the Company's successful fourth quarter 2019 and first quarter 2020 South area drilling program was offset by reduced natural gas and NGL production. Late in the first quarter of 2020, low global and Canadian oil prices due to OPEC production quota disagreements and the effect of COVID-19 demand concerns forced the Company to shut-in uneconomic oil production in certain areas. The Company has currently shut-in approximately 20% to 25% of its production pending a recovery in pricing.

PETROLEUM AND NATURAL GAS REVENUE

	Three months ended		
	Mar 31, 2020	Mar 31, 2019	Change %
Light oil	**32,611**	45,371	(28)
Medium / heavy oil	**27,335**	43,627	(37)
Crude oil	**59,946**	88,998	(33)
NGL	**1,625**	1,647	(1)
Natural gas	**1,902**	3,405	(44)
Petroleum and natural gas revenue	**63,473**	94,050	(33)
Cardinal average prices			
Light oil ($/bbl)	**45.99**	61.13	(25)
Medium / heavy oil ($/bbl)	**32.30**	56.75	(43)
Natural gas ($/mcf)	**1.45**	2.38	(39)
Equivalent ($/boe)	**34.32**	51.21	(33)
Benchmark prices			
Crude oil - WTI (US $/bbl)	**46.17**	54.90	(16)
Crude oil - Edmonton light (Cdn $/bbl)	**51.62**	66.40	(22)
Crude oil - WCS (Cdn $/bbl)	**34.12**	56.65	(40)
Natural gas - AECO Spot (Cdn $/gj)	**1.93**	2.49	(22)
Exchange rate - (US/Cdn)	**0.75**	0.75	(1)

Petroleum and natural gas revenue decreased 33% in the first quarter of 2020 as compared to the same period in 2019 due to a 33% decrease in realized commodity prices. In the first quarter of 2020, the Company's Edmonton light benchmark price decreased 22% as compared to a 25% decrease in the Company's light oil price. Cardinal's medium/heavy oil price decreased 43% which approximated the Western Canadian Select ("WCS") benchmark price decrease of 40%. The Company's first quarter 2020 natural gas price decreased 39% as compared to the AECO benchmark decrease of 22% due to a portion of Cardinal's natural gas sales are priced at Chicago pricing which was lower than the same period in 2019.

FINANCIAL INSTRUMENTS - COMMODITY

	Three months ended		
	Mar 31, 2020	Mar 31, 2019	Change %
Average crude oil volumes hedged (bbls/d)	**6,506**	7,500	(13)
Realized gain/(loss) - commodity contracts	**8,221**	(1,452)	n/m
Unrealized gain/(loss) - commodity contracts	**8,176**	(25,486)	132

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	Jun 2020	4,000	bbl/d			$ 36.20
	CDN MSW Swap	Jun - Jul 2020	250	bbl/d			$ 27.50
	CDN WCS Swap	Jul - Dec 2020	250	bbl/d			$ 22.80
	USD WTI Collar	Apr - Jun 2020	2,330	bbl/d	Floor	USD	$ 52.50
					Ceiling	USD	$ 64.76
	CAD WCS Differential Swap	Jun 2020	1,000	bbl/d			$ (7.50)
	CAD MSW Differential Swap	Jun 2020	1,000	bbl/d			$ (3.85)
	USD WCS Differential Swap	Apr - Dec 2020	1,498	bbl/d		USD	$ (15.59)
Natural Gas							
	AECO Swap	Apr - Dec 2020	2,000	gj/d			$ 1.74

The Company also has the following physical oil delivery contracts in place:

Commodity	Physical Commitment	Period	Average Volume			Average Strike Price
Crude Oil	USD WTI	May - Jun 2020	3,506	bbl/d	USD $	28.40
	CAD MSW	Jun 2020	1,000	bbl/d	$	28.13
	CAD WCS Differential	Jun 2020	2,000	bbl/d	$	(6.37)

ROYALTIES

	Three months ended		
	Mar 31, 2020	Mar 31, 2019	Change %
Royalties	**10,284**	13,539	(24)
Percent of revenue	**16.2%**	14.4%	13
$/boe	**5.56**	7.37	(25)

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 as a percentage of revenue increased during the first quarter of 2020 as compared to the same period in 2019 as the percentage of light oil revenue, which has a higher royalty rate, increased as a proportion of total petroleum and natural gas revenue.

NET OPERATING EXPENSES

	Three months ended		
	Mar 31, 2020	Mar 31, 2019	Change %
Operating expenses	**38,681**	42,112	(8)
Less: Processing and other revenue	**(617)**	(545)	13
	38,064	41,567	(8)
$/boe	**20.58**	22.63	(9)

During the first quarter of 2020, net operating expenses per boe were 9% lower than the same period in 2019. A combination of lower power costs in areas where the Company initiated power generation projects in 2019 and 2020 and lower well reactivation costs decreased Cardinal's net operating costs in the first quarter of 2020 as compared with the same period in 2019. In response to the significant oil price decrease in March 2020, the Company has suspended all non-essential well reactivations going forward.

TRANSPORTATION EXPENSES

	Three months ended		
	Mar 31, 2020	Mar 31, 2019	Change %
Transportation expenses	**575**	350	64
$/boe	**0.31**	0.19	63

Transportation costs and transportation costs per boe increased during the first quarter of 2020 as compared with the same period in 2019 as the Company increased clean oil trucking activity. In the first quarter of 2020, Cardinal increased its trucking of clean oil in certain areas to mitigate apportionment and take advantage of blending opportunities at sales points with favorable pricing options.

NETBACK

	Three months ended		
	Mar 31, 2020	Mar 31, 2019	Change %
Petroleum and natural gas revenue	**34.32**	51.21	(33)
Royalties	**5.56**	7.37	(25)
Net operating expenses	**20.58**	22.63	(9)
Transportation expenses	**0.31**	0.19	63
Netback [1]	**7.87**	21.02	(63)

(1) See non-GAAP measures.

Cardinal's first quarter 2020 netback decreased 63% over the same period in 2019 as a result of significantly lower commodity prices due to decreased global oil prices and wider Canadian oil price differentials partially offset by lower royalties and operating costs.

GENERAL AND ADMINISTRATIVE ("G&A")

	Three months ended		
	Mar 31, 2020	Mar 31, 2019	Change %
Gross G&A	**5,807**	5,213	11
Capitalized G&A and overhead recoveries	**(933)**	(1,064)	(12)
G&A	**4,874**	4,149	17
$/boe	**2.64**	2.26	17

In the first quarter of 2020, G&A costs were 17% higher than the same period in 2019 due to a new corporate savings plan implemented in mid-2019 combined with additional legal and insurance costs. In addition, reduced partner overhead recoveries and capitalization of G&A costs increased the Company's G&A for the first quarter of 2020 as compared with the same period in 2019.

SHARE-BASED COMPENSATION ("SBC")

	Three months ended		
	Mar 31, 2020	Mar 31, 2019	Change %
Gross SBC	**1,560**	1,897	(18)
Capitalized SBC	**(139)**	(217)	(36)
SBC	**1,421**	1,680	(15)
$/boe	**0.77**	0.91	(15)

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

As at March 31, 2020, Cardinal had 4.6 million RAs and 0.9 million performance awards ("PAs") outstanding.

FINANCE

	Three months ended		
	Mar 31, 2020	Mar 31, 2019	Change %
Interest - bank debt	**1,931**	2,397	(19)
Other finance charges, net	**314**	248	27
Interest - convertible debentures	**620**	644	(4)
Interest - capital leases	**84**	65	29
Accretion	**2,192**	2,312	(5)
Unrealized foreign exchange loss	**1,109**	-	n/m
Finance	**6,250**	5,666	10
$/boe	**3.38**	3.08	10
Average bank debt	**195,112**	221,015	(12)
Interest rate - bank debt	**4.0%**	4.4%	(9)

In the first quarter of 2020, lower average bank debt levels and reduced convertible debentures outstanding combined with a decrease in interest rates led to a 14% decrease in interest costs as compared with the first quarter of 2019. An unrealized foreign exchange loss associated with the Company's US$ LIBOR loan offset the reduction in interest costs.

DEPLETION AND DEPRECIATION ("D&D")

	Three months ended		
	Mar 31, 2020	Mar 31, 2019	Change %
Depletion and depreciation	**23,507**	22,336	5
$/boe	**12.71**	12.16	5

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 per boe increased 5% in the first quarter of 2020 due to a higher property, plant and equipment depletable base from the Company's increased capital program and increased future development costs associated with its 2019 year-end reserve report.

IMPAIRMENT

	Three months ended		
	Mar 31, 2020	Mar 31, 2019	Change %
Impairment	**343,000**	-	n/m

March 31, 2020:
At March 31, 2020 Cardinal determined that the carrying value of certain CGUs exceeded the recoverable amount and recorded an impairment of $343.0 million. The impairment recognized is the result of significant decline in forecast forward commodity prices due to oil demand issues caused by COVID-19. The impairment at March 31, 2020 specifically relates to the Company's Alberta Central ($165.0 million), Alberta South ($132.5 million), and Alberta North ($45.5 million) CGUs. The recoverable amount of Cardinal's impaired CGUs at March 31, 2020 was Alberta Central ($131.4 million), Alberta South ($103.4 million), and Alberta North ($250.4 million).

The recoverable value of the Company's CGUs was estimated as the value in use based on the net present value of before tax cash flows from crude oil and natural gas proved plus probable reserves estimated by Cardinal's third party reserve evaluator internally updated with forward prices at March 31, 2020 and discounted between 10% and 20% depending on the reserves composition. The recoverable amount is sensitive to commodity price, discount rate, production volumes, royalty rates, operating costs and future capital expenditures. In determining the appropriate discount rate, Cardinal considered various characteristics and risks of the assets.

The external reserve evaluators also assess many other financial assumptions regarding royalty rates, operating costs and future development costs along with several other non-financial assumptions that affect reserve volumes. Management considered these assumptions for the impairment test at March 31, 2020, however, it should be noted that all estimates are subject to uncertainty.

DEFERRED TAXES

During the first quarter of 2020, the Company derecognized its deferred tax asset resulting in an expense of $102.9 million. 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.

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

	Three months ended		
	Mar 31, 2020	Mar 31, 2019	Change %
Loss	**(450,944)**	(16,506)	n/m
$/share			
Basic and diluted	**(3.98)**	(0.14)	n/m
Cash flow from operating activities	**22,041**	27,506	(20)
Adjusted funds flow	**14,948**	29,639	(50)
$/share			
Basic and diluted	**0.13**	0.25	(48)
Total payout ratio	**169%**	50%	238
Simple payout ratio	**23%**	12%	92

In the first quarter of 2020, decreased oil demand due to the COVID-19 virus caused a significant reduction in forecast pricing causing the Company to record a $343 million impairment of its property, plant and equipment. In addition, due to reduced forecasted future oil prices, the Company derecognized its deferred tax asset resulting in an expense of $102.9 million.

The increase in Cardinal's total and simple payout ratios for the first quarter of 2020 was due to the Company's increased capital program combined with a decrease in adjusted funds flow.

CAPITAL EXPENDITURES

In the first quarter of 2020, the Company drilled seven (7.0 net) oil wells in the Bantry area in Southern Alberta. Cardinal completed six (6.0 net) of these wells and three (3.0 net) additional wells that were drilled in 2019. The Company also invested in its infrastructure by upgrading pipelines and facilities and continued with enhanced oil recovery projects spending $7.2 million throughout its core areas on these improvements and initiatives. As part of the infrastructure spending, Cardinal invested in power generation projects to reduce its dependence on the power grid predominantly in the Wainwright, Alberta area with two significant projects coming on line in early 2020.

	Three months ended		
	Mar 31, 2020	Mar 31, 2019	Change %
Land	**108**	332	(67)
Drilling and completion	**14,484**	3,265	n/m
Equipment, facilities and pipelines	**7,190**	7,555	(5)
Total development capital expenditures (1)	**21,782**	11,152	95
Capitalized G&A	**314**	377	(17)
Other assets	**45**	55	(18)
Total capital expenditures (2)	**22,141**	11,584	91

(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 pandemic and the oil supply disagreements between Russia and Saudi Arabia.

DECOMMISSIONING OBLIGATION

The decommissioning obligation slightly increased in the first quarter of 2020 to $114.5 million from $113.8 million at the end of 2019 as the Company settled $1.4 million of decommissioning obligations, incurred $0.1 million of future liabilities and increased the liability with $2.0 million of accretion.

LIQUIDITY AND CAPITAL RESOURCES

	As at		
Capitalization table	**Mar 31, 2020**	Dec 31, 2019	Change %
Net bank debt (1)	**228,874**	202,599	13
Convertible debentures	**44,931**	45,000	-
Common shares, outstanding	**113,354,443**	113,657,247	-
Market price at end of period ($ per share)	**$ 0.45**	$ 2.60	(83)
Market capitalization	**51,009**	295,509	(83)
Total capitalization	**324,814**	543,108	(40)

(1) See non-GAAP measures.

CAPITAL FUNDING

The Company has a reserved based credit facility of $325 million which is comprised of a $295 million syndicated term credit facility and a $30 million non-syndicated operating term credit facility (the "Facilities"). The Facilities are available on a revolving basis until May 23, 2020 and may be extended for a further 364 day period, subject to approval by the syndicate. If not extended, the Facilities will cease to revolve, the applicable margins will increase by 0.5% and all outstanding advances will be repayable on May 22, 2021. 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 March 31, 2020.

The borrowing base of the Facilities is primarily based on reserves and commodity prices estimated by the syndicate and is subject to review and redetermination on a semi-annual basis. 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.

Advances under the Facilities are available by way of either prime rate loans, which bear interest at the banks' prime lending rate plus 0.5 to 2.5%, and bankers' acceptances and/or LIBOR loans, which are subject to fees and margins ranging from 1.5 to 3.5%. Interest and standby fees on the undrawn amounts of the Facilities depend upon certain ratios. The Facilities are secured by a general security agreement over all of the Company's assets.

Cardinal has $45 million (December 31, 2018 - $50 million) of convertible debentures which have a maturity date of December 31, 2020. The 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 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.

CAPITAL STRUCTURE

Cardinal manages its capital to provide a flexible structure to support production maintenance, capital programs, dividends 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, reducing its cost structure or dividend payments.

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	
	Mar 31, 2020	Dec 31, 2019
Bank debt	**$ 192,965**	$ 173,308
Principal amount of Convertible Debentures	**44,931**	45,000
Working capital deficiency[1]	**35,909**	29,291
Net debt [2]	**$ 273,805**	$ 247,599
Cash flow from operating activities	**$ 114,514**	$ 119,979
Change in non-cash working capital	**(14,547)**	(4,740)
Funds flow [2]	**$ 99,967**	$ 115,239
Decommissioning obligation expenditures	**7,152**	6,571
Transaction costs	**-**	-
Adjusted funds flow [2]	**107,119**	121,810
Net debt to adjusted funds flow [2]	**2.6**	2.0

(1) Excludes the fair value of financial instruments, current decommissioning obligation, current lease liabilities, 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 March 31, 2020 was 2.6 to 1, higher than the ratio at December 31, 2019 of 2.0 to 1 due to lower adjusted funds flow from reduced oil prices and increased capital expenditures. 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 in 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 Facility 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. As at March 31, 2020, Cardinal had a working capital deficiency of $35.9 million and unused capacity of $130.4 million on its Facilities, after taking into account outstanding letters of credit.

The Company believes that it is positioned to take advantage of its internally developed opportunities funded through its 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.

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 March 31, 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		
	Mar 31, 2020	Mar 31, 2019	Change %
Dividends declared	**3,511**	3,619	(3)
Dividends declared per share	**$ 0.030**	$ 0.030	-

In the first quarter of 2020, the Company declared $3.5 million (2019 – $3.6 million) of dividends. In March 2020, due to OPEC production quota disagreements and the effect of COVID-19 demand concerns 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 898,191 RAs with shares held by the trustee. At March 31, 2020, the trustee held a remaining balance of 1,221,386 treasury shares.

In the first quarter 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 is 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.

Under the NCIB, common shares may be repurchased in open market transactions on the TSX, and/or alternative Canadian trading systems, or by such other means as may be permitted by the TSX and applicable securities laws and in accordance with the rules of the TSX governing NCIB's. The total number of common shares that Cardinal is permitted to purchase is subject to a daily purchase limit of 131,082 common shares, representing 25% of the average daily trading volume of 524,329 common shares on the TSX calculated for the six-month period ended June 30, 2019, however, Cardinal may make one block purchase per calendar week which exceeds the daily repurchase restrictions. Any common shares that are purchased under the NCIB will be cancelled upon their purchase by the Company. In 2020, the Company has repurchased and cancelled 897,500 common shares at average price of $2.77 per common share, for a total cost of $2.5 million.

Equity Instruments as at	May 7, 2020	Mar 31, 2020	Dec 31, 2019
Common shares, issued	114,575,829	114,575,829	115,473,329
Treasury shares	(1,211,166)	(1,221,386)	(1,816,082)
Convertible debentures	4,233,429	4,279,143	4,285,715
RAs	4,619,464	4,619,464	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 March 31, 2020, the Company had contractual obligations as follows:

	2020	**2021**	**2022**	**2023**	**2024**	**Thereafter**
Trade and other payables	65,520	-	-	-	-	-
Lease liabilities	1,652	1,775	1,209	1,016	9	-
Bank debt	-	192,965	-	-	-	-
Convertible debentures	47,402	-	-	-	-	-
Total contractual obligations	**$ 114,574**	**$ 194,740**	**1,209**	**1,016**	**9**	**-**

ADDITIONAL INFORMATION

CRITICAL ACCOUNTING ESTIMATES

There have been no changes in Cardinal's critical accounting estimates in the three months ended March 31, 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 first 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

Cardinal's focus through this pandemic and economic crisis are the health and safety of our employees and service providers, and maintaining our liquidity through disciplined efficient management of our assets, production and costs. During these unprecedented times, we are proud of our staff who have safely worked hard to manage our assets through this crisis. Cardinal is taking this pandemic seriously and have implemented social distancing and preventative procedures to ensure we don't compromise the health and safety of our employees as shown by no known Cardinal office staff, field employees or contract operators have tested positive COVID-19.

As a result of the uncertain market conditions, Cardinal is withdrawing its 2020 corporate guidance originally announced on December 9, 2019 and updated on March 17, 2020. Cardinal continues to manage its assets with a view to long-term sustainability and will shut-in uneconomic production when it is safe and rational to do so. The Company has a limited capital budget for the remainder of 2020 and does not have any immediate plans to drill any more wells in the year. Cardinal's top tier low decline rate will support the Company's oil production and we can rapidly bring back on shut-in wells with limited additional costs when the price recovery occurs.

QUARTERLY DATA

	Mar 31, 2020	Dec 31, 2019	Sep 30, 2019	Jun 30, 2019
Production				
Oil (bbl/d)	**17,093**	16,757	16,624	16,997
Natural gas (mcf/d)	**14,368**	15,459	15,022	15,906
NGL (bbl/d)	**836**	893	932	939
Oil equivalent (boe/d)	**20,323**	20,227	20,059	20,587
Financial				
Revenue	**63,473**	93,272	95,483	106,166
Earnings (loss)	**(450,944)**	(15,094)	359	(3,099)
Basic per share ($)	**(3.98)**	(0.13)	-	(0.03)
Diluted per share ($)	**(3.98)**	(0.13)	-	(0.03)
Cash flow from operating activities	**22,041**	31,714	24,836	35,923
Adjusted funds flow(1)	**14,948**	28,864	27,571	35,736
Basic per share ($)	**0.13**	0.25	0.24	0.31
Diluted per share ($)	**0.13**	0.25	0.24	0.31
Working capital deficiency(2)	**(35,909)**	(29,291)	(10,325)	(9,159)
Total assets	**703,401**	1,149,827	1,186,151	1,190,950
Bank debt	**192,965**	173,308	192,435	195,468
Principal amount of convertible debentures	**44,931**	45,000	45,000	45,000
Total long-term liabilities(3)	**306,973**	284,251	359,809	362,500
Shareholders' equity	**280,608**	737,902	758,263	763,655
Common shares outstanding, net (000's)(4)	**113,354**	113,657	114,333	115,203
Diluted shares outstanding, net (000's)(4)(5)	**118,820**	118,271	119,088	120,220

	Mar 31, 2019	Dec 31, 2018	Sep 30, 2018	Jun 30, 2018
Production				
Oil (bbl/d)	16,788	16,650	17,422	17,408
Natural gas (mcf/d)	15,930	16,460	16,718	16,632
NGL (bbl/d)	964	972	741	702
Oil equivalent (boe/d)	20,407	20,365	20,949	20,882
Financial				
Revenue	94,050	59,077	113,551	111,847
Earnings (loss)	(16,506)	84,760	9,068	(19,970)
Basic per share ($)	(0.14)	0.73	0.08	(0.17)
Diluted per share ($)	(0.14)	0.70	0.08	(0.17)
Cash flow from operating activities	27,506	6,968	28,074	21,923
Adjusted funds flow(1)	29,639	5,513	27,072	27,085
Basic per share ($)	0.25	0.05	0.24	0.24
Diluted per share ($)	0.25	0.05	0.23	0.24
Working capital deficiency(2)	(6,729)	(8,246)	(16,204)	(12,488)
Total assets	1,218,439	1,206,336	1,198,150	1,216,642
Bank debt	206,151	211,443	184,524	200,645
Principal amount of convertible debentures	45,000	50,000	50,000	50,000
Total long-term liabilities(3)	372,245	376,651	365,083	380,961
Shareholders' equity	771,674	792,622	715,260	707,163
Common shares outstanding, net (000's)	116,617	116,197	116,039	114,228
Diluted shares outstanding, net (000's)(5)	121,669	119,654	119,647	117,775

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

Since the second 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 the first quarter of 2020, reduced oil demand due to concerns over the effect of COVID-19 have 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 quarter 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 which include an unrealized loss of $26.3 million in the second quarter of 2018. In the third quarter of 2018 as forward commodity prices decreased, the Company incurred a $14.1 million unrealized gain. 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;
- expectations that the Company's receivables are substantially collectible;
- estimated tax pools, future taxability and future taxable income;
- the effect of power generation projects in order to reduce the Company's dependence on the power grid and lower operating costs;
- the timing of the next review of the Facilities;
- Cardinal's business strategy, goals and management focus;
- Cardinal's dividend plans;
- targeted net debt to adjusted funds flow 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;

- 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;
- Cardinal's asset base and decline rates;
- 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 its 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 and power projects, 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; 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 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)
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
Q3/18	55%	28%	4%	13%	20,949
Q2/18	56%	27%	3%	13%	20,882
2019	55%	28%	5%	13%	20,319

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