



CARDINAL
ENERGY LTD.



2018

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 twelve months ended December 31, 2018 and is dated March 19, 2019. The MD&A should be read in conjunction with Cardinal's audited financial statements for the years ended December 31, 2018 and 2017. 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. We are focused on providing sustainable monthly dividends and growth through a combination of accretive oil-based acquisitions and organic development.

Non-GAAP Measures

The terms "funds flow", "adjusted funds flow", "adjusted funds flow per share", "adjusted funds flow per diluted share", "development capital expenditures", "free cash flow", "funds flow", "net operating expenses", "netback", "net debt", "net debt to adjusted funds flow", "net bank debt", "net bank debt to annualized adjusted funds flow", "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, 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			Year ended		
	Dec 31, 2018	Dec 31, 2017	Change %	Dec 31, 2018	Dec 31, 2017	Change %
Cash flow from operating activities	6,968	24,442	(71)	88,767	76,530	16
Change in non-cash working capital	(2,655)	2,912	(191)	(10,348)	1,525	n/m
Funds flow	4,313	27,354	(84)	78,419	78,055	0
Decommissioning expenditures	1,200	1,067	12	6,443	3,933	64
Transaction costs	-	-	-	359	1,684	(79)
Adjusted funds flow	5,513	28,421	(81)	85,221	83,672	2

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

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

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

"Free cash flow" represents adjusted funds flow less dividends declared, net of participation in the Dividend Reinvestment Program ("DRIP") and Stock Dividend Program ("SDP"), and less development capital expenditures.

"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.

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 and the current portion of the decommissioning obligation). 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.

"Simple payout ratio" represents the ratio of the amount of dividends declared (net of participation in the DRIP and SDP), divided by adjusted funds flow. "Total payout ratio" represents the ratio of the sum of dividends declared (net of participation in the DRIP and SDP) 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 *Standards 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 and does not represent a value equivalency at the wellhead. The term "boe" may be misleading, particularly if used in isolation.

HIGHLIGHTS

Production for 2018 averaged 20,858 boe/d, an 11% increase over 2017. Fourth quarter production averaged 20,365 boe/d, after the Company voluntarily curtailed sales volumes due to low pricing, which impacted production by approximately 1,100 boe/d.

Despite curtailed production and increased regulatory and power costs, operating costs per boe only increased one percent in the fourth quarter of 2018 compared to the same period in 2017.

General and administrative costs per boe decreased 43% in the fourth quarter and 11% in 2018 over the same periods in 2017 due to reduced compensation costs demonstrating the Company's commitment to reducing cash costs in a challenging environment.

Earnings increased to \$84.8 million and \$60.5 million for the fourth quarter and year ended December 31, 2018, respectively, predominantly due to a reversal of prior period impairments which was the result of positive reserve additions from the Company's 2018 drilling program and well performance.

Reduced year-end closing net debt by \$6.3 million over 2017 levels despite a challenging fourth quarter.

OPERATIONS

PRODUCTION

	Three months ended			Year ended		
	Dec 31, 2018	Dec 31, 2017	Change %	Dec 31, 2018	Dec 31, 2017	Change %
Light oil (bbl/d)	8,394	8,325	1	8,724	5,624	55
Medium / heavy oil (bbl/d)	8,256	8,732	(5)	8,601	9,526	(10)
Crude oil (bbl/d)	16,650	17,057	(2)	17,325	15,150	14
Natural gas (mcf/d)	16,460	18,032	(9)	16,579	17,431	(5)
NGL (bbl/d)	972	886	10	770	652	18
boe/d	20,365	20,948	(3)	20,858	18,707	11
% Crude oil and NGL production	87%	86%	1	87%	84%	3

During the fourth quarter of 2018, production decreased 3% over the same period in 2017 due to the Company voluntarily shutting in up to 15% of its production in the latter part of the quarter. Extremely wide Canadian oil pricing differentials combined with a declining West Texas Intermediate ("WTI") oil price in the quarter caused some of the Company's oil properties to become uneconomic to produce during the fourth quarter of 2018 and therefore to preserve the long-term value of the reserves, Cardinal chose to temporarily shut-in a portion of the production. The impact of this was a decrease of approximately 1,100 boe/d on fourth quarter production. Partially offsetting this decrease was a 10% increase in NGL production due to higher liquids yields in the Grande Prairie, Alberta area.

Production for 2018 increased 11% over the same period in 2017 due to acquisitions that closed in 2017. In June 2017, Cardinal acquired approximately 5,600 boe/d of low decline light oil production at House Mountain, Alberta and Midale, Saskatchewan ("House Mountain/Midale Acquisition"). In March 2017, an acquisition of approximately 1,600 boe/d of production in the North Alberta core area at Grande Prairie ("Grande Prairie Acquisition") positively impacted light oil production. The effect of these acquisitions was partially offset by natural declines and the previously mentioned curtailment of WCS priced medium oil production in Southern and Central Alberta.

REVENUE

	Three months ended			Year ended		
	Dec 31, 2018	Dec 31, 2017	Change %	Dec 31, 2018	Dec 31, 2017	Change %
Light oil	33,163	48,912	(32)	207,826	120,063	73
Medium / heavy oil	21,293	43,411	(51)	154,425	173,445	(11)
Crude oil	54,456	92,323	(41)	362,251	293,508	23
NGL	2,087	3,093	(33)	9,538	7,531	27
Natural gas	2,534	2,230	14	7,465	12,805	(42)
Petroleum and natural gas revenue	59,077	97,646	(39)	379,254	313,844	21
Cardinal average prices						
Light oil (\$/bbl)	42.95	63.86	(33)	65.27	58.50	12
Medium / heavy oil (\$/bbl)	28.04	54.04	(48)	49.19	49.88	(1)
Natural gas (\$/mcf)	1.67	1.34	25	1.23	2.01	(39)
Equivalent (\$/boe)	31.53	50.66	(38)	49.82	45.96	8
Benchmark prices						
Crude oil - WTI (US \$/bbl)	58.81	55.40	6	64.77	50.95	27
Crude oil - Edmonton light (Cdn \$/bbl)	42.76	68.94	(38)	69.37	62.82	10
Crude oil - WCS (Cdn \$/bbl)	25.37	54.88	(54)	49.69	50.54	(2)
Natural gas - AECO Spot (Cdn \$/gj)	1.48	1.60	(8)	1.42	2.04	(30)
Exchange rate - (US/Cdn)	0.76	0.79	(3)	0.77	0.77	-

Revenue decreased 39% in the fourth quarter of 2018 as compared to the same period in 2017 due to a 38% decrease in commodity pricing and a three percent decrease in production. During the fourth quarter, Canadian crude oil differentials for both Edmonton Light and Western Canadian Select (“WCS”) significantly widened in comparison to CDN\$ WTI pricing due to an increased supply of crude oil and refinery turnarounds in the United States which temporarily reduced demand. The WTI price increased 6% during the fourth quarter of 2018 in comparison to the same period in 2017 as compared to 38% and 54% decreases in benchmark Edmonton Light and WCS pricing, respectively. In comparison to the benchmark pricing decrease, in the fourth quarter of 2018, the Company’s light oil price decreased 33% while Cardinal’s medium oil price decreased 48% as the Company partially mitigated apportionment and low Canadian crude oil prices by trucking to sales points with better pricing due to blending options. During the fourth quarter of 2018, the Company’s natural gas price increased 25% over the same period in 2017 as compared to an 8% decrease in the AECO benchmark as the Company diversified its sales gas stream beginning in November and started getting exposure to Chicago natural gas pricing.

For the year ended December 31, 2018, revenue increased 21% due to an 11% increase in production combined with an eight percent increase in commodity pricing. During the year, the Company’s light and medium/heavy crude oil prices changed proportionately with their respective Edmonton light and WCS benchmarks. Late in 2018, the Canadian crude oil price differentials to WTI widened to record levels. In response, beginning January 2019, the Alberta government implemented temporary mandated oil production curtailments which will be reviewed on a monthly basis throughout 2019. These curtailments had an immediate impact and the Canadian pricing differentials narrowed in the first part of 2019.

FINANCIAL INSTRUMENTS

	Three months ended			Year ended		
	Dec 31, 2018	Dec 31, 2017	Change %	Dec 31, 2018	Dec 31, 2017	Change %
Average crude oil volumes hedged (bbl/d)	12,833	7,000	83	13,292	6,458	106
Realized gain (loss) - commodity contracts	649	(5,433)	(112)	(42,153)	(15,182)	178
Unrealized gain (loss) - commodity	62,184	(14,845)	n/m	31,277	16,444	90

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 and natural gas 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 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 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 and AECO outstanding:

Commodity	Financial Instrument	Period	Average Volume	Average Strike Price
Crude Oil				
	CDN WTI Swap	Jan - Dec 2019	997 bbl/d	\$ 74.98
		Jan - Mar 2020	250 bbl/d	\$ 79.50
	CDN WTI Collar	Jan - Dec 2019	1,244 bbl/d	Floor \$ 74.00 Ceiling \$ 86.04
	USD WTI Collar	Mar - Dec 2019	500 bbl/d	Floor \$ 51.00 Ceiling \$ 65.25
	USD WTI Put	Apr - Dec 2019	1,500 bbl/d	\$ 50.00
	CDN WCS Differential Swap	Jan - Dec 2019	3,011 bbl/d	\$ 22.38
		Jan - Feb 2020	500 bbl/d	\$ 23.00
	CDN WCS Swap	Jan - Dec 2019	2,980 bbl/d	\$ 52.24
		Jan 2020	1,000 bbl/d	\$ 51.75
Natural Gas				
	AECO Swap	Jan - Dec 2019	2,753 gj/d	\$ 1.58
		Jan - Dec 2020	1,740 gj/d	\$ 1.57

ROYALTIES

	Three months ended			Year ended		
	Dec 31, 2018	Dec 31, 2017	Change %	Dec 31, 2018	Dec 31, 2017	Change %
Royalties	8,283	14,810	(44)	64,462	45,514	42
Percent of revenue	14.0%	15.2%	(8)	17.0%	14.5%	17
\$/boe	4.42	7.68	(42)	8.47	6.67	27

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 fourth quarter of 2018 as compared to the same period in 2017 due to lower commodity prices as the Company's average royalty rate is price sensitive. In addition, during the fourth quarter of 2018, the Company received a one-time amendment of certain royalties in the Midale, Saskatchewan area due to a royalty rate adjustment from an enhanced oil recovery program credit in the area.

For 2018, royalties and royalties as a percentage of revenue increased over the same period in 2017 due to increased oil prices, the sale of an overriding royalty on certain production within the Company's Mitsue property in the first quarter of 2018 and the Grande Prairie and House Mountain/Midale Acquisitions as the acquired properties have a higher royalty rate.

NET OPERATING EXPENSES

	Three months ended			Year ended		
	Dec 31, 2018	Dec 31, 2017	Change %	Dec 31, 2018	Dec 31, 2017	Change %
Operating expenses	38,856	39,509	(2)	159,358	143,761	11
Less: Processing and other revenue	(790)	(854)	(7)	(4,077)	(3,124)	31
	38,066	38,655	(2)	155,281	140,637	10
\$/boe	20.32	20.06	1	20.40	20.60	(1)

For the fourth quarter of 2018, operating expenses per boe slightly increased over the fourth quarter of 2017 due to lower production to offset fixed costs within the Company's medium oil properties. In addition, higher Alberta power and regulatory costs were partially offset by reduced workover costs as the Company curtailed workovers and reactivations in the low commodity price environment experienced during the fourth quarter of 2018.

For the year ended December 31, 2018, despite higher regulatory and power costs, operating costs per boe decreased 1% due to field operating efficiencies and the Grande Prairie and House Mountain/Midale Acquisitions which have lower operating costs per boe compared to Cardinal's previous corporate average.

TRANSPORTATION EXPENSES

	Three months ended			Year ended		
	Dec 31, 2018	Dec 31, 2017	Change %	Dec 31, 2018	Dec 31, 2017	Change %
Transportation expenses	957	541	77	2,324	2,258	3
\$/boe	0.51	0.28	82	0.31	0.33	(6)

Transportation costs and transportation costs per boe increased during the fourth quarter of 2018 compared to the same period in 2017 as the Company incurred additional transportation costs to truck clean oil to alternate sales points in order to maximize the price received for its oil in a low priced apportioned environment.

For the year ended December 31, 2018, higher clean oil trucking costs were partially offset by lower natural gas transportation costs as the Company's natural gas production has decreased as compared to 2017.

NETBACK

	Three months ended			Year ended		
	Dec 31, 2018	Dec 31, 2017	Change %	Dec 31, 2018	Dec 31, 2017	Change %
Petroleum and natural gas revenue	31.53	50.66	(38)	49.82	45.96	8
Royalties	4.42	7.68	(42)	8.47	6.67	27
Net operating expenses	20.32	20.06	1	20.40	20.60	(1)
Transportation expenses	0.51	0.28	82	0.31	0.33	(6)
Netback ⁽¹⁾	6.28	22.64	(72)	20.64	18.36	12

(1) See non-GAAP measures.

Cardinal's fourth quarter netback decreased 72% over the same period in 2017 as a result of decreased Canadian crude oil prices and higher transportation costs partially offset by lower royalties.

For 2018, increased light oil prices combined with lower net operating costs partially offset by higher royalties strengthened the Company's netback by 12%, over the same period in 2017.

GENERAL AND ADMINISTRATIVE ("G&A")

	Three months ended			Year ended		
	Dec 31, 2018	Dec 31, 2017	Change %	Dec 31, 2018	Dec 31, 2017	Change %
Gross G&A	4,696	7,937	(41)	22,571	20,621	9
Capitalized G&A and overhead recoveries	(959)	(1,162)	(17)	(4,950)	(2,818)	76
G&A	3,737	6,775	(45)	17,621	17,803	(1)
\$/boe	1.99	3.50	(43)	2.31	2.60	(11)

In the fourth quarter of 2018, G&A and G&A costs per boe decreased over the same period in 2017 due to reduced staffing costs as the Company reduced its compensation costs during a time of significantly lower crude oil prices. For the year ended December 31, 2018, Cardinal's gross G&A increased due to additional staff and insurance costs to manage the operations of the Grande Prairie Acquisition and the House Mountain/Midale Acquisition. The Company's annual G&A costs per boe decreased 11% as increased production more than offset the additional costs to manage the incremental production.

SHARE-BASED COMPENSATION ("SBC")

	Three months ended			Year ended		
	Dec 31, 2018	Dec 31, 2017	Change %	Dec 31, 2018	Dec 31, 2017	Change %
Gross SBC	2,357	436	n/m	8,759	8,557	2
Capitalized SBC	(320)	526	(161)	(1,358)	(274)	n/m
SBC	2,037	962	112	7,401	8,283	(11)
\$/boe	1.09	0.50	118	0.97	1.21	(20)

SBC expense was higher in the fourth quarter of 2018 as compared to the same period in 2017 as the fourth quarter of 2017 included the reversal of previously recognized SBC from the forfeiture of restricted awards in connection with the 2017 corporate reorganization.

For the year ended December 31, 2018, net after capitalization SBC expense decreased due to the reversal of previously capitalized SBC in the fourth quarter of 2017 due to the corporate reorganization which increased the net SBC for 2017. In addition, all previously outstanding warrants and stock options were fully expensed in 2017.

As at December 31, 2018, Cardinal had 3.4 million restricted bonus awards outstanding.

FINANCE

	Three months ended			Year ended		
	Dec 31, 2018	Dec 31, 2017	Change %	Dec 31, 2018	Dec 31, 2017	Change %
Interest - bank debt	2,246	2,142	5	8,610	5,455	58
Other finance charges, net	239	184	30	832	573	45
Interest - convertible debentures	685	685	-	2,750	2,750	-
Accretion	2,545	2,742	(7)	10,017	9,874	1
Finance	5,715	5,753	(1)	22,209	18,652	19
\$/boe	3.05	2.98	2	2.92	2.73	7
Average bank debt	206,472	235,418	(12)	213,058	165,429	29
Interest rate - bank debt	4.3%	3.6%	19	4.0%	3.3%	21

Finance expense for the fourth quarter was consistent with the same period in 2017 as increased interest costs due to higher interest rates were offset by lower average debt levels and lower accretion costs.

Finance costs for 2018 increased over the same period in 2017 due to the higher interest rates and increased average debt levels resulting from the House Mountain/Midale Acquisition.

DEPLETION AND DEPRECIATION ("D&D")

	Three months ended			Year ended		
	Dec 31, 2018	Dec 31, 2017	Change %	Dec 31, 2018	Dec 31, 2017	Change %
Depletion and depreciation	20,199	24,515	(18)	88,076	94,732	(7)
\$/boe	10.78	12.72	(15)	11.57	13.87	(17)

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 not directly associated with proved plus probable reserves.

D&D costs and D&D costs per boe decreased in the fourth quarter and for the full year in 2018 as compared to the same periods in 2017 due to increased 2018 year-end proved plus probable reserve bookings combined with the Company recording an impairment of a cash generating unit ("CGU") in the fourth quarter of 2017 which reduced the depletable base and future depletion costs of the Alberta South CGU. Cardinal's increased oil and gas reserve bookings were mainly as a result of a successful 2018 drilling program and positive well performance in the Company's Bantry area and continued positive response to the enhanced oil recovery program in the Midale area.

IMPAIRMENT AND IMPAIRMENT REVERSAL

	Three months ended			Year ended		
	Dec 31, 2018	Dec 31, 2017	Change %	Dec 31, 2018	Dec 31, 2017	Change %
Impairment	(74,825)	61,000	(223)	(74,825)	61,000	(223)

PP&E

In 2018, the Company focused a significant amount of its capital and resources to the Alberta South cash generating unit ("CGU") which included an analysis of past results, stratigraphic test wells and a full geological review. The result of this review was positive and led to a significant increase in recoverable reserves due to drilling successes and improved performance of existing wells. With these results, the Company concluded there was sufficient indication to test the Alberta South CGU to determine if there was a reversal of previously recognized impairment. The recoverable value of the Alberta South CGU 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 evaluators discounted between 10% and 20%, depending on the reserves composition. In determining the appropriate discount rate for the calculation, Cardinal considered various characteristics and risks of the assets. The external reserve evaluator 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 reversal at December 31, 2018, however, it should be noted that all estimates are subject to uncertainty. The recoverable amount is sensitive to commodity price, discount rate, production volumes, royalty rates, operating costs and future capital expenditures.

The resulting calculation indicated there was a \$76.5 million impairment reversal which was recorded in the fourth quarter of 2018. The recoverable amount of the Alberta South CGU was \$231.2 million. The Company did not identify any further indicators of impairment or impairment reversals for its other CGUs.

In 2017, Cardinal determined that the carrying value of the Alberta South CGU exceeded the recoverable amount and recorded an impairment of \$60.8 million. The recoverable amount of Cardinal's impaired CGU at December 31, 2017 was \$163.5 million. The impairment recognized was the result of well performance and higher future costs. The Company did not identify any further indicators of impairment or impairment reversals for its other CGUs.

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 evaluators discounted between 10% and 20%, depending on the reserves composition.

E&E

An expense of \$1.7 million (\$0.2 million – 2017) was recorded for the year ended December 31, 2018 related to no future development plans on the associated undeveloped land with pending expiries.

DEFERRED TAXES

At December 31, 2018, the Company recorded a deferred tax asset of \$112.4 million (2017 – \$138.9 million). The deferred tax asset was recognized as management considers it probable that there will be sufficient future taxable income to utilize the benefits.

The Company has approximately \$1.46 billion of tax pools (\$1.36 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 2023 or beyond. Any potential taxes payable beyond 2023 would be affected by commodity prices, capital expenditures and production.

Tax Pool Balance	Maximum Annual Claim	As at December 31		
		2018	2017	Change %
COGPE	10%	642,413	731,801	(12)
CEE and non-capital losses	100%	501,784	423,428	19
CDE	30%	139,121	140,058	(1)
Undepreciated capital cost	25%	168,835	181,054	(7)
Other	20%	7,733	18,017	(57)
Total		1,459,886	1,494,358	(2)

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

	Three months ended			Year ended		
	Dec 31, 2018	Dec 31, 2017	Change %	Dec 31, 2018	Dec 31, 2017	Change %
Earnings (loss)	84,760	(54,307)	n/m	60,544	(57,597)	n/m
\$/share						
Basic	0.73	(0.49)	n/m	0.53	(0.61)	n/m
Diluted	0.70	(0.49)	n/m	0.52	(0.61)	n/m
Cash flow from operating activities	6,968	24,442	(71)	88,767	76,530	16
Adjusted funds flow	5,513	28,421	(81)	85,221	83,672	2
\$/share						
Basic	0.05	0.26	(81)	0.74	0.89	(17)
Diluted	0.05	0.26	(81)	0.74	0.89	(17)
Total payout ratio	418%	98%	n/m	127%	127%	-
Simple payout ratio	174%	42%	n/m	55%	48%	15

For the fourth quarter of 2018, the Company had earnings of \$84.8 million compared to a loss of \$54.3 million in the fourth quarter of 2017 due to the reversal of previous impairments combined with increased unrealized gains on commodity contracts from the significant decline in forward pricing at the end of 2018. The decrease in cash flow from operating activities and adjusted funds flow during the fourth quarter of 2018 predominantly related to the significant decline in oil prices experienced during the fourth quarter.

The increase in Cardinal's total and simple payout ratios for the fourth quarter of 2018 over the same period in 2017 is the result of the significant deterioration in Canadian crude oil prices experienced in the fourth quarter of 2018.

For 2018, the Company had earnings of \$60.5 million compared to a \$57.6 million loss in the same period in 2017 due to increased unrealized gains on commodity contracts in 2018 and a reversal of previously recognized impairments from positive results in its Southern Alberta CGU. The increase in cash flow from operating activities and adjusted funds flow is the result of increased light oil pricing and production experienced in 2018 over 2017. The decrease in the Company's total payout ratio was the result of increased adjusted funds flow, decreased development capital expenditures partially offset by increased dividend payments throughout 2018. The increase in the simple payout ratio is the result of increased dividend payments being partially offset by increased adjusted funds flow.

CAPITAL EXPENDITURES

Property Acquisitions/Dispositions

On January 12, 2018, Cardinal closed a consolidating acquisition increasing the Company's working interest in the Midale Unit from 68.8% to 77.2%. Total consideration provided was \$18.5 million consisting of \$7.3 million in cash and the issuance of 2,314,815 common shares valued at \$4.86 per share.

On March 7, 2018, the Company closed a disposition of fee title lands in the Weyburn area of Saskatchewan and a new gross overriding royalty on the Mitsue Gilwood Unit for net proceeds of \$24 million plus additional working interests in certain producing wells in the Wainwright area.

On May 17, 2018, the Company disposed of non-core properties in the Wainwright area which included approximately 50 boe/d of production and \$1.1 million of future asset retirement obligations for \$1.0 million.

On September 4, 2018, Cardinal closed an acquisition in the Mitsue area for a consideration of \$1.1 million, before closing adjustments, with an associated decommissioning obligation of \$0.1 million.

On September 14, 2018, Cardinal sold a royalty interest on its Midale properties for gross proceeds of \$12.5 million.

Capital Expenditures

In the fourth quarter of 2018, Cardinal drilled, completed and tied-in four (3.5 net) wells which included two (1.5 net) wells in the Company's Midale area and two (2.0 net) wells in the Bantry area. In addition, the Company participated in drilling four (0.9 net) minor working interest non-operated wells in Weyburn, Saskatchewan and North Alberta core area. In the fourth quarter, Cardinal invested in infrastructure, upgraded its pipelines and facilities and continued with enhanced oil recovery projects spending \$7.9 million throughout its core areas on equipment, facilities and pipelines.

	Three months ended			Year ended		
	Dec 31, 2018	Dec 31, 2017	Change %	Dec 31, 2018	Dec 31, 2017	Change %
Land	135	32	n/m	1,536	3,287	(53)
Geological and geophysical	124	292	(58)	122	731	(83)
Drilling and completion	5,339	6,890	(23)	26,705	33,605	(21)
Equipment, facilities and pipelines	7,855	8,687	(10)	33,229	28,830	15
Total development capital expenditures ⁽¹⁾	13,453	15,901	(15)	61,592	66,453	(7)
Capitalized G&A	57	477	(88)	1,386	1,188	17
Other assets	24	42	(43)	177	924	(81)
Acquisitions, net	163	(15,661)	n/m	(28,007)	285,017	n/m
Total cash capital expenditures	13,697	759	n/m	35,148	353,582	(90)
Non-cash expenditures ⁽²⁾	-	-	-	11,250	28,174	(60)
Total capital expenditures ⁽³⁾	13,697	759	n/m	46,398	381,756	(88)

(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) Represents share consideration associated with the 2018 Midale consolidating working interest acquisition and the Grande Prairie Acquisition in 2017.

(3) Expenditures exclude non-cash expenditures for the decommissioning obligation and capitalized share-based compensation.

The Company's Board of Directors has approved a capital budget of \$47 million for 2019.

DECOMMISSIONING OBLIGATION

The decommissioning obligation decreased in the fourth quarter of 2018 to \$121.7 million from \$129.6 million at the end of 2017 mainly due to a \$10.8 million change in estimate which was predominantly a result of a change in timing and estimated amounts of future obligations. During the year, the Company settled \$6.4 million of decommissioning obligations and disposed of \$1.4 million of future obligations. As part of its capital budgeting process, the Company's Board of Directors has approved a \$5.0 million asset retirement budget for 2019.

LIQUIDITY AND CAPITAL RESOURCES

Capitalization table	As at		
	Dec 31, 2018	Dec 31, 2017	Change %
Net bank debt ⁽¹⁾	219,689	225,967	(3)
Convertible debentures	50,000	50,000	-
Shares outstanding	116,197,095	110,838,321	5
Market price at end of period (\$ per share)	\$ 2.22	\$ 5.09	(56)
Market capitalization	257,958	564,167	(54)
Total capitalization	527,647	840,134	(37)

(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 24, 2019 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 23, 2020. There are no financial or other restrictive 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 December 31, 2018.

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. The next scheduled review of the borrowing base is to be completed on or before May 24, 2019. 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 \$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 redeemable by the Company after January 1, 2019 subject to certain conditions. In December 2018, the Company announced a normal course issuer bid ("NCIB") whereby Cardinal can purchase up to \$5.0 million aggregate principal amount of its convertible debentures, subject to certain conditions. Under the NCIB, the convertible debentures 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 convertible debentures that Cardinal is permitted to purchase is subject to a daily purchase limit of \$6,000 aggregate principal amount of Convertible Debentures however, Cardinal may make one block purchase per calendar week which exceeds the daily repurchase restrictions. Any convertible debentures that are purchased under the NCIB will be cancelled upon their purchase by the Company. As at the date of this MD&A, the Company has repurchased and cancelled the maximum number of convertible debentures of \$5.0 million allowed under this NCIB at an average rate of 96.9314.

CAPITAL STRUCTURE

Cardinal manages its capital to provide a flexible structure to support production maintenance, capital programs, stability of 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 and dividend payments.

The key measures that the Company utilizes in evaluating its capital structure are 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 increases 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 quarterly and updated as necessary.

	Twelve months ended	
	Dec 31, 2018	Dec 31, 2017
Bank debt	\$ 211,443	\$ 218,905
Principal amount of Convertible Debentures	50,000	50,000
Working capital deficiency ⁽¹⁾	8,246	7,062
Net debt	\$ 269,689	\$ 275,967
Cash flow from operating activities	\$ 88,767	\$ 76,530
Change in non-cash working capital	(10,348)	1,525
Funds flow	\$ 78,419	\$ 78,055
Decommissioning obligation expenditures	6,443	3,933
Transaction costs	359	1,684
Adjusted funds flow	85,221	83,672
Net debt to adjusted funds flow	3.2	3.3

(1) Excludes the fair value of commodity contracts and the current portion of the decommissioning obligation

Cardinal's ratio of net debt to adjusted funds flow as at December 31, 2018 was 3.2 to 1. Although lower than the ratio at December 31, 2017 of 3.3 to 1, it increased over the previous quarter due to significantly lower Canadian oil prices experienced in the fourth quarter of 2018 which negatively affected cash flow from operating activities, adjusted funds flow and increased bank debt. Cardinal has targeted a ratio of 2.0 to 1 and has decreased the ratio from a high of 4.5 to 1 in the second quarter of 2017 to 2.3 to 1 in the third quarter of 2018. In the fourth quarter of 2018, the significant widening of Canadian crude oil differentials to WTI pricing negatively affected the ratio for the year. The Company believes this is a short-term event as evidenced by the narrowing of the differentials in 2019 however Cardinal will continue to evaluate further non-core asset dispositions or may consider other forms of financing to reduce its debt to within its targeted range.

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 December 31, 2018, Cardinal had a working capital deficiency of \$8.2 million and unused capacity of \$111.5 million on its Facilities.

The Company believes that it is well 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 dividend payments for the 2019 fiscal year.

DIVIDENDS

	Three months ended			Year ended		
	Dec 31, 2018	Dec 31, 2017	Change %	Dec 31, 2018	Dec 31, 2017	Change %
Dividends declared	9,573	11,896	(20)	46,680	40,904	14
Reinvested dividends (DRIP and SDP)	-	-	-	-	(756)	(100)
Cash dividends	9,573	11,896	(20)	46,680	40,148	16
Dividends declared per share	\$ 0.080	\$ 0.105	(24)	\$ 0.395	\$ 0.420	(6)

In the fourth quarter of 2018, the Company declared \$9.6 million of dividends of which \$8.2 million (2017 – \$7.7 million) was paid in cash and \$1.4 million (2017 - \$4.2 million) was recognized as a liability at December 31, 2018. In December 2018, due to record wide Canadian crude oil price differentials, the Company announced a reduction of the dividend to \$0.01 per share per month commencing with the December 2018 dividend payable on January 15, 2019. The Board of Directors will continue to review the dividend levels on a quarterly basis and may make adjustments to the dividend rate depending on market conditions at that time.

During the year ended December 31, 2018, \$46.7 million (2016 – \$40.9 million) of dividends (\$0.395 per common share) (2017 - \$0.42 per common share) were declared of which \$45.3 million (2017 - \$36.3 million) was paid in cash and \$1.4 million (2017 - \$4.2 million) was recognized as a liability at December 31, 2018. The dividend payable was settled on January 15, 2019. In 2017, Cardinal announced the suspension of the DRIP and SDP therefore all dividends were settled in cash in 2018.

SHARE CAPITAL

On January 12, 2018, the Company issued 2,314,815 common shares valued at \$4.86 per share as partial consideration for the consolidating acquisition increasing the Company's working interest in the Midale Unit from 68.8% to 77.2%.

In 2018, Cardinal granted 2.2 million RAs to officers, directors and employees pursuant to the Company's restricted bonus award plan.

Between August 30, 2018 and September 5, 2018, Cardinal issued an aggregate of 1,024,000 flow-through common shares pursuant to a private placement at \$5.65 per common share for gross proceeds of \$5.8 million. The Company recorded a deferred liability for the related premium in the amount of \$0.4 million. The Company incurred the qualifying Canadian Development Expenditures prior to December 30, 2018.

On August 30, 2018, Cardinal issued 640,000 flow-through common shares pursuant to a private placement at \$6.25 per common share for gross proceeds of \$4.0 million. The Company recorded a deferred liability for the related premium in the amount of \$0.5 million. Insiders subscribed for 204,000 of the common shares issued. The Company incurred \$1.1 million of qualifying Canadian Exploration Expenditures prior to December 31, 2018 and is committed to incurring the remaining \$2.9 million prior to December 31, 2019.

On December 14, 2017, Cardinal issued 475,000 flow-through common shares pursuant to a private placement at \$6.00 per common share for gross proceeds of \$2.9 million. The Company recorded a deferred liability for the related premium in the amount of \$0.6 million. The Company was committed to incur qualifying Canadian Exploration Expenditures prior to December 31, 2018 and as of year-end has incurred all of the eligible expenditures under this agreement.

Equity Instruments as at	Mar 19, 2019	Dec 31, 2018	Dec 31, 2017
Common shares	117,146,075	116,197,095	110,838,321
Convertible debentures (\$50.0 million convertible at \$10.50)	4,285,715	4,761,905	4,761,905
RAs	2,694,115	3,444,409	3,008,987
Stock options	6,945	12,501	108,337

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 *Commitments and Contractual Obligations*.

COMMITMENTS AND CONTRACTUAL OBLIGATIONS

At December 31, 2018, the Company had contractual obligations and commitments as follows:

	2019	2020	2021	2022	2023	Thereafter
Trade and other payables	30,618	-	-	-	-	-
Dividends payable	1,445	-	-	-	-	-
Bank debt	-	211,443	-	-	-	-
Capital commitments	4,438	-	-	-	-	-
Convertible debentures	2,750	52,750	-	-	-	-
Total contractual obligations	\$ 39,251	\$ 264,193	-	-	-	-

	2019	2020	2021	2022	2023	Thereafter
Office leases	1,458	1,436	1,475	1,475	1,475	-
Vehicle leases	819	680	242	-	-	-
Total commitments	\$ 2,277	\$ 2,116	\$ 1,717	\$ 1,475	\$ 1,475	-

SUBSEQUENT EVENTS

On **January 11, 2019**, the Company confirmed that a dividend of \$0.01 per common share would be paid on February 15, 2019 to shareholders of record on January 31, 2019. The total amount of dividends declared at January 31, 2019 was \$1.2 million.

On **February 11, 2019**, the Company confirmed that a dividend of \$0.01 per common share would be paid on March 15, 2019 to shareholders of record on February 28, 2019. The total amount of dividends declared at February 28, 2019 was \$1.2 million.

On **February 28, 2019**, the Company confirmed that, pursuant to the Normal Course Issuer Bid ("NCIB") announced in December 2018, has purchased and cancelled the maximum allowable 10% of the outstanding balance of debentures.

On **March 19, 2019**, the Company confirmed that a dividend of \$0.01 per common share would be paid on April 15, 2019 to shareholders of record on March 29, 2019.

ADDITIONAL INFORMATION

CRITICAL ACCOUNTING ESTIMATES

Cardinal's significant accounting policies including the use of judgments and key sources of estimation uncertainty are disclosed in note 3 to the December 31, 2018 financial statements. Certain accounting policies require that management make appropriate decisions with respect to the formulation of estimates and assumptions that affect the reported amounts of assets, liabilities, revenues and expenses. Cardinal continuously refines its management and reporting systems to ensure that accurate, timely and useful information is gathered and disseminated. Cardinal's financial and operating results incorporate certain estimates including the following:

- Estimated accruals for revenues, royalties and operating expenses where actual revenues and costs have not been received;
- Estimated capital expenditures where actual costs have not been received or for projects that are in progress;
- Estimated depletion is based on estimates of oil and gas reserves that Cardinal expects to recover in the future. As a key component in the D&D calculation, the reserve estimates have a significant impact on net

earnings and the Company's financial results could differ if there is a revision in our estimate of reserve quantities;

- Estimated future recoverable value of property, plant and equipment and any related impairment charges or recoveries are assessed for impairment when circumstances suggest the carrying amount may exceed its recoverable amount. The recoverable amount calculation requires the use of estimates which are subject to change as new information becomes available. Changes in assumptions used in determining the recoverable amount could affect the carrying value of the related assets;
- Estimated fair values of derivative contracts which are used to manage commodity price and power costs are determined using valuation models which require assumptions regarding the amount and timing of future cash flows and discount rates. As the Company's assumptions rely on external market data, the resulting fair value estimates may not be indicative of the amounts realized or settled and are therefore subject to market uncertainty;
- The decommissioning obligation is based on assumptions which take into consideration current economic factors and experience to date which we believe are reasonable. The actual cost of the Company's decommissioning obligation may change in response to numerous factors; and
- Estimated deferred income tax assets and liabilities are based on current tax interpretations, regulations and legislation which are subject to change. As a result, there are usually a number of tax matters under review and therefore income taxes are subject to measurement uncertainty.

Past estimates are reviewed and analyzed regularly to improve the accuracy of future estimates. New information and changed circumstances may result in actual results or changes to estimate amounts that differ materially from current estimates.

RISKS

Financial Risk

Financial risk is the risk of loss or lost opportunity resulting from financial management and market conditions that could have a positive or negative impact on Cardinal's business. Financial risks the Company is exposed to include: marketing production at an acceptable price given market conditions; finding and producing reserves at a reasonable cost; volatility in market prices for oil and natural gas; fluctuations in foreign exchange and interest rates; stock market volatility; debt service which may limit timing or amount of dividends as well as market price of shares; the continued availability of adequate debt and equity financing and funds flow to fund planned expenditures; sufficient liquidity for future operations; lost revenue or increased expenditures as a result of delayed or denied environmental, safety or regulatory approvals; cost of capital risk to carry out the Company's operations; and uncertainties associated with credit facilities and counterparty credit risk.

Operational Risk

Operational risk is the risk of loss or lost opportunity resulting from operating and capital activities that, by their nature, could have an impact on the Company's ability to achieve objectives. Operational risks that Cardinal is exposed to include: uncertainties associated with estimating oil and natural gas reserves; incorrect assessments of the value of acquisitions and exploration and development programs; failure to realize the anticipated benefits of acquisitions; uncertainties associated with partner plans and approvals; operational matters related to non-operated properties; inability to secure adequate product transportation; delays in business operations, pipeline restrictions, blowouts; unforeseen title defects; increased competition for, among other things, capital, acquisitions of reserves and undeveloped lands; competition for and availability of qualified personnel or management; loss of key personnel; unexpected geological, technical, drilling, construction and processing problems; availability of insurance; competitive action by other companies; the ability of suppliers to meet commitments and risks; and uncertainties related to oil and gas interests and operations on tribal lands.

Safety, Environmental and Regulatory Risks

Safety, environmental and regulatory risks are the risks of loss or lost opportunity resulting from changes to laws governing safety, the environment, royalties and taxation. Safety, environmental and regulatory risks that Cardinal is exposed to include: aboriginal land claims; uncertainties associated with regulatory approvals; uncertainty of

government policy changes; the risk of carrying out operations with minimal environmental impact; changes in or adoption of new laws and regulations or changes in how they are interpreted or enforced; obtaining required approvals of regulatory authorities and stakeholder support for activities and growth plans.

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.

On June 13, 2016, the province of Alberta received royal assent for its Climate Leadership Plan which will impact businesses that contribute to carbon emissions in Alberta. The plan's four key areas include imposing a carbon pricing levy that is applied across all sectors, starting at \$20 per tonne on January 1, 2017 and moving to \$30 per tonne on January 1, 2018, and a 45 percent reduction in methane emissions by the oil and gas sector by 2025.

The Extractive Sector Transparency Measures Act "ESTMA" was brought into force on June 1, 2015. ESTMA delivers on Canada's international commitments to contribute to global efforts to increase transparency and deter corruption in the extractive sector. ESTMA requires extractive entities to publicly disclose, on an annual basis, specific payments made to all Governments in Canada and abroad.

Information Systems

Our operations rely heavily on information technology, such as computer hardware and software systems, to properly operate our business. These systems could be damaged, corrupted or interrupted by natural disasters, telecommunications failures, power loss, malicious acts or code, computer viruses, physical or electronic security breaches, user misuse or user error. A system disruption or breach could adversely impact our reputation, financial condition, results of operations and cash flows.

Risk Management

Cardinal is committed to identifying and managing its risks in the near term, as well as on a strategic and longer term basis at all levels in the organization. Issues affecting, or with the potential to affect, our assets, operations and/or reputation, are generally of a strategic nature or are emerging issues that can be identified early and then managed, but occasionally include unforeseen issues that arise unexpectedly and must be managed on an urgent basis.

Cardinal takes a proactive approach to the identification and management of issues that can affect the Company's assets, operations and/or reputation. Specific actions to ensure effective risk management include: employing qualified professional and technical staff; concentrating in a limited number of areas with low cost exploitation and development objectives; utilizing the latest technology for finding and developing reserves; constructing quality, environmentally sensitive and safe production facilities; adopting and communicating sound policies governing all areas of our business; maximizing operational control of drilling and production operations; strategic hedging of commodity prices; adhering to conservative borrowing guidelines; and monitoring counterparty creditworthiness.

DISCLOSURE CONTROLS AND PROCEDURES

Disclosure controls and procedures ("DC&P"), as defined in National Instrument 52-109 *Certification of Disclosure in Issuers' Annual and Interim Filings* ("NI 52-109"), are designed to provide reasonable assurance that material information required to be disclosed in the Company's annual filings, interim filings or other reports filed, or submitted by the Company under securities legislation is recorded, processed, summarized and reported within the time periods specified under securities legislation and include controls and procedures designed to ensure that information required to be so disclosed is accumulated and communicated to management, including the Chief Executive Officer ("CEO") and the Chief Financial Officer ("CFO"), as appropriate, to allow timely decisions regarding required disclosure.

The CEO and the CFO have evaluated the effectiveness of Cardinal's disclosure controls and procedures as at December 31, 2018 and have concluded that such disclosure controls and procedures are effective. The assessment was based on the framework in Internal Control – Integrated Framework (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission ("COSO 2013").

INTERNAL CONTROLS OVER FINANCIAL REPORTING

Internal control over financial reporting ("ICOFR"), as defined in NI 52-109, includes those policies and procedures that: a) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect transactions and dispositions of assets of Cardinal; b) are designed to provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with IFRS and that receipts and expenditures of the Company are being made in accordance with authorizations of management and Directors of Cardinal; and c) are designed to provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of the Company's assets that could have a material effect on the financial statements.

The CEO and the CFO have designed, or caused to be designed under their supervision, internal controls over financial reporting as defined in NI 52-109, in order to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with IFRS. The CEO and the CFO have evaluated the design and operating effectiveness of Cardinal's ICOFR as at December 31, 2018 and have concluded that such internal controls over financial reporting are designed and operating effectively. The control framework Cardinal's officers used to design the Company's ICOFR is COSO 2013.

There were no changes in Cardinal's ICOFR during the quarter ended December 31, 2018 that materially affected, or are reasonably likely to materially affect, the Company's ICOFR.

Due to their inherent limitations, internal controls over financial reporting may not prevent or detect misstatements. In addition, projections of any evaluation relating to the effectiveness in future periods are subject to the risk that controls may become inadequate as a result of changes in conditions, or that the degree of compliance with policies and procedures may deteriorate. It should also be noted that a control system, including the Company's DC&P and ICOFR, no matter how well conceived or operated, can provide only reasonable, not absolute, assurance that the objective of the control system is met and it should not be expected that the DC&P and ICOFR will prevent all errors or fraud.

CHANGE IN ACCOUNTING POLICIES

IFRS 15 – Revenue from Contracts with Customers

Cardinal adopted IFRS 15 with a date of initial application of January 1, 2018 as detailed in note 15 of the December 31, 2018 audited financial statements. The Company used the modified retrospective method to adopt the new standard. Cardinal has performed a review of its revenue streams and sales contracts with customers using the IFRS 15 five step model and concluded that the adoption of IFRS 15 does not have a material impact on the Company's earnings. Refer to note 15 of the December 31, 2018 audited financial statements for more information including additional disclosure as required under IFRS 15.

Revenue Recognition

Under IFRS 15, revenue from the sale of crude oil, natural gas and natural gas liquids is measured based on the consideration specified in contracts with customers and recognizes revenue when it transfers control of the product to the buyer. This is generally at the time the customer obtains legal title to the product and when it is physically transferred to the delivery mechanism agreed with the customer, often pipelines or other transportation methods.

Cardinal evaluates its arrangements with 3rd parties and partners to determine if the Company acts as the principal or as an agent. In making this evaluation, management considers if Cardinal obtains control of the product delivered, which is indicated by Cardinal having the primary responsibility for the delivery of the product, having the ability to establish prices or having inventory risk. If Cardinal acts in the capacity of an agent rather than as a principal in a transaction, then the revenue is recognized on a net-basis, only reflecting the fee, if any, realized by the entity from the transaction. Royalty income is recognized as it accrues in accordance with the terms of the overriding royalty agreements.

IFRS 9 – Financial Instruments

The Corporation adopted IFRS 9, "Financial Instruments" on January 1, 2018. The transition to IFRS 9 had no material effect on the Corporation's financial statements.

IFRS 9 contains three principal classification categories for financial assets: measured at amortized cost, fair value through other comprehensive income ("FVOCI"); or fair value through profit or loss ("FVTPL"). The classification of financial assets under IFRS 9 is generally based on the business model in which a financial asset is managed and its contractual cash flow characteristics. IFRS 9 eliminates the previous IFRS 39 categories of held to maturity, loans and receivables and available for sale. Under IFRS 9, derivatives embedded in contracts where the host is a financial asset in the scope of the standard are never separated. Instead, the hybrid financial instrument as a whole is assessed for classification.

Impairment of financial assets: IFRS 9 replaces the "incurred loss" model in IAS 39 with an "expected credit loss" model. The new impairment model applies to financial assets measured at amortized cost, and contract assets and debt investments at FVOCI. Under IFRS 9, credit losses are recognized earlier than under IAS 39. There was no impact on the Corporation's financial statements.

Cash and cash equivalents, if any, and trade and other receivables continue to be measured at amortized cost and are now classified as "amortized cost". The Corporation's financial liabilities previously classified as "other financial liabilities" being trade and other payables, dividends payable and bank debt continue to be measured at amortized cost and are now classified as "amortized cost". The Corporation has not designated any financial instruments as FVOCI or FVTPL, nor does the Corporation use hedge accounting.

IFRS 16 – Leases

Cardinal is required to adopt IFRS 16 "Leases" by January 1, 2019 which requires entities to recognize lease assets and lease obligations on the balance sheet. For lessees, IFRS 16 removes the classification of leases as either operating leases or finance leases, effectively treating all leases as finance leases. Certain short-term leases (less than 12 months) and leases of low-value assets are exempt from the requirements, and may continue to be treated as operating leases.

The Company will use a modified retrospective approach on adoption of IFRS 16 which does not require restatement of prior period financial information as it applies the standard prospectively. On adoption, non-current assets, current liabilities, and non-current liabilities on Cardinal's balance sheet will increase. Interest expense will be recognized on the lease obligation and lease payments will be applied against the lease obligation. This is expected to result in a decrease to operating expenses and general and administration expenses and an increase to interest expense, cash flows from operations and depletion and depreciation expense. The Company will utilize the practical exemptions under the standard for short-term leases and low-value asset leases. Cardinal has assessed its contracts and expects adjustments for its office leases, vehicles and certain office equipment however the full extent of the impact is still being measured.

OUTLOOK

While the fourth quarter of 2018 was challenging for Cardinal, the Company has a positive outlook on 2019 and beyond. Significant positive reserve results combined with the encouraging production response from the 2018 drilling program and enhanced oil recovery projects enrich the Company's future projects and asset base. The low production decline rate of the Company's assets continue to support the capital program, dividend and debt repayment initiatives during challenging times. The Company's conservative 2019 capital budget of \$47 million is forecasted to maintain production and will be supported through the recent activity on our risk management program and Cardinal will be vigilant on cost reduction initiatives which includes finding ways to decrease our operating and G&A costs on a continuous basis.

QUARTERLY DATA

	Dec 31, 2018	Sep 30, 2018	Jun 30, 2018	Mar 31, 2018
Production				
Oil and NGL (bbl/d)	17,622	18,163	18,110	18,492
Natural gas (mcf/d)	16,460	16,718	16,632	16,505
Oil equivalent (boe/d)	20,365	20,949	20,882	21,243
Financial				
Revenue	59,077	113,551	111,847	94,779
Earnings (loss)	84,760	9,068	(19,970)	(13,314)
Basic per share (\$)	0.73	0.08	(0.17)	(0.12)
Diluted per share (\$)	0.70	0.08	(0.17)	(0.12)
Cash flow from operating activities	6,968	28,074	21,923	31,802
Adjusted funds flow ⁽³⁾	5,513	27,072	27,085	25,551
Basic per share (\$)	0.05	0.24	0.24	0.23
Diluted per share (\$)	0.05	0.23	0.24	0.23
Working capital deficiency ⁽¹⁾	(8,246)	(16,204)	(12,488)	(12,505)
Total assets	1,206,336	1,198,150	1,216,642	1,216,075
Bank debt	211,443	184,524	200,645	200,836
Principal amount of convertible debentures	50,000	50,000	50,000	50,000
Total long-term liabilities ⁽²⁾	376,651	365,083	380,961	380,859
Shareholders' equity	792,622	715,260	707,163	737,201
Weighted average shares - basic (000's)	116,121	114,823	114,190	113,397
Weighted average shares - diluted (000's)	121,986	116,411	114,190	113,397
Common shares outstanding (000's)	116,197	116,039	114,228	113,985
Diluted shares outstanding (000's) ⁽⁴⁾	119,654	119,647	117,775	117,996
	Dec 31, 2017	Sep 30, 2017	Jun 30, 2017	Mar 31, 2017
Production				
Oil and NGL (bbl/d)	17,943	18,355	13,817	13,009
Natural gas (mcf/d)	18,032	18,650	20,021	12,952
Oil equivalent (boe/d)	20,949	21,463	17,154	15,168
Financial				
Revenue	97,646	86,022	67,602	62,574
Earnings (loss)	(54,308)	(12,070)	1,218	7,562
Basic per share (\$)	(0.49)	(0.11)	0.02	0.10
Diluted per share (\$)	(0.49)	(0.11)	0.02	0.10
Cash flow from operating activities	24,442	23,719	12,986	15,383
Adjusted funds flow ⁽³⁾	28,421	23,521	17,144	14,586
Basic per share (\$)	0.26	0.21	0.22	0.19
Diluted per share (\$)	0.26	0.21	0.21	0.19
Working capital deficiency ⁽¹⁾	(7,062)	(4,098)	(5,423)	(11,396)
Total assets	1,228,596	1,301,832	1,310,125	982,602
Bank debt	218,905	239,418	233,229	82,978
Principal amount of convertible debentures	50,000	50,000	50,000	50,000
Total long-term liabilities ⁽²⁾	397,980	428,774	420,227	249,806
Shareholders' equity	749,962	813,407	834,532	675,505
Weighted average shares - basic (000's)	110,446	110,278	79,612	75,557
Weighted average shares - diluted (000's)	110,446	110,278	80,511	76,919
Common shares outstanding (000's)	110,838	110,324	110,184	79,262
Diluted shares outstanding (000's) ⁽⁴⁾	113,956	113,525	113,222	82,361

(1) – Excluding the fair value of financial instruments and the current portion of decommissioning obligation

(2) – Includes bank debt and the liability component of convertible debentures

(3) – See non-GAAP measures

(4) – Excludes the impact of convertible debentures

Production increases in the first half of 2017 were due to the Grande Prairie Acquisition and drilling at Bantry and Mitsue and this was further increased and sustained in the third and fourth quarter of 2017 with the House Mountain/Midale Acquisition. Increases in production and commodity prices have resulted in increasing revenue until the fourth quarter of 2018. In the fourth quarter of 2018, concern over 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 45% lower than the average of the previous three quarters in 2018.

Similarly, adjusted funds flow followed the same direction increasing in the third and fourth quarter of 2017 due to the Grande Prairie and House Mountain/Midale Acquisitions and were consistent through the first three quarters of 2018 from continued stronger commodity pricing until the significant drop in revenues in the fourth quarter of 2018.

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 gain of \$19.9 million and \$15.3 million in the first and second quarters of 2017, respectively, compared to an unrealized loss of \$18.8 million and \$26.3 million in the first and second quarters of 2018, respectively. In the third quarter of 2017 as forward commodity prices increased, the Company incurred a \$4.0 million unrealized loss compared to a \$14.1 million unrealized gain for the same period in 2018. 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. The Company's earnings also fluctuate with non-cash impairment charges and reversals of previous impairments on its assets as shown with an impairment charge of \$61.0 million in the fourth quarter of 2017 and a reversal of previous impairments of \$76.5 million in the fourth quarter of 2018.

ANNUAL DATA

	2018	2017	2016
Production			
Oil and NGL (bbl/d)	18,095	15,802	12,771
Natural gas (mcf/d)	16,579	17,431	11,042
Oil equivalent (boe/d)	20,858	18,707	14,611
Financial			
Revenue	379,254	313,844	195,942
Earnings (loss)	60,544	(57,597)	(87,322)
Basic per share (\$)	0.53	(0.61)	(1.25)
Diluted per share (\$)	0.52	(0.61)	(1.25)
Cash flow from operating activities	88,767	76,530	60,962
Adjusted funds flow	85,221	83,672	59,178
Basic per share (\$)	0.74	0.89	0.84
Diluted per share (\$)	0.74	0.89	0.84
Dividends per share (\$)	0.395	0.42	0.42
Working capital deficiency ⁽¹⁾	(8,246)	(7,062)	(9,028)
Total assets	1,206,336	1,228,596	946,237
Bank debt	211,443	218,905	61,272
Principal amount of convertible debentures	50,000	50,000	50,000
Total long-term liabilities	376,651	397,980	228,437
Shareholders' equity	792,622	749,962	651,080
Weighted average shares - basic (000's)	114,641	94,113	70,097
Weighted average shares - diluted (000's)	115,679	94,113	70,097
Common shares outstanding (000's)	116,197	110,838	74,152
Diluted shares outstanding (000's) ⁽²⁾	119,654	113,441	77,753

(1) – Excluding the fair value of financial instruments and the current portion of decommissioning obligation

(2) – Exclude the impact of convertible debentures

Annual production has increased from 2016 primarily due to the Grande Prairie Acquisition, House Mountain/Midale Acquisition that closed in the first half of 2017 and successful drilling at Bantry and Grande Prairie. Revenue has varied primarily due to increases in production and volatility in commodity prices.

Adjusted funds flow increased in 2017 due to increased production and oil prices. Cardinal's earnings (loss) varied significantly due to changes in realized gains and unrealized losses on commodity contracts, an impairment of \$61.0 million in 2017, and a reversal of previous impairment in 2018.

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:

- estimated tax pools, future taxability and future taxable income;
- expectations to maintain the Facilities at \$325 million at the next scheduled review and the timing of this review;
- Cardinal's business strategy, goals and management focus;
- Cardinal's dividend plans, the amount, timing and sources of funding of the payment of future dividends and the consistency of our dividend policy;
- plans to evaluate non-core asset dispositions or other forms of financing to reduce debt;
- plans to maintain a conservative leverage profile through a targeted net debt to adjusted funds flow ratio of less than 2.0 with proceeds of non-core asset dispositions;
- Cardinal's risk management strategy including the mitigation of our exposure to commodity price risk, medium crude oil differentials and the benefits to be obtained therefrom;
- sources of funds for the Company's operations, capital expenditures, decommissioning obligations and dividend payments;
- future liquidity and the Company's access to sufficient debt and equity capital;
- Cardinal's asset base and future prospects for development and growth therefrom;
- expectations regarding the business environment, industry conditions, future commodity prices and differentials;
- Cardinal's capital management strategies;
- 2019 capital expenditures;
- Cardinal's cost reduction initiatives;
- plans with respect to flow through share obligations;
- treatment under governmental and other regulatory regimes and tax, environmental and other laws; and
- the impact of future accounting policies.

Forward-looking statements regarding Cardinal are based on certain key expectations and assumptions of Cardinal concerning anticipated financial performance, business prospects, strategies, regulatory developments, current and future commodity prices and exchange rates, applicable royalty rates, tax laws, 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 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, drilling success and potential timing delays.

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; 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; 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.

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
"DRIP"	Dividend reinvestment plan
"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 %
"SDP"	Stock dividend program
"US"	United States
"USD"	United States dollars
"WCS"	Western Canadian Select
"WTI"	West Texas Intermediate