



# CARDINAL ENERGY LTD.



**MANAGEMENT  
DISCUSSION &  
ANALYSIS**

**Q3 2016**

## ADVISORIES

This management's discussion and analysis ("MD&A") is a review of operations, financial position and outlook for Cardinal Energy Ltd. ("Cardinal" or the "Company") for the three and nine months ended September 30, 2016 and is dated November 7, 2016. The MD&A should be read in conjunction with Cardinal's unaudited interim condensed financial statements for the three and nine months ended September 30, 2016 and the audited financial statements as at and for the years ended December 31, 2015 and 2014. There have been no significant changes to the critical estimates disclosed in the Company's audited financial statements for the years ended December 31, 2015 and 2014. Financial data presented has been prepared in accordance with International Financial Reporting Standards ("IFRS" or, alternatively, "GAAP"), unless otherwise indicated.

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

### Non-GAAP Financial Measures

Cardinal uses terms within the MD&A that do not have a standardized prescribed meaning under GAAP and these measurements may not be comparable with the calculation of similar measurements of other entities.

The terms "cash flow from operations", "cash flow from operations per share", "netback", "net debt", "net debt to cash flow from operations", "net bank debt", "free cash flow", "simple payout ratio" and "total payout ratio" in this MD&A are not recognized measures under GAAP. Management believes that in addition to net 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 net earnings or cash flow from operating activities determined in accordance with GAAP as an indication of Cardinal's performance.

Management utilizes "cash flow from operations" as a key measure to assess the ability of the Company to generate the funds necessary to finance operating activities, capital expenditures and dividends. Cash flow from operations is based on cash flow from operating activities before the change in non-cash working capital and decommissioning expenditures since Cardinal believes the timing of collection, payment or incurrence of these items involves a high degree of discretion and as such may not be useful for evaluating Cardinal's operating performance. The following table reconciles cash flow from operating activities to cash flow from operations:

	Three months ended			Nine months ended		
	Sep 30, 2016	Sep 30, 2015	Change %	Sep 30, 2016	Sep 30, 2015	Change %
Cash flow from operating activities	22,092	32,497	(32)	51,234	77,614	(34)
Decommissioning expenditures	469	264	78	842	841	0
Change in non-cash working capital	(4,384)	(7,951)	(45)	(9,219)	(1,764)	n/m
<b>Cash flow from operations</b>	<b>18,177</b>	<b>24,810</b>	<b>(27)</b>	<b>42,857</b>	<b>76,691</b>	<b>(44)</b>

"Cash flow from operations per share" is calculated using the same weighted average number of shares outstanding used in calculating earnings per share.

"Netback" is calculated on a boe basis and is determined by deducting royalties and operating expenses from petroleum and natural gas revenue. 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 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 cash flow from operations" is calculated as net debt divided by cash flow from operations for the most recent quarter, annualized. The ratio of net debt to cash flow from operations 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 unsecured subordinated debentures.

"Free cash flow" represents cash flow from operations less dividends declared (net of participation in the DRIP and SDP) and less development capital expenditures necessary to maintain the Company's base production. "Total payout ratio" represents the ratio of the sum of dividends declared (net of participation in the DRIP and SDP) plus development capital expenditures necessary to maintain the Company's base production divided by cash flow from operations. "Simple payout ratio" represents the ratio of the amount of dividends declared (net of participation in the DRIP and SDP), divided by cash flow from operations. Free cash flow, total payout ratio and simple payout ratio are other key measures to assess Cardinal's ability to finance operating activities, capital expenditures and dividends.

#### **Forward-Looking Statements**

Please refer to our disclaimer on forward looking statements at the end of this MD&A.

#### **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.**

## **THIRD QUARTER 2016 HIGHLIGHTS**

Cardinal achieved quarterly production of 14,957 boe/d (87% crude oil and NGL). This represent an increase of 33% compared to the third quarter of 2015 and 2% to the second quarter of 2016.

Production for the nine months ended September 30, 2016 increased 31% to 14,610 boe/d from 11,179 boe/d in 2015.

Operating expenses per boe for the third quarter decreased to \$19.96/boe from \$20.60 in the third quarter of 2015 and \$20.23 in the second quarter of 2016.

General and administrative expenses per boe decreased to \$1.82/boe from \$2.09/boe in the second quarter of 2016.

Netback and cash flow from operations for the quarter increased by 7% compared to the second quarter of 2016.

Exploration and development capital expenditures totaled \$12.7 million in the third quarter of 2016 and included three (3 net) horizontal Glauconite wells at Bantry and well and facility optimization.

## OPERATIONS

### PRODUCTION

	Three months ended			Nine months ended		
	Sep 30, 2016	Sep 30, 2015	Change %	Sep 30, 2016	Sep 30, 2015	Change %
Crude oil (bbl/d)	12,657	10,278	23	12,528	10,251	22
NGL (bbl/d)	370	43	n/m	305	75	n/m
Crude oil and NGL (bbl/d)	13,027	10,321	26	12,833	10,326	24
Natural gas (mcf/d)	11,578	5,390	115	10,660	5,120	108
<b>boe/d</b>	<b>14,957</b>	<b>11,220</b>	<b>33</b>	<b>14,610</b>	<b>11,179</b>	<b>31</b>
<b>% Crude oil and NGL production</b>	<b>87%</b>	<b>92%</b>	<b>(5)</b>	<b>88%</b>	<b>92%</b>	<b>(5)</b>

On October 30, 2015, Cardinal closed the Mitsue acquisition which added approximately 3,300 boe/d of production (78% light crude oil and NGL).

Cardinal's production in the third quarter of 2016 increased by 33% to 14,957 boe/d compared to 11,220 boe/d in the third quarter of 2015. For the nine months ended September 30, 2016 production increased by 31% to 14,610 boe/d compared to 11,179 boe/d in 2015. The increases were due to the successful development drilling at Bantry in 2016 and the Mitsue acquisition.

### REVENUE

	Three months ended			Nine months ended		
	Sep 30, 2016	Sep 30, 2015	Change %	Sep 30, 2016	Sep 30, 2015	Change %
Crude oil	50,581	41,373	22	130,353	130,606	-
NGL	579	141	n/m	1,178	411	187
Crude oil and NGL	51,160	41,514	23	131,531	131,017	-
Natural gas	2,513	1,435	75	5,690	3,783	50
<b>Petroleum and natural gas revenue</b>	<b>53,673</b>	<b>42,949</b>	<b>25</b>	<b>137,221</b>	<b>134,800</b>	<b>2</b>
<b>Cardinal average prices</b>						
Crude oil (\$/bbl)	43.44	43.75	(1)	37.98	46.67	(19)
Natural gas (\$/mcf)	2.36	2.89	(18)	1.95	2.71	(28)
<b>Equivalent (\$/boe)</b>	<b>39.01</b>	<b>41.61</b>	<b>(6)</b>	<b>34.28</b>	<b>44.17</b>	<b>(22)</b>
<b>Benchmark prices</b>						
Crude oil - WTI (US \$/bbl)	44.94	46.43	(3)	41.33	51.00	(19)
Crude oil - WCS (Cdn \$/bbl)	41.00	43.26	(5)	36.30	47.48	(24)
Natural gas - AECO Spot (Cdn \$/mmbtu)	2.36	2.91	(19)	1.87	2.78	(33)
Exchange rate - (US/CAD)	0.77	0.76	1	0.76	0.79	(4)

Petroleum and natural gas revenue increased by 25% to \$53.7 million (\$39.01/boe) in the third quarter of 2016 compared to \$42.9 million (\$41.61/boe) in the third quarter of 2015. The increase is due to a 33% increase in production which was partially offset by a 6% decrease in our average realized commodity price.

Cardinal's average realized crude oil price relative to WCS increased in the third quarter and for the nine months ended September 30, 2016 compared to the same periods of 2015 with the addition of light crude oil production from the Mitsue acquisition. The decreases in the average realized crude oil price are consistent with the reduction in the WCS benchmark price after adjusting for the new crude oil quality mix. Current North America crude oil production and inventory levels have improved the supply/demand imbalance and crude oil prices have increased since the first quarter of 2016.

Petroleum and natural gas revenue increased to \$137.2 million (\$34.28/boe) for the nine months ended September 30, 2016 compared to \$134.8 million (\$44.17/boe) for the same period of 2015 due to a 31% increase in Cardinal's production which was partially offset by a 22% decrease in our average realized commodity price.

To mitigate commodity price risks Cardinal has an active 3 year hedging program for Canadian dollar denominated WTI prices. Cardinal is also exposed to medium crude oil differentials at its properties in Bantry and Wainwright. To mitigate this exposure the Company has entered into WCS differential swaps.

## FINANCIAL INSTRUMENTS

	Three months ended			Nine months ended		
	Sep 30, 2016	Sep 30, 2015	Change %	Sep 30, 2016	Sep 30, 2015	Change %
Average crude oil volumes hedged (bbls/d)	<b>7,583</b>	4,950	53	<b>6,417</b>	4,594	40
Realized gain - commodity contracts	<b>2,395</b>	11,907	(80)	<b>16,280</b>	36,111	(55)
Unrealized gain (loss) - commodity	<b>2,886</b>	16,989	(83)	<b>(41,331)</b>	(16,016)	158

Managing the variability in cash flow from operations 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 power are all proactively managed using financial derivatives with investment-grade counterparties. The Company considers these derivative contracts to be an effective means to manage cash flow from operations.

Cardinal utilizes a variety of derivatives, including swaps and collars 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 3 years, of up to 75% of gross average forward 12 months 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 and AECO (unless otherwise noted) outstanding:

Commodity Derivative Traded	Period	Average Volume	Average Strike Price
<b>Crude Oil</b>			
CAD WTI Swap	Oct - Dec 2016	6,250 bbl/d	\$ 64.00
	Jan - Dec 2017	5,705 bbl/d	\$ 62.88
	Jan - Dec 2018	1,492 bbl/d	\$ 66.08
WCS Differential	Oct - Dec 2016	6,000 bbl/d	\$ 18.38
	Jan - Dec 2017	4,414 bbl/d	\$ 18.53
<b>Natural Gas</b>			
AECO Swap	Oct - Dec 2016	3,000 gj/d	\$ 2.12
	Jan - Dec 2017	4,996 gj/d	\$ 2.43
	Jan - Dec 2018	2,329 gj/d	\$ 2.59
AECO Collar	Oct - Dec 2016	3,000 gj/d	Put \$ 2.00
			Call \$ 2.93

In connection with certain of the contracts summarized above Cardinal has also granted the counterparties call options on 500 bbl/d for fiscal 2017 at \$80 CAD WTI and 1,000 bbl/d for fiscal 2018 at \$70 CAD WTI.

## ROYALTIES

	Three months ended			Nine months ended		
	Sep 30, 2016	Sep 30, 2015	Change %	Sep 30, 2016	Sep 30, 2015	Change %
Royalties	<b>6,856</b>	5,622	22	<b>17,151</b>	17,110	0
Percent of revenue	<b>12.8%</b>	13.1%	(2)	<b>12.5%</b>	12.7%	(2)
\$/boe	<b>4.98</b>	5.45	(9)	<b>4.28</b>	5.61	(24)

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 increased by 22% to \$6.9 million (12.8% of revenue) for the third quarter of 2016 from \$5.6 million (13.1% of revenue) in the third quarter of 2015. The increase in royalties for the third quarter of 2016 was due to increased production which was partially offset by a decrease in commodity prices.

Royalties for the nine months ended September 30, 2016 were \$17.2 million (12.5% of revenue) compared to \$17.1 million (12.7% of revenue) in 2015. Royalties for the nine months were consistent as the increase in production in the period was offset by a decrease in commodity prices.

Royalties as a percentage of revenue for all periods were consistent.

## OPERATING EXPENSES

	Three months ended			Nine months ended		
	Sep 30, 2016	Sep 30, 2015	Change %	Sep 30, 2016	Sep 30, 2015	Change %
Operating expenses	<b>27,467</b>	21,266	29	<b>82,261</b>	66,874	23
\$/boe	<b>19.96</b>	20.60	(3)	<b>20.55</b>	21.91	(6)

Operating expenses include activities in the field required to operate wells and facilities, lift to surface, gather, process, treat, store and ship production. Cardinal manages the variability in its power costs using financial derivative contracts.

For the third quarter of 2016, operating expenses increased to \$27.5 million (\$19.96/boe) compared to \$21.3 million (\$20.60/boe) in the third quarter of 2015. Operating expenses for the nine months ended September 30, 2016 increased to \$82.3 million (\$20.55/boe) from \$66.9 million (\$21.91/boe) in the same period of 2015. The increases in operating expenses are primarily due to the Mitsue acquisition.

Operating expenses per boe continued to decrease in 2016 with a reduction in the third quarter of 3% compared to the third quarter of 2015. Operating expenses per boe for the first nine months of 2016 also decreased by 6% compared to 2015. The decreases were due to several cost cutting initiatives implemented in the Company's core operating areas and a reduction in the frequency and per well cost of workovers.

## NETBACK

	Three months ended			Nine months ended		
	Sep 30, 2016	Sep 30, 2015	Change %	Sep 30, 2016	Sep 30, 2015	Change %
Petroleum and natural gas revenue	<b>39.01</b>	41.61	(6)	<b>34.28</b>	44.17	(22)
Royalties	<b>4.98</b>	5.45	(9)	<b>4.28</b>	5.61	(24)
Operating expenses	<b>19.96</b>	20.60	(3)	<b>20.55</b>	21.91	(6)
Netback	<b>14.07</b>	15.56	(10)	<b>9.45</b>	16.65	(43)
Realized gain	<b>1.74</b>	11.53	(85)	<b>4.07</b>	11.83	(66)
<b>Netback after risk management</b>	<b>15.81</b>	27.09	(42)	<b>13.52</b>	28.48	(53)

Cardinal's netback decreased to \$14.07 in the third quarter of 2016 from \$15.56 in the third quarter of 2015 and for the nine months ended September 30, 2016 netback decreased to \$9.45 from \$16.65 in 2015. The decreases are primarily due to the reduced commodity price environment.

Netback after risk management reflects realized gains on commodity contracts in all periods.

## GENERAL AND ADMINISTRATIVE EXPENSES ("G&A")

	Three months ended			Nine months ended		
	Sep 30, 2016	Sep 30, 2015	Change %	Sep 30, 2016	Sep 30, 2015	Change %
Gross G&A	<b>2,819</b>	2,856	(1)	<b>8,858</b>	9,048	(2)
Capitalized G&A and overhead recoveries	<b>(311)</b>	(246)	26	<b>(972)</b>	(642)	51
Net G&A	<b>2,508</b>	2,610	(4)	<b>7,886</b>	8,406	(6)
\$/boe	<b>1.82</b>	2.53	(28)	<b>1.97</b>	2.75	(28)

G&A for the third quarter of 2016 was \$2.5 million (\$1.82/boe) compared to \$2.6 million (\$2.53/boe) in the third quarter of 2015. For the nine months ended September 30, 2016, G&A was \$7.9 million (\$1.97/boe) compared to \$8.4 million (\$2.75/boe) for the same period of 2015.

The decreases in G&A are primarily due to increases in overhead recoveries. The decreases in G&A per boe are due to increases in production from the successful development drilling at Bantry and the Mitsue acquisition.

## SHARE-BASED COMPENSATION ("SBC")

	Three months ended			Nine months ended		
	Sep 30, 2016	Sep 30, 2015	Change %	Sep 30, 2016	Sep 30, 2015	Change %
Gross SBC	<b>3,042</b>	2,718	12	<b>8,624</b>	7,813	10
Capitalized SBC	<b>(324)</b>	(286)	13	<b>(933)</b>	(844)	11
Net SBC	<b>2,718</b>	2,432	12	<b>7,691</b>	6,969	10
\$/boe	<b>1.98</b>	2.36	(16)	<b>1.92</b>	2.28	(16)

For the third quarter of 2016 Cardinal recorded \$2.7 million (\$1.98/boe) of share-based compensation compared to \$2.4 million (\$2.36/boe) in the third quarter of 2015. For the nine months ended September 30, 2016, share-based compensation was \$7.7 million (\$1.92/boe) compared to \$7.0 million (\$2.28/boe) in the same period of 2015.

The increase for both periods is due to additional restricted bonus awards ("RAs") granted to staff and executives in the first quarter of 2016 and the decrease in share-based compensation per boe is due to increases in production from drilling at Bantry and the Mitsue acquisition.

As at September 30, 2016, Cardinal had 2.7 million RAs outstanding.

## FINANCE

	Three months ended			Nine months ended		
	Sep 30, 2016	Sep 30, 2015	Change %	Sep 30, 2016	Sep 30, 2015	Change %
Interest - bank debt	185	460	(60)	1,316	1,414	(7)
Other finance charges, net	186	62	200	404	390	4
Interest - convertible debentures	690	-	n/a	2,061	-	n/a
Accretion	2,338	1,497	56	6,850	4,342	58
Finance expense	3,399	2,019	68	10,631	6,146	73
\$/boe	2.47	1.96	26	2.66	2.01	32
Average bank debt	26,320	53,020	(50)	62,648	52,902	18
Interest rate - bank debt	2.8%	3.4%	(17)	2.8%	3.6%	(22)

Finance expense for the third quarter of 2016 was \$3.4 million (\$2.47/boe) compared to \$2.0 million (\$1.96/boe) in the third quarter of 2015. For the nine months ended September 30, 2016, finance expense was \$10.6 million (\$2.66/boe) compared to \$6.1 million (\$2.01/boe) in the same period of 2015.

The increase in finance expense for the third quarter of 2016 was primarily due to the Mitsue acquisition, comprised of increases in the accretion of the decommissioning obligation, interest and accretion on the convertible debentures. The increase was partially offset by a decrease in interest on bank debt due to a decrease in the average bank debt outstanding and lower average interest rates of 2.8%.

The increase in finance expense for the nine months ended September 30, 2016 was primarily due to the Mitsue acquisition, comprised of increases in the accretion of the decommissioning obligation, interest and accretion on the convertible debentures. The average bank debt outstanding was higher than in 2015 but the lower average interest rate more than offset this resulting in a slightly lower interest on bank debt.

## DEPLETION AND DEPRECIATION ("D&D")

	Three months ended			Nine months ended		
	Sep 30, 2016	Sep 30, 2015	Change %	Sep 30, 2016	Sep 30, 2015	Change %
Depletion and depreciation	21,892	22,258	(2)	62,768	65,235	(4)
\$/boe	15.91	21.56	(26)	15.68	21.37	(27)

Depletion is calculated based upon 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 recorded in the third quarter of 2016 decreased to \$21.9 million (\$15.91/boe) compared to \$22.3 million (\$21.56/boe) in the third quarter of 2015. For the nine months ended September 30, 2016, D&D was \$62.8 million (\$15.68/boe) compared to \$65.2 million (\$21.37/boe) in the same period of 2015. The decreases in D&D were due to the impairment recognized in 2015 and the lower depletion rates associated with the Mitsue acquisition that more than offset the increases in production.

## DEFERRED TAXES

At September 30, 2016 the Company recorded a deferred tax asset of \$106.9 million (2015 - \$85.0 million).

The Company has \$1.1 billion of tax pools available to be applied against future income for tax purposes. Based on available tax pools and current commodity prices, Cardinal does not expect to pay current income taxes through 2020. Taxes payable beyond 2020 will be primarily a function of commodity prices, capital expenditures and production.



## LOSS, CASH FLOW FROM OPERATING ACTIVITIES, CASH FLOW FROM OPERATIONS AND PAYOUT RATIOS

	Three months ended			Nine months ended		
	Sep 30, 2016	Sep 30, 2015	Change %	Sep 30, 2016	Sep 30, 2015	Change %
Loss for the period	<b>(4,366)</b>	(105,674)	(96)	<b>(55,327)</b>	(96,836)	(43)
\$/share						
Basic and diluted	<b>(0.06)</b>	(1.83)	(97)	<b>(0.80)</b>	(1.69)	(52)
Cash flow from operating activities	<b>22,092</b>	32,497	(32)	<b>51,234</b>	77,614	(34)
Cash flow from operations	<b>18,177</b>	24,810	(27)	<b>42,857</b>	76,691	(44)
\$/share						
Basic and diluted	<b>0.25</b>	0.43	(42)	<b>0.62</b>	1.33	(53)
Total payout ratio	<b>111%</b>	93%	19	<b>111%</b>	77%	44
Simple payout ratio	<b>41%</b>	45%	(10)	<b>48%</b>	44%	10

For the third quarter of 2016 the Company had a loss of \$4.4 million compared to a loss of \$105.7 million in the third quarter of 2015 (which included a before tax impairment of \$156.9 million). Cash flow from operations for the third quarter was \$18.2 million compared to \$24.8 million in the third quarter of 2015.

For the nine months ended September 30, 2016 the Company had a loss of \$55.3 million compared to a loss of \$96.8 million in 2015. The loss in 2016 included an unrealized loss on commodity contracts of \$41.3 million and the loss in 2015 included a before tax impairment of \$156.9 million. Cash flow from operations for the first nine months of 2016 decreased to \$42.9 million from \$76.7 million. The decreases in cash flow from operations for all periods were due to decreases in commodity prices and lower realized gains on commodity contracts which were partially offset by increases in production.

The increases in Cardinal's total payout ratio for the third quarter of 2016 from 93% to 111% and for the nine months ended September 30, 2016 from 77% to 111% are primarily due to the decreases in cash flow from operations.

## CAPITAL EXPENDITURES

	Three months ended			Nine months ended		
	Sep 30, 2016	Sep 30, 2015	Change %	Sep 30, 2016	Sep 30, 2015	Change %
Land	<b>40</b>	706	(94)	<b>187</b>	761	(75)
Geological and geophysical	<b>1</b>	1,280	(100)	<b>8</b>	1,389	(99)
Drilling and completion	<b>7,286</b>	4,927	48	<b>15,768</b>	11,993	31
Equipment, facilities and pipelines	<b>5,370</b>	4,794	12	<b>10,888</b>	11,373	(4)
Total exploration and development	<b>12,697</b>	11,707	8	<b>26,851</b>	25,516	5
Capitalized overhead	<b>156</b>	158	(1)	<b>460</b>	500	(8)
Other assets	<b>6</b>	28	(79)	<b>14</b>	80	(83)
Acquisitions, net	<b>671</b>	1,999	(66)	<b>1,006</b>	25,720	(96)
Total cash capital expenditures	<b>13,530</b>	13,892	(3)	<b>28,331</b>	51,816	(45)
Non-cash expenditures <sup>(1)</sup>	-	5,821	(100)	-	5,821	(100)
<b>TOTAL CAPITAL EXPENDITURES<sup>(2)</sup></b>	<b>13,530</b>	19,713	(31)	<b>28,331</b>	57,637	(51)

(1) Share consideration of \$5.8 million associated with a 2015 corporate acquisition.

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

In the nine months ended September 30, 2016 Cardinal drilled, completed, and tied-in 7 (7.0 net) horizontal wells and completed 1 (1.0 net) well that was drilled in the fourth quarter of 2015 at Bantry and optimized certain wells and facilities at Bantry and Mitsue.

Cardinal also closed two minor acquisitions in Slave Lake for aggregate consideration of \$0.8 million before closing adjustments with an associated decommissioning obligation of \$0.2 million.

## DECOMMISSIONING OBLIGATION

The decommissioning obligation increased by \$5.6 million from \$114.1 million at December 31, 2015 to \$119.7 million at September 30, 2016. The increase is primarily due to \$6.2 million of accretion partially offset by \$0.8 million related to the settlement of certain obligations.

## LIQUIDITY AND CAPITAL RESOURCES

Capitalization table	As at		
	Sep 30, 2016	Dec 31, 2015	Change %
Net debt <sup>(1)</sup>	85,148	146,185	(42)
Shares outstanding	73,517,702	65,124,209	13
Market price at end of period (\$ per share)	8.60	8.77	(2)
Market capitalization	632,252	571,139	11
Total capitalization	717,400	717,324	0

(1) See non-GAAP measures.

## CAPITAL FUNDING

As at September 30, 2016 Cardinal had a \$130 million syndicated revolving term credit facility and a \$20 million non-syndicated revolving operating term credit facility (the "Facilities") with a borrowing base of \$250 million. The Facilities are available on a revolving basis until May 26, 2017 and may be extended for a further 364 day period, subject to approval by the syndicate. 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 September 30, 2016.

On November 4, 2016, the \$250 million borrowing base of the facility was confirmed and the next scheduled review of the borrowing base is to be completed on or before May 26, 2017. 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 (see Liquidity). In accordance with the agreements governing the Facilities, Cardinal may request an increase in the Facilities up to the borrowing base.

Advances under the Facilities are available by way of either prime rate loans which bear interest at the banks' prime lending rate plus 0.7 to 2.0% and bankers' acceptances and/or LIBOR loans, which are subject to fees and margins ranging from 1.7 to 3.0%. Interest and standby fees on the undrawn amounts of the Facilities depend upon the Company's debt to EBITDA ratio. The Facilities are secured by a general security agreement over all of the Company's assets.

Cardinal has \$50 million of convertible unsecured subordinated debentures ("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.

On June 15, 2016, Cardinal closed a bought deal financing with a syndicate of underwriters and issued 7.15 million common shares at \$9.35 per common share for gross proceeds of \$66.9 million that were initially used to pay down debt.

## 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 the capture of 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 cash flow from operations (see non-GAAP measures).

To manage its capital structure, Cardinal considers its net debt to cash flow from operations 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.

	Three months ended		
	Sep 30, 2016	Dec 31, 2015	Change %
Bank debt	23,092	91,817	(75)
Current liabilities <sup>(1)</sup>	38,441	31,011	24
Current assets <sup>(2)</sup>	(26,385)	(26,643)	(1)
Principal amount of convertible debentures	50,000	50,000	-
Net debt <sup>(3)</sup>	85,148	146,185	(42)
Cash provided from operating activities	22,092	9,121	142
Decommissioning obligation expenditures	469	409	15
Change in non-cash working capital	(4,384)	8,425	(152)
Cash flow from operations	18,177	17,955	1
Cash flow from operations, annualized	72,708	71,820	1
Net debt to cash flow from operations	1.2	2.0	(42)

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

(2) excludes the fair value of commodity contracts

(3) see non-GAAP measures

Cardinal's ratio of net debt to cash flow from operations at September 30, 2016 was 1.2 : 1, well within the Company's target of less than 2 : 1.

## LIQUIDITY

The Company relies on cash flow from operations, the unused portion of its Facilities and equity issuances to fund its capital requirements and provide liquidity. As at September 30, 2016 Cardinal had a working capital deficiency of \$12.1 million and unused capacity (total credit capacity less bank debt adjusted for working capital) of \$114.9 million on its Facilities.

Since Cardinal's total Facilities are set at 60% of the borrowing base, management believes that there will not be a reduction in the amount of the Facilities available to the Company at the next scheduled review.

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 operations. Present sources of capital are currently anticipated to be sufficient to satisfy the Company's capital program and dividend payments for the 2016 fiscal year.

## DIVIDENDS

	Three months ended			Nine months ended		
	Sep 30, 2016	Sep 30, 2015	Change %	Sep 30, 2016	Sep 30, 2015	Change %
Dividends declared	7,718	12,151	(36)	21,837	36,248	(40)
Reinvested dividends (DRIP and SDP)	(318)	(880)	(64)	(1,189)	(2,707)	(56)
Net cash dividends	7,400	11,271	(34)	20,648	33,541	(38)
Dividends declared per share	0.105	0.21	(50)	0.315	0.63	(50)

During the nine months ended September 30, 2016, \$21.8 million of dividends (\$0.315 per common share) were declared of which \$18.4 million was paid in cash, \$2.6 million was recognized as a liability at September 30, 2016 and \$0.8 million was settled on the issuance of 100,433 common shares pursuant to the Company's DRIP and SDP. The dividend payable was settled on October 17, 2016 with cash of \$2.4 million and \$0.2 million was recognized on the issuance of 14,577 Cardinal common shares pursuant to the DRIP and SDP.

Cardinal has a DRIP and a SDP which enable shareholders to receive dividends in common shares rather than cash.

## SHARE CAPITAL

Equity Instruments as at	Nov 7, 2016	Sep 30, 2016
Common shares	73,553,784	73,517,702
Convertible debentures (\$50.0 million convertible at \$10.50)	4,761,905	4,761,905
RAs	2,696,983	2,665,541
Warrants (adjusted for dividends)	722,149	719,354
Stock options	190,837	190,837
SARs	30,329	30,329

## 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 September 30, 2016 the contractual maturities of Cardinal's obligations were as follows:

	2016	2017	2018	2019	2020	Thereafter
Head office lease	268	1,070	1,070	1,070	1,070	3,210
Field office lease	33	130	130	22	-	-
Trade and other payables	35,868	-	-	-	-	-
Dividends payable	2,573	-	-	-	-	-
Bank debt	-	-	23,092	-	-	-
Convertible debentures	688	2,750	2,750	2,750	52,750	-
	<b>39,430</b>	<b>3,950</b>	<b>27,042</b>	<b>3,842</b>	<b>53,820</b>	<b>3,210</b>

Cardinal is also committed to incur qualifying Canadian Exploration Expense of \$1.7 million prior to December 31, 2016 and \$3.9 million prior to December 31, 2017.

### **SUBSEQUENT EVENT**

On **October 12, 2016**, the Company confirmed that a dividend of \$0.035 per common share would be paid on November 15, 2016 to shareholders of record on October 31, 2016. The total amount of dividends declared at October 31, 2016 was \$2.6 million.

## **ADDITIONAL INFORMATION**

### **CRITICAL ACCOUNTING ESTIMATES**

There have been no changes in Cardinal's critical accounting estimates in the nine months ended September 30, 2016. 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, 2015.

### **INTERNAL CONTROL UPDATE**

Cardinal is required to comply with National Instrument 52-109 "Certification of Disclosure on Issuers' Annual and Interim Filings". The certificate requires that Cardinal disclose in the interim MD&A any change in the Company's internal control over financial reporting ("ICOFR") that occurred during the period that have materially affected, or are reasonably likely to materially affect Cardinal's ICOFR. As of the date of this MD&A Cardinal confirms that there have been no such changes in Cardinal's ICOFR during the third quarter of 2016.

### **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 has had significant growth by completing eight strategic acquisitions since the Company commenced operations in May of 2012. These accretive acquisitions have established three core areas at Bantry, Wainwright and Mitsue with a high quality, low decline reserve base and development drilling inventory. The acquired assets have enabled the Company to realize its business plan despite the current low commodity price environment. Management continues to evaluate other accretive acquisition opportunities to manage Cardinal's decline rate, maintain its dividend and provide additional production growth while continuing to drive down costs in the existing areas.

Cardinal has had significant drilling success at Bantry in 2014, 2015 and 2016 in the Glauconite formation. This play has enabled the Company to maintain or grow production organically with strong capital efficiencies. During the nine months ended September 30, 2016 Cardinal drilled and completed seven (7.0 net) wells at Bantry using a modified frac design. Based on initial results, the new frac design has improved well productivity and capital efficiency. Management also believes that there are significant development drilling opportunities at Mitsue. In all of its core areas, Cardinal also sees opportunities to enhance existing water flood schemes and improve recovery factors. Development drilling in all core areas will be balanced with acquisitions to maintain a low production decline portfolio of assets and provide organic growth while maintaining the Company's dividend.

## QUARTERLY DATA

	Sep 30, 2016	Jun 30, 2016	Mar 31, 2016	Dec 31, 2015
<b>Production</b>				
Oil and NGL (bbl/d)	13,027	12,870	12,597	12,176
Natural gas (mcf/d)	11,578	10,506	9,886	9,696
Oil equivalent (boe/d)	14,957	14,621	14,245	13,792
<b>Financial</b>				
Revenue	53,673	50,124	33,424	43,300
Net earnings (loss)	(4,366)	(35,317)	(15,644)	938
Basic per share (\$)	(0.06)	(0.52)	(0.24)	0.01
Diluted per share (\$)	(0.06)	(0.52)	(0.24)	0.01
Cash flow from operating activities	22,092	11,167	17,975	9,121
Cash flow from operations	18,177	16,922	7,758	17,955
Basic per share (\$)	0.25	0.25	0.12	0.29
Diluted per share (\$)	0.25	0.25	0.12	0.28
Working capital (deficiency) <sup>(1)</sup>	(12,056)	(6,891)	(10,225)	(4,368)
Total assets	931,041	941,999	945,998	964,333
Bank debt	23,092	25,017	86,797	91,817
Principal amount of convertible debentures	50,000	50,000	50,000	50,000
Total long-term liabilities <sup>(2)</sup>	197,282	200,381	249,318	251,445
Shareholders' Equity	681,250	689,987	661,463	680,446
Weighted average shares - basic (000's)	73,501	67,356	65,725	62,957
Weighted average shares - diluted (000's)	73,501	67,356	65,725	64,280
Common shares outstanding (000's)	73,518	73,482	65,936	65,124
Diluted shares outstanding (000's)	81,886	81,845	74,309	72,357
	Sep 30, 2015	Jun 30, 2015	Mar 31, 2015	Dec 31, 2014
<b>Production</b>				
Oil and NGL (bbl/d)	10,321	10,430	10,225	10,167
Natural gas (mcf/d)	5,390	5,179	4,785	4,147
Oil equivalent (boe/d)	11,220	11,294	11,023	10,888
<b>Financial</b>				
Revenue	42,949	53,442	38,409	63,159
Net earnings (loss)	(105,674)	21,685	(12,847)	26,879
Basic per share (\$)	(1.83)	0.38	(0.22)	0.47
Diluted per share (\$)	(1.83)	0.37	(0.22)	0.46
Cash flow from operating activities	32,497	21,469	23,648	31,166
Cash flow from operations	24,810	29,937	21,944	26,570
Basic per share (\$)	0.43	0.52	0.38	0.47
Diluted per share (\$)	0.43	0.51	0.38	0.46
Working capital surplus (deficiency) <sup>(1)</sup>	(14,673)	(9,205)	(5,840)	(8,118)
Total assets	812,378	920,025	883,738	913,253
Bank debt	56,724	53,227	40,095	47,735
Total long-term liabilities	140,347	136,509	124,624	135,548
Shareholders' Equity	634,612	743,034	727,091	747,928
Weighted average shares - basic (000's)	57,760	57,438	57,197	56,745
Weighted average shares - diluted (000's)	57,760	58,814	57,197	58,010
Common shares outstanding (000's)	58,334	57,586	57,334	56,819
Diluted shares outstanding (000's)	60,849	60,084	59,834	58,906

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

(2) – Includes the liability component of convertible debentures

Production increases in 2015 were primarily due to the successful drilling at Bantry and the Mitsue acquisition that closed in the fourth quarter. Production increases in 2016 were due to full quarters of production from the Mitsue acquisition and successful development drilling at Bantry. Revenue for the second and third quarters of 2016 increased compared to first quarter of 2016 primarily due to a partial recovery of crude oil prices.

Cash flow from operations for the second and third quarters of 2016 increased compared to the first quarter of 2016 due to a partial recovery in commodity prices and increases in production. Cash flow from operations for the fourth quarter of 2015 decreased significantly compared to prior quarters due to a significant decrease in crude oil prices and a widening of the WCS differential.

Cardinal's quarterly earnings (loss) have varied significantly due to changes in operations and commodity prices including an unrealized gain on commodity contracts of \$2.9 million in third quarter of 2016, an unrealized loss on commodity contracts of \$39.9 million in second quarter of 2016, impairment of \$156.9 million in the third quarter of 2015, a gain on acquisition of \$27.8 million in the second quarter of 2015, and an unrealized gain on commodity contracts of \$39.0 million in the fourth quarter of 2014.

## **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:

- Cardinal's development drilling inventory and opportunities;
- Cardinal's acquisition and growth plans and the source of funding;
- estimated tax pools, future taxability and future taxable income;
- anticipated decline rates and recovery factors;
- Cardinal's business strategy, goals and management focus;
- Cardinal's dividend plans, the amount and timing of the payment of future dividends and the consistency of our dividend policy;
- Cardinal's risk management strategy and the benefits to be obtained therefrom;
- sources of funds for the Company's operations, capital expenditures and decommissioning obligations;
- future liquidity and the Company's access to sufficient debt and equity capital;
- timing and results of the next borrowing base review;
- Cardinal's asset base and future prospects for development and growth therefrom;
- expectations regarding the business environment, industry conditions, future commodity prices and differentials;
- expectations regarding the Company's cost savings initiatives and enhancements to capital efficiencies;
- 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 anticipated financial performance, business prospects, strategies, regulatory developments, current 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
"DRIP"	Dividend reinvestment plan
"GJ"	Gigajoule
"m" preceding a volumetric measure	1,000 units of the volumetric measure
"mmbtu"	Million British thermal unit
"mcf"	Thousand cubic feet
"mcf/d"	Thousand cubic feet per day
"MW"	Megawatt
"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