



**CARDINAL**  
ENERGY LTD.



Q3 2017

MANAGEMENT DISCUSSION & ANALYSIS

## MANAGEMENT'S DISCUSSION AND ANALYSIS

This management's discussion and analysis ("MD&A") is a review of operations, financial position and outlook for Cardinal Energy Ltd. ("Cardinal" or the "Company") for the three and nine months ended September 30, 2017 and is dated November 7, 2017. The MD&A should be read in conjunction with Cardinal's unaudited interim condensed financial statements as at and for the three and nine months ended September 30, 2017 and the audited financial statements for the years ended December 31, 2016 and 2015. 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 or as noted).*

### Description of the Business

Cardinal is engaged in the acquisition, development, optimization and production of crude oil and natural gas in all season access areas 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 "adjusted funds flow", "adjusted funds flow per share", "development capital expenditures", "free cash flow", "funds flow", "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 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. Funds flow excludes the change in non-cash operating working capital. Funds flow and adjusted funds flow are not intended to represent net cash provided by (used in) operating activities calculated in accordance with IFRS. The following table reconciles cash flow from operating activities to funds flow and adjusted funds flow:

	Three months ended			Nine months ended		
	Sep 30, 2017	Sep 30, 2016	Change %	Sep 30, 2017	Sep 30, 2016	Change %
Cash flow from operating activities	23,719	22,092	7	52,088	51,234	2
Change in non-cash working capital	(2,502)	(4,384)	(43)	(1,387)	(9,219)	(85)
<b>Funds flow</b>	<b>21,217</b>	17,708	20	<b>50,701</b>	42,015	21
Decommissioning expenditures	1,983	469	n/m	2,866	842	240
<b>Adjusted funds flow</b>	<b>23,200</b>	18,177	28	<b>53,567</b>	42,857	25

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

"Development capital expenditures" represent expenditures on property, plant and equipment (excluding corporate and other assets and acquisitions) to maintain and grow the Company's base production.

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

"Netback" is calculated on a boe basis and is determined by deducting royalties and operating expenses from petroleum and natural gas revenue in accordance with the 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. "Net bank debt to annualized adjusted funds flow" is calculated as net bank debt divided by adjusted funds flow for the most recent quarter, annualized.

"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**

For the third quarter of 2017 cash flow from operating activities increased 7% to \$23.7 million and adjusted funds flow increased by 28% to \$23.2 million. Compared to the second quarter of 2017 adjusted funds flow increased by 47%.

Cash flow from operating activities and adjusted funds flow for the nine months ended September 30, 2017 increased by 2% and 25% to \$52.1 million and \$53.6 million respectively, compared to the same period in 2016.

Cardinal achieved record quarterly production of 21,463 boe/d (40% light oil) up 43% from 14,957 boe/d in the third quarter of 2016.

Operating costs per boe were reduced from \$20.57/boe in the second quarter of 2017 to \$20.38/boe in the third quarter.

Netback improved 19% to \$16.80/boe in the third quarter of 2017 compared to the third quarter of 2016.

Subsequent to the quarter Cardinal closed the sale of a royalty package at Wainwright for gross proceeds of \$14.5 million.

## OPERATIONS

### PRODUCTION

	Three months ended			Nine months ended		
	Sep 30, 2017	Sep 30, 2016	Change %	Sep 30, 2017	Sep 30, 2016	Change %
Crude oil (bbl/d)	17,643	12,657	39	14,507	12,528	16
NGL (bbl/d)	712	370	92	573	305	88
Crude oil and NGL (bbl/d)	18,355	13,027	41	15,080	12,833	18
Natural gas (mcf/d)	18,650	11,578	61	17,228	10,660	62
<b>boe/d</b>	<b>21,463</b>	<b>14,957</b>	<b>43</b>	<b>17,951</b>	<b>14,610</b>	<b>23</b>
<b>% Crude oil and NGL production</b>	<b>86%</b>	<b>87%</b>	<b>(2)</b>	<b>84%</b>	<b>88%</b>	<b>(4)</b>

On December 6, 2016, Cardinal closed an acquisition in our Central Alberta core area at Wainwright which added approximately 450 boe/d of low decline crude oil production.

On March 17, 2017, Cardinal closed an acquisition in our Northwest Alberta core area at Grande Prairie which added approximately 1,600 boe/d of production and light oil development opportunities.

On June 30, 2017, Cardinal closed an acquisition in House Mountain and Midale which added approximately 5,000 boe/d of low decline light oil production and development drilling inventory.

Cardinal's production in the third quarter of 2017 increased by 43% to 21,463 boe/d compared to 14,957 boe/d in the third quarter of 2016. The increase in crude oil and NGL production is due to the House Mountain and Midale, Grande Prairie and Wainwright acquisitions and drilling at Bantry and Mitsue. The increase in natural gas production is primarily due to the acquisition at Grande Prairie. Cardinal also drilled two light oil wells in Grande Prairie that were brought on production late in the third quarter.

For the nine months ended September 30, 2017 production increased by 23% to 17,951 boe/d compared to 14,610 boe/d in 2016. The increase is primarily due to the House Mountain and Midale, Grande Prairie and Wainwright acquisitions and drilling at Bantry and Mitsue which more than offset the low decline of the Company's base production.

### REVENUE

	Three months ended			Nine months ended		
	Sep 30, 2017	Sep 30, 2016	Change %	Sep 30, 2017	Sep 30, 2016	Change %
Crude oil	81,832	50,581	62	201,185	130,353	54
NGL	1,866	579	222	4,438	1,178	277
Crude oil and NGL	83,698	51,160	64	205,623	131,531	56
Natural gas	2,324	2,513	(8)	10,575	5,690	86
<b>Petroleum and natural gas revenue</b>	<b>86,022</b>	<b>53,673</b>	<b>60</b>	<b>216,198</b>	<b>137,221</b>	<b>58</b>
<b>Cardinal average prices</b>						
Crude oil (\$/bbl)	50.41	43.44	16	50.80	37.98	34
Natural gas (\$/mcf)	1.35	2.36	(43)	2.25	1.95	15
<b>Equivalent (\$/boe)</b>	<b>43.56</b>	<b>39.01</b>	<b>12</b>	<b>44.12</b>	<b>34.28</b>	<b>29</b>
<b>Benchmark prices</b>						
Crude oil - WTI (US \$/bbl)	48.20	44.94	7	49.47	41.33	20
Crude oil - WCS (Cdn \$/bbl)	47.90	41.03	17	49.09	36.32	35
Natural gas - AECO Spot (Cdn \$/gj)	1.38	2.20	(37)	2.19	1.76	24
Exchange rate - (US/Cdn)	0.80	0.77	4	0.77	0.76	1

Petroleum and natural gas revenue increased by 60% to \$86.0 million (\$43.56/boe) in the third quarter of 2017 compared to \$53.7 million (\$39.01/boe) in the third quarter of 2016. The increase is primarily due to a 16% increase in Cardinal's average realized crude oil price combined with a 43% increase in production.

Petroleum and natural gas revenue increased by 58% to \$216.2 million (\$44.12/boe) in the nine months ended September 30, 2017 compared to \$137.2 million (\$34.28/boe) in the same period of 2016. The increase is primarily due to a 34% increase in Cardinal's average realized crude oil price combined with a 23% increase in production.

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 and has significantly increased the light oil weighting of its production mix.

## FINANCIAL INSTRUMENTS

	Three months ended			Nine months ended		
	Sep 30, 2017	Sep 30, 2016	Change %	Sep 30, 2017	Sep 30, 2016	Change %
Average crude oil volumes hedged (bbl/d)	<b>6,333</b>	7,583	(16)	<b>6,278</b>	6,417	(2)
Realized gain (loss) - commodity contracts	<b>(2,631)</b>	2,395	(210)	<b>(9,749)</b>	16,280	(160)
Unrealized gain (loss) - commodity contracts	<b>(3,955)</b>	2,886	(237)	<b>31,289</b>	(41,331)	(176)

Managing the variability in funds flow and adjusted funds flow is an integral component of Cardinal's business strategy. Changing business conditions are monitored regularly and reviewed with our Board of Directors to establish risk management guidelines used by management in carrying out the Company's risk management program. The risk exposure inherent in movements in the price of crude oil, natural gas and power are all 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 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, WCS and AECO outstanding:

Commodity Derivative Traded	Period	Average Volume	Average Strike Price
<b>Crude Oil</b>			
CDN WTI Swap	Oct - Dec 2017	5,000 bbl/d	\$ 63.13
	Jan - Dec 2018	6,244 bbl/d	\$ 67.50
CDN WTI Collar	Oct - Dec 2017	2,000 bbl/d	Put \$ 64.25
			Call \$ 74.50
	Jan - Dec 2018	1,744 bbl/d	Put \$ 62.43
			Call \$ 73.57
WCS Differential	Oct - Dec 2017	7,000 bbl/d	\$ 19.25
	Jan - Dec 2018	2,570 bbl/d	\$ 18.94
<b>Natural Gas</b>			
AECO Swap	Oct - Dec 2017	5,163 gj/d	\$ 2.43
	Jan - Dec 2018	5,329 gj/d	\$ 2.50
	Jan - Mar 2019	1,000 gj/d	\$ 2.12
AECO Collar	Oct - Dec 2017	3,000 gj/d	Put \$ 2.43
			Call \$ 2.93
	Jan - Dec 2018	2,000 gj/d	Put \$ 2.00
			Call \$ 3.00

In connection with certain of the contracts summarized above Cardinal has also granted certain counterparties call options on 1,000 bbl/d for fiscal 2018 at \$70 Cdn WTI and 2,000 bbl/d for fiscal 2019 at an weight average price of \$68.50 Cdn WTI.

## ROYALTIES

	Three months ended			Nine months ended		
	Sep 30, 2017	Sep 30, 2016	Change %	Sep 30, 2017	Sep 30, 2016	Change %
Royalties	12,597	6,856	84	30,704	17,151	79
Percent of revenue	14.6%	12.8%	14	14.2%	12.5%	14
\$/boe	6.38	4.98	28	6.27	4.28	46

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 to \$12.6 million (14.6% of revenue) for the third quarter of 2017 from \$6.9 million (12.8% of revenue) in the third quarter of 2016. Royalties for the nine months ended September 30, 2017 were \$30.7 million (14.2% of revenue) compared to \$17.2 million (12.5% of revenue) in 2016.

The increases in royalties are primarily due to increases in commodity prices and production. Royalties as a percentage of revenue increased due to higher royalty rates on crude oil production at House Mountain, Midale and Mitsue.

## OPERATING EXPENSES

	Three months ended			Nine months ended		
	Sep 30, 2017	Sep 30, 2016	Change %	Sep 30, 2017	Sep 30, 2016	Change %
Operating expenses	40,239	27,467	46	103,699	82,261	26
\$/boe	20.38	19.96	2	21.16	20.55	3

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 2017, operating expenses were \$40.2 million (\$20.38/boe) compared to \$27.5 million (\$19.96/boe) in the third quarter of 2016. The increase in operating expenses is primarily due to the increase in production and operating costs per boe were relatively consistent.

Operating expenses for the nine months ended September 30, 2017 increased to \$103.7 million (\$21.16/boe) from \$82.3 million (\$20.55/boe) in the same period of 2016. The increase in operating expenses is primarily due to the increase in production and operating costs per boe were relatively consistent.

## NETBACK

	Three months ended			Nine months ended		
	Sep 30, 2017	Sep 30, 2016	Change %	Sep 30, 2017	Sep 30, 2016	Change %
Petroleum and natural gas revenue	<b>43.56</b>	39.01	12	<b>44.12</b>	34.28	29
Royalties	<b>6.38</b>	4.98	28	<b>6.27</b>	4.28	46
Operating expenses	<b>20.38</b>	19.96	2	<b>21.16</b>	20.55	3
Netback <sup>(1)</sup>	<b>16.80</b>	14.07	19	<b>16.69</b>	9.45	77

(1) See non-GAAP measures.

Cardinal's netback increased by 19% to \$16.80 in the third quarter of 2017 compared to \$14.07 in the third quarter of 2016 and for the first nine months netback increased by 77% to \$16.69 in 2017 from \$9.45 in 2016. The increases in netback are primarily due to increases in average realized crude oil prices and the light oil weighting of our production mix.

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

	Three months ended			Nine months ended		
	Sep 30, 2017	Sep 30, 2016	Change %	Sep 30, 2017	Sep 30, 2016	Change %
Gross G&A	<b>4,992</b>	2,819	77	<b>12,685</b>	8,858	43
Capitalized G&A and overhead recoveries	<b>(851)</b>	(311)	174	<b>(1,657)</b>	(972)	70
G&A	<b>4,141</b>	2,508	65	<b>11,028</b>	7,886	40
\$/boe	<b>2.10</b>	1.82	15	<b>2.25</b>	1.97	14

G&A for the third quarter of 2017 was \$4.1 million (\$2.10/boe) compared to \$2.5 million (\$1.82/boe) in the third quarter of 2016. For the nine months ended September 30, 2017, G&A was \$11.0 million (\$2.25/boe) compared to \$7.9 million (\$1.97/boe) for the same period of 2016. Overhead recoveries increased due to the House Mountain and Midale acquisition.

The increases in G&A are primarily due to the reinstatement of salaries that were decreased in 2016 due to low commodity prices, additional staff to manage the House Mountain and Midale properties acquired at the end of second quarter of 2017 and an increase in insurance premiums.

These increases in G&A more than offset the increase in production resulting in an increase in G&A per boe.

## SHARE-BASED COMPENSATION ("SBC")

	Three months ended			Nine months ended		
	Sep 30, 2017	Sep 30, 2016	Change %	Sep 30, 2017	Sep 30, 2016	Change %
Gross SBC	<b>2,727</b>	3,042	(10)	<b>8,122</b>	8,624	(6)
Capitalized SBC	<b>(286)</b>	(324)	(12)	<b>(801)</b>	(933)	(14)
SBC	<b>2,441</b>	2,718	(10)	<b>7,321</b>	7,691	(5)
\$/boe	<b>1.24</b>	1.98	(37)	<b>1.49</b>	1.92	(22)

SBC for the third quarter of 2017 was \$2.4 million (\$1.24/boe) compared to \$2.7 million (\$1.98/boe) in the third quarter of 2016. For the nine months ended September 30, 2017, SBC was \$7.3 million (\$1.49/boe) compared to \$7.7 million (\$1.92/boe) in the same period of 2016.

The decreases in SBC are due to warrants and options that have fully vested, partially offset by additional restricted bonus awards ("RAs") granted to staff in 2017.

As at September 30, 2017, Cardinal had 3.1 million RAs outstanding.

## FINANCE

	Three months ended			Nine months ended		
	Sep 30, 2017	Sep 30, 2016	Change %	Sep 30, 2017	Sep 30, 2016	Change %
Interest - bank debt	<b>2,051</b>	185	n/m	<b>3,313</b>	1,316	152
Other finance charges, net	<b>152</b>	186	(18)	<b>389</b>	404	(4)
Interest - convertible debentures	<b>690</b>	690	-	<b>2,065</b>	2,061	-
Accretion	<b>2,697</b>	2,338	15	<b>7,132</b>	6,850	4
Finance	<b>5,590</b>	3,399	64	<b>12,899</b>	10,631	21
\$/boe	<b>2.83</b>	2.47	15	<b>2.63</b>	2.66	(1)
Average bank debt	<b>241,615</b>	26,320	n/m	<b>141,844</b>	62,648	126
Interest rate - bank debt	<b>3.4%</b>	2.8%	20	<b>3.1%</b>	2.8%	12

Finance expense for the third quarter of 2017 was \$5.6 million (\$2.83/boe) compared to \$3.4 million (\$2.47/boe) in the third quarter of 2016. For the nine months ended September 30, 2017, finance expense was \$12.9 million (\$2.63/boe) compared to \$10.6 million (\$2.66/boe) in the same period of 2016.

The increases in finance expense are primarily due to the increases in interest on bank debt that have resulted from increases in the average bank debt outstanding and interest rates.

## TRANSACTION COSTS

	Three months ended			Nine months ended		
	Sep 30, 2017	Sep 30, 2016	Change %	Sep 30, 2017	Sep 30, 2016	Change %
Transaction costs	<b>321</b>	-	n/m	<b>1,684</b>	37	n/m

Transaction costs primarily relate to expenses incurred in connection with the House Mountain and Midale Acquisition.



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

	Three months ended			Nine months ended		
	Sep 30, 2017	Sep 30, 2016	Change %	Sep 30, 2017	Sep 30, 2016	Change %
Depletion and depreciation	<b>28,958</b>	21,892	32	<b>70,217</b>	62,768	12
\$/boe	<b>14.67</b>	15.91	(8)	<b>14.33</b>	15.68	(9)

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. Future development costs have increased significantly to \$168 million primarily due to costs associated with the CO<sub>2</sub> flood at Midale.

D&D for the third quarter of 2017 was \$29.0 million (\$14.67/boe) compared to \$21.9 million (\$15.91/boe) in the third quarter of 2016. For the nine months ended September 30, 2017, D&D was \$70.2 million (\$14.33/boe) compared to \$62.8 million (\$15.68/boe) in the same period of 2016.

The increases in D&D in 2017 are primarily due to increases in production and the lower depletion rate is due to the impairment at Jenner recognized in 2016 and the disposition of non-core assets in the second quarter of 2017 (see Capital Expenditures).

## DEFERRED TAXES

At September 30, 2017 the Company recorded a deferred tax asset of \$117.6 million (2016 – \$115.1 million). The deferred tax asset was recognized as management considered it probable that there will be sufficient future taxable income to utilize the benefits.

The Company has approximately \$1.5 billion of tax pools (\$1.4 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 approximately 2021. Taxes payable beyond 2021 will be primarily a function of commodity prices, capital expenditures and production.

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

	Three months ended			Nine months ended		
	Sep 30, 2017	Sep 30, 2016	Change %	Sep 30, 2017	Sep 30, 2016	Change %
Loss for the period	<b>(12,070)</b>	(4,366)	176	<b>(3,290)</b>	(55,327)	(94)
\$/share						
Basic and diluted	<b>(0.11)</b>	(0.06)	83	<b>(0.04)</b>	(0.80)	(95)
Cash flow from operating activities	<b>23,719</b>	22,092	7	<b>52,088</b>	51,234	2
Adjusted funds flow	<b>23,200</b>	18,177	28	<b>53,567</b>	42,857	25
\$/share						
Basic and diluted	<b>0.21</b>	0.25	(16)	<b>0.60</b>	0.62	(3)
Total payout ratio	<b>110%</b>	111%	(0)	<b>147%</b>	111%	33
Simple payout ratio	<b>50%</b>	41%	22	<b>53%</b>	48%	10

For the third quarter of 2017, the Company had a loss of \$12.1 million compared to a loss of \$4.4 million in the third quarter of 2016. Adjusted funds flow for the third quarter of 2017 was \$23.2 million compared to \$18.2 million in the third quarter of 2016. The loss in the third quarter of 2017 was impacted by a \$4.0 million unrealized loss and a \$2.6 million realized loss on commodity contracts. Adjusted funds flow increased due to increases in production and commodity prices.

For the nine months ended September 30, 2017 the Company had a loss of \$3.3 million compared to a loss of \$55.3 million in 2016. The loss in 2017 includes a realized loss on commodity contracts of \$9.7 million and the loss in 2016 included an unrealized loss on commodity contracts of \$41.3 million. Adjusted funds flow for the first nine months of 2017 increased to \$53.6 million from \$42.9 million. The increase in adjusted funds flow was due to the increase in production and continued recovery of commodity prices partially offset by a \$9.7 million realized loss on commodity contracts while the same period in 2016 included a \$16.3 million realized gain on commodity contracts.

The decrease in Cardinal's total payout ratio for the third quarter of 2017 from 111% to 110% is primarily due to the increase in adjusted funds flow. The total payout ratio for the nine months ended September 30, 2017 increased from 111% to 147% primarily due to the increase in development capital expenditures.

## **CAPITAL EXPENDITURES**

### **Property Acquisitions**

On **March 17, 2017**, Cardinal acquired petroleum and natural gas properties to expand its Northwest Alberta core area and to increase its light oil development opportunities. Total consideration provided was \$31.6 million, after preliminary closing adjustments, consisting of approximately 4.0 million common shares valued at \$6.85 per share and \$3.6 million in cash with an associated decommissioning obligation of \$5.6 million. The Company recorded a deferred tax asset related to temporary differences in the carrying amount of the acquired properties and their tax bases which resulted from a decrease in the value of share consideration that was provided and an adjustment to the fair value of the properties acquired.

On **June 30, 2017**, Cardinal acquired light oil and natural gas properties to expand its Northwest Alberta core area, establish a new core area in Southeast Saskatchewan and significantly increase the light oil weighting of our production mix. Total consideration provided was \$297 million in cash, after preliminary closing adjustments with an associated decommissioning obligation of \$20.0 million.

### **Other Capital Expenditures**

In the first nine months of 2017 Cardinal drilled, completed and tied-in 12 (10.7 net) horizontal wells including the well at Mitsue that was spud in the fourth quarter of 2016. In the third quarter the Company drilled two (2.0 net) light oil wells at Grande Prairie and acquired additional land at Bantry. We plan to follow up on the drilling success in Grande Prairie in 2018. Cardinal continued its planned expenditures to optimize certain wells and facilities in its core areas to enhance production and lower operating costs per boe.

In connection with a 2016 farm-out agreement the farmee drilled, completed and brought on production two vertical wells in the first nine months of 2017. In this non-monetary exchange, the value of the royalties that Cardinal expects to receive of \$0.5 million was recorded as an acquisition of petroleum and natural gas properties with an after tax gain on the farm-out of \$0.4 million.

### **Disposition**

For the nine months ended September 30, 2017, the Company quit claimed non-core assets with a carrying value of \$2.8 million and an associated decommissioning obligation of \$0.6 million and recognized a loss of \$2.2 million.

## Capital Expenditures

	Three months ended			Nine months ended		
	Sep 30, 2017	Sep 30, 2016	Change %	Sep 30, 2017	Sep 30, 2016	Change %
Land	2,735	40	n/m	3,255	187	n/m
Geological and geophysical	50	1	n/m	439	8	n/m
Drilling and completion	4,321	7,286	(41)	26,715	15,768	69
Equipment, facilities and pipelines	6,942	5,370	29	20,143	10,888	85
Total exploration and development <sup>(1)</sup>	14,048	12,697	11	50,552	26,851	88
Capitalized overhead	302	156	94	711	460	55
Other assets	371	6	n/m	881	14	n/m
Acquisitions, net	(437)	671	(165)	300,678	1,006	n/m
Total cash capital expenditures	14,284	13,530	6	352,822	28,331	n/m
Non-cash expenditures <sup>(2)</sup>	-	-	-	28,174	-	n/m
Total capital expenditures <sup>(3)</sup>	14,284	13,530	6	380,996	28,331	n/m

(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 overhead and other assets (included in the table of expenditures above).

(2) Represents share consideration associated with the Grande Prairie acquisition and the value of the farm-out recognized in 2017.

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

## DECOMMISSIONING OBLIGATION

The decommissioning obligation increased by \$30.8 million from \$111.9 million at December 31, 2016 to \$142.7 million at September 30, 2017. The increase primarily relates to \$25.6 million for acquisitions, \$6.5 million of accretion and a \$2.1 million change in estimates partially offset by \$0.6 million on the non-core asset disposition and \$2.9 million for decommissioning obligations settled.

## LIQUIDITY AND CAPITAL RESOURCES

Capitalization table	As at		
	Sep 30, 2017	Dec 31, 2016	Change %
Net bank debt <sup>(1)</sup>	243,516	70,300	246
Convertible debentures	50,000	50,000	-
Shares outstanding	110,324,045	74,151,719	49
Market price at end of period (\$ per share)	\$ 4.72	\$ 10.59	(55)
Market capitalization	520,729	785,267	(34)
Total capitalization	814,245	905,567	(10)

(1) See non-GAAP measures.

## CAPITAL FUNDING

As at September 30, 2017 Cardinal had a reserves-based revolving credit facility of \$325 million 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 25, 2018 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, 2017.

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 November 30, 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).

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 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.

On June 21, 2017, Cardinal entered into an offering with a syndicate of underwriters (the "Offering") to issue 30,910,000 subscription receipts (the "Receipts") at \$5.50 per Receipt for gross proceeds of approximately \$170 million. The Receipts were converted to common shares following the closing of the House Mountain and Midale acquisition (see Share Capital).

We have initiated a process to identify for potential sale certain royalty interests (which may include newly created royalty interests) and fee title lands to reduce our bank debt. On October 27, 2017, the Company entered into a definitive sale agreement to sell a royalty interest on its Wainwright properties for gross proceeds of \$14.5 million. Cardinal completed the sale on October 31, 2017.

## 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 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	
	Sep 30, 2017	Dec 31, 2016
Bank debt	\$ 239,418	\$ 61,272
Principal amount of Convertible Debentures	50,000	50,000
Working capital deficiency <sup>(1)</sup>	4,098	9,028
Net debt	\$ 293,516	\$ 120,300
Cash provided from operating activities	\$ 61,816	\$ 60,962
Change in non-cash working capital	3,247	(4,585)
Funds flow	\$ 65,063	\$ 56,377
Decommissioning obligation expenditures	4,751	2,727
Adjusted funds flow	69,814	59,104
Net debt to adjusted funds flow	4.2	2.0

(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 at September 30, 2017 was 4.2 : 1, above the Company's target of less than 2 : 1 due to the House Mountain and Midale Acquisition. If the trailing nine month operating income earned by the prior owner of the House Mountain and Midale Acquisition was included in Cardinals' adjusted funds flow, the ratio would have been 2.7 : 1. The ratio is expected to decrease when proceeds from the sale of royalty interests are realized.

## 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 September 30, 2017 Cardinal had a working capital deficiency of \$4.1 million (excluding the fair value of commodity contracts and the current portion of the decommissioning obligation) and unused capacity (total credit capacity less net debt excluding the principal amount of convertible unsecured subordinated debentures and a letter of credit of \$1.4 million) of \$80.6 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. Proceeds from the proposed royalty interest sales are expected to further strengthen the Company's balance sheet. Present sources of capital are anticipated to be sufficient to satisfy the Company's capital program and dividend payments for the 2018 fiscal year.

## DIVIDENDS

	Three months ended			Nine months ended		
	Sep 30, 2017	Sep 30, 2016	Change %	Sep 30, 2017	Sep 30, 2016	Change %
Dividends declared	11,584	7,718	50	29,008	21,837	33
Reinvested dividends (DRIP and SDP)	-	(318)	(100)	(756)	(1,189)	(36)
Cash dividends	11,584	7,400	57	28,252	20,648	37
Dividends declared per share	\$ 0.105	\$ 0.105	-	\$ 0.315	\$ 0.315	-

During the nine months ended September 30, 2017, \$29.0 million of dividends (\$0.315 per common share) were declared of which \$24.7 million was paid in cash, \$3.9 million was recognized as a liability at September 30, 2017, and \$0.4 million was settled on the issuance of 59,559 common shares pursuant to the Company's DRIP and SDP. The dividend payable was settled on October 16, 2017. On March 13, 2017, Cardinal announced the suspension of the DRIP and SDP, effective for the April 2017 dividend paid on May 15, 2017.

## SHARE CAPITAL

On January 9, 2017, Cardinal granted 980,178 RAs to officers, directors and employees pursuant to the Company's restricted bonus award plan. The market value of Cardinal's common shares at the grant date was \$10.50.

On March 17, 2017 Cardinal issued 4.0 million common shares valued at \$6.85 as partial consideration for the Grande Prairie Acquisition.

On June 30, 2017, Cardinal issued 30,910,000 common shares pursuant to the Offering at \$5.50 per common share for gross proceeds of approximately \$170 million.

On August 15, 2017, Cardinal granted 614,319 RAs pursuant to the Company's restricted bonus award plan to new staff added with the acquisition of the House Mountain and Midale properties. The market value of Cardinal's common shares at the grant date was \$3.98.

Equity Instruments as at	November 7, 2017	September 30, 2017
Common shares	110,360,743	110,324,045
Convertible debentures (\$50.0 million convertible at \$10.50)	4,761,905	4,761,905
RAs	3,143,189	3,064,241
Stock options	136,392	136,392

## 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, 2017, the Company had contractual obligations and commitments as follows:

	2017	2018	2019	2020	2021	Thereafter
Head office lease	275	1,870	1,870	1,870	1,909	3,819
Field office lease	33	130	22	-	-	-
Trade and other payables	47,469	-	-	-	-	-
Dividends payable	3,861	-	-	-	-	-
Bank debt	-	-	239,418	-	-	-
Convertible debentures	688	2,750	2,750	52,750	-	-
	<b>\$ 52,326</b>	<b>\$ 4,750</b>	<b>\$ 244,060</b>	<b>\$ 54,620</b>	<b>\$ 1,909</b>	<b>\$ 3,819</b>

Cardinal is also committed to incur qualifying Canadian Exploration Expense of \$0.3 million prior to December 31, 2017.

## SUBSEQUENT EVENTS

On **October 11, 2017**, the Company confirmed that a dividend of \$0.035 per common share would be paid on November 15, 2017 to shareholders of record on October 31, 2017. The total amount of dividends declared at October 31, 2017 was \$3.9 million.

On **October 27, 2017**, the Company entered into a definitive sale agreement to sell a royalty interest on its Wainwright properties for gross proceeds of \$14.5 million. Cardinal completed the sale on October 31, 2017.

On **November 7, 2017**, the Company confirmed that a dividend of \$0.035 per common share would be paid on December 15, 2017 to shareholders of record on November 30, 2017.

## ADDITIONAL INFORMATION

### CRITICAL ACCOUNTING ESTIMATES

There have been no changes in Cardinal's critical accounting estimates in the nine months ended September 30, 2017. 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, 2016.

### INTERNAL CONTROLS UPDATE

Cardinal is required to comply with National Instrument 52-109 "Certification of Disclosure on Issuers' Annual and Interim Filings". The certificate requires that Cardinal disclose in the interim MD&A any change in the Company's internal control over financial reporting ("ICOFR") that occurred during the period that have materially affected, or are reasonably likely to materially affect Cardinal's ICOFR. As of the date of this MD&A Cardinal confirms that there have been no such changes in Cardinal's ICOFR during the third quarter of 2017.

### 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

With the initial success of our royalty sales process and the recent increase in crude oil prices Cardinal anticipates a strong 2018. We have undergone a difficult period in the Canadian oil and gas industry as low crude oil prices have curtailed development on most of our properties. Our focus for 2018 will shift from maintaining our assets to one of more aggressively exploiting our properties while continuing to maintain the cost discipline developed through this downturn. We have managed to acquire several long life, light oil legacy assets at what we believe was the bottom of the commodity cycle. Cardinal expects to see the rewards from these acquisitions and royalty sales process in 2018 and beyond as our sustainability is improved minimizing the need for further large scale acquisitions. Management will continue to focus on reducing our net bank debt with the goal of returning our leverage to historical levels.

## QUARTERLY DATA

	Sep 30, 2017	Jun 30, 2017	Mar 31, 2017	Dec 31, 2016
<b>Production</b>				
Oil and NGL (bbl/d)	18,355	13,114	13,009	12,586
Natural gas (mcf/d)	18,650	20,021	12,952	12,178
Oil equivalent (boe/d)	21,463	17,154	15,168	14,616
<b>Financial</b>				
Revenue	86,022	67,602	62,574	58,721
Earnings (loss)	(12,070)	1,218	7,562	(31,995)
Basic per share (\$)	(0.11)	0.02	0.10	(0.43)
Diluted per share (\$)	(0.11)	0.02	0.10	(0.43)
Cash flow from operating activities	23,719	12,986	15,383	9,728
Adjusted funds flow	23,200	15,781	14,586	16,247
Basic per share (\$)	0.21	0.20	0.19	0.22
Diluted per share (\$)	0.21	0.20	0.19	0.22
Working capital deficiency <sup>(1)</sup>	(4,098)	(5,423)	(11,396)	(9,028)
Total assets	1,301,832	1,310,125	982,602	946,237
Bank debt	239,418	233,229	82,978	61,272
Principal amount of convertible debentures	50,000	50,000	50,000	50,000
Total long-term liabilities <sup>(2)</sup>	428,774	420,227	249,806	228,437
Shareholders' equity	813,407	834,532	675,505	651,080
Weighted average shares - basic (000's)	110,278	79,612	75,557	73,728
Weighted average shares - diluted (000's)	111,046	80,511	76,919	73,728
Common shares outstanding (000's)	110,324	110,184	79,262	74,152
Diluted shares outstanding (000's)	118,287	117,984	87,123	82,515
	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
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
Adjusted funds flow	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

(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



Production in first quarter of 2016 increased from the fourth quarter of 2015 due to a full quarter of production from the Mitsue acquisition. Production steadily increased in 2016 due to the successfully drilling at Bantry. Production increases in the first two quarters of 2017 were due to the Wainwright and Grande Prairie acquisitions and drilling at Bantry and Mitsue and this was further increased in the third quarter of 2017 with the House Mountain and Midale acquisition. Revenue and commodity prices decreased in the first quarter of 2016 and since then commodity prices have improved which combined with increases in production has resulted in increases in revenue.

Adjusted funds flow for the first quarter of 2016 decreased significantly from the fourth quarter of 2015 due to a significant decrease in crude oil prices and a widening of the WCS differential. Adjusted funds flow for the second and third quarters of 2016 increased due to a partial recovery in commodity prices and increases in production and decreased in the fourth quarter of 2016 due to a reduction in realized gains on commodity contracts. Adjusted funds flow in the first two quarters of 2017 was consistent with the fourth quarter of 2016 as increases in production and commodity prices were offset by realized losses on commodity contracts. Adjusted funds flow for the third quarter of 2017 increased primarily due to increased production from the House Mountain and Midale acquisition.

Cardinal's quarterly earnings (loss) have varied significantly due to changes in operations and commodity prices including an unrealized loss of \$39.9 million in the second quarter of 2016, an impairment of \$12.8 million in the fourth quarter of 2016, an unrealized gain of \$19.9 million in the first quarter of 2017 and an unrealized gain of \$15.3 million in the second quarter of 2017.

## 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 acquisition, royalty disposition and growth plans and the source of funding;
- anticipated future production;
- the impact of the light oil, legacy asset acquisitions on us, including our operations and drilling inventory;
- 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;
- expectations with respect to identifying potential royalty interests to sell to reduce bank debt;
- plans to maintain a conservative leverage profile through a targeted net debt to adjusted funds flow ratio of less than 2.0 once the proceeds of the royalty interest sales are realized;
- Cardinal's risk management strategy including the mitigation of our exposure to commodity price risk, medium crude oil differentials and power costs 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;
- 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; and
- treatment under governmental and other regulatory regimes and tax, environmental and other laws.

Forward-looking statements regarding Cardinal are based on certain key expectations and assumptions of Cardinal concerning 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
"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