



Pengrowth Energy Corporation

Management's Discussion and Analysis

Three Months Ended March 31, 2019

MANAGEMENT'S DISCUSSION AND ANALYSIS

The following Management's Discussion and Analysis ("**MD&A**") of financial results should be read in conjunction with the unaudited Consolidated Financial Statements for the three months ended March 31, 2019 of Pengrowth Energy Corporation ("**Pengrowth**" or the "**Corporation**"). This MD&A is based on information available to May 7, 2019.

Pengrowth's first quarter of 2019 results are contained within this MD&A. All amounts are stated in Canadian dollars unless otherwise specified.

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FORWARD-LOOKING STATEMENTS

This MD&A contains forward-looking statements within the meaning of securities laws, including the "safe harbour" provisions of Canadian securities legislation and the United States Private Securities Litigation Reform Act of 1995. Please see the Business Risks section for more information on factors that could cause actual results to differ materially as well as the Advisory Regarding Forward-Looking Statements for an expanded discussion on this topic.

NON-GAAP FINANCIAL MEASURES

This MD&A refers to certain financial measures that are not determined in accordance with IFRS. These measures do not have standardized meanings and may not be comparable to similar measures presented by other oil and gas companies. These metrics are trailing twelve months earnings before interest, taxes, depletion, depreciation, accretion ("**EBITDA**"), impairment, changes in other decommissioning liabilities, gain (loss) on disposition of properties, change in fair value of commodity risk management contracts, unrealized foreign exchange gain (loss), non-cash share based compensation expense, restructuring costs and EBITDA related to material divestments ("**Adjusted EBITDA**"); Adjusted EBITDA to Interest and Financing Charges ratio (the "**Interest Coverage**" ratio); Total debt before working capital to the trailing twelve months Adjusted EBITDA; Total debt before working capital as a percentage of total book capitalization ("**Debt to Book Capitalization**"); Adjusted net income (loss); Adjusted funds flow; Free funds flow; Produced petroleum revenue; Adjusted operating expenses; Royalty expenses as a percent of produced petroleum revenue; Operating netback before realized commodity risk management; and Cash G&A expenses. For more information please see the Non-GAAP Financial Measures section of the MD&A.

OVERVIEW OF PENGROWTH

Pengrowth is a conventional resource developer of Canadian oil and natural gas assets currently focused on growing bitumen production from the Lloydminster formation at the Lindbergh thermal oil project through steam assisted gravity drainage ("**SAGD**"). The project encompasses 32.5 sections of land with current production capacity of approximately 18,000 bbl/d of bitumen with regulatory approval for 40,000 bbl/d. As one of the southernmost SAGD projects in Alberta, Lindbergh has natural advantages in terms of location and oil quality that allows flexibility in accessing markets.

Pengrowth's 100 percent owned Groundbirch property in the Montney fairway encompasses 19 sections of land. This project fulfills the Lindbergh project's natural gas needs for steam generation. Relatively dry natural gas from the Montney formation is produced using horizontal wells and multi-stage frack technology with significant additional drilling locations noted in the December 31, 2018 Annual Information Form. The Corporation operates a 30 MMcf/d facility to process and deliver natural gas onto major pipelines.

SUMMARY OF FINANCIAL AND OPERATING RESULTS

(\$ millions except per boe and per share amounts)	Three months ended		
	Mar 31, 2019	Mar 31, 2018	% Change
PRODUCTION			
Average daily production (boe/d)	22,764	19,541	16
FINANCIAL			
Oil and gas sales	128.3	126.4	2
Capital expenditures	11.4	26.4	(57)
Cash proceeds from dispositions	5.4	4.4	23
Interest and financing charges	14.6	11.1	32
Cash flow from operating activities	(7.8)	(12.3)	(37)
Adjusted funds flow ⁽¹⁾	16.0	7.2	122
Weighted average number of shares outstanding (000's)	556,594	552,719	1
Adjusted funds flow per share ⁽¹⁾	0.03	0.01	200
OPERATIONAL			
Produced petroleum revenue per boe ⁽¹⁾	36.27	39.97	(9)
Operating expenses per boe	8.93	10.63	(16)
Adjusted operating expenses per boe ⁽¹⁾	10.54	10.41	1
Royalty expenses per boe	2.73	2.79	(2)
Operating netback before realized commodity risk management per boe ⁽¹⁾	19.97	24.04	(17)
Cash G&A expenses per boe ⁽¹⁾	3.22	5.06	(36)
STATEMENT OF INCOME (LOSS)			
Net income (loss)	(31.6)	(27.2)	16
Net income (loss) per share	(0.06)	(0.05)	20
DEBT			
Total debt before working capital ⁽²⁾	\$721.5	\$662.1	9

⁽¹⁾ See definition under section "Non-GAAP Financial Measures".

⁽²⁾ Includes Credit Facility current and long term portions of secured term notes, as applicable, and bank indebtedness. Excludes letters of credit and finance leases.

RESULTS OF OPERATIONS

All volumes, wells and spending amounts stated below reflect Pengrowth's net working interest for both operated and non-operated properties unless otherwise stated. The financial and operating results from divested properties are included in Pengrowth's results up to the month-end nearest the date of closing for each disposition.

KEY HIGHLIGHTS

(\$ millions except per boe amounts)	Three months ended	
	Mar 31, 2019	Mar 31, 2018
Average production (boe/d)	22,764	19,541
Capital expenditures	11.4	26.4
Cash flow from operating activities	(7.8)	(12.3)
Adjusted funds flow ⁽¹⁾	16.0	7.2
Operating netback before realized commodity risk management (\$/boe) ⁽¹⁾	19.97	24.04
Adjusted net income (loss) ⁽¹⁾	(28.1)	(16.7)
Net income (loss)	(31.6)	(27.2)
Total debt before working capital ⁽²⁾	721.5	662.1

⁽¹⁾ See definition under section "Non-GAAP Financial Measures".

⁽²⁾ Includes Credit Facility, current and long term portions of secured term notes, as applicable, and bank indebtedness. Excludes letters of credit and finance leases.

Cash Flow from Operating Activities

First quarter of 2019 cash flow from operating activities was a use of cash of \$7.8 million compared to a use of cash of \$12.3 million in the same period last year. First quarter of 2019 use of cash decreased due to increased bitumen production, lower realized losses on commodity risk management and favorable changes in working capital partially offset by higher spending on remediation.

Adjusted Funds Flow

First quarter of 2019 adjusted funds flow of \$16.0 million increased \$8.8 million from adjusted funds flow of \$7.2 million in the same period last year. This was primarily due to higher bitumen production, the impact of lower realized losses on commodity risk management and lower cash G&A compared to the same period last year. These were partially offset by lower realized natural gas prices due to the absence of natural gas production from the Sable Offshore Energy Project ("SOEP"), higher interest and financing charges mainly due to increased borrowings on the Credit Facility and an increase in adjusted operating expenses.

Net Income (Loss)

Pengrowth reported a net loss of \$31.6 million in the first quarter of 2019 compared to a net loss of \$27.2 million in the same period last year. The net loss increased primarily due to a \$15.3 million charge related to lowering of the discount rate estimate for asset retirement obligation on assets with no remaining useful life combined with the absence of a deferred tax recovery of \$7.2 million recorded in the same period last year. These were partially offset by an unrealized foreign exchange gain in the current quarter compared to an unrealized foreign exchange loss in the same period last year and increased adjusted funds flow.

Adjusted Net Income (Loss)

Pengrowth posted an adjusted net loss of \$28.1 million in the first quarter of 2019 compared to an adjusted net loss of \$16.7 million in the same period last year. The \$11.4 million increase in adjusted net loss was primarily due to the change in other decommissioning liabilities, noted above, recorded in the first quarter of 2019.

FUTURE OPERATIONS

During the quarter, Pengrowth engaged Perella Weinberg Partners LP and their subsidiary Tudor, Pickering, Holt & Co. ("PWP/TPH") as advisers to assist in exploring the Corporation's strategic options and alternatives. On March 5, 2019, the Board of Directors commenced a formal process with PWP/TPH to explore and develop strategic alternatives (the "Strategic Review") with a view to strengthening the Corporation's balance sheet and maximizing enterprise

value. The Strategic Review is intended to explore a comprehensive range of strategic and transaction alternatives, including a sale, merger or other business combination; a disposition of all or certain assets of the Corporation; recapitalization and refinancing opportunities including new debt or equity capital and other alternatives to improve the Corporation's financial position and maximize value. In addition to Pengrowth's long-life, low-decline assets, the Corporation also has potentially attractive tax attributes that complement its strong base operations. Pengrowth and its advisers expect to actively explore market interest in potential transactions and strategic initiatives with a range of interested parties and capital market participants. There can be no guarantees as to whether the Strategic Review will result in a transaction or the terms or timing of any resulting transaction. Various industry risk factors, including a prolonged or significant decrease in WTI or WCS pricing, could impact the outcome of the Strategic Review Process, Pengrowth's cash flow, and its ability to address its upcoming debt maturities.

Through 2018 and into 2019, Pengrowth had discussions with its banking syndicate regarding an amendment or extension of its secured revolving credit facility (the "**Credit Facility**") in connection with Pengrowth's efforts to address upcoming debt maturities, refinance the Corporation's secured term notes, and improve the Corporation's capital structure. On March 25, 2019 the Corporation announced the execution of an extension agreement, supported by 100 percent of the banks in the lending syndicate, which extends the maturity date under the Credit Facility through September 30, 2019, subject to certain terms. The Credit Facility was extended by way of an initial extension to July 29, 2019, with two subsequent extensions to August 29, 2019 and September 30, 2019, respectively, each of which will automatically become effective unless lenders with at least two thirds of the total commitments under the Credit Facility provide notice to the Corporation that such automatic extension will not apply in advance of the applicable automatic extension date. The extension provides support to Pengrowth while it advances the Strategic Review.

Due to the uncertainty around improvements in global commodity prices and uncertainty around the terms and timing of any extension or refinancing arrangements in respect of Pengrowth's debt portfolio, there remains a risk around Pengrowth's ability to address the upcoming maturities of the Credit Facility and certain secured term notes due October 2019 and to remain in compliance with certain covenants at the end of 2019.

As a result, there is significant uncertainty related to these events and conditions that raise substantial doubt about whether the Corporation will continue as a going concern, and therefore, whether it will realize its assets and settle its liabilities in the normal course of business and at the amounts stated in the financial statements. However, management believes that the Corporation will be successful in addressing its capital structure including the amendment of debt covenants and upcoming debt maturities in a timely manner and, accordingly, has prepared the financial statements on a going concern basis.

Accordingly, no adjustments have been made to the financial statements relating to the recoverability and classification of the asset carrying amounts or the amount and classification of liabilities that may be necessary should the consolidated entity not continue as a going concern.

Pengrowth continues to generate sufficient cash flow to meet its obligations including interest payments, capital spending and abandonment and remediation expenses.

2019 GUIDANCE

The following table provides a summary of full year 2019 Guidance and actual results for the three months ended March 31, 2019:

	Q1 2019 Actual	2019 Guidance ⁽¹⁾
Average production (boe/d)	22,764	22,500 - 23,500
Capital expenditures (\$ millions)	11.4	45
Royalty expenses (% of produced petroleum revenue) ^{(2) (3)}	7.5	7.0 - 8.0
Adjusted operating expenses (\$/boe) ⁽²⁾	10.54	9.25 - 10.00
Cash G&A expenses (\$/boe) ⁽²⁾	3.22	2.50 - 2.75

⁽¹⁾ Per boe estimates based on high and low ends of production Guidance.

⁽²⁾ See definition under section "**Non-GAAP Financial Measures**".

⁽³⁾ Excludes financial commodity risk management activities.

First quarter of 2019 daily production of 22,764 was within 2019 Guidance despite low capital spending and mandatory production curtailments under the Alberta Government's mandatory production curtailment program.

Lindbergh full year average production volumes are expected to average between 17,750 bbl/d to 18,250 bbl/d of bitumen in 2019 with total corporate oil-equivalent volumes expected to be between 22,500 boe/d to 23,500 boe/d.

First quarter of 2019 actual royalty expenses as a percent of produced petroleum revenue are within 2019 Guidance and adjusted operating expenses are expected to decline and be within 2019 Guidance for the full year.

Cash G&A expenses in the first quarter of 2019 were higher than 2019 Guidance due to compensation related expenses. Pengrowth anticipates full year 2019 cash G&A expenses to reach 2019 Guidance as expenses decline throughout the year.

2019 Capital Program

Until Pengrowth is able to refinance its term debt and renew its Credit Facility, capital spending is not expected to exceed \$21 million. Pengrowth's 2019 Budget called for a capital spending plan of \$45 million, with 76 percent or \$34 million of this capital allocated to Lindbergh for continued production sustaining and maintenance activities, including drilling of three well pairs to utilize existing steam capacity. Pengrowth will continue to assess timing for commencement of the development program which is anticipated to be no sooner than the second half of 2019. The remaining \$11 million of capital is related to maintenance and integrity activities to support the existing operations and for general corporate purposes, including approximately \$3 million to finalize the 2018 Groundbirch development program.

MULTI-YEAR DEVELOPMENT PLAN

In June 2018, Pengrowth released its multi-year development plan to incrementally increase bitumen production at Lindbergh in bite-sized steps rather than in one large phase.

Expansion at Lindbergh will be achieved in incremental steps aligning capital spending with Pengrowth's expected cash flow, shifting the development methodology away from the previously contemplated large single phase approach. Development capital is expected to be focused on drilling new well pairs, additional infill wells, as well as, adding incremental facilities to de-bottleneck fluid handling capacity. The Corporation expects to implement the co-injection of steam and Non-Condensable Gas ("**NCG**") to further enhance production by maintaining reservoir pressure, lowering steam-oil ratio ("**SOR**") and freeing-up steam for new wells. Regulatory approval for the application of NCG injection at Lindbergh was received in June of 2018. As previously announced, Pengrowth has signed a non-binding letter of intent with a third party to fund development of additional co-generation capacity options at Lindbergh to provide Pengrowth with steam and power under a fee structure sufficient enough to support further efficient production expansions to reach approximately 35,000 bbl/d. Capital to be committed to Lindbergh in 2020 and onwards for production growth will be dependent on the prevailing commodity prices.

Groundbirch has a low cost structure which supports growth in production and cash flow under a stronger natural gas pricing environment.

CAPITAL INVESTMENTS

(\$ millions)	Three months ended	
	Mar 31, 2019	Mar 31, 2018
Drilling, completions and facilities		
Lindbergh	4.3	8.1
Groundbirch and conventional assets	3.3	16.1
Maintenance and other development capital	3.8	2.1
Development capital	11.4	26.3
Other capital	—	0.1
Capital expenditures	11.4	26.4

First quarter of 2019 capital expenditures of \$11.4 million were primarily focused on Lindbergh. Inclusive of maintenance capital, Lindbergh capital expenditures during the first quarter of 2019 were \$7.8 million and were directed towards well and facility optimization program.

Groundbirch capital spending during the first quarter of 2019 was dedicated to the completion and tie-in of the last remaining well from the 2017 drilling program.

PRODUCTION

Daily production	Three months ended			
	Mar 31, 2019	% of total	Mar 31, 2018	% of total
Bitumen (bbl/d)	18,193	80	15,118	77
Natural gas (Mcf/d)	23,988	18	20,040	18
Light oil (bbl/d)	514	2	798	4
Natural gas liquids (NGL) (bbl/d)	59	—	285	1
Total boe/d	22,764		19,541	

Pengrowth's first quarter of 2019 production was not materially affected by the Government of Alberta curtailment program.

First quarter of 2019 total average daily production increased 16 percent compared to the same period in 2018 due to a 20 percent increase in bitumen production in the first quarter of 2019 compared to the same period in 2018 as a result of the production growth at Lindbergh from the infill wells drilled in 2018.

First quarter of 2019 natural gas production increased 20 percent compared to the first quarter of 2018 due to production increasing at Groundbirch by 126 percent. This change was largely driven by production ramp up from the three new wells which commenced flow on the NGTL system on April 1, 2018 and the fourth well which commenced limited flow in the fourth quarter of 2018. The noted production gains were partially offset by the absence of production related to SOEP as the field ceased production at the end of 2018. The gas production from Groundbirch provides a supply of natural gas for Pengrowth's fuel requirements to generate steam at Lindbergh.

First quarter of 2019 light oil production decreased 36 percent compared to the same period last year due to the disposition of certain minor Southern Alberta conventional assets which closed during the quarter and an outage on the Enbridge natural gas system which impacted light oil production from Northeast BC. NGL production decreased 79 percent compared to the first quarter of 2018 largely due to the absence of production related to SOEP, as mentioned above.

OPERATING NETBACKS

Pengrowth's operating netbacks are defined as produced petroleum revenue, less royalties, less adjusted operating expenses and less transportation expenses divided by production for the period. Operating netbacks may not be comparable to similar measures presented by other companies, as there are no standardized measures.

Operating Netbacks (\$/boe) ⁽¹⁾	Three months ended	
	Mar 31, 2019	Mar 31, 2018
Produced petroleum revenue ⁽¹⁾	36.27	39.97
Royalties	(2.73)	(2.79)
Adjusted operating expenses ⁽¹⁾	(10.54)	(10.41)
Transportation expenses	(3.03)	(2.73)
Operating netbacks before realized commodity risk management ⁽¹⁾	19.97	24.04
Realized commodity risk management	(2.49)	(7.96)
Operating netbacks (\$/boe)	17.48	16.08

⁽¹⁾ See definition under section "Non-GAAP Financial Measures".

First quarter of 2019 operating netback, before realized commodity risk management, decreased 17 percent compared to the same period in 2018 primarily due to a decrease in realized bitumen and natural gas prices year over year, combined with a slight increase in adjusted operating expenses and transportation.

First quarter of 2019 operating netbacks, after realized commodity risk management, increased 9 percent compared to the same period in 2018 mainly due to lower per boe realized commodity risk management losses in 2019 due to a change in risk management contracts year over year.

COMMODITY PRICES

Pengrowth's revenues are substantially derived from the sale of diluted bitumen, light oil, natural gas and natural gas liquids and are dependent on commodity prices the Corporation receives. The following table shows industry benchmark prices and foreign exchange rates to assist in understanding the impact of commodity prices, price differentials and foreign exchange rates on Pengrowth's financial results:

Benchmark Prices and Differentials

	Three months ended	
	Mar 31, 2019	Mar 31, 2018
Average Benchmark Commodity Prices		
Crude Oil:		
WTI oil (U.S.\$/bbl)	54.90	62.91
WTI oil (Cdn\$/bbl)	73.20	79.63
WCS differential to WTI (U.S.\$/bbl)	(12.46)	(24.44)
WCS oil (U.S.\$/bbl)	42.44	38.47
WCS oil (Cdn\$/bbl)	56.59	48.70
Condensate:		
Condensate at Edmonton (Cdn\$/bbl)	67.19	72.13
WCS differential to Condensate (Cdn\$/bbl)	(10.60)	(23.43)
Natural Gas:		
AECO monthly gas (Cdn\$/MMBtu)	1.94	1.85
Average Exchange Rate		
Cdn\$1=U.S.\$	0.75	0.79

Crude Oil Benchmark Prices and Differentials

The WTI price, which is an important benchmark reflecting the inland North American crude oil price, averaged U.S. \$54.90/bbl during the first quarter of 2019, reflecting a 13 percent decrease compared to the same period in 2018.

Combined with the decrease in WTI, Alberta heavy and light oil producers were subjected to a discount for their production. Exchange rates, location, quality differentials and transportation bottlenecks are all factors that impact the price received for Canadian crude oil. WCS is a blend of heavy oil consisting of conventional heavy oil and diluted bitumen and the benchmark price represents the Canadian heavy oil price at Hardisty, Alberta.

The differential between WCS and WTI narrowed in the first quarter of 2019 averaging U.S.\$12.46/bbl compared to U.S.\$24.44/bbl in the same period in 2018. The narrowing in the differential was the result of continued efforts to alleviate transportation bottlenecks through temporary Government mandated production curtailments in the province of Alberta, and through transporting crude by rail to clear the market.

As a result of narrowing differentials to WTI, first quarter of 2019 average U.S. dollar WCS oil price was 10 percent higher compared to the same period in 2018.

Condensate Benchmark Prices and Differentials

In order to meet pipeline specifications and facilitate delivery on pipeline systems, bitumen production is blended with condensate which is used as a diluent to reduce viscosity. Pengrowth's blending ratio which reflects diluent volumes as a percentage of total blended volumes remained unchanged at approximately 30 percent during the first quarter of 2019 as compared to the same period last year. The WCS to Condensate differential reflects the amount of condensate costs that are not recoverable when selling a barrel of diluted bitumen. The narrower the WCS to Condensate differential, the more condensate costs are recovered. When the demand for condensate in Alberta exceeds the supply available, Edmonton condensate may be priced to be competitive with U.S. Gulf Coast condensate prices plus the cost to transport the condensate to Edmonton. Condensate prices, at Edmonton, decreased 7 percent in the first quarter of 2019 to an average of Cdn\$67.19/bbl compared to Cdn\$72.13/bbl in the same period in 2018, while the Condensate differential to WCS narrowed by Cdn\$12.83/bbl or 55 percent.

Natural Gas Benchmark Prices

The average AECO natural gas prices increased 5 percent in the first quarter of 2019, compared to the same period in 2018 primarily due to colder weather increasing demand which offset the impact from the oversupply of Canadian natural gas and transportation constraints. However, Pengrowth's first quarter of 2019 realized price for natural gas decreased 51 percent due to the absence of natural gas from SOEP which attracted higher realized pricing compared to AECO.

Pengrowth Average Realizations

(Cdn\$)	Three months ended	
	Mar 31, 2019	Mar 31, 2018
Average Sales Price ⁽¹⁾		
Diluted bitumen (Cdn\$/bbl) ⁽²⁾⁽³⁾	50.65	55.40
Diluent cost and transportation (Cdn\$/bbl)	(9.46)	(13.07)
Bitumen (Cdn\$/bbl) ⁽⁴⁾	41.19	42.33
Natural gas (Cdn\$/Mcf) ⁽⁵⁾	1.90	3.88
Light oil (Cdn\$/bbl)	58.37	59.87
Natural gas liquids (Cdn\$/bbl)	18.83	54.58

⁽¹⁾ Excluding realized financial risk management contracts.

⁽²⁾ Calculated based on diluted bitumen sales volumes.

⁽³⁾ During the first quarter of 2019, Pengrowth's risk management included fixed price differential physical delivery contracts of 12,500 bbl/d at approximately U.S. \$19.47/bbl of diluted bitumen.

⁽⁴⁾ Calculated based on bitumen sales volumes and excludes diluent sold.

⁽⁵⁾ Average sales prices are recorded in Mcf to reflect the volumetric reporting standard for Pengrowth's natural gas. Starting April 1, 2018, a portion of natural gas sales from Groundbirch is used for operational requirements and recorded at AECO/NIT 7A monthly index prices. First quarter of 2019 realized natural gas price of \$1.90/Mcf incorporates contributions from sales to third parties and natural gas used in internal operations.

Diluted Bitumen and Bitumen Realizations

Pengrowth uses physical delivery contracts for a portion of its diluted bitumen sales to ensure access to markets, protect against pipeline apportionment, and limit credit risk and exposure to widening WCS differentials. First quarter 2019 diluted bitumen sales averaged 26,619 bbl/d, of which 12,500 bbl/d was sold under physical delivery fixed price WCS differential contracts averaging a discount of approximately U.S.\$19.47/bbl to WTI. This resulted in a \$10.7 million loss incurred during the first quarter of 2019 as WCS differentials narrowed unexpectedly compared to Pengrowth's WCS differential contracts, primarily as result of the Alberta government mandatory production curtailment program. This in turn resulted in the average diluted bitumen realized price of Cdn\$50.65/bbl, which was lower than the average WCS benchmark of Cdn\$56.59/bbl.

Pengrowth's average bitumen sales price represents the calculated effective price received for bitumen production from Lindbergh, prior to blending of the product with diluent and the subsequent sales of diluted bitumen. First quarter of 2019 bitumen realization was 3 percent lower compared to the same period in 2018 primarily due to the unfavorable impact of the WCS physical delivery fixed price differential contracts in the first quarter of 2019 partially offset by lower condensate cost.

Natural Gas, Light Oil and NGL Realizations

A portion of natural gas delivered from Groundbirch onto the NGTL system is subsequently used in operations at Lindbergh as energy costs and the remaining Groundbirch natural gas is sold to third parties. In accordance with IFRS, the value of natural gas related to internal use is excluded from oil and gas sales and operating expenses on the Consolidated Statements of Income (Loss). However, Pengrowth's total natural gas realization, as per the table above, incorporates contributions of both third party sales and internal consumption to assist in understanding the unique nature of Groundbirch operation and contrast the overall natural gas realized price to the AECO benchmark price. See Note 10 to the March 31, 2019 unaudited Consolidated Financial Statements for more information.

With the absence of natural gas production and higher priced sales from SOEP in the first quarter of 2019, due to the cessation of production in December 2018, Pengrowth's natural gas realized price is in line with the AECO benchmark price. First quarter of 2019 average sales price for natural gas decreased 51 percent compared to the same period in 2018. In 2018, Pengrowth sold its natural gas from SOEP at other sales points including Algonquin City Gate in the Northeast U.S., which resulted in significantly higher average sales price realizations compared to AECO benchmark prices in 2018.

Produced Petroleum Revenue Realizations

Produced petroleum revenue realizations are calculated based on bitumen, natural gas, light oil and natural gas liquids sales volumes and exclude processing income, diluent and other revenue.

(Cdn\$/boe)	Three months ended	
	Mar 31, 2019	Mar 31, 2018
Produced petroleum revenue ⁽¹⁾	36.27	39.97
Realized commodity risk management gain (loss)	(2.49)	(7.96)
Total including realized commodity risk management	33.78	32.01

⁽¹⁾ See definition under section "Non-GAAP Financial Measures".

Pengrowth's first quarter of 2019 produced petroleum revenue realizations of \$36.27/boe decreased 9 percent compared to the same period in 2018 primarily due to the impact of physical delivery WCS differential losses on realized bitumen price.

Realized commodity risk management losses of \$2.49/boe were recorded in the first quarter 2019 compared to a loss of \$7.96/boe in the first quarter of 2018 due to a change in fixed volumes and contracted prices of Pengrowth's commodity risk management contracts.

Commodity Price Risk Management

Realized Commodity Risk Management Gains (Losses) from Financial Contracts

(\$ millions except per unit amounts)	Three months ended	
	Mar 31, 2019	Mar 31, 2018
Oil risk management gain (loss)	(5.1)	(14.0)
\$/bbl ⁽¹⁾	(3.03)	(9.77)
Total realized commodity risk management gain (loss)	(5.1)	(14.0)
\$/boe ⁽²⁾	(2.49)	(7.96)

⁽¹⁾ Includes light oil and bitumen.

⁽²⁾ Includes total production.

Pengrowth's commodity risk management program primarily uses forward price swaps and collars to manage the exposure to commodity price and differential fluctuations and provide a measure of stability and predictability to cash flows. Changes in the business environment are regularly monitored by management and the Board of Directors to ensure that Pengrowth's risk management program is adequate and aligned with the long term strategic goals of the Corporation.

Realized commodity risk management gains and losses vary from period to period and are a function of the volumes under risk management contracts, the fixed prices of those risk management contracts and the benchmark pricing for the commodities under risk management contracts at settlement. Realized losses result when the average fixed risk management contracted prices are lower than the benchmark prices, while realized gains are recorded when the average fixed risk management contracted prices are higher than the benchmark prices at settlement. Realized gains and losses directly impact cash flow for the period.

During the first quarter 2019, Pengrowth realized risk management losses of \$5.1 million due to narrowing of the WCS differential which was lower than Pengrowth's contracted prices. Realized commodity risk management losses decreased \$8.9 million in the first quarter of 2019 to \$5.1 million from a loss of \$14.0 million in the first quarter of 2018 due to a change in risk management contracts year over year. During the first quarter of 2018, Pengrowth had in place financial contracts for 10,000 bbl/d of WTI swaps and collars at approximately U.S.\$49/bbl.

Changes in Fair Value of Financial Commodity Risk Management Contracts

(\$ millions)	Three months ended	
	Mar 31, 2019	Mar 31, 2018
Fair value of commodity risk management assets (liabilities) at period end	(11.1)	(44.5)
Less: Fair value of commodity risk management assets (liabilities) at beginning of period	(4.2)	(39.8)
Change in fair value of commodity risk management contracts for the period	(6.9)	(4.7)

Changes in fair value of commodity risk management contracts vary period to period and are a function of the volumes under risk management contracts, actual settlements of risk management contracts during the period, the fixed prices of those risk management contracts and the forward curve pricing for the commodities under risk management contracts at the end of the period. A decrease in fair value of commodity risk management contracts occurs when the forward price curve moves higher in relation to the fixed price, with the magnitude of the change being proportional to the movement in the forward price curve. An increase in fair value of commodity risk management contracts occurs when the forward price curve moves lower in relation to the fixed price, with the magnitude of the change being proportional to the movement in the forward price curve. Changes in fair value of commodity risk management contracts are also affected by the change in volumes under risk management in the period. Changes in fair value of commodity risk management contracts are reported on the Consolidated Statements of Income (Loss) and do not impact cash flow for the period.

For the three months ended March 31, 2019, Pengrowth recorded a change in the fair value of commodity risk management contracts of \$6.9 million as the fair value of commodity risk management liabilities at December 31, 2018 of \$4.2 million increased to a liability of \$11.1 million at March 31, 2019. The increase in liability was primarily the result of lower WCS differential curves relative to Pengrowth's contracted prices and the rise of WTI price curve relative to WTI collars.

At March 31, 2019, Pengrowth had the following financial contracts outstanding:

Financial Crude Oil Contracts:

Differential Swaps				
Reference point	Remaining term	Volume of dilbit (bbl/d)	Price per bbl (U.S.\$)	
Western Canada Select	Apr. 1, 2019 - Dec. 31, 2019	5,000	WTI less \$20.88	

Collars				
Reference point	Remaining term	Volume (bbl/d)	Price per bbl (U.S.\$)	
			Bought Puts	Sold Calls
WTI	Apr. 1, 2019 - Jun. 30, 2019	7,000	56.86	59.76

Financial Risk Management Contracts Sensitivity to Commodity Prices as at March 31, 2019

(\$ millions)

Oil differentials	Cdn\$1 decrease in future oil differential	Cdn\$1 increase in future oil differential
Increase (decrease) to fair value of financial differential risk management contracts	(1.0)	1.0

Collars	Cdn\$1/bbl increase in WTI	Cdn\$1/bbl decrease in WTI
Increase (decrease) to fair value of oil risk management contracts	(\$0.6)	\$0.6

The changes in fair value of the forward risk management contracts directly affect reported net income (loss) through the unrealized amounts recorded in the Consolidated Statements of Income (Loss) during the period. The effect on cash flow will be recognized separately only upon settlement of the risk management contracts, which could vary significantly from the unrealized amount recorded due to timing and prices when each contract is settled.

If each commodity risk management contract was to have settled at March 31, 2019, revenue and cash flow would have been \$11.1 million lower than if the risk management contracts were not in place based on the estimated fair value of the risk management contracts at period end. The \$11.1 million liability was related to risk management contracts expiring within one year.

Pengrowth has not designated any outstanding commodity risk management contracts as hedges for accounting purposes and therefore records these risk management contracts on the Consolidated Balance Sheets at their fair value and recognizes changes in fair value of commodity risk management contracts on the Consolidated Statements of Income (Loss). The volatility in net income (loss) will continue to the extent that the fair value of the commodity risk management contracts fluctuates. However, these non-cash amounts do not affect Pengrowth's cash flow until realized.

Realized commodity risk management gains (losses) on financial crude oil, natural gas and differential contracts, as applicable, are recorded separately on the Consolidated Statements of Income (Loss) and impact cash flow at that time.

Physical Delivery Risk Management Contracts

Physical delivery contracts are not considered financial instruments and therefore, no asset or liability has been recognized in the Consolidated Financial Statements related to these contracts. The impact of realized physical delivery contract prices is included in oil and gas sales, as per the Consolidated Statements of Income (Loss), and therefore in realized average sales prices.

At March 31, 2019, Pengrowth had the following physical delivery contracts outstanding:

Differentials			
Reference point	Remaining term	Volume of dilbit (bbl/d)	Price per bbl (U.S.\$)
Western Canada Select	Apr. 1, 2019 - Dec. 31, 2019	2,500	WTI less \$17.95
Western Canada Select	Apr. 1, 2019 - Dec. 31, 2019	2,500	WTI less \$23.60 - \$26.35
Western Canada Select	Apr. 1, 2019 - Dec. 31, 2019	5,000	WTI less \$17.70 - \$20.45
Western Canada Select	Apr. 1, 2019 - Feb. 1, 2020	2,500	WTI less \$20.40 - \$23.40

Pengrowth has also entered into a secured term sale agreement at Hardisty for an additional 5,000 bbl/d of diluted bitumen for 2019 that are 100 percent apportionment protected. Pengrowth will settle at the monthly WCS Index less an apportionment protection fee of U.S.\$2.00/bbl.

Collars			Price per bbl (U.S.\$)	
Reference point	Remaining term	Volume (bbl/d)	Bought Puts	Sold Calls
WTI	Apr. 1, 2019 - Jun. 30, 2019	1,000	56.00	60.05

See the Commodity Price Contracts section in Note 13 to the March 31, 2019 unaudited Consolidated Financial Statements for more information.

FINANCIAL RESULTS

OIL AND GAS SALES

The following table shows the composition of oil and gas sales:

(\$ millions)	Three months ended	
	Mar 31, 2019	Mar 31, 2018
Bitumen	67.4	57.6
Natural gas ⁽¹⁾⁽²⁾	4.1	7.0
Light oil	2.7	4.3
Natural gas liquids	0.1	1.4
Produced petroleum revenue ⁽¹⁾	74.3	70.3
Sale of diluent and other	57.6	56.1
Less: deemed natural gas sales used in operations ⁽²⁾	(3.6)	—
Oil and gas sales ⁽³⁾	128.3	126.4

⁽¹⁾ See definition under section "Non-GAAP Financial Measures".

⁽²⁾ Starting April 1, 2018, a portion of natural gas delivered from Groundbirch to the NGTL system is used in other operations as energy costs. As such, \$3.6 million related to natural gas used in internal operations is not included in total oil and gas sales for the three months ended March 31, 2019 (March 31, 2018 - \$nil).

⁽³⁾ Excludes realized commodity risk management from financial contracts.

In order to reduce viscosity and meet pipeline specifications, bitumen requires blending with a diluent. The cost of diluent is mostly recovered when the blended product, also known as dilbit or diluted bitumen, is sold at Hardisty. This is reflected in diluent and other revenue together with processing income and product purchased for resale.

Price and Volume Analysis

Quarter ended March 31, 2019 versus Quarter ended March 31, 2018

The following table illustrates the effect of changes in prices and volumes on the components of produced petroleum revenue:

(\$ millions)	Bitumen	Natural gas ⁽²⁾	Light oil	NGLs	Produced petroleum revenue ⁽²⁾
Quarter ended March 31, 2018 ⁽¹⁾	57.6	7.0	4.3	1.4	70.3
Effect of change in product prices and differentials	(1.9)	(4.3)	(0.1)	(0.2)	(6.5)
Effect of change in sales volumes	11.7	1.4	(1.5)	(1.1)	10.5
Quarter ended March 31, 2019 ⁽¹⁾	67.4	4.1	2.7	0.1	74.3

⁽¹⁾ Excludes realized commodity risk management from financial contracts.

⁽²⁾ See definition under section "Non-GAAP Financial Measures".

Bitumen sales increased by 17 percent in the first quarter of 2019 compared to the same period in 2018 mostly driven by higher production volumes. The unfavorable impact of physical delivery fixed price differential contracts more than offset the improvement in WCS in the first quarter of 2019. Natural gas sales decreased 41 percent in the first quarter of 2019 compared to the same period last year mainly due to absence of natural gas from SOEP. Light oil sales in the first quarter of 2019 decreased 37 percent impacted by a disposition and an outage in Northeast BC. NGL sales in the first quarter of 2019 decreased 93 percent compared to the same period last year also due to the absence of SOEP volumes.

ROYALTIES

(\$ millions except per boe amounts and percentages)	Three months ended	
	Mar 31, 2019	Mar 31, 2018
Royalties, net of incentives	5.6	4.9
\$/boe	2.73	2.79
Royalties as a percent of produced petroleum revenue (%) ⁽¹⁾⁽²⁾	7.5	7.0

⁽¹⁾ Excludes realized commodity risk management from financial contracts.

⁽²⁾ See definition under section "Non-GAAP Financial Measures".

Royalties include Crown, freehold, overriding royalties, mineral taxes and GCA.

The Lindbergh Crown royalty rate is price sensitive and varies depending on whether the project is pre-payout or post-payout. Lindbergh is currently in pre-payout and will reach payout when its cumulative revenues exceed its cumulative eligible costs. The Crown royalty rate applicable to pre-payout varies from 1 percent when the monthly Cdn\$ equivalent WTI price is less than or equal to \$55/bbl to 9 percent when the Cdn\$ equivalent WTI price is in excess of \$120/bbl. Lindbergh royalties also incorporate a 4.0 percent gross overriding royalty to a third party that is based on posted WCS benchmark prices.

First quarter of 2019 royalties as a percent of produced petroleum revenue increased to 7.5 percent from 7.0 percent in the first quarter of 2018. The overall increase in the first quarter of 2019 royalty rate is primarily attributed to higher Lindbergh gross overriding royalties paid in the quarter as a result of an improvement in WCS benchmark price compared to the same period last year. This was partially offset by the absence of royalty expenses related to SOEP as the field ceased production at the end of 2018.

ADJUSTED OPERATING EXPENSES

(\$ millions except per boe amounts)	Three months ended	
	Mar 31, 2019	Mar 31, 2018
Operating expenses	18.3	18.7
Cost of natural gas used in internal operations ⁽¹⁾	3.6	—
Less: Processing income	(0.3)	(0.4)
Adjusted operating expenses ⁽¹⁾⁽²⁾	21.6	18.3
\$/boe	10.54	10.41

⁽¹⁾ Starting April 1, 2018, incorporates the cost of a portion of natural gas delivered from Groundbirch to the NGTL system and used in operations as energy costs calculated using AECO/NIT 7A monthly index prices. First quarter of 2018 fuel supply for Lindbergh was not related to Groundbirch natural gas.

⁽²⁾ See definition under section "Non-GAAP Financial Measures".

Starting in April 2018, a portion of natural gas delivered from Groundbirch onto the NGTL system is subsequently used in operations to satisfy fuel requirements at Lindbergh. In accordance with IFRS, the value of natural gas related to internal use is excluded from oil and gas sales and operating expenses on the Consolidated Statements of Income (Loss). However, Pengrowth uses adjusted operating expenses measure which incorporates this cost of natural gas used in operations as energy costs to reflect true costs of operations regardless of the supply source.

First quarter of 2019 adjusted operating expenses increased \$3.3 million or 18 percent compared to the same period in 2018 primarily due to the absence of favorable adjustments related to properties Pengrowth no longer owns that were recorded in the first quarter of 2018. This was in addition to incremental operating expenses related to higher Lindbergh and Groundbirch production partially offset by the absence of operating expenses related to SOEP as the field ceased production at the end of 2018.

On a per boe basis, first quarter of 2019 adjusted operating expenses increased \$0.13/boe compared to the same period last year driven by the same factors as above.

DILUENT AND OTHER PURCHASES

(\$ millions)	Three months ended	
	Mar 31, 2019	Mar 31, 2018
Diluent cost	53.9	52.8
Other product purchases	3.3	2.4
Diluent and other purchases	57.2	55.2

Diluent costs reflect the cost of condensate required for processing activities and blending with bitumen to reduce viscosity and meet pipeline specifications. The amount of condensate costs depends on the volume of diluent required for blending and the price of condensate.

First quarter of 2019 diluent costs increased \$1.1 million compared to the same period last year as the increase in bitumen production required higher volume of purchased diluent which was offset by a decrease in average condensate

prices in the first quarter of 2019 compared to the first quarter of 2018. Pengrowth's blending ratio which reflects diluent volumes as a percentage of total blended volumes remained unchanged at approximately 30 percent throughout the first quarter of 2019 as compared to the same period last year.

Other product purchases include third party hydrocarbons purchased for resale in order to meet sales commitments.

TRANSPORTATION EXPENSES

(\$ millions except per boe amounts)	Three months ended	
	Mar 31, 2019	Mar 31, 2018
Transportation expenses	6.2	4.8
\$/boe	3.03	2.73

First quarter of 2019 transportation expenses increased \$1.4 million compared to the same period in 2018 due to incremental transportation expenses related to higher Lindbergh and Groundbirch production.

On a per boe basis, the increase in the first quarter of 2019 relative to the same period in 2018 was mainly due to higher transportation rates compared to the first quarter of 2018.

GENERAL AND ADMINISTRATIVE EXPENSES

(\$ millions except per boe amounts)	Three months ended	
	Mar 31, 2019	Mar 31, 2018
Cash G&A expenses ⁽¹⁾⁽²⁾	6.6	8.9
\$/boe	3.22	5.06
Non-cash G&A expenses ⁽¹⁾⁽²⁾	0.6	0.7
\$/boe	0.29	0.40
Total G&A ⁽¹⁾	7.2	9.6
\$/boe	3.51	5.46

(1) Net of recoveries and capitalization, as applicable.

(2) See definition under section "Non-GAAP Financial Measures".

First quarter 2019 cash G&A expenses decreased \$2.3 million or 26 percent compared to the same period in 2018 primarily due to significantly lower staffing costs. Office expenditures were \$0.2 million lower due to the implementation of IFRS 16 with first quarter of 2019 rent payments reflected as a decrease in lease liability rather than G&A costs.

On a per boe basis, first quarter of 2019 cash G&A expenses decreased \$1.84/boe compared to the same period in 2018 reflecting the decreases in cash G&A expenses as described above and an increase in production.

The non-cash component of G&A represents the compensation expenses associated with Pengrowth's share-settled long term incentive plan ("LTIP"). See Note 9 to the March 31, 2019 unaudited Consolidated Financial Statements for additional information on Pengrowth's share-settled LTIP. The compensation costs associated with these plans are expensed over the applicable vesting periods.

First quarter of 2019 non-cash G&A expenses remained relatively unchanged compared to the same period in 2018.

During the three months ended March 31, 2019, \$0.3 million (March 31, 2018 - \$0.6 million) of directly attributable G&A costs were capitalized to Property, Plant and Equipment ("PP&E").

ACCRETION

(\$ millions except per boe amounts)	Three months ended	
	Mar 31, 2019	Mar 31, 2018
Accretion	1.3	1.8
\$/boe	0.63	1.02

Accretion expense is recognized to update the present value of the asset retirement obligation balance. The ARO liability is increased each reporting period due to the passage of time and the amount of such accretion is expensed in the period. In 2018, accretion also included increases in the onerous lease provision related to passage of time.

First quarter of 2019 accretion expense decreased \$0.5 million compared to the same period last year due to the absence of accretion on the onerous lease provision which has been eliminated upon IFRS 16 adoption. See the Accounting Pronouncements section for more information.

DEPLETION AND DEPRECIATION

(\$ millions except per boe amounts)	Three months ended	
	Mar 31, 2019	Mar 31, 2018
Depletion and depreciation	31.1	31.1
\$/boe	15.18	17.68

Depletion and depreciation expense is recognized to allocate the cost of capital assets over the useful life of the respective assets. The net carrying amount of developed or producing fields or groups of fields is depleted using the unit of production method by reference to the ratio of production in the period to the related proved plus probable reserves, taking into account estimated future development costs necessary to bring those reserves into production.

Fluctuations in depletion and depreciation expense are primarily the result of changes in produced crude oil and natural gas volumes and changes in depletion and depreciation per unit. Fluctuations in depletion and depreciation per unit are the result of changes in reserves, future development costs, and relative production mix. Properties with no remaining production and reserves are fully depleted in the year that production ceases.

First quarter of 2019 depletion and depreciation remained unchanged from first quarter 2018 on a gross dollar basis. First quarter of 2019 depletion and depreciation per boe was \$15.18/boe reflecting a \$2.50/boe decrease resulting primarily from changes in future development costs, in addition to lower depletable PP&E base relative to the first quarter of 2018.

INTEREST AND FINANCING CHARGES

(\$ millions)	Three months ended	
	Mar 31, 2019	Mar 31, 2018
Interest and financing charges	14.6	12.1
Capitalized interest	—	(1.0)
Total interest and financing charges	14.6	11.1

At March 31, 2019, Pengrowth had \$530.5 million in outstanding fixed rate debt and \$191.0 million of Credit Facility borrowings. Total fixed rate debt consists primarily of U.S. dollar denominated secured term notes at a weighted average interest rate of 6.6 percent and the Credit Facility had an average 7.4 percent interest rate.

First quarter of 2019 interest and financing charges, before capitalized interest, increased \$2.5 million or 21 percent compared to the same period last year due to higher borrowings on the Credit Facility combined with higher Canadian dollar equivalent interest expense due to weaker average Canadian dollar in the current quarter. In addition, Interest and financing charges were \$0.5 million higher related to an increase in lease obligations resulting from IFRS 16 adoption. See the Accounting Pronouncements section for more information.

TAXES

Deferred income tax is a non-cash item relating to temporary differences between the accounting and tax basis of Pengrowth's assets and liabilities. As at March 31, 2019, Pengrowth did not recognize deductible temporary differences of approximately \$1.8 billion primarily consisting of approximately \$1.6 billion of non-capital losses and \$0.2 billion in other temporary differences (PP&E and other). These losses expire between 2025 and 2039.

The deferred tax recovery of \$7.2 million recognized during the three months ended March 31, 2018 was primarily due to temporary differences related to the change in fair value of commodity risk management contracts. See Note 7 to the March 31, 2019 unaudited Consolidated Financial Statements for more information.

Pengrowth has certain income tax filings from predecessor entities that are in dispute with tax authorities and has paid \$9.5 million and \$2.7 million to the Canada Revenue Agency and the Alberta Tax and Revenue Administration, respectively, to formally begin the process of challenging the particular taxation year. Pengrowth believes that its filings to-date are correct and that it is more likely than not to be successful in defending its positions. Therefore, no provision for any potential income tax liability was recorded and the \$12.2 million has been recorded as a long term receivable.

FOREIGN CURRENCY GAINS (LOSSES)

(\$ millions)	Three months ended	
	Mar 31, 2019	Mar 31, 2018
Currency exchange rate (Cdn\$1 = U.S.\$) at beginning of period	0.73	0.80
Currency exchange rate (Cdn\$1 = U.S.\$) at period end	0.75	0.78
Unrealized foreign exchange gain (loss) from translation of foreign denominated debt	10.6	(13.7)
Unrealized gain (loss) on foreign exchange risk management contracts	(7.2)	6.6
Net unrealized foreign exchange gain (loss)	3.4	(7.1)
Net realized foreign exchange gain (loss)	(0.1)	0.1

As 71 percent of Pengrowth's total debt before working capital is denominated in foreign currencies at March 31, 2019, the majority of Pengrowth's unrealized foreign exchange gains and losses are attributable to the translation of this debt into Canadian dollars and changes in the fair value of the related foreign exchange swap contracts Pengrowth employs to manage this risk.

The gains or losses on foreign debt principal restatement each period are calculated by comparing the translated Canadian dollar balance of foreign currency denominated long term debt from one period to another. The magnitude of the gains and losses is proportionate to the magnitude of the exchange rate fluctuation between the opening and closing rates for the respective periods and the amount of debt denominated in a foreign currency.

Foreign Exchange Contracts Associated with U.S. Dollar Denominated Term Debt

Pengrowth holds a series of swap contracts which were transacted in order to fix the foreign exchange rate on a portion of principal for Pengrowth's U.S. dollar denominated term debt. The swaps partially offset foreign exchange gains/losses on U.S. dollar denominated debt. Each swap requires Pengrowth to buy U.S. dollars at a predetermined rate and time, based upon maturity dates of the U.S. dollar term debt.

At March 31, 2019, Pengrowth held a total of U.S.\$240 million in foreign exchange swap contracts at a weighted average rate of U.S.\$0.75 per Cdn\$1 as follows:

Principal amount (U.S.\$ millions)	Swapped amount (U.S.\$ millions)	% of principal swapped	Average fixed rate (Cdn\$1 = U.S.\$)
366.3	240.0	66%	0.75

At March 31, 2019, the fair value of these U.S. foreign exchange derivative contracts was a liability of Cdn\$1.4 million and has been included on the Consolidated Balance Sheets. Changes in the fair value of these contracts between Balance Sheet dates are reported on the Consolidated Statements of Income (Loss) as an unrealized foreign exchange (gain) loss.

Foreign Exchange Contracts Associated with U.K. Pound Sterling Denominated Term Debt

Pengrowth entered into a foreign exchange risk management contract upon issuing the U.K. pound sterling denominated term debt. At March 31, 2019, Pengrowth held the following contract fixing the Canadian dollar to the U.K. pound sterling exchange rate on the interest and principal of the U.K. pound sterling denominated debt maturing in October 2019:

Principal amount (U.K. pound sterling millions)	Swapped amount (U.K. pound sterling millions)	% of principal swapped ⁽¹⁾	Fixed rate (Cdn\$1 = U.K. pound sterling)
12.1	15.0	124%	0.63

⁽¹⁾ Exceeds 100 percent as swaps were not liquidated when a portion of the principal amount of term note was early repaid in the fourth quarter of 2017.

At March 31, 2019, the fair value of the U.K. foreign exchange derivative contract was an asset of \$2.2 million and has been included on the Consolidated Balance Sheets. Changes in the fair value of this contract between Balance Sheet dates are reported on the Consolidated Statements of Income (Loss) as an unrealized foreign exchange (gain) loss.

Foreign Denominated Term Debt Sensitivity to Foreign Exchange Rate

The following table summarizes the sensitivity on a pre-tax basis, of a change in the foreign exchange rate related to the translation of the foreign denominated term debt and the offsetting change in the fair value of the foreign exchange risk management contracts relating to that debt, holding all other variables constant:

Foreign exchange sensitivity as at March 31, 2019 (\$ millions)	Cdn\$0.01 Exchange rate change	
	Cdn - U.S.	Cdn - U.K.
Unrealized foreign exchange gain or loss on foreign denominated debt	3.7	0.1
Unrealized foreign exchange risk management gain or loss	(2.4)	(0.1)
Net pre-tax impact on Consolidated Statements of Income (Loss)	1.3	—

ASSET RETIREMENT OBLIGATIONS - NET PRESENT VALUE

At March 31, 2019, the ARO liability increased \$5.4 million from December 31, 2018 primarily due to the impact of the discount rate change amounting to \$34.2 million, mostly offset by settlement of liabilities and dispositions of \$30.1 million combined. Dispositions in the first quarter of 2019 include a disposition of ARO for over 100 wells related to certain Southern Alberta conventional assets which closed during the quarter. Changes to the decommissioning liability after the assets have reached the end of their useful life are reflected in the Statement of Income (Loss) in the period in which they occur. As a result, Pengrowth recorded a \$15.3 million charge in the first quarter of 2019 related to lowering of the discount rate estimate for ARO on assets with no remaining useful life.

Pengrowth has estimated the net present value of its total ARO to be \$245.3 million as at March 31, 2019 (December 31, 2018 – \$239.9 million), based on a total escalated future liability of \$426.5 million (December 31, 2018 – \$491.7 million). The decrease in escalated future liability is primarily a result of the disposition and settlement of liabilities as noted above.

Pengrowth has been contributing to an externally managed trust fund established to fund certain abandonment and reclamation costs associated with its interest in the SOEP which has ceased production as of December 31, 2018. The total balance of the SOEP remediation trust fund at March 31, 2019 was \$95.5 million (December 31, 2018 - \$98.0 million) and was included in Other Assets on the Consolidated Balance Sheets. The fund balance is a pre-funding of Pengrowth's entire share of the estimated costs of the SOEP abandonment and remediation and is currently \$12.5 million in excess of the escalated future liability. The abandonment and decommissioning work at SOEP has begun and will continue for the next 2 to 3 years. Abandonment and decommissioning expenditures of \$6.4 million in 2019 were funded by the trust fund in the first quarter of 2019.

Pursuant to the Royalty Agreement with the Province of Nova Scotia and the Offshore Royalty Regulations, Pengrowth is entitled to deduct certain monies spent on abandonment and decommissioning activities from royalties previously paid. The deduction is claimed when the field ceases production and up to three years thereafter. The operator has established December 2018 as the "Month of Cessation" under the Royalty Agreement and the Regulations. Pengrowth's share of remaining abandonment and decommissioning spending from 2019 to 2021 is currently set at approximately \$83 million of escalated future liability. It is estimated that the refundable royalties will be approximately 25 percent to 30 percent of this amount. Pengrowth has recorded a \$1.6 million royalty credit carry-back related to the first quarter of 2019 abandonment and decommissioning expenditures. This amount was reflected as other (income) expense on the Consolidated Statements of Income (Loss) for the three months ended March 31, 2019.

The majority of the abandonment and reclamation costs on other assets, not covered by a fund, are expected to be incurred between 2035 and 2085. A risk free discount rate of 1.9 percent per annum (December 31, 2018 - 2.3 percent) and an ARO specific inflation rate of 2.0 percent (December 31, 2018 - 2.0 percent) were used to calculate the net present value of the ARO at March 31, 2019.

ACQUISITIONS AND DISPOSITIONS

(\$ millions)	Three months ended	
	Mar 31, 2019	Mar 31, 2018
Proceeds from property dispositions ⁽¹⁾	5.4	4.4

⁽¹⁾ Proceeds are net of transaction costs and closing adjustments and include deferred proceeds, as applicable.

First quarter 2019 proceeds from property dispositions relate to deferred proceeds collected that were included accounts receivable at December 31, 2018. At March 31, 2019, there were no deferred proceeds relating to dispositions outstanding.

FINANCIAL RESOURCES AND LIQUIDITY

Debt Maturities and Capital Resources

At March 31, 2019, Pengrowth had in place a secured \$330 million revolving committed term Credit Facility supported by a broad syndicate of domestic and international banks with a maturity date of September 30, 2019, as discussed further below.

The available Credit Facility had drawings of \$191.0 million at March 31, 2019 (December 31, 2018 - \$173.5), and \$63.2 million of outstanding letters of credit (December 31, 2018 - \$75.6 million). In addition to the maturity of the Credit Facility in 2019 as described above, certain of the Corporation's secured term notes in the aggregate principal amount of Cdn\$58.6 million mature on October 18, 2019.

During the quarter, Pengrowth engaged Perella Weinberg Partners LP and their subsidiary Tudor, Pickering, Holt & Co. ("**PWP/TPH**") as advisers to assist in exploring the Corporation's strategic options and alternatives. On March 5, 2019, the Board of Directors commenced a formal process with PWP/TPH to explore and develop strategic alternatives (the "**Strategic Review**") with a view to strengthening the Corporation's balance sheet and maximizing enterprise value. The Strategic Review is intended to explore a comprehensive range of strategic and transaction alternatives, including a sale, merger or other business combination; a disposition of all or certain assets of the Corporation; recapitalization and refinancing opportunities including new debt or equity capital and other alternatives to improve the Corporation's financial position and maximize value. In addition to Pengrowth's long-life, low-decline assets, the Corporation also has potentially attractive tax attributes that complement its strong base operations. Pengrowth and its advisers expect to actively explore market interest in potential transactions and strategic initiatives with a range of interested parties and capital market participants. There can be no guarantees as to whether the Strategic Review will result in a transaction or the terms or timing of any resulting transaction. Various industry risk factors, including a prolonged or significant decrease in WTI or WCS pricing, could impact the outcome of the Strategic Review Process, Pengrowth's cash flow, and its ability to address its upcoming debt maturities.

Through 2018 and into 2019, Pengrowth had discussions with its banking syndicate regarding an amendment or extension of its secured revolving Credit Facility in connection with Pengrowth's efforts to address upcoming debt maturities, refinance the Corporation's secured term notes, and improve the Corporation's capital structure. On March 25, 2019 the Corporation announced the execution of an extension agreement, supported by 100 percent of the banks in the lending syndicate, which extends the maturity date under the Credit Facility through September 30, 2019, subject to certain terms. The Credit Facility was extended by way of an initial extension to July 29, 2019, with two subsequent extensions to August 29, 2019 and September 30, 2019, respectively, each of which will automatically become effective unless lenders with at least two thirds of the total commitments under the Credit Facility provide notice to the Corporation that such automatic extension will not apply in advance of the applicable automatic extension date. The extension provides support to Pengrowth while it advances the Strategic Review.

Due to the uncertainty around improvements in global commodity prices and uncertainty around the terms and timing of any extension or refinancing arrangements in respect of Pengrowth's debt portfolio, there remains a risk around Pengrowth's ability to address the upcoming maturities of the Credit Facility and certain secured term notes due October 2019 and to remain in compliance with certain covenants at the end of 2019.

Further information regarding the risk factors associated with Pengrowth's capital resources may be found under the headings "Advisory Regarding Forward-Looking Statements" and "Business Risks" herein and under "Risk Factors" in Pengrowth's most recent AIF and management information circular, quarterly reports, material change reports and news releases.

Financial Covenants

Pursuant to the debt amending agreements dated October 12, 2017, amendments to the existing financial covenants are effective through to and including the quarter ending September 30, 2019 in the case of the secured term notes and Credit Facility (the "**Waiver Period**"). The only applicable covenant during the Waiver Period is the trailing 12 month Adjusted EBITDA to Interest and Financing Charges ratio (the "**Interest Coverage**" ratio). The Interest Coverage ratio changes each quarter until the fourth quarter of 2019 for secured term notes after which it remains at 4.0 times, as noted below. Any new or extended Credit Facility could contain new or different covenants and credit limits.

Also after the Waiver Period, the Debt to Adjusted EBITDA ratio covenant of 3.5 times, and the Debt to Book Capitalization ratio covenant of 55 percent will be applicable commencing in the fourth quarter of 2019.

During the Waiver Period:

- The Debt to Adjusted EBITDA ratio covenant and the Debt to Book Capitalization ratio covenants do not apply.
- The trailing 12 month Interest Coverage minimum ratio covenant is revised as follows:

Year	Q1	Q2	Q3	Q4
2019	1.13 times	1.19 times	1.23 times	4.0 times

The calculation of the Interest Coverage ratio is based on specific definitions within the agreements and may contain adjustments, pursuant to the agreements, some of which cannot be readily replicated by referring to Pengrowth's Consolidated Financial Statements. Trailing 12 month EBITDA can be adjusted for certain one-time cash items, estimated EBITDA from material divested or acquired properties and non-cash items. Trailing 12 month interest and financing charges can be adjusted for the fees and interest expense related to debt repaid with asset divestment proceeds. The impact of adoption of new accounting standards is excluded from covenant calculations. See table below for more information.

Pengrowth was in compliance with its Interest Coverage ratio at 1.8 times at March 31, 2019, which was above the first quarter of 2019 minimum compliance covenant of 1.13 times. Due to the return of the Debt to EBITDA covenant and increase of the Interest Coverage ratio to 4.0 times there remains a risk around Pengrowth's ability to stay in compliance with its debt covenants at the end of 2019. See Note 1 to the March 31, 2019 unaudited Consolidated Financial Statements for additional information.

All loan agreements and amendments can be found on SEDAR at www.sedar.com filed under "Other" or "Material Document" and on EDGAR at www.sec.gov.

Covenant Calculation

Twelve month trailing actual covenant ⁽¹⁾:

Interest Coverage ratio at March 31, 2019	1.8
Minimum Interest Coverage compliance ratio required at March 31, 2019	1.13

Twelve month trailing Interest Expense (\$ millions):

Mar 31, 2019

Interest and financing charges excluding the impact of IFRS 16 adoption	52.8
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Twelve month trailing Adjusted EBITDA (\$ millions):

Net income (loss)	(563.7)
Add (deduct):	
Interest and financing charges	53.3
Deferred income tax expense (recovery)	349.4
Depletion, depreciation, accretion, and change in other decommissioning liabilities	184.1
Impairment	91.0
(Gain) loss on disposition of properties	1.3
Change in fair value of commodity risk management contracts	(33.4)
Unrealized foreign exchange (gain) loss	4.4
Non-cash share based compensation expense	4.7
Restructuring costs	1.8
Impact of IFRS 16 adoption	(0.2)
Adjusted EBITDA	92.7

⁽¹⁾ Calculation of the financial covenant is based on specific definitions within the agreements and contains adjustments, pursuant to the agreements, some of which cannot be readily replicated by referring to Pengrowth's Consolidated Financial Statements.

Total Debt Before Working Capital

At March 31, 2019 total debt before working capital of \$721.5 million comprised \$530.5 million of secured term notes and \$191.0 million drawn on the Credit Facility. Compared to December 31, 2018, total debt increased by \$6.9 million at March 31, 2019 due to higher drawings on the Credit Facility which was partially offset by a higher period end Canadian dollar exchange rate driving the Canadian dollar equivalent of secured term notes balance down.

As of March 31, 2019, Pengrowth's foreign denominated secured term notes comprised 71 percent of the total debt before working capital. Each term note is governed by a Note Purchase Agreement. See Note 5 to the March 31, 2019 unaudited Consolidated Financial Statements for additional information.

Off-Balance Sheet Financing

Pengrowth does not have any off-balance sheet financing arrangements.

WORKING CAPITAL

Working capital surplus or deficiency is calculated as current assets less current liabilities per the Consolidated Balance Sheets. At March 31, 2019, Pengrowth had a working capital deficiency of \$282.4 million as current assets were exceeded by current liabilities mostly due to the Credit Facility balance and secured term notes maturing in 2019 presented as a current portion of long term debt on the Consolidated Balance Sheet. See Note 5 to the March 31, 2019 unaudited Consolidated Financial Statements for further information.

FINANCIAL INSTRUMENTS

Pengrowth uses financial instruments to manage its exposure to commodity price fluctuations and foreign currency exposure. Pengrowth's policy is not to utilize financial instruments for trading or speculative purposes. See Note 2 to the December 31, 2018 audited Consolidated Financial Statements for a description of the accounting policies for financial instruments and Note 13 to the March 31, 2019 unaudited Consolidated Financial Statements for additional information regarding the fair value of the Corporation's financial instruments.

SUMMARY OF QUARTERLY RESULTS

	2019	2018				2017		
	Q1	Q4	Q3	Q2	Q1	Q4	Q3	Q2
Oil and gas sales (\$ millions) ⁽¹⁾	128.3	111.2	147.2	147.4	126.4	130.5	125.1	197.9
Net income (loss) (\$ millions)	(31.6)	(503.0)	(1.6)	(27.5)	(27.2)	(210.4)	(144.7)	(242.4)
Net income (loss) per share (\$)	(0.06)	(0.91)	—	(0.05)	(0.05)	(0.38)	(0.26)	(0.44)
Net income (loss) per share - diluted (\$)	(0.06)	(0.91)	—	(0.05)	(0.05)	(0.38)	(0.26)	(0.44)
Cash flow from operating activities (\$ millions)	(7.8)	9.4	21.8	12.8	(12.3)	28.4	11.8	36.5
Adjusted funds flow (\$ millions) ⁽²⁾⁽³⁾	16.0	(2.3)	15.6	10.1	7.2	13.5	(0.3)	29.3
Daily production (boe/d)	22,764	24,104	21,807	22,600	19,541	24,702	35,072	49,349
Produced petroleum revenue (\$/boe) ⁽¹⁾⁽⁴⁾	36.27	24.80	47.10	42.59	39.97	37.14	28.08	32.56
Operating netback (\$/boe) ⁽⁴⁾⁽⁵⁾	17.48	4.55	18.44	16.00	16.08	16.06	11.06	13.16

⁽¹⁾ Excludes realized commodity risk management from financial contracts.

⁽²⁾ Fourth quarter of 2017 adjusted funds flow excludes \$34.8 million loss related to the settlement of foreign exchange swap contracts as this was considered a financing activity.

⁽³⁾ See definition under section "Non-GAAP Financial Measures".

⁽⁴⁾ Includes realized commodity risk management.

Pengrowth recorded a net loss of \$31.6 million in the first quarter of 2019, a significant reduction from the loss incurred in the fourth quarter of 2018 which was primarily due to the de-recognition of the deferred tax asset of \$342.2 million related to uncertainty of Pengrowth's ability to realize the deferred tax assets in future years, combined with impairment charges of \$91.0 million and lower adjusted funds flow.

First quarter of 2019 adjusted funds flow increased from the preceding quarters primarily due to higher bitumen production and lower realized losses on commodity risk management coupled with lower cash G&A. The positive impact of the narrowing of the benchmark WCS differential was more than offset by Pengrowth's first quarter of 2019 physical delivery losses.

First quarter of 2019 produced petroleum revenue per boe increased compared to the fourth quarter of 2018, as per the table above, due to an increase in WCS oil price.

Oil and gas sales in the first quarter of 2019 increased from the preceding quarters of 2018, as per the table above, due to the recovery of commodity benchmark prices. The decrease compared to 2017 is due to property dispositions. First quarter of 2019 operating netbacks, after realized commodity risk management, increased significantly compared to all preceding quarters of 2018 and 2017 due to increase in realized prices coupled with lower per boe realized commodity risk management losses related to financial swap contracts.

2019 quarterly production was higher than most of the preceding quarters in 2018, but lower than 2017, as per the table above. The increase resulted primarily from increase in bitumen production in the first quarter of 2019 and higher production at Groundbirch. 2019 quarterly production was also impacted by the absence of production related SOEP and natural declines related to capital spending curtailments.

Quarterly net income (loss), as per the table above, has also been affected by non-cash charges, in particular depletion, and depreciation, impairment charges, accretion of ARO, changes in fair value of commodity risk management contracts, unrealized foreign exchange gains (losses), gains (losses) on property divestments, and deferred income taxes, as applicable. Adjusted funds flow was also impacted by changes in royalty expense, operating expenses and cash G&A costs.

BUSINESS RISKS

Pengrowth is exposed to normal market risks inherent in the oil and natural gas business, the details of which are set out in the AIF of the Corporation dated March 5, 2019 available on SEDAR at www.sedar.com and EDGAR at www.sec.gov.

CRITICAL ACCOUNTING ESTIMATES

The unaudited Consolidated Financial Statements are prepared in accordance with IFRS. The preparation of these Consolidated Financial Statements requires management to make estimates and assumptions that affect the reported

amounts of assets and liabilities, the disclosure of contingencies at the date of the unaudited Consolidated Financial Statements and revenues and expenses during the reporting period. Actual results could differ from those estimated. For more information about Pengrowth's critical accounting estimates and accounting policies refer to the December 31, 2018 annual report and Note 2 to the March 31, 2019 unaudited Consolidated Financial Statements.

Pengrowth's ARO risk free discount rate was 1.9 percent at March 31, 2019 (December 31, 2018 - 2.3 percent). Pengrowth uses the 30 year Canadian Government long term bond rate to estimate its ARO discount rate. There were no other changes to Pengrowth's critical accounting estimates in the three months ended March 31, 2019 other than described in the Note 2 to the March 31, 2019 unaudited Consolidated Financial Statements as it relates to the adoption of IFRS 16.

COMPARATIVE FIGURES

Certain prior years' comparative figures have been reclassified to conform to presentation in the current year.

ACCOUNTING PRONOUNCEMENTS ADOPTED

Adoption of IFRS 16 Leases

Effective January 1, 2019, Pengrowth adopted IFRS 16 using the modified retrospective approach. The modified retrospective approach does not require restatement of comparative information as it recognizes the cumulative effect as an adjustment to opening retained earnings, as applicable, and applies the standard prospectively.

The following table shows the impact of IFRS 16 adoption on the Consolidated Balance Sheets as at January 1, 2019:

(\$ millions)	As reported, December 31, 2018	Balance on adoption as at January 1, 2019	Impact of IFRS 16 Adoption
Assets			
Other assets (current and non-current)	120.0	122.4	2.4
Property plant and equipment	1,074.2	1,082.8	8.6
Liabilities and shareholders' equity			
Provisions and other liabilities (current and non-current)	300.8	311.8	11.0

The following table shows the impact of IFRS 16 adoption on the Consolidated Statement of Income (Loss) for the three months ended March 31, 2019:

(\$ millions)	Before IFRS 16 Adoption	As reported	Impact of IFRS 16 Adoption
General and administrative	7.4	7.2	(0.2)
Depletion and depreciation	30.7	31.1	0.4
Interest and financing charges	14.1	14.6	0.5
Total			0.7

The following table shows the impact of IFRS 16 adoption on the Consolidated Statement of Cash Flows for the three months ended March 31, 2019:

(\$ millions)	Before IFRS 16 Adoption	As reported	Impact of IFRS 16 Adoption
Cash flow from operating activities	(8.8)	(7.8)	1.0
Cash flow from financing activities	12.0	10.7	(1.3)
Cash flow from investing activities	(3.7)	(3.4)	0.3
Total			—

The right-of-use ("ROU") asset was included in Property, Plant and Equipment and was measured at the amount equal to the lease liability on January 1, 2019 with no impact on retained earnings. The lease liability was reflected in Provisions and Other Liabilities and was measured at the present value of the remaining lease payments, discounted using Pengrowth's incremental borrowing rate as at January 1, 2019. The weighted average incremental borrowing rate used to determine the lease obligation on adoption was approximately 6.0 percent. The ROU assets and lease liabilities

recognized largely relate to the Corporation's head office lease in Calgary. The Corporation has elected to apply the practical expedient to adjust the ROU assets at January 1, 2019 by the amount of the provision for onerous leases of \$25.8 million, as an alternative to an impairment review. The office lease subleases were classified as finance leases resulting in \$2.4 million recognized as Other Assets at March 31, 2019.

See Notes 3, 4 and 6 to the March 31, 2019 unaudited Consolidated Financial Statements for more information.

The Corporation has also elected to apply the practical expedients of not recognizing ROU assets and lease liabilities for short-term leases that have a lease term of 12 months or less and leases of low-value assets. The lease payments associated with these leases are recognized as expenses on a straight-line basis over the lease term and were not considered material at March 31, 2019.

The difference between operating lease commitments disclosed as at December 31, 2018 and lease liabilities recognized on the Balance Sheet at January 1, 2019 is primarily due to non-lease components included in the commitments and the impact of discounting using the Corporation's incremental borrowing rate at January 1, 2019.

Update to Significant Accounting Policies

IFRS 16 provides a single recognition and measurement model for lessees to recognize assets and liabilities for contracts that are, or contain, a lease. A contract is, or contains, a lease if the contract conveys the right to control the use of an identified asset for a period of time in exchange for consideration.

The Corporation recognizes an ROU asset and a lease liability at the lease commencement date. The ROU asset is initially measured at cost based on the initial amount of the lease liability adjusted for any lease payments made at or before the commencement date, plus any initial direct costs incurred and an estimate of costs to dismantle and remove the underlying asset or to restore the underlying asset or the site on which it is located, less any lease incentives received. The assets are depreciated to the earlier of the end of the useful life of the ROU asset or the lease term using the straight-line method as this most closely reflects the expected pattern of consumption of the future economic benefits. Pengrowth presents ROU as part of Property, Plant and Equipment on the Consolidated Balance Sheet. The lease term includes periods covered by an option to extend if the Corporation is reasonably certain to exercise that option. In addition, the ROU is periodically reduced by impairment losses, if any, and adjusted for certain remeasurements of the lease liability.

The lease liability is initially measured at the present value of the lease payments that are not paid at the commencement date, discounted using the interest rate implicit in the lease or, if that rate cannot be readily determined, the Corporation's incremental borrowing rate. Generally, the Corporation uses its incremental borrowing rate as the discount rate.

The lease liability is measured at amortized cost using the effective interest method. It is remeasured when there is a change in future lease payments arising from a change in an index or rate, if there is a change in the Corporation's estimate of the amount expected to be payable under a residual value guarantee, or if the Corporation changes its assessment of whether it will exercise a purchase, extension or termination option. When the lease liability is remeasured in this way, a corresponding adjustment is made to the carrying amount of the ROU asset, or is recorded in profit or loss if the carrying amount of the ROU asset has been reduced to zero. Lease payments are applied against the lease obligation, with a portion reflected as interest expense using the effective interest rate method. Pengrowth presents lease liability as part of Provisions and Other Liabilities on the Consolidated Balance Sheet.

The preparation of the consolidated financial statements in accordance with IFRS requires management to make judgments, estimates, and assumptions that affect the reported amount of assets, liabilities, income, and expenses. Actual results could differ significantly from these estimates. Key areas where management has made judgments, estimates, and assumptions related to the application of IFRS 16 include:

- **Incremental borrowing rate:** The incremental borrowing rates are based on judgments including economic environment, term, currency, and the underlying risk inherent to the asset. The carrying balance of the right-of-use assets, lease obligations, and the resulting interest and depletion and depreciation expense, may differ due to changes in the market conditions and lease term.
- **Lease term:** Lease terms are based on assumptions regarding extension terms that allow for operational flexibility and future market conditions.

OPERATIONAL MEASURES

The reserves and production in this MD&A refer to company-interest reserves or production that is Pengrowth's working interest share of production or reserves prior to the deduction of Crown and other royalties plus any Pengrowth-owned royalty interest in production or reserves at the wellhead, in accordance with Canadian industry practice. Company-interest is more fully described in the AIF.

When converting natural gas to equivalent barrels of oil within this MD&A, Pengrowth uses the industry standard of six Mcf to one boe. Barrels of oil equivalent may be misleading, particularly if used in isolation; a conversion ratio of six Mcf of natural gas to one boe is based on an energy equivalency conversion method primarily applicable to the burner tip and does not represent a value equivalency at the wellhead.

Steam Oil Ratio measures the rate of steam required to produce a barrel of bitumen. This can be expressed either as an average or at a point in time.

These measures do not have standardized meanings and may not be comparable to similar measures presented by other oil and gas companies.

NON-GAAP FINANCIAL MEASURES

This MD&A refers to certain financial measures that are not determined in accordance with IFRS. These measures do not have standardized meanings and may not be comparable to similar measures presented by other oil and gas companies.

Management monitors Pengrowth's capital structure and covenant compliance using non-GAAP financial metrics some of which are discussed in the Financial Resources and Liquidity section of this MD&A. These metrics are:

- trailing twelve months earnings before interest, taxes, depletion, depreciation, accretion ("**EBITDA**"), impairment, change in other decommissioning liabilities, gain (loss) on disposition of properties, change in fair value of commodity risk management contracts, unrealized foreign exchange gain (loss), non-cash share based compensation expense, restructuring costs and EBITDA related to material divestments ("**Adjusted EBITDA**");
- Adjusted EBITDA to Interest and Financing Charges (the "**Interest Coverage**" ratio);
- Total debt before working capital to the trailing twelve months Adjusted EBITDA; and
- Total debt before working capital as a percentage of total book capitalization ("**Debt to Book Capitalization**").

In calculating certain covenants, letters of credit and finance leases are incorporated in total debt before working capital for covenant purposes. Trailing 12 month interest and financing charges can be adjusted for the fees and interest expense related to debt repaid with asset divestment proceeds. Total book capitalization is the sum of total debt before working capital for covenant purposes and shareholders' equity. The impact of adoption of new accounting standards is excluded from covenant calculations.

Management believes that, in addition to net income (loss), adjusted net income (loss) is a useful supplemental measure as it reflects the underlying performance of Pengrowth's core business activities. Net income (loss) may significantly be impacted by non-cash changes in fair value of commodity risk management contracts and unrealized foreign exchange gains and losses while adjusted net income (loss) excludes the after-tax effect of items which do not represent Pengrowth's core business activities.

Management considers adjusted funds flow to be a key measure of performance as it demonstrates Pengrowth's ability to generate the necessary funds for sustaining capital, future growth through capital investment, and to repay debt. Management believes that such a measure provides an insightful assessment of Pengrowth's operations on a continuing basis by eliminating changes in non-cash operating working capital and actual settlements of ARO which substantially relate to SOEP and are pre funded by an externally managed trust fund. Adjusted funds flow per share is calculated by dividing adjusted funds flow and the weighted average number of shares outstanding.

Free funds flow is defined as adjusted funds flow less capital expenditures. Management believes this is a useful supplemental measure as it reflects funds available for debt repayment.

Produced petroleum revenue is a useful measure of revenue as it only includes the revenue from company interest production, by excluding processing income and revenue from purchased products, such as diluent and other third party volumes. Produced petroleum revenue reflects natural gas sales related to a portion of natural gas delivered

from Groundbirch onto the NGTL system and used in other operations as energy costs. This measure can be expressed on a per boe basis.

Adjusted operating expenses are calculated as operating expenses less processing income primarily generated by processing third party volumes at processing facilities where Pengrowth has an ownership interest, and can be expressed on a per boe basis. Adjusted operating expenses include the cost of a portion of natural gas delivered from the NGTL system and used in operations as energy costs. Management believes this is a useful supplemental measure as it reflects the cash outlay at its processing facilities, being after cost recoveries earned by utilizing spare capacity through processing third party volumes.

Royalty expenses as a percent of produced petroleum revenue is a useful measure as it reflects overall royalty percentage related to revenues which are subject to royalties.

Pengrowth's operating netbacks are defined as produced petroleum revenue, less royalties, less adjusted operating expenses and less transportation expenses divided by production for the period. Operating netbacks can be expressed either before or after realized commodity risk management. Operating netbacks may not be comparable to similar measures presented by other companies, as there are no standardized measures.

Management believes that segregating G&A expenses into cash and non-cash expenses is useful to the reader, as non-cash expenses only affect net income (loss) but not adjusted funds flow. Cash and non-cash G&A expenses per boe are calculated by dividing cash and non-cash G&A expenses by production for the period.

Adjusted Funds Flow

The following table provides a reconciliation of cash flow from operating activities to adjusted funds flow:

(\$ millions)	Three months ended	
	Mar 31, 2019	Mar 31, 2018
Cash flow from operating activities	(7.8)	(12.3)
Add (deduct):		
Interest and financing charges	(14.6)	(11.1)
Expenditures on remediation	13.9	4.0
Change in non-cash operating working capital	24.5	26.6
Total	23.8	19.5
Adjusted funds flow	16.0	7.2

The following table represents a continuity of adjusted funds flow:

(\$ millions)	Q1/18 vs. Q1/19	
	Q1/18	7.2
Adjusted funds flow for comparative period	Q1/18	7.2
Increase (decrease) due to:		
Volumes		10.5
Prices including differentials		(6.5)
Realized commodity risk management		8.9
Royalties		(0.7)
Expenses:		
Adjusted operating		(3.3)
Cash G&A		2.3
Interest & financing		(3.5)
Other - including transportation		1.1
Net change		8.8
Adjusted funds flow	Q1/19	16.0

Adjusted Net Income (Loss)

The following table provides a reconciliation of net income (loss) to adjusted net income (loss):

(\$ millions)	Three months ended	
	Mar 31, 2019	Mar 31, 2018
Net income (loss)	(31.6)	(27.2)
Exclude non-cash items from net income (loss):		
Change in fair value of commodity risk management contracts	(6.9)	(4.7)
Unrealized foreign exchange gain (loss) ⁽¹⁾	3.4	(7.1)
Tax effect on non-cash items above	—	1.3
Total excluded	(3.5)	(10.5)
Adjusted net income (loss)	(28.1)	(16.7)

⁽¹⁾ Relates to the foreign denominated debt net of associated foreign exchange risk management contracts.

The following table represents a continuity of adjusted net income (loss):

(\$ millions)	Q1/18 vs. Q1/19	
	Q1/18	
Adjusted net income (loss) for comparative period		(16.7)
Adjusted funds flow increase (decrease)		8.8
Depletion, depreciation and accretion expense (increase) decrease		0.5
Change in other decommissioning liabilities		(15.3)
Other		0.5
Change in tax		(5.9)
Net change		(11.4)
Adjusted net income (loss)	Q1/19	(28.1)

Sensitivity of Adjusted Funds Flow to Commodity Prices

The following table illustrates the sensitivity of adjusted funds flow to increases in commodity prices and differentials after taking into account Pengrowth's commodity risk management contracts and outlook on oil differentials. See Note 13 to the March 31, 2019 unaudited Consolidated Financial Statements for more information on Pengrowth's risk management contracts. The calculated impact on revenue/cash flow is only applicable within a limited range of the change indicated and is based on production guidance levels contained herein.

COMMODITY PRICE ENVIRONMENT ⁽¹⁾		Assumption	Change	Estimated Impact on 12 Month Adjusted Funds Flow (Cdn\$ millions)
West Texas Intermediate Oil ⁽²⁾		U.S.\$/bbl	\$63.01	\$1.00
Bitumen				8.4
Oil risk management ⁽³⁾				(0.7)
Light oil				0.2
Net impact of U.S.\$1/bbl increase in WTI				7.9
Oil differentials ⁽²⁾				
Bitumen		U.S.\$/bbl	\$14.81	\$1.00
Light oil		U.S.\$/bbl	\$8.30	\$1.00
Physical oil differential risk management ⁽⁴⁾				6.4
Net impact of U.S.\$1/bbl increase in differentials				(2.2)
AECO Natural Gas ⁽²⁾		Cdn\$/Mcf	\$1.50	\$0.10
Natural gas				0.9
Net impact of Cdn\$0.10/Mcf increase in AECO				0.9

⁽¹⁾ Calculations are performed independently and are not indicative of actual results when multiple variables change at the same time. The exchange rate of Cdn \$1 = U.S.\$0.75 was used for the 12 month period.

⁽²⁾ Commodity price is based on an estimation of the 12 month forward price curve at March 15, 2019 and does not include the impact of commodity risk management contracts.

⁽³⁾ Includes commodity risk management contracts as at March 31, 2019.

⁽⁴⁾ Reflects 2019 physical delivery contracts for 12,500 bbl/d of dilbit and financial swaps for 5,000 bbl/d of dilbit. See Commodity Prices section of this MD&A for more information.

INTERNAL CONTROL OVER FINANCIAL REPORTING

There have been no changes to internal control over financial reporting ("ICFR") during the three months ended March 31, 2019 that have materially affected, or are reasonably likely to materially affect, Pengrowth's internal control over financial reporting. Internal control systems, no matter how well designed, have inherent limitations. Therefore, even those systems determined to be effective can provide only reasonable assurance with respect to financial statement preparation and presentation. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

ADVISORY REGARDING FORWARD-LOOKING STATEMENTS

This MD&A contains forward-looking statements within the meaning of securities laws, including the "safe harbour" provisions of Canadian securities legislation and applicable U.S. securities legislation including the United States Private Securities Litigation Reform Act of 1995. Forward-looking information is often, but not always, identified by the use of words such as "anticipate", "believe", "expect", "plan", "intend", "forecast", "target", "project", "guidance", "may", "will", "should", "could", "estimate", "predict" or similar words suggesting future outcomes or language suggesting an outlook.

Forward-looking statements in this MD&A include, but are not limited to, statements with respect to: reserves, production, asset carrying amounts, amount and classification of liabilities, the proportion of production of each product type, Pengrowth's 2019 guidance, production additions from Pengrowth's development program, Pengrowth's business plan, the geological characteristics of Pengrowth's properties, royalty expenses, operating expenses, tax horizon, deferred income taxes, management's expectations as to tax and royalty receivables, ARO, remediation, reclamation and abandonment expenses, clean-up and remediation costs, impact of Climate Leadership Plan; adoption of new accounting pronouncements, capital expenditures, development activities, cash G&A, sublease income, Lindbergh expansion plans, flexibility of Pengrowth to change its capital spending plans, production capacity, anticipated benefits from the disposal of properties and timing thereof, ability of management to manage exposure to commodity price fluctuations, the availability and cost of capital, the ability of Pengrowth to pay its current and future debt obligations and stay in compliance with its current and future debt covenants, the ability of Pengrowth to obtain alternative debt financing and amend its financial covenants, anticipated free funds flow and use of free funds flow to pay down debt, the ability of Pengrowth to finalize the refinancing of the secured term notes, the ability of Pengrowth to realize its assets and settle its liabilities in the normal course of business and at the amounts stated in the financial statements, the ability of Pengrowth's Groundbirch property to fulfill Lindbergh's natural gas needs, management's ability to mitigate impact of Alberta's curtailment program, the continued assessment of co-generation capacity at Lindbergh, the anticipated impact of the implementation of NCG to enhance production and lower SORs, and the ability of Pengrowth to remain a going concern. Statements relating to "reserves" are forward-looking statements, as they involve the implied assessment, based on certain estimates and assumptions that the reserves described exist in the quantities predicted or estimated and can profitably be produced in the future.

Forward-looking statements and information are based on Pengrowth's current beliefs as well as assumptions made by, and information currently available to, Pengrowth concerning the Corporation's ability to remain as a going concern, general economic and financial market conditions, anticipated financial performance, business prospects, strategies, regulatory developments, including in respect of taxation, royalty rates and environmental protection, future capital expenditures and the timing thereof, future oil and natural gas commodity prices and differentials between light oil and bitumen prices, future oil and natural gas production levels, future exchange rates and interest rates, the amount of future cash dividends paid by Pengrowth or the lack thereof, the cost of expanding our property holdings, our ability to obtain labour and equipment in a timely manner to carry out development activities, our ability to market our oil and natural gas successfully to current and new customers including transportation availability, the impact of increasing competition, our ability to obtain financing on acceptable terms and meet financial covenants, our ability to add production and reserves through our development, exploitation and exploration activities, our ability to pay our current and future debt obligations and stay in compliance with our current and future debt covenants, our ability to obtain alternative debt financing and amend our financial covenants, and our ability to remain a going concern. Although management considers these assumptions to be reasonable based on information currently available to it, they may prove to be incorrect.

By their very nature, forward-looking statements involve inherent risks and uncertainties, both general and specific, and risks that predictions, forecasts, projections and other forward-looking statements will not be achieved. We caution readers not to place undue reliance on these statements as a number of important factors could cause the actual results to differ materially from the beliefs, plans, objectives, expectations and anticipations, estimates and intentions expressed in such forward-looking statements. These factors include, but are not limited to: the risks associated with the oil and gas industry in general; volatility of oil and gas prices; Canadian light oil and bitumen differentials; production and development costs and capital expenditures; the imprecision of reserve estimates and estimates of recoverable quantities of oil, natural gas and liquids; Pengrowth's ability to replace and expand oil and gas reserves, ability to produce those reserves; production may be impacted by unforeseen events such as equipment and transportation failures and weather related issues; environmental claims and liabilities; incorrect assessments of value when making acquisitions; increases in debt service charges; the loss of key personnel; the marketability of production; defaults by third party operators; unforeseen title defects; fluctuations in foreign currency and exchange rates; inadequate insurance

coverage; counterparty risk; compliance with environmental laws and regulations; actions by government authorities, including the imposition or reassessment of taxes including changes in income taxes and royalty laws; Pengrowth's ability to access external sources of debt and equity capital; Pengrowth's inability to refinance secured term notes and / or existing Credit Facility; new IFRS and the impact on Pengrowth's financial statements; and the implementation of greenhouse gas emissions legislation and the impact of carbon taxes; and Pengrowth's ability to remain a going concern. Further information regarding these factors may be found under the heading "Business Risks" herein and under "Risk Factors" in Pengrowth's most recent AIF, and in Pengrowth's most recent audited annual Consolidated Financial Statements, management information circular, quarterly reports, material change reports and news releases. Copies of Pengrowth's public filings are available on SEDAR at www.sedar.com and EDGAR at www.sec.gov.

Pengrowth cautions that the foregoing list of factors that may affect future results is not exhaustive. When relying on our forward-looking statements to make decisions with respect to Pengrowth, investors and others should carefully consider the foregoing factors and other uncertainties and potential events. Furthermore, the forward-looking statements contained in this MD&A are made as of the date of this MD&A and Pengrowth does not undertake any obligation to update publicly or to revise any of the included forward-looking statements, except as required by law. The forward-looking statements in this document are provided for the limited purpose of enabling current and potential investors to evaluate an investment in Pengrowth. Readers are cautioned that such statements may not be appropriate, and should not be used for other purposes.

The forward-looking statements contained in this MD&A are expressly qualified by this cautionary statement.

GLOSSARY AND ABBREVIATIONS

Pengrowth uses the following frequently recurring industry terms and abbreviations in this MD&A:

"bbl"	barrel	"ARO"	asset retirement obligations
"bbl/d"	barrels per day	"G&A"	general and administrative expenses
"Mbbbl"	thousand barrels	"LTIP"	long term incentive plan
"MMbbbls"	million barrels	"IFRS"	International Financial Reporting Standards
"boe"	barrel of oil equivalent ⁽¹⁾	"AIF"	Annual Information Form
"boe/d"	barrels of oil equivalent per day ⁽¹⁾	"WTI"	West Texas Intermediate crude oil price
"Mboe"	thousand boe ⁽¹⁾	"WCS"	Western Canadian Select crude oil price
"MMboe"	million boe ⁽¹⁾	"AECO"	Alberta natural gas price point
"Mcf"	thousand cubic feet	"NYMEX"	New York Mercantile Exchange
"Mcf/d"	thousand cubic feet per day	"SOEP"	Sable Offshore Energy Project
"MMcf"	million cubic feet	"GCA"	Gas Cost Allowance
"MMcf/d"	million cubic feet per day	"NCG"	Non-Condensable Gas
"Bcf"	billion cubic feet	"NGTL"	Nova Gas Transmission Limited
"EPEA"	Environmental Protection and Enhancement Act		
"CO2"	carbon dioxide which is a gas at room temperature and pressure		
"SAGD"	steam assisted gravity drainage		
"diluent"	hydrocarbon based diluting agent required to facilitate the transportation of bitumen		
"dilbit" or "diluted bitumen"	bitumen blended with diluent		
"SOR"	steam oil ratio		
"CSOR"	cumulative steam oil ratio		

⁽¹⁾ Disclosure provided herein in respect of a boe may be misleading, particularly if used in isolation. A boe conversion ratio of six Mcf of natural gas to one barrel of crude oil equivalent is based on an energy equivalency conversion method primarily applicable at the burner tip and does not represent a value equivalency at the wellhead.