Management's Discussion and Analysis

This Management's Discussion and Analysis ("MD&A") provides a review by management of the financial position and consolidated results of Pieridae Energy Limited ("Pieridae", "we", "our" or the "Company") for the three and six month periods ended June 30, 2019, as well as information about our future prospects. This MD&A has been prepared as of August 8, 2019 and should be read in conjunction with the Company's condensed consolidated interim unaudited financial statements for the three and six month periods ended June 30, 2019, its audited consolidated financial statements and the accompanying notes for the years ended December 31, 2018 and 2017, and the Annual Information Form for the year ended December 31, 2018. The common shares of Pieridae trade on the Toronto Venture Exchange ("TSX") under the symbol PEA.V. Continuous disclosure materials are available on the Company's website, www.pieridaeenergy.com, or on SEDAR, www.sedar.com. The reporting currency is the Canadian dollar. All amounts are presented in Canadian dollars unless otherwise stated.

In this MD&A, barrel of oil equivalent ("boe") amounts have been calculated using a conversion rate of six thousand cubic feet of natural gas to one barrel of oil, which represents an energy equivalency conversion method applicable at the burner tip and does not represent a value equivalency at the wellhead. While it is useful for comparative measures, it may not accurately reflect individual product values and may be misleading if used in isolation.

This MD&A contains forward-looking information and statements along with certain measures which do not have any standardized meaning prescribed by Canadian Generally Accepted Accounting Principles ("GAAP"). The terms "operating netback", "operating income", "net operating expenses", and "project expenditures" do not have any standardized meaning as prescribed by GAAP and therefore may not be comparable to similar measures presented by other companies where similar terminology is used. We refer you to advisory on forward-looking information and statements and a summary of our non-GAAP measures at the end of the MD&A.

Contents

Cautionary Note Regarding Forward-Looking Information

Certain of the statements contained herein including, without limitation, management plans and assessments of future plans and operations, expected project spending, future business plan and strategy, criteria for evaluating acquisitions and other opportunities, intentions with respect to future acquisitions and other opportunities, plans and timing for development of undeveloped and probable resources, timing of when the Company may be taxable, estimated abandonment and reclamation costs, plans regarding hedging, wells to be drilled, the weighting of commodity expenses, expected production, including shut-ins, and performance of oil and natural gas properties, results and timing of projects, access to adequate pipeline capacity and third-party infrastructure, growth expectations, supply and demand for oil, natural gas liquids, and natural gas, industry conditions, government regulations and regimes, commodity prices, and capital expenditures and the nature of capital expenditures and the timing and method of financing thereof, may constitute "forward-looking statements" or "forward-looking information" within the meaning of Applicable Securities Laws (as defined herein) (collectively "forward-looking statements"). Words such as "may", "will", "should", "could", "anticipate", "believe", "expect", "intend", "plan", "potential", "continue", "shall", "estimate", "expect", "propose", "might", "project", "predict", "forecast" and similar expressions may be used to identify these forward-looking statements. These statements reflect management's current beliefs and are based on information currently available to management.

Forward-looking statements involve significant risk and uncertainties. A number of factors could cause actual results to differ materially from the results discussed in the forward-looking statements including, but not limited to, risks associated with oil and gas exploration, development, exploitation, production, marketing and transportation, loss of markets, volatility of commodity prices, currency fluctuations, imprecision of resources estimates, environmental risks, competition from other producers, incorrect assessment of the value of acquisitions, failure to realize the anticipated benefits of acquisitions, delays resulting from or inability to obtain required regulatory approvals and ability to access sufficient capital from internal and external sources and the risk factors outlined under "Risk Factors" and elsewhere herein. The recovery and resources estimate of Pieridae's reserves provided herein are estimates only and there is no guarantee that the estimated resources will be recovered. As a consequence, actual results may differ materially from those anticipated in the forward-looking statements.

Forward-looking statements are based on a number of factors and assumptions which have been used to develop such forward-looking statements, but which may prove to be incorrect. Although Pieridae believes that the expectations reflected in such forward-looking statements are reasonable, undue reliance should not be placed on forward-looking statements because Pieridae can give no assurance that such expectations will prove to be correct. In addition to other factors and assumptions which may be identified in this document, assumptions have been made regarding, among other things: the impact of increasing competition; the general stability of the economic and political environment in which Pieridae operates; the timely receipt of any required regulatory approvals; the ability of Pieridae to obtain qualified staff, equipment and services in a timely and cost efficient manner; the ability of the operator of the projects which Pieridae has an interest in, to operate the field in a safe, efficient and effective manner; the ability of Pieridae to obtain financing on acceptable terms; the ability to replace and expand oil and natural gas resources through acquisition, development and exploration; the timing and costs of pipeline, storage and facility construction and expansion and the ability of Pieridae to secure adequate product transportation; future commodity prices; currency, exchange and interest rates; the regulatory framework regarding royalties, taxes and environmental matters in the jurisdictions in which Pieridae operates; timing and amount of capital expenditures, future sources of funding, production levels, weather conditions, success of exploration and development activities, access to gathering, processing and pipeline systems, advancing technologies, and the ability of Pieridae to successfully market its oil and natural gas products.

Readers are cautioned that the foregoing list of factors is not exhaustive. Additional information on these and other factors that could affect Pieridae's operations and financial results are included in reports on file with Canadian securities regulatory authorities and may be accessed through the SEDAR website (www.sedar.com), and at Pieridae's website (www.pieridaeenergy.com). Although the forward-looking statements contained herein are based upon what management believes to be reasonable assumptions, management cannot assure that actual results will be consistent with these forward-looking statements. Investors should not place undue reliance on forward-looking statements. These forward-looking statements are made as of the date hereof and Pieridae assumes no obligation to update or review them to reflect new events or circumstances except as required by Applicable Securities Laws.

Forward-looking statements contained herein concerning the oil and gas industry and Pieridae's general expectations concerning this industry are based on estimates prepared by management using data from publicly available industry sources as well as from reserve reports, market research and industry analysis and on assumptions based on data and knowledge of this industry which Pieridae believes to be reasonable. However, this data is inherently imprecise, although generally indicative of relative market positions, market shares and performance characteristics. While Pieridae is not aware of any misstatements regarding any industry data presented herein, the industry involves risks and uncertainties and is subject to change based on various factors.

Special Note Regarding Non-IFRS Financial Measures

This MD&A includes references to financial measures such as project expenditures and net working capital that the Company believes is important to the understanding of the business activities. These financial measures are not defined by International Financial Reporting Standards ("IFRS") and therefore are referred to as non-IFRS measures. The non-IFRS measures used by the Company may not be comparable to similar measures presented by other companies. The Company uses these non-IFRS measures to evaluate its performance. The non-IFRS measures should not be considered an alternative to or more meaningful than measures determined in accordance with IFRS, as an indication of the Company's performance. The non-IFRS measures are reconciled to their closest IFRS measure on page 19 of this MD&A.

Special Note Regarding Production and Reserves

Reference is made to crude oil and natural gas in common units called barrel of oil equivalent ("BOE"). A BOE is derived by converting six thousand cubic feet ("Mcf") of natural gas to one barrel ("bbl") of crude oil (6 Mcf:1 bbl). This conversion may be misleading, particularly if used in isolation, since the 6 Mcf:1 bbl ratio is based on an energy equivalency conversion method primarily applicable at the burner tip and does not represent a value equivalency at the wellhead. In comparing the value ratio using current crude oil prices relative to natural gas prices, the 6 Mcf:1 bbl conversion ratio may be misleading as an indication of value.

Consolidated Performance Highlights

($000s, except where otherwise stated)	For the three months ended		For the six months ended	
	June 30, 2019	June 30, 2018	June 30, 2019	June 30, 2018
Net revenues [1]	$ 13,387	$ 66	$ 36,369	$ 82
Net loss	$ (19,530)	$ (2,730)	$ (32,526)	$ (5,689)
Net loss per common share - basic and diluted ($/share)	$ (0.23)	$ (0.05)	$ (0.40)	$ (0.11)
Cash flow from operating activities	$ (16,702)	$ (1,753)	$ (33,786)	$ (3,901)
Project expenditures [2]	$ 8,758	$ 2,208	$ 9,330	$ 3,033
Capital expenditures	$ 917	$ 522	$ 1,489	$ 773
Operating:				
Daily production:				
NGLs (bbl/d)	211	-	206	-
Natural gas (Mcf/d)	90,942	-	96,551	-
Barrels of oil equivalent (boe/d)[3]	15,368	-	16,297	-

	As at	
	June 30, 2019	December 31, 2018
Net working capital (deficit) [2]	$ (77,892)	$ (84,061)
Shareholder's equity	$ 81,483	$ 91,900

(1) Revenues net of royalties and losses on risk management contracts as shown in the Consolidated Statement of Loss and Comprehensive Loss
(2) Non-IFRS measure. See page 19 in this MD&A.
(3) Excludes sulphur production. This was supplemented by an additional 18,573 tonnes of sulphur in Q2 and 38,745 tonnes of sulphur YTD.

Pieridae's financial results for the first half of 2019 continue to reflect the fact the Company has evolved into an upstream exploration and production company, in addition to being a development company focused on the construction of its proposed Goldboro LNG facility. The Company's upstream operations are driving most of the day to day activities and the financial results of the Company. Management expects to continue to grow its upstream business, and evolve into midstream activities as well, as it looks to fulfill its goal of becoming a fully integrated LNG company.

Operational Update

Background

Pieridae is a publicly traded, Canadian based Company engaged in the development of a fully integrated liquefied natural gas ("LNG") project to be built in Goldboro, Nova Scotia. See the Company's December 31, 2018 Annual Report for detailed information regarding the Goldboro LNG facility.

On December 20, 2018, Pieridae completed a plan of arrangement whereby the Company acquired, directly and indirectly, all of the issued and outstanding common shares of Ikkuma Resources Corp. ("Ikkuma"), a publicly traded company engaged in the development and production of petroleum and natural gas resources located in the foothills of Alberta and British Columbia. By virtue of this acquisition, Pieridae also became an upstream petroleum and natural gas producer and took a large step towards meeting the supply requirements for Train 1 of the Goldboro facility. For information on all of the Company's upstream assets see the December 31, 2018 Annual Report.

On June 26, 2019, Pieridae announced that it had signed a purchase and sale agreement ("PSA") with Shell Canada Energy ("Shell") to purchase all of Shell's midstream and upstream assets in the southern Alberta Foothills for a purchase price of $190.0 million, subject to normal adjustments (the "Shell Acquisition"). The purchase price for the Shell Acquisition will be satisfied via (i) the payment to Shell of $175.0 million in cash (net of adjustments), to be raised by Pieridae through the issuance of term debt and equity, and (ii) the issuance of Pieridae common shares to Shell having an aggregate value of $15.0 million, with Shell's ownership interest not to exceed 9 percent of the issued and outstanding shares of the Company (such value to be determined proximate to the time of closing of the Shell Acquisition, in accordance with the terms of the PSA). Closing of the Shell Acquisition remains subject to satisfactory completion of due diligence by Pieridae on the assets being acquired. Subject to such due diligence completion, the closing of the Shell Acquisition is expected to occur in the third quarter of 2019. On signing of the PSA, Pieridae paid a non-refundable deposit to Shell of $10.0 million.

To fund the initial down payment, the Company also announced that it had closed (i) a non-brokered private placement of common shares of the Company at a price of $0.86 per share for gross proceeds of $2.2 million and (ii) a non-brokered private placement of a secured convertible debenture of the Company (the "Convertible Debenture") for aggregate gross proceeds of $10.0 million. Total gross proceeds were $12.2 million. The common shares of the Company issuable upon conversion of the Convertible Debenture will be issued immediately after the Shell Acquisition has been completed. The conversion price of the common shares issuable upon conversion of the Convertible Debenture is $0.86 per common share, subject to adjustment in accordance with the terms of the Convertible Debenture. If the Shell Acquisition is not completed and the Convertible Debenture has not been converted into common shares, the principal and interest owing under the Convertible Debenture is due and payable to the holder on the earliest of (i) September 30, 2019 and (ii) the day which an acceleration notice is delivered or deemed to be delivered. The Convertible Debenture bears interest at 9.5 percent per annum. Interest is payable on conversion or cancellation.

Operational Highlights

The first six months of the year saw Pieridae continue its evolution to a fully integrated LNG company. The Company now has two full quarters of upstream operations under its belt as it looks to capitalize on its acquisition of Ikkuma in 2018. The Shell Acquisition further positions Pieridae for additional upstream growth as it works to bring its natural gas production to levels sufficient to fill the LNG production trains at its proposed Goldboro LNG facility.

Production during the second quarter averaged 15,368 boe per day, production averaging 99 percent natural gas and 1 percent natural gas liquids ("NGL's") and condensate. This production resulted in Pieridae recognizing petroleum and natural gas revenue (net of royalties) of $11.9 million which included sulphur production revenue of $1.1 million. Pieridae also generated other income, in the form of processing fees, totalling $1.4 million. Year to date production averaged 16,297 boe per day. This production is below estimated combined field capacity and is related to voluntary well shut-ins due to low gas prices. Petroleum and natural gas revenue (net of royalties) for the six months ended June 30, 2019, totalled $34.3 million, including sulphur sales of $2.9 million. Processing income for the six months ended June 30, 2019, was $2.7 million.

The shift from the winter heating season into spring had a material impact on natural gas prices. Pieridae's average realized price in Q2 2019 was $1.19 per GJ compared to an average price of $2.11 per GJ in Q1 2019. Year to date the Company's average realized price for natural gas was $1.68 per GJ. In Q2 2019 the Company instituted a natural gas physical hedging program to mitigate the impact of the volatile pricing environment in Western Canada. Initial volumes placed under forward contracts under this program were 40,000 GJ/day, which is equivalent to approximately 42% of daily natural gas volumes. Subsequent to the quarter end this program was expanded to 62,500 GJ/day which represents approximately 64% of average Q2 2019 natural gas production.

NGL pricing was a little more resilient in Q2 2019. Pieridae realized an average price of $41.83 per bbl versus $45.61 per bbl in Q1 2019. The year to date average price for NGL sales was $43.66 per bbl.

The poor pricing environment continues to force the Company to limit its capital investment to sustaining production, as opposed to growing production. Consequently, exploration and development expenditures in the quarter were $0.9 million. Year to date expenditures totalled $1.3 million.

In February of 2019, the Nova Scotia Mi'kmaq Benefits Agreement negotiated with the Assembly of Nova Scotia Mi'kmaq Chiefs was ratified. The Benefits Agreement establishes the framework under which the Mi'kmaq of Nova Scotia will benefit economically from the development, construction and operation of the Goldboro LNG project. A Memorandum of Understanding, signed in 2013, originally outlined the relationship between Pieridae and the Mi'kmaq in Nova Scotia and this new Benefits Agreement underscores Pieridae's commitment to ongoing engagement and relationship building with the First Nations communities in Nova Scotia.

On April 1, 2019, the Company announced that it had engaged Kellogg Brown & Root Limited ("KBR") to perform a review of an amended version of the previously prepared front-end engineering and design ("FEED") study for its proposed Goldboro LNG facility. KBR will also conduct an Open Book Estimate ("OBE") necessary for entering into a lumpsum engineering, procurement and construction ("EPC") contract. During the quarter $4.7 million was incurred to progress the EPC contract with KBR.

On July 11, 2019, Pieridae announced that it had negotiated extensions of the key deadlines under its 20-year agreement with German utility Uniper Global Commodities S.E. ("Uniper"). These include expected commercial deliveries of LNG to Uniper to start between November 30th, 2024 and May 31st, 2025; and the extension to September 30, 2020 of the deadline to make a positive financial investment decision for the Company's proposed Goldboro LNG facility.

Business Environment

	For the three months ended				For the six months ended			
(3-month average)		June 30, 2019		June 30, 2018		June 30, 2019		June 30, 2018
Dated Brent benchmark price (USD$/bbl)	$	68.34	$	74.90	$	66.13	$	71.04
WCS heavy differential from WTI (USD$/bbl)	$	10.65	$	19.27	$	11.51	$	21.77
Condensate benchmark price (USD$/bbl)	$	55.87	$	68.83	$	53.20	$	65.93
NYMEX benchmark price (USD$/MMBTU)	$	2.64	$	2.80	$	2.89	$	2.90
AECO benchmark price (CAD$/GJ)	$	1.17	$	1.03	$	1.55	$	1.44
NBP UK natural gas benchmark price (USD$/MMBtu)	$	4.11	$	7.18	$	5.35	$	7.18
US/Canadian dollar average exchange rate (USD$)	$	0.7476	$	0.7747	$	0.7499	$	0.7827
US/Canadian dollar period end exchange rate (USD$)	$	0.7641	$	0.7641	$	0.7954	$	0.7954

Once the Goldboro facility is operational, substantially all of the Company's production is expected to be sold based on NBP UK natural gas benchmark pricing. International natural gas prices closely correlate to Brent indices. Canadian natural gas pricing is primarily based on Alberta AECO reference pricing, which is derived from the NYMEX reference pricing and adjusted for its basis or location differential to the NYMEX delivery point at Henry Hub. The Company's realized prices can be sensitive to fluctuations in market prices and foreign exchange rates.

Financial Results

Consolidated Financial Highlights

($000s, except where otherwise stated)	For the three months ended				For the six months ended			
		June 30, 2019		June 30, 2018		June 30, 2019		June 30, 2018
Net revenues	$	13,387	$	66	$	36,369	$	82
Net loss	$	(19,530)	$	(2,730)	$	(32,526)	$	(5,689)
Net loss per common share - basic and diluted ($/share)	$	(0.23)	$	(0.05)	$	(0.40)	$	(0.11)
Cash flow from operating activities	$	(16,702)	$	(1,753)	$	(33,786)	$	(3,901)
Project expenditures (2)	$	8,758	$	2,208	$	9,330	$	3,033

					As at			
						June 30, 2019		December 31, 2018
Net working capital deficit (2)					$	(77,892)	$	(84,061)
Shareholder's equity					$	81,483	$	91,900

(1) Revenues net of royalties and losses on risk management contracts as shown in the Consolidated Statement of Loss and Comprehensive Loss

(2) Non-IFRS measure. See page 19 in this MD&A.

In Q1 2019 management re-evaluated the Company's prospects in Quebec and compared these to other opportunities available to the Company. Management concluded that renewing some petroleum licenses in Quebec was not in the best interests of the Company. Consequently, only licenses for properties which held the most promise, and likelihood of exploratory success, were renewed. The other licenses were relinquished. This was deemed as an indicator of impairment for the related properties, and an impairment charge of $7.9 million was recognized.

The Company has conducted two private placements in 2019. In February the Company completed a private placement of common shares at a price of $2.00 per share. These efforts resulted in gross proceeds of $19.1 million. Pieridae used the proceeds of the private placement for general corporate purposes, including further reducing the liabilities assumed in the Ikkuma acquisition. In June the Company closed a second private placement at $0.86 per common share. Total proceeds were $2.2 million. Proceeds were used to fund additional costs associated with the Shell Acquisition as well as general corporate costs.

Revenues

($000s, except where otherwise stated)	For the three months ended				For the six months ended			
		June 30, 2019		June 30, 2018		June 30, 2019		June 30, 2018
Petroleum and natural gas revenue, net of royalties	$	11,921	$	-	$	34,291	$	-
Project management	$	30	$	66	$	30	$	82
Other income	$	1,436	$	-	$	2,704	$	-
Loss on risk management contracts	$	-	$	-	$	(656)	$	-
Total	$	13,387	$	66	$	36,369	$	82

Petroleum and natural gas revenues for the three months ended June 30, 2019 were $11.9 million. This represents roughly a 47 percent decrease from Q1 2019. This decrease speaks to the challenging pricing environment in Western Canada, particularly for natural gas. The Company's realized natural gas price decreased by 44 percent from $2.11 per GJ in Q1 to $1.19 per GJ in Q2. From March to June the drop off was even more pronounced with prices averaging $2.27 per GJ in March versus $1.10 per GJ in June. The decline in prices caused the Company to shut-in some production in Q2. After peaking at 103,588 Mcf per day in March, the Company's natural gas production declined 21.5% to average 81,368 Mcf per day in June. These same declines occurred on an overall basis with March production peaking at 17,460 boe per day and falling to an average of 13,723 boe per day in June. These decreases in production exacerbated the impact of falling prices on the Company's petroleum and natural gas revenues. The Company earned other income in the form of transportation and processing fees totalling $1.4 million in Q2 2019. This represents third-party natural gas volumes transported through, and processed at, pipelines and facilities in which Pieridae has an ownership interest. There were no comparable revenues in 2018. Project management revenues are management fees invoiced by the Company as a project operator for site restoration work in Quebec. In the six-month period ended June 30, 2019, the Company had petroleum and natural gas revenues of $34.3 million and transportation and processing income of $2.7 million.

Operating expenses

	For the three months ended				For the six months ended			
($000s, except where otherwise stated)		June 30, 2019		June 30, 2018		June 30, 2019		June 30, 2018
Engineering and consulting	$	88	$	-	$	219	$	-
Production expenses	$	10,469	$	-	$	22,584	$	-
Land Improvements	$	312	$	-	$	1,233	$	-
Salaries and benefits	$	2,171	$	205	$	4,373	$	279
Other	$	488	$	28	$	1,313	$	45
Total	$	13,528	$	233	$	29,722	$	324

Operating expenses variances for the three and six-month periods ended June 30, 2019, are $13.3 million and $29.4 million, respectively, compared to the equivalent periods in 2018. The increases reflect the operating costs associated with the Company's upstream operations in Western Canada. Most of the increase is attributable to the $10.5 million (Q2 2019) and $22.6 million (YTD) increases in production expenses related to the petroleum and natural gas assets acquired from Ikkuma in late 2018. The Ikkuma acquisition also resulted in a higher employee level which increased salaries and benefits by $1.7 million (Q2 2109) and $3.5 million (YTD), respectively. Land lease costs contributed to a $0.7 million (Q2 2019) and $1.6 million (YTD) increases in other expenses year over year.

Administrative expenses

	For the three months ended				For the six months ended			
($000s, except where otherwise stated)		June 30, 2019		June 30, 2018		June 30, 2019		June 30, 2018
Salaries and benefits	$	1,758	$	693	$	4,375	$	1,335
Professional fees	$	684	$	-	$	1,691	$	-
Other	$	1,296	$	136	$	1,704	$	178
Total	$	3,738	$	829	$	7,770	$	1,513

Administrative expenses for the three and six-month periods ended June 30, 2019, increased by $2.9 million (Q2 2019) and $6.3 million (YTD), respectively compared to the same periods in 2018. The additional employees from the Ikkuma acquisition contributed to increases of $1.1 million (Q2 2019) and $3.0 million (YTD) in salaries and benefits. The balance of the increase was attributable to legal and financial advisory costs related to due diligence for the Shell Acquisition, and ongoing efforts to secure additional financing.

Development expenses

	For the three months ended			For the six months ended			
($000s, except where otherwise stated)		June 30, 2019		June 30, 2018		June 30, 2019		June 30, 2018
Professional fees	$	7,605	$	1,403	$	7,605	$	1,973
Other	$	236	$	280	$	236	$	287
Total	$	7,841	$	1,683	$	7,841	$	2,260

Development expenses capture the direct costs associated with the proposed LNG facility. These expenditures represent the variety of engineering, environmental and design activities being undertaken by the Company as it works to complete its OBE. The $6.2 million increase (Q2 2019) and the $5.6 million increase (YTD) versus 2018, speaks to the engagement of KBR in Q2 2019 to review the previously prepared FEED and to commence work on the OBE.

Transportation expenses

		For the three months ended				For the six months ended		
($000s, except where otherwise stated)		June 30, 2019		June 30, 2018		June 30, 2019		June 30, 2018
Total transportation expense	$	1,787	$	-	$	3,416	$	-
Total	$	1,787	$	-	$	3,416	$	-

The Company's transportation expense for the three and six-month periods ended June 30, 2019 were $1.8 million and $3.4 million, respectively. There were no comparable costs in the same periods in 2018.

Depletion and depreciation

		For the three months ended				For the six months ended		
($000s, except where otherwise stated)		June 30, 2019		June 30, 2018		June 30, 2019		June 30, 2018
Depletion and depreciation	$	3,998	$	15	$	8,343	$	31
Total	$	3,998	$	15	$	8,343	$	31

Depletion and depreciation for the three and six-month periods ended June 30, 2019, were $4.0 million and $8.3 million, respectively. The decrease from Q1 2019 to Q2 2019 speaks to the declining production brought about by the Company's decision to commence shutting-in certain properties in Q2 2019.

Impairment

		For the three months ended				For the six months ended		
($000s, except where otherwise stated)		June 30, 2019		June 30, 2018		June 30, 2019		June 30, 2018
Impairment	$	-	$	-	$	7,859	$	-
Total	$	-	$	-	$	7,859	$	-

In Q1 2019 management elected not to renew certain licenses in Quebec. It was concluded that due to the continuing challenges facing oil and gas companies in Quebec, that retaining these licenses was too costly, compared to other opportunities available to the Company. Consequently, the Company relinquished a portion of its licenses in Quebec, and the associated capitalized costs were impaired.

Share-based compensation

		For the three months ended				For the six months ended		
($000s, except where otherwise stated)		June 30, 2019		June 30, 2018		June 30, 2019		June 30, 2018
Share-based compensation	$	118	$	574	$	267	$	1,901
Total	$	118	$	574	$	267	$	1,901

Share-based compensation for the three months ended June 30, 2019, decreased by $456 thousand from the same period in 2018. On a year to date basis, share-based compensation decreased by $1.6 million. The large decreases are due to roughly one million options being granted in January 2018. No options grants have been awarded in the first half of 2019. In July 2019 the Company granted to its employees and directors the option to purchase 3,149,341 common shares, at an exercise price of $0.89 per share. These stock options will expire on July 3, 2024.

Financial income and expenses

	For the three months ended				For the six months ended			
($000s, except where otherwise stated)		June 30, 2019		June 30, 2018		June 30, 2019		June 30, 2018
Interest expense	$	1,244	$	16	$	2,415	$	28
Interest income	$	(70)	$	(52)	$	(107)	$	(97)
Accretion	$	715	$	13	$	1,421	$	27
Net financial expense (income)		1,889		(23)		3,729		(42)

The $1.9 million increase in financial income and expenses for the three months ended June 30, 2019, is attributable to interest expense of $1.2 million related to Pieridae's term debt, plus $715 thousand of accretion associated with its provision for site restoration. These same factors are behind the year to date increase of $3.8 million.

Segmented Information

With the acquisition of Ikkuma, the Company has active upstream operations. Therefore, management now evaluates its operations in two segments: Upstream and LNG. Upstream is represented predominantly by the properties acquired from Ikkuma in 2018. However, it also includes the Company's upstream operations in Quebec and New Brunswick. Segmented determinations are based on the operations of the separate subsidiaries involved in these activities. Upstream is currently the only segment generating operating revenues. LNG is based on the operations and activities associated with the development of the Company's Goldboro LNG facility and corporate overhead costs.

	For the three months ended				For the six months ended			
($000s, except where otherwise stated)		June 30, 2019		June 30, 2018		June 30, 2019		June 30, 2018
Revenue								
Upstream	$	13,387	$	66	$	36,369	$	82
LNG	$	-	$	-	$	-	$	-
Expenses								
Upstream	$	22,749	$	1,312	$	55,925	$	2,866
LNG	$	10,168	$	1,500	$	12,970	$	2,921
Net loss before taxes								
Upstream	$	(9,362)	$	(1,246)	$	(19,556)	$	(2,784)
LNG	$	(10,168)	$	(1,500)	$	(12,970)	$	(2,921)

	As at			
($000s, except where otherwise stated)		June 30, 2019		December 31, 2018
Upstream assets	$	352,986	$	357,287
LNG assets	$	13,079	$	13,386
Total consolidated assets	$	366,065	$	370,673

Upstream Segment

The upstream segment includes the operations and assets in Western Canada, primarily in Alberta, as well as Quebec and New Brunswick. Due to ongoing restrictions on hydraulic fracturing and other exploration and development activities in certain jurisdictions, the Company currently only has active operations in Western Canada.

Summary Results

	For the three months ended				For the six months ended			
($000s, except where otherwise stated)		June 30, 2019		June 30, 2018		June 30, 2019		June 30, 2018
Net revenue [1]	$	13,387	$	66	$	36,369	$	82
Petroleum and natural gas revenue, net of royalties	$	11,921	$	-	$	34,291	$	-
Expenses	$	22,749	$	1,314	$	55,925	$	2,868
Net operating expenses [2]	$	12,092	$	-	$	27,018	$	-
Net loss	$	(9,362)	$	1,232	$	(19,556)	$	(2,770)
Net operating (loss) income [2]	$	(1,958)	$	-	$	3,201	$	-
Operating netback [2] (per boe)	$	(1.42)	$	-	$	1.26	$	-

(1) Revenues net of royalties and losses on risk management contracts as shown in the Consolidated Statement of Loss and Comprehensive Loss

(2) Non-IFRS measure. See page 19 in this MD&A.

Pieridae's net operating expenses totalled $12.1 million for the three months ended June 30, 2019. Processing and gathering fees make up the greatest proportion of operating costs. Net operating expense in Q2 2019 was $8.68 per boe. Pieridae incurred a net operating loss for its upstream petroleum and natural gas assets of $2.0 million for the three months ended June 30, 2019. Its operating netback was negative $1.42 per boe. This represents a significant deterioration in results from the $5.1 million of operating income earned in Q1 2019, and the netback of $3.32 per boe. The decline in natural gas prices was the primary cause of this quarter over quarter change. The Company took the following steps to mitigate losses in Q2: reducing operating costs, shutting in production and entering forward contracts for its natural gas sales. Shut-in activities were undertaken at 17% of sites resulting in an 11% reduction in natural gas production volumes to an average of 90,942 mcf/d in the second quarter compared to 102,221 mcf/d in the first quarter. As a result of the forward contract hedging program, realized natural gas price for the second quarter was $1.19/GJ as compared to the AECO benchmark price of $1.17/GJ.

Revenue

	For the three months ended				For the six months ended			
($000s, except where otherwise stated)		June 30, 2019		June 30, 2018		June 30, 2019		June 30, 2018
Natural gas, net of royalties	$	9,985	$	-	$	29,796	$	-
NGL's	$	802	$	-	$	1,619	$	-
Sulphur	$	1,134	$	-	$	2,876	$	-
Net petroleum and natural gas revenue	$	11,921	$	-	$	34,291	$	-
Project management	$	30	$	66	$	30	$	82
Other income	$	1,436	$	-	$	2,704	$	-
Revenue before risk management contracts	$	13,387	$	66	$	37,025	$	82
Revenue/boe	$	8.80	$	-	$	12.08	$	-

Petroleum and natural gas revenues for the three months ended June 30, 2019, were $10.0 million. Natural gas revenues are down $10.7 million from Q1 2019 to Q2 2019. The precipitous decline is again due to the sharp drop in natural gas prices. Reduced production volumes are related to voluntary well shut-in of the highest cost gas fields. Corporate production decline, without voluntary shut-in, is approximately 10%. In Q1 2019 natural gas revenue was $20.7 million and revenue per boe was $15.24. The Company also earned other income in the form of transportation and processing fees totalling $1.4 million. This represents third-party natural gas volumes transported through, and processed at, pipelines and facilities in which Pieridae has an ownership interest. Project management revenues are management fees invoiced by the Company as a project operator for site restoration work in Quebec.

Production

	For the three months ended		For the six months ended	
($000s, except where otherwise stated)	June 30, 2019	June 30, 2018	June 30, 2019	June 30, 2018
Natural gas (mcf/d)	90,942	-	96,551	-
NGL's (bbl/d)	211	-	206	-
Total boe/d(1)	15,368	-	16,297	-

(1) Excludes sulphur production

Average production for the three months ended June 30, 2019 was 15,368 boe/d. This is down from 17,236 boe/d in Q1 2019. Well shut-ins are responsible for most of the decrease. Quarterly gas production was associated with 18,573 tonnes of sulphur versus 20,172 in Q1 2019.

Royalties

	For the three months ended				For the six months ended			
($000s, except where otherwise stated)		June 30, 2019		June 30, 2018		June 30, 2019		June 30, 2018
Royalties	$	413	$	-	$	1,333	$	-
Per boe	$	0.29	$	-	$	0.45	$	-
Percentage of revenue	%	3.35	%	-	%	3.74	%	-

Royalties averaged $0.29 per boe in the second quarter of 2019, and 3 percent of revenues. This compares to $0.59 and 4 percent in Q1 2019.

Expenses

	For the three months ended				For the six months ended			
($000s, except where otherwise stated)		June 30, 2019		June 30, 2018		June 30, 2019		June 30, 2018
Operating Expenses	$	13,528	$	233	$	29,722	$	324
Administrative expenses	$	1,518	$	487	$	2,857	$	771
Transportation	$	1,787	$	-	$	3,416	$	-
Impairment of assets	$	-	$	-	$	7,859	$	-
Share-based compensation	$	23	$	574	$	53	$	1,734
Loss (gain) on foreign exchange	$	3	$	-	$	(5)	$	-
Depletion and depreciation	$	3,998	$	15	$	8,343	$	31
Financial expenses (income)	$	1,889	$	-	$	3,729	$	-
Share of net loss of associate	$	3	$	3	$	6	$	6

Operating expenses for the three and six-month periods ended June 30, 2019, increased by $13.3 million and $29.4 million, respectively, compared to equivalent periods in 2018. The increases were almost entirely attributable to the recognition of operating expenses related to the former Ikkuma assets. Operating costs were $16.2 million in Q1 2019. The $2.9 million reduction in operating costs from Q1 2019 to Q2 2019 reflects efforts by the Company to reduce expenses by shutting in production.

Administrative expenses for the three and six-month periods ended June 30, 2019, increased by $1.0 million and $2.1 million, respectively, compared to the same periods in 2018. These increases are due primarily to the Ikkuma acquisition.

Transportation expenses reflect transportation costs for production in the three and six-month periods ended June 30, 2019. These costs were fairly consistent from quarter to reflecting the fixed nature of the firm service transportation commitments.

In Q1 2019 the Company recognized an impairment of $7.9 million related to its properties in Quebec. Management elected not to renew certain licenses for 2019. As such, the costs related to these licenses were impaired.

Depletion and depreciation for the three and six-month periods ended June 30, 2019, reflect the depletion related to its production of petroleum and natural gas.

The finance expenses relate to the interest on the term debt used to partially fund the Ikkuma acquisition, and the accretion on the Company's provision for site restoration.

Assets

	As at			
($000s, except per share amounts)		June 30, 2019		December 31,2018
Petroleum and natural gas properties and equipment	$	294,245	$	301,603
Exploration and evaluation assets	$	19,946	$	27,573
Other assets	$	38,795	$	28,111
	$	352,986	$	357,287

The decrease in assets reflects a $5.5 million reduction in restricted cash set aside for the settlement of Ikkuma hedges which occurred prior to close, and the $7.9 million impairment recorded in Q1 2019.

LNG Segment

The LNG segment includes the development activities related to the Company's proposed Goldboro LNG facility. It also reflects general corporate costs. As this segment is in the developmental stage, there is no revenue being generated and all costs are expensed. Once the corporation declares a formal Investment Decision, costs will be eligible for capitalization.

Expenses

	For the three months ended				For the six months ended			
($000s, except where otherwise stated)		June 30, 2019		June 30, 2018		June 30, 2019		June 30, 2018
Administrative expenses	$	2,220	$	342	$	4,913	$	742
Development expenses	$	7,841	$	1,683	$	7,841	$	2,260
Share-based compensation	$	95	$	-	$	214	$	167
(Gain) loss on foreign exchange	$	12	$	(502)	$	2	$	(206)
Financial income	$	-	$	(23)	$	-	$	(42)
Total	$	10,168	$	1,500	$	12,970	$	2,921

Operating and administrative expenses for the three and six-month periods ended June 30, 2019, were impacted by the Company's decision to breakout certain engineering and consulting costs into a new account line called development expenses. The costs represent the much of the engineering activity currently taking place in order to finalize the OBE for the proposed LNG facility. The Company felt that it made sense to exclude these costs from administrative expenses because they are material, and they make the Company's' administrative and corporate expenses look unusually high. Administrative expenses are now much more representative of the ongoing corporate costs of Pieridae. The increases of $1.9 million and $4.2 million, respectively, in the six months ended June 30, 2019, versus the same period in 2018, reflect the absorption of Ikkuma's operations, coupled with a very busy corporate agenda involving the sourcing of funding for the Shell Acquisition. Development expenses reflect the significant increase in activity associated with the Company's efforts to complete an OBE. The engagement of KBR is responsible for much of the costs in Q2 2019.

Summary of quarterly results

The Company's quarterly results may fluctuate significantly from quarter to quarter owing to the fact that the Company's activities have been primarily in the development stage.

($000s, except per share amounts)		Q2 2019	Q1 2018	Q4 2018	Q3 2018	Q2 2018	Q1 2018	Q4 2017	Q3 2017
Revenues	$	**13,387**	22,982	2,432	215	66	16	90	-
Operating expenses	$	**13,528**	16,194	5,093	2,018	1,575	1,013	2,493	877
Administrative expenses	$	**3,738**	4,032	3,971	1,707	1,759	1,682	1,063	44
Net loss attributable to equity holders	$	**(19,530)**	(12,996)	(8,848)	(20,368)	(2,711)	(2,942)	(3,091)	(2,131)
Net loss per share attributable to equity holders (basic and diluted)	$	**(0.23)**	(0.17)	(0.17)	(0.04)	(0.06)	(0.06)	(0.06)	(0.06)

Prior to Q4 2017, Pieridae was solely involved in the development of the proposed Goldboro LNG facility, so the operations during those quarters reflect that activity. In Q4 2017, Pieridae acquired Quebec based Petrolia which had primarily undeveloped upstream properties. It also assumed the operating and administrative costs related to those activities. In Q3 2018, Pieridae recognized an impairment on some of those Quebec assets which resulted in an increase in the net loss. In Q4 2018, Pieridae acquired upstream producer, Ikkuma, which resulted in eleven days of revenue and costs being recognized for that operation. Q1 2019 represents the first full quarter of operations acquired from Ikkuma. The Company also recorded an impairment of $7.9 million related to its Quebec licenses. Q2 2019 represents upstream operations in a depressed pricing environment coupled with increased spending associated with preparing the OBE for the proposed LNG facility. With the evolution of the organization, historical results are not indicative of, and should not be relied upon to estimate, future financial results.

Project Investment

	For the three months ended				For the six months ended			
($000s, except where otherwise stated)		**June 30, 2019**		June 30, 2018		**June 30, 2019**		June 30, 2018
Capex	$	**917**	$	522	$	**1,489**	$	773
Development expenses	$	**7,841**	$	1,686	$	**7,841**	$	2,260
Total (1)	$	**8,758**	$	2,208	$	**9,330**	$	3,033

(1) Non-IFRS measure. See page 19 in this MD&A.

Capex relates to the Company's upstream spending. Development expenses relate to costs to address all the environmental conditions related to the environmental assessment approval. In order to keep the project on schedule, certain site preparation work and the OBE will also need to be completed in 2019, including completion of the land preparation and a road detour. Completion of this work will be dependent on the Company obtaining further financing.

Capital Resources and Liquidity

Net Working Capital

	As at			
($000s)		**June 30, 2019**		December 31, 2018
Net working capital (deficit) (1)	$	**(77,892)**	$	(84,061)

(1) Non-IFRS measure. See page 19 in this MD&A.

As at June 30, 2019, Pieridae had a consolidated cash position of $10.6 million compared to a cash position of $9.1 million as at December 31, 2018. The working capital deficit was $77.9 million compared to a working capital deficit of $84.1 million at December 31, 2018. The $6.2 million decrease in the working capital deficit is primarily attributable to accounts payable and accrued liabilities decreasing more than accounts receivable have. The $12.1 million reduction in accounts payable was possible through the $19.1 million private placement in February 2019. The Company is actively working with its financial advisors for additional funding to allow it to meet its ongoing obligations, to fund the Shell Acquisition, and to allow it to proceed with construction of the Goldboro LNG facility once a final investment decision has been made. Although there is no guarantee that it will be successful, management believes the Company presents a compelling opportunity to potential lenders and investors. The Shell Acquisition would significantly grow the Company's natural gas and NGL production and allow it to capitalize on economies of scale. There is also a midstream component that would allow the company to grow its processing and transportation income. On the LNG side, due to the status of approvals for the project, the loan guarantees being offered by the German government and the strong business case for the Goldboro LNG facility, management feels it has much to offer potential investors.

Pieridae's capital strategy is aligned with its business strategy and is focused on ensuring that we have sufficient liquidity to fund our ongoing operations and our project development initiatives. Pieridae's principal sources of liquidity are equity and term debt. The Company will continue to tap into these sources, as able and as required, to execute on its strategy to become an integrated LNG producer. With the Ikkuma acquisition and the pending Shell Acquisition, the Company will also have a source of potential liquidity from cashflows attributable to active operations. At June 30, 2019, our capital structure was comprised of share capital, working capital, convertible loans and term debt.

Sources and Uses of Cash Flows

	For the three months ended				For the six months ended			
($000s, except where otherwise stated)		June 30, 2019		June 30, 2018		June 30, 2019		June 30, 2018
Cash flows related to operating activities	$	(16,702)	$	(1,753)	$	(33,786)	$	(3,901)
Cash Flows related to investing activities	$	(917)	$	(522)	$	(1,489)	$	(773)
Cash flows related to financing activities	$	12,087	$	(477)	$	35,763	$	(389)

Cash flows used in operating activities increased from $1.8 million in the second quarter of 2018 to $16.7 million in the second quarter of 2019 due primarily to the losses in the upstream segment, coupled with the costs associated with the Shell Acquisition and the OBE. These factors, and the $12.1 million reduction in accounts payable, generated the $29.9 million increase in cash flows used in operating activities in the six-month period ended June 30, 2019.

Cash flows used for investing activities increased from $0.5 million in the second quarter of 2018 to $0.9 million in the same period in 2019 due primarily to maintenance capital requirements for the Company's producing properties in Alberta. The same circumstances were responsible for the $0.8 million increase in the six-month period ended June 30, 2019.

Cash flows received from financing activities increased to $12.1 million in the second quarter of 2019 from a use of $0.5 million in the same period in 2018. The increase is due primarily to the $10.0 million Convertible Debenture and the $2.2 million private placement completed to fund the deposit on the Shell Acquisition. The $35.8 million generated from financing activities in the six-month period ended June 30, 2019, also reflects the $19.1 million raised in the February private placement and the release of cash restricted under the discontinued financial hedging program.

Capital resources

Our capital structure is composed of total shareholders' equity, loans and term debt, and convertible loans, less cash and cash equivalents. The following table summarizes our capital structure at June 30, 2019.

Cash and cash equivalents

	As at			
($000s)		June 30, 2019		December 31, 2018
Cash and cash equivalents	$	10,607	$	9,112
Less: loans and term debt	$	(50,002)	$	(50,007)
convertible loan	$	(10,000)	$	-
Net debt	$	(49,395)	$	(40,895)
Shareholders' equity	$	81,483	$	91,900

The balance of $10.6 million in cash and cash equivalents at June 30, 2019 does not include $4.1 million pledged as security for various Letters of Credit ("LC's") required to be posted with provincial agencies and other companies, to facilitate the Company's ongoing operations. These LC's have varying maturities. Restricted cash of $5.5 million related to Ikkuma's former hedging program was still outstanding at December 31, 2018. These funds settled in January. LC's worth $2.5 million renew automatically every anniversary date. LC's worth $1.6 million mature within one year.

An additional $0.7 million of the cash and cash equivalents are held for exploration purposes related to flow-through shares, representing the unexpended proceeds of a flow-through share financing. According to restrictions imposed under financing arrangement, the Company was required to spend these funds on the exploration of oil and gas properties in Quebec. The Company also holds $0.7 million related to the Bourque project in Quebec. This represents the remaining cash from partner advances which must be spent on exploration work on the Bourque property. The net cash and cash equivalents not restricted is $9.1 million.

Loans and term debt

On December 20, 2018, the Company entered into a Senior Secured Credit Agreement for a $50.0 million non-revolving, term credit facility. The facility is secured by a fixed and floating debenture over all the assets of the Company. It bears interest at 9.5%, which is payable upon maturity. The facility is repayable on September 30, 2019. The Company used the proceeds to fund the repayment of Ikkuma's outstanding debt facilities of $65.7 million on the close of the acquisition.

Share Capital

During the six months ended June 30, 2019, the Company issued 11,281 common shares under its share-based compensation plan and 44,115 through the exercise of stock options. It also issued 12,108,139 common shares via private placements. As of June 30, 2019, the Company had 86,680,129 common shares outstanding (December 31, 2018: 74,516,594). At August 8, 2019, 86,680,129 common shares were outstanding.

Commitments and Contingencies

The Company has a number of financial obligations that are incurred in the ordinary course of business. On April 1, 2019, the Company announced that it had engaged KBR to perform a review of an amended version of the previously prepared FEED study for its proposed Goldboro LNG facility. KBR will also conduct an OBE necessary for entering into a lumpsum EPC contract. The total commitment for this contract is $13.0 million. Most of these payments will come due over the balance of 2019.

In June 2019 the Company committed a certain portion of its natural gas volumes to fixed forward price contracts. Under these commitments, the Company is required to deliver 62,500 GJ/day of natural gas for remainder of 2019.

As of June 30, 2019, Pieridae's cumulative commitments, and the expected timing of these obligations, are detailed below:

($000s)		2019	2020	2021	2022	Thereafter	Total
Firm transportation	$	3,514	6,045	2,108	1,131	3,414	**16,212**
Engineering costs (KBR)	$	6,875	911	-	-	-	**7,786**
Leases	$	1,010	826	639	347	201	**3,023**
Quebec license fees	$	-	46	46	-	-	**92**
Interest on debt	$	2,499	-	-	-	-	**2,499**
Total	$	**13,898**	**7,828**	**2,793**	**1,478**	**3,615**	**29,612**

The Company is financed in part by the issuance of flow-through shares. However, although it has taken all the necessary measures in this regard, there is no guarantee that the funds spent by the Company regarding these shares will be deemed eligible by tax authorities in the event of an audit. Refusal of certain expenses by the tax authorities would have a negative tax impact for investors. As at June 30, 2019, the balance of eligible expenses to be incurred amounted to $0.5 million (December 31, 2018: $0.5 million). The eligible expenses were to be incurred no later than December 31, 2018. However, due to the moratorium on exploration and development activity in the province of Quebec, Pieridae was not able to fulfill its obligations.

Off Balance Sheet Transactions

We do not have any financial arrangements that are excluded from the consolidated financial statements as at June 30, 2019, nor are any such arrangements outstanding as of the date of this MD&A.

Critical Accounting Policies, Estimates and Judgements

There have been no changes in our critical accounting estimates in the three months ended June 30, 2019 except for the adoption of IFRS 16, as discussed further below. Additional information regarding our critical accounting policies and estimates can be found in the notes to our audited consolidated financial statements and MD&A for the year ended December 31, 2018.

Changes in accounting policies

Pieridae adopted IFRS 16 Leases on January 1, 2019, using the modified retrospective approach. The modified retrospective approach does not require restatement of comparative financial information as it recognizes the cumulative effect on transition as an adjustment to opening retained earnings and applies the standard prospectively. Comparative information in the Company's consolidated statements of financial position, consolidated statements of loss and comprehensive loss, consolidated statements of changes in equity, and consolidated statements of cash flows has not been restated. The cumulative effect of initial application of the standard was to recognize a $2.7 million increase to right-of-use assets ("lease assets") and an $2.7 million increase to lease obligations. Initial measurement of the lease obligation was determined based on the remaining lease payments at January 1, 2019, using a variety of incremental borrowing rates specific to the respective assets. The lease assets were initially recognized at an amount equal to the lease obligations. The lease assets and lease obligations recognized largely relate to the Company's head office lease in Calgary.

The adoption of IFRS 16 using the modified retrospective approach allowed the Company to use the following practical expedients in determining the opening transition adjustment:

- leases with a term of less than 12 months as at January 1, 2019 were accounted for as short-term leases;
- leases with an underlying asset of low value are recorded as an expense and not recognized as a lease asset; and
- leases with similar characteristics were accounted for as a portfolio using a single discount rate.

The Company's accounting policy for leases effective January 1, 2019 is set forth below. The Company applied IFRS 16 using the modified retrospective approach. Comparative information continues to be accounted for in accordance with the Company's previous accounting policy found in the December 31, 2018 audited financial statements.

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. A lease obligation, and corresponding lease asset, are recognized at the commencement of the lease. The present value of the lease obligation is based on the future lease payments and is discounted using the Company's incremental borrowing rate when the rate implicit in the lease is not readily available. The Company uses a single discount rate for a portfolio of lease with similar characteristics. The lease asset is recognized at the amount of the lease obligation, adjusted for lease incentives received and initial direct costs, on commencement of the lease. Depreciation is recognized on the lease asset over the shorter of the estimated useful life of the asset or the lease term. Lease payments are allocated between the liability and interest expense. Interest expense is recognized on the lease obligations using the effective interest rate method and payments are applied against the lease obligation.

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. Management has made the following judgments, estimates, and assumptions related to the accounting for leases. The carrying amounts of the right-of-use assets, lease obligations, and the resulting interest and depletion and depreciation expense are based on the implicit interest rate within the lease arrangement or, if this information is unavailable, the incremental borrowing rate. Incremental borrowing rates are based on judgments including economic environment, term, and the underlying risk inherent to the asset.

Outlook and Guidance

With low natural gas prices resulting in production shut-ins, management is reducing the guidance issued in the Company's Annual Report to average daily production expectations of 13,000 – 17,000 boe/d, from the previous expectation range of 16,000 – 18,000 boe/d. Production guidance excludes the expected Shell acquisition. The Shell acquisition is expected to close late in the third quarter and will result in an increase in production to a daily average of 45,000 – 50,000 boe/d in the late part of the year.

Pieridae's 2019 Upstream capital program has been curtailed and is now expected to be approximately $2 – 5 million as opposed to previous guidance of $8 – 10 million. With the focus now being on the completion of the Shell acquisition, management has reduced expected spending on Goldboro development activities to $20 million from previous guidance of up to $45 million.

Non-IFRS Measures

Net Operating Expense, Income and Operating Netback

With the new operational activities undertaken with the Ikkuma acquisition, management has identified certain industry benchmarks such as operating netback and net operating expense as derived from the netback to analyze financial and operating performance. These benchmarks, as presented, do not have any standardized meanings prescribed by IFRS and therefore may not be comparable with the calculation of similar measures for other entities. Operating netback equals petroleum and natural gas revenue including realized gains and losses on commodity risk management contracts less royalties, net operating expenses and transportation expenses calculated on a boe basis. Management considers operating netback an important measure to evaluate the Company's operational performance as it demonstrates Pieridae's field level profitability relative to current commodity prices. Net operating expense is a non-IFRS measure calculated as operating expenses less other income. Other income includes gas processing income earned from fees charged to third parties at facilities where Pieridae has an ownership interest.

Net Operating Expenses

Upstream segment	For the three months ended				For the six months ended			
($000s, except where otherwise stated)		June 30, 2019		June 30, 2018		June 30, 2019		June 30, 2018
Operating expense	$	13,528	$	233	$	29,722	$	324
Other income	$	(1,436)	$	-	$	(2,704)	$	-
Net operating expense	$	12,092	$	233	$	27,018	$	324
Per boe	$	8.68	$	-	$	9.21	$	-

Net Operating Income & Operating Netbacks

Net Operating Income

Upstream segment	For the three months ended				For the six months ended			
($000s, except where otherwise stated)		June 30, 2019		June 30, 2018		June 30, 2019		June 30, 2018
Revenue (net of royalties)	$	11,921	$	-	$	34,291	$	-
Realized loss on risk management contracts	$	-	$	-	$	(656)	$	-
Net operating expenses	$	(12,092)	$	(233)	$	(27,018)	$	(324)
Transportation expense	$	(1,787)	$	-	$	(3,416)	$	-
Net operating (loss) income	$	(1,958)	$	(233)	$	3,201	$	(324)

Operating Netback

	For the three months ended				For the six months ended			
		June 30, 2019		June 30, 2018		June 30, 2019		June 30, 2018
Revenue	$	8.80	$	-	$	12.08	$	-
Realized loss on risk management contracts	$	-	$	-	$	-	$	-
Royalties	$	(0.29)	$	-	$	(0.45)	$	-
Net operating expenses	$	(8.68)	$	-	$	(9.21)	$	-
Transportation Expenses	$	(1.25)	$	-	$	(1.16)	$	-
Operating netbacks	$	(1.42)	$	-	$	1.26	$	-

Project investment

Project investment represents total capital expenditures included in the financial statements plus development expenses. This information is important as it shows Pieridae's total spending on key long-term initiatives.

Net Working Capital

	As at			
($000s)		June 30, 2019		December 31, 2018
Cash and cash equivalents	$	9,146	$	7,651
Cash and cash equivalents held for exploration purposes	$	1,461	$	1,461
Restricted cash	$	4,119	$	8,626
Accounts receivable	$	13,339	$	16,187
Prepaid expenses	$	12,678	$	2,250
Trade and other payables	$	(48,823)	$	(60,922)
Current portion of deferred lease inducements	$	(17)	$	(20)
Current portion of term debt	$	(50,002)	$	(50,007)
Partner advances for planned exploration work	$	(624)	$	(624)
Convertible loan	$	(10,000)	$	-
Provision for contingent liability	$	(530)	$	(530)
Flow-through shares premium	$	(82)	$	(82)
Current portion of lease liabilities	$	(874)	$	-
Deferred accounts payable	$	(7,683)	$	(8,051)
Net working capital (deficit)	$	(77,892)	$	(84,061)