

MANAGEMENT'S DISCUSSION AND ANALYSIS

The following is management's discussion and analysis ("MD&A") of Perpetual Energy Inc.'s ("Perpetual", the "Company" or the "Corporation") operating and financial results for the three and nine months ended September 30, 2020 as well as information and estimates concerning the Corporation's future outlook based on currently available information. This discussion should be read in conjunction with the Corporation's unaudited condensed interim consolidated financial statements and accompanying notes for the three and nine months ended September 30, 2020 as well as the audited consolidated financial statements and accompanying notes for the years ended December 31, 2019 and 2018. The MD&A should be read in conjunction with the Corporation's MD&A for the year ended December 31, 2019, as disclosure which is unchanged from the December 31, 2019 MD&A has not been duplicated herein. The Corporation's consolidated financial statements are prepared in accordance with Canadian generally accepted accounting principles ("GAAP") which require publicly accountable enterprises to prepare their financial statements using International Financial Reporting Standards ("IFRS"). Readers are referred to the advisories for additional information regarding forecasts, assumptions and other forward-looking information contained in the "Forward Looking Information and Statements" section of this MD&A. The date of this MD&A is November 10, 2020.

NATURE OF BUSINESS: Perpetual is an oil and natural gas exploration, production and marketing company headquartered in Calgary, Alberta. Perpetual owns a diversified asset portfolio, including liquids-rich natural gas assets in the deep basin of west central Alberta, heavy oil and shallow natural gas in eastern Alberta, and undeveloped oil sands leases in northern Alberta. Additional information on Perpetual, including the most recently filed Annual Information Form ("AIF"), can be accessed at www.sedar.com or from the Corporation's website at www.perpetualenergyinc.com.

ADVISORIES

NON-GAAP MEASURES: The terms "adjusted funds flow", "adjusted funds flow per share", "adjusted funds flow per boe", "available liquidity", "cash costs", "gas over bitumen revenue, net of payments", "net working capital deficiency", "net debt", "net bank debt", "net debt to adjusted funds flow ratio", "operating netback", "realized revenue", and "enterprise value" used in this MD&A are not recognized under GAAP. Management believes that in addition to net income (loss) and net cash flows from (used in) operating activities as defined by GAAP, these terms are useful supplemental measures to evaluate performance. Users are cautioned however that these measures should not be construed as an alternative to net income (loss) or net cash flows from (used in) operating activities determined in accordance with GAAP as an indication of Perpetual's performance and may not be comparable with the calculation of similar measurements by other entities.

Adjusted funds flow: Adjusted funds flow is calculated based on cash flows from (used in) operating activities, excluding changes in non-cash working capital and expenditures on decommissioning obligations since Perpetual believes the timing of collection, payment or incurrence of these items is variable. Expenditures on decommissioning obligations may vary from period to period depending on capital programs and the maturity of the Company's operating areas. Expenditures on decommissioning obligations are managed through the capital budgeting process which considers available adjusted funds flow. The Company has added back non-cash oil and natural gas revenue in-kind, equal to retained East Edson royalty obligation payments taken in-kind, to present the equivalent amount of cash revenue generated. The Company has also deducted payments of the gas over bitumen royalty financing from adjusted funds flow to present these payments net of gas over bitumen royalty credits received. These payments are indexed to gas over bitumen royalty credits and are recorded as a reduction to the Corporation's gas over bitumen royalty financing obligation in accordance with IFRS. Additionally, the Company has excluded payments of restructuring costs associated with employee downsizing costs, which management considers to not be related to cash flow from operating activities. Management uses adjusted funds flow and adjusted funds flow per boe as key measures to assess the ability of the Company to generate the funds necessary to finance capital expenditures, expenditures on decommissioning obligations, and meet its financial obligations.

Adjusted funds flow per share is calculated using the weighted average number of shares outstanding used in calculating net income (loss) per share. Adjusted funds flow is not intended to represent net cash flows from (used in) operating activities calculated in accordance with IFRS.

Adjusted funds flow per boe is calculated as adjusted funds flow divided by total production sold in the period.

The following table reconciles net cash flows from (used in) operating activities to adjusted funds flow:

(\$ thousands, except per share and per boe amounts)	Three months ended September 30,		Nine months ended September 30,	
	2020	2019	2020	2019
Net cash flows from (used in) operating activities	(2,538)	5,509	(8,429)	19,096
Change in non-cash working capital	(176)	(1,750)	(2,494)	(5,307)
Decommissioning obligations settled	(62)	527	115	1,193
Oil and natural gas revenue in-kind	752	-	1,402	-
Payments of gas over bitumen royalty financing	(151)	(103)	(507)	(788)
Payments of restructuring costs	77	-	886	-
Adjusted funds flow	(2,098)	4,183	(9,027)	14,194
Adjusted funds flow per share – basic and diluted	(0.03)	0.07	(0.15)	0.24
Adjusted funds flow per boe	(5.45)	5.42	(6.45)	5.58

Available Liquidity: Available Liquidity is defined as Perpetual's reserve-based credit facility (the "Credit Facility") borrowing limit (the "Borrowing Limit"), less borrowings and letters of credit issued under the Credit Facility. Management uses available liquidity to assess the ability of the Company to finance capital expenditures and expenditures on decommissioning obligations, and to meet its financial obligations.

Cash costs: Cash costs are comprised of royalties, production and operating, transportation, general and administrative, and cash finance expense. Cash costs per boe is calculated by dividing cash costs by total production sold in the period. Management believes that cash costs assist management and investors in assessing Perpetual's efficiency and overall cost structure.

(\$ thousands, except per boe amounts)	Three months ended September 30,		Nine months ended September 30,	
	2020	2019	2020	2019
Royalties	1,563	2,237	4,740	7,877
Production and operating	2,618	4,262	8,620	14,493
Transportation	761	1,541	2,813	4,707
General and administrative	1,656	2,606	5,876	9,254
Cash finance expense	1,960	2,344	6,432	6,904
Cash costs	8,558	12,990	28,481	43,235
Cash costs per boe	22.21	16.84	20.36	16.99

Realized revenue: Realized revenue is the sum of realized natural gas revenue, realized oil revenue and realized natural gas liquids ("NGL") revenue which includes realized gains (losses) on financial natural gas, crude oil, NGL, and foreign exchange contracts. Realized revenue is used by management to calculate the Corporation's net realized commodity prices, taking into account the monthly settlements of financial crude oil and natural gas forward sales, collars, basis differentials, and forward foreign exchange sales. These contracts are put in place to protect Perpetual's adjusted funds flow from potential volatility in commodity prices and foreign exchange rates. Any related realized gains or losses are considered part of the Corporation's realized price.

Gas over bitumen revenue, net of payments: Gas over bitumen revenue, net of payments, includes gas over bitumen royalty credits less payments of the gas over bitumen royalty financing. This is used by management to calculate the Corporation's net realized gas over bitumen revenue to reflect the substantive monetization of the future gas over bitumen royalty credits.

Operating netback: Operating netback is calculated by deducting royalties, production and operating expenses, and transportation costs from realized revenue. Operating netback is also calculated on a per boe basis using production sold in the period. Operating netback on a per boe basis can vary significantly for each of the Company's operating areas. Perpetual considers operating netback to be an important performance measure as it demonstrates its profitability relative to current commodity prices.

Net working capital deficiency: Net working capital deficiency includes total current assets and current liabilities excluding short-term derivative assets and liabilities related to the Corporation's risk management activities, Tourmaline Oil Corp. ("TOU") share investment, TOU share margin demand loan, revolving bank debt, term loan, current portion of royalty obligations, current portion of lease liabilities, and current portion of provisions.

Net bank debt, net debt, and net debt to adjusted funds flow ratio: Net bank debt is measured as current and long-term revolving bank debt including net working capital deficiency. Net debt includes the carrying value of net bank debt, the principal amount of the term loan, the principal amount of the TOU share margin demand loan and the principal amount of senior notes, reduced for the mark-to-market value of the TOU share investment. Net debt, net bank debt, and net debt to adjusted funds flow ratios are used by management to assess the Corporation's overall debt position and borrowing capacity. Net debt to adjusted funds flow ratios are calculated on a trailing twelve-month basis.

Enterprise value: Enterprise value is equal to net debt plus the market value of issued equity, and is used by management to analyze leverage.

VOLUME CONVERSIONS: Barrel of oil equivalent ("boe") may be misleading, particularly if used in isolation. In accordance with National Instrument 51-101 ("NI 51-101"), a conversion ratio for natural gas of 6 Mcf:1 bbl has been used, which 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 addition, utilizing a conversion on a 6 Mcf:1 bbl basis may be misleading as an indicator of value as the value ratio between natural gas and crude oil, based on the current prices of natural gas and crude oil, differ significantly from the energy equivalency of 6 Mcf:1 bbl.

THIRD QUARTER 2020 HIGHLIGHTS

Third quarter production averaged 4,188 boe/d, down 50% from 8,383 boe/d in the comparative period of 2019, due primarily to the sale of a 50% working interest in the East Edson property in West Central Alberta to a third-party (the "Purchaser") for consideration including a cash payment of \$35 million and the carried interest funding of the drill, complete and tie-in costs for an eight-well drilling program (the "East Edson Transaction"). The closing of the East Edson Transaction on April 1, 2020, combined with natural declines resulting from limited capital investment, reduced West Central production by 3,907 boe/d when compared to the third quarter of 2019. Compared to the second quarter of 2020, total production increased by 14% or 526 boe/d, due to the reactivation of heavy oil production which was suspended late in the first quarter in response to low oil prices. As Western Canadian Select ("WCS") prices improved from their April lows, the Company began reactivating certain low-cost heavy oil production in mid-May 2020, and has continued to ramp up production as oil prices recover. As of September 30, 2020, Perpetual had restarted all heavy oil production with the exception of approximately 175 bbl/d of higher cost production in certain pools at Mannville. Third quarter production at West Central declined just 108 boe/d from the second quarter of 2020 (Q2 2020 – 2,709 boe/d). Production from the first two East Edson carried interest wells (1.0 net) that started up in mid-September was offset by production shut-in for the five-day West Wolf Lake plant turnaround. Three additional East Edson carried interest wells (1.5 net) commenced drilling early in the fourth quarter and are expected to be on production in late November.

Realized revenue was \$17.93/boe in the third quarter of 2020, 26% lower than the comparative period of 2019 (\$24.34/boe). The decrease was due largely to the 98% decrease in Perpetual's realized natural gas price due to physical basis hedging losses, combined with a 25% reduction in the realized NGL price which tracked the 27% decline in WTI light oil prices. Compared to the prior year period, lower realized natural gas prices were the result of \$1.4 million in realized hedging losses on locked-in AECO-NYMEX basis differential contracts, as AECO prices have outperformed NYMEX prices on a relative basis. In the third quarter of 2020, the Company reduced its fixed volume obligations under the market diversification contract by 30,000 MMBtu/d to 10,000 MMBtu/d for the period commencing November 1, 2020 and ending on October 31, 2021 to align natural gas sales obligations with lower forecast production volumes following the East Edson Transaction. The modification resulted in a realized loss on derivatives of \$1.0 million (\$2.53/boe) and reduced the Company's realized natural gas price by \$0.65/Mcf in the third quarter of 2020. Realized gains on financial oil hedging contracts of \$2.2 million or \$19.83/bbl (Q3 2019 – loss of \$1.1 million or \$8.83/bbl) were recorded during the quarter, contributing to the third quarter realized oil price of \$55.71/bbl. Excluding the impact of

market diversification contract modifications, realized revenue in the third quarter of 2020 was \$20.46/boe compared to \$20.84/boe in the third quarter of 2019.

Cash costs were down 34% to \$8.6 million (Q3 2019 – \$13.0 million), but up 32% on a unit-of-production basis to \$22.21/boe (Q3 2019 – \$16.84/boe). Cash costs decreased by \$4.4 million from the prior year period due to the closing of the East Edson Transaction, the continued shut-in of approximately 175 bbl/d of higher cost heavy oil production, the reduction in work hours and corresponding compensation to 80% effective April 1, 2020, and payments received from the Canada Emergency Wage Subsidy (“CEWS”) program of \$0.5 million (2019 – \$1.0 million). Cash costs on a unit-of-production basis increased by 32%, due to the 50% decrease in production.

The net loss for the third quarter of 2020 was \$7.5 million (\$0.12/share), compared to a net loss of \$20.3 million (\$0.34/share) in the comparative period of 2019. In the third quarter of 2019, the net loss of \$20.3 million was negatively impacted by non-cash charges of \$16.6 million including an unrealized loss of \$9.2 million due to the decrease in the fair value of derivatives (Q3 2020 – unrealized gain of \$0.2 million), a \$5.9 million decrease in the fair value of the TOU share investment (Q3 2020 – nil) and a \$1.5 million restructuring charge associated with a 25% reduction in Perpetual’s corporate employees.

Cash flow used in operating activities in the third quarter of 2020 was \$2.5 million (\$0.04/share), down \$8.0 million from the prior year period (Q3 2019 – cash flow from operating activities of \$5.5 million and \$0.09/share). The decrease was due to the combined impact of the 26% decrease in realized revenue per boe and the 50% decrease in production in the third quarter of 2020 caused by the sale of East Edson production.

Adjusted funds flow in the third quarter of 2020 was negative \$2.1 million (negative \$0.03/share), down \$6.3 million (150%) from the prior year period of \$4.2 million (\$0.07/share) due primarily to lower cash flow from operating activities before changes in non-cash working capital. Compared to the second quarter of 2020, adjusted funds flow improved by \$1.2 million, due to higher third quarter oil production following the restart of production in mid-May and higher selling prices for all commodities.

FUTURE OPERATIONS

Perpetual has a first lien, reserve-based credit facility (the “Credit Facility”). On December 24, 2019, Perpetual’s syndicate of lenders completed their semi-annual borrowing base redetermination, reducing the Credit Facility borrowing limit (the “Borrowing Limit”) from \$55 million to \$45 million effective January 22, 2020.

In January 2020, the Company sold its remaining 1,000,000 TOU share investment for net cash proceeds of \$14.3 million (the “TOU Share Proceeds”). Net proceeds were used to repay the outstanding TOU share margin demand loan of \$0.1 million, with the balance applied to the Credit Facility. On April 1, 2020, the Company closed the East Edson Transaction. Net proceeds of \$34.8 million were used to repay a portion of the Credit Facility. Effective April 1, 2020, Perpetual’s syndicate of Credit Facility lenders completed their borrowing base redetermination, incorporating the impact of the East Edson Transaction. The Borrowing Limit was reduced from \$45 million to \$20 million. As at September 30, 2020, \$15.1 million was borrowed and \$1.3 million of letters of credit were issued on the Credit Facility. On October 30, 2020, the \$20 million Borrowing Limit was confirmed, with the next Borrowing Limit redetermination scheduled on or prior to November 30, 2020. If not extended by November 30, 2020, the Credit Facility will cease to revolve, and all outstanding advances will be repayable. The further extension of the Credit Facility repayment term is dependent on the Company’s ability to repay or extend the term of the \$45 million second lien term loan (the “Term Loan”) that matures and requires repayment on March 14, 2021. The Company also has \$33.6 million of unsecured senior notes that mature on January 23, 2022. Although the TOU Share Proceeds and the East Edson Transaction cash consideration have reduced the Company’s revolving bank debt borrowed under its Credit Facility, the Company remains dependent on the support of its lenders to extend approaching maturities.

During the nine months ended September 30, 2020, there was a dramatic decline in oil, natural gas, and NGL prices due to local and global supply and demand imbalances and the COVID-19 pandemic. This contributed to a net working capital deficiency of \$8.4 million as at September 30, 2020 and an \$8.4 million use of cash from operations for the nine months then ended, with improving forecasted cash flows from operations expected for the next twelve-month period and beyond, based on forward market commodity prices. The Company will require additional financing to fund the working capital deficiency and future operations, and to refinance the upcoming Credit Facility and Term Loan maturities as the available liquidity and operating cash flows are not anticipated to be sufficient. Perpetual is considering options including the sale or monetization of additional assets, the extension of existing debt maturity dates, or alternative financing.

Due to the facts and circumstances detailed above, coupled with considerable economic instability and uncertainty in the oil and gas industry which negatively impacts operating cash flows and lender and investor sentiment, there remains considerable risk around the Company’s ability to address its liquidity shortfalls and upcoming maturities. In addition, there continues to be some uncertainty regarding the Statement of Claim which may restrict the Company’s ability to manage its capital structure. As a result, there is material uncertainty surrounding the Company’s ability to continue as a going concern that creates significant doubt as to the ability of the Company to meet its obligations as they come due. Therefore, the Company may be unable to realize its assets and discharge its liabilities in the normal course of business.

Perpetual’s financial statements have been prepared in accordance with generally accepted accounting principles applicable to a going concern, which assumes that the Corporation will be able to realize its assets and discharge its liabilities in the normal course of business. These financial statements do not reflect adjustments that would be necessary if the going concern assumption were not appropriate. If the going concern basis were not appropriate for these financial statements, then adjustments would be necessary in the carrying value of the assets and liabilities, the reported revenues and expenses, and the balance sheet classifications used. These adjustments could be material.

SEQUOIA LITIGATION UPDATE

On January 13, 2020, the Court of Queen's Bench (the "Court") issued its written decision related to the Statement of Claim filed on August 3, 2018 against Perpetual and its President and Chief Executive Officer ("CEO") with respect to the Company's disposition of shallow gas assets in Eastern Alberta to an unrelated third party on October 1, 2016 (the "Sequoia Litigation"). The decision dismissed and struck all claims against the Company's CEO and all but one of the claims filed by PricewaterhouseCoopers Inc. ("PwC") LIT in its capacity as trustee in bankruptcy (the "Trustee") against Perpetual. The Court did not find that the test for summary dismissal relating to whether the asset transaction was an arm's length transfer for purposes of section 96(1) of the Bankruptcy and Insolvency Act (the "BIA") was met, on the balance of probabilities. Accordingly, the BIA claim was not dismissed or struck and only that part of the claim can continue against Perpetual.

The Trustee filed a notice of appeal with the Court of Appeal of Alberta, challenging the entire decision, and Perpetual filed a similar notice of appeal contesting the BIA claim portion of the decision. The appeal proceedings are scheduled to be heard in December 2020. On September 24, 2019, Perpetual filed an application for security for costs of the appeal. On January 28, 2020, the Court of Appeal issued its decision, requiring the Trustee to post security with the Court of Appeal in the amount of \$0.2 million. Applications filed by the Trustee to appeal the security for costs decision and alter the reasons for the decision were dismissed at a hearing held on June 18, 2020. Costs of \$0.1 million were awarded by the Court of Appeal against the Trustee on July 21, 2020.

On August 26, 2020, costs of \$0.6 million were awarded by the Court against PwC in their personal capacity, related to the claims against Perpetual's CEO which were dismissed and struck in the January 13, 2020 decision. Additionally, the Court ordered PwC to post security of \$1.7 million as a condition to continuing the Trustee's Statement of Claim action. PwC has since posted the required security with the Court and has filed a notice of appeal with the Court of Appeal of Alberta with respect to the cost award decision.

On February 25, 2020, Perpetual filed a second application to strike and summarily dismiss the BIA claim on the basis that there was no transfer at undervalue, and Sequoia was not insolvent at the time of the asset transaction nor caused to be insolvent by the asset transaction. In July 2020, the Orphan Well Association ("OWA"), certain oil and gas companies, and six municipalities applied to intervene in the second BIA dismissal application proceedings. The OWA and certain oil and gas companies were permitted to intervene (the "Intervenors") in the proceedings which took place on October 1st and 2nd, 2020. The Court's decision is pending. In late October, the Intervenors also filed applications with the Court of Appeal of Alberta to be permitted to intervene in the Trustee's appeal of the January 13, 2020 Court decision scheduled for December 2020.

Management expects that the Company is more likely than not to be completely successful in defending against the Sequoia Litigation such that no damages will be awarded against it, and therefore, no amounts have been accrued as a liability in Perpetual's financial statements.

OUTLOOK

Perpetual currently anticipates that five of the eight carried interest wells at the 50% owned East Edson property will be drilled, completed and tied-in before the end of the fourth quarter of 2020. Two horizontal Wilrich wells (1.0 net) were tied-in to production in mid-September, with drilling operations underway on the next three well (1.5 net) pad which is scheduled to be on production in the fourth quarter. A two well (1.0 net) pad is planned for the first quarter of 2021 and the final carried interest well is scheduled to be drilled, completed and tied-in during the second half of 2021. While oil prices have begun to recover from their second quarter lows, capital expenditures for the remainder of 2020 in Eastern Alberta have been deferred, pending a sustained recovery of WTI oil prices to the US\$45.00/bbl level.

With the reactivation of shut-in heavy oil production and the contribution from the first two carried interest wells at East Edson in late-September, production is forecast to increase 24% in the fourth quarter to 5,100 to 5,300 boe/d (29% liquids). First quarter 2021 production is anticipated to increase a further 12% to 5,700 to 6,000 boe/d (26% liquids) with the full impact of the first five carried interest East Edson wells. An additional 175 bbl/d of heavy oil production could be re-started if WTI oil prices increase above the US\$45.00/bbl level.

The Company has been approved for funding of \$1.5 million from the Alberta Site Rehabilitation program. Work on these funded abandonment and reclamation projects will be ongoing throughout the fourth quarter of 2020 and into 2021.

Minimization of operating and corporate costs will remain a priority, as will ensuring employees remain safe and healthy amid the COVID-19 pandemic.

THIRD QUARTER FINANCIAL AND OPERATING RESULTS

Capital expenditures

(\$ thousands)	Three months ended September 30,		Nine months ended September 30,	
	2020	2019	2020	2019
Exploration and development	251	4,502	5,511	10,882
Corporate assets	—	4	(38)	62
Capital expenditures	251	4,506	5,473	10,944
Acquisitions	133	—	222	—
Net proceeds on dispositions	—	—	(34,750)	—
Total	384	4,506	(29,055)	10,944

Exploration and development spending by area

(\$ thousands)	Three months ended September 30,		Nine months ended September 30,	
	2020	2019	2020	2019
West Central	102	60	35	1,173
Eastern Alberta	149	4,442	5,476	9,709
Total	251	4,502	5,511	10,882

Wells drilled by area

(gross/net)	Three months ended September 30,		Nine months ended September 30,	
	2020	2019	2020	2019
West Central	2/1.0 ⁽²⁾	-/-	2/1.0 ⁽²⁾	-/-
Eastern Alberta	-/-	2/2.0	4/4.0	5/5.0 ⁽¹⁾
Total	2/1.0	2/2.0	6/5.0	5/5.0⁽¹⁾

⁽¹⁾ Excludes the re-entry of one existing well bore in Mannville.

⁽²⁾ Includes the drilling of two wells (1.0 net) pursuant to the eight-well carried interest drilling program.

Perpetual's exploration and development spending in the third quarter of 2020 was nominal, consistent with guidance released on July 31, 2020 with the Company's second quarter results. At the 50% owned East Edson property, two wells (1.0 net) of the eight-well carried interest drilling commitment were drilled, completed and tied-in to production in mid-September.

For the nine months ended September 30, 2020, Company spending was directed entirely to Eastern Alberta, where four multi-lateral heavy oil wells (4.0 net) were drilled, completed and tied-in at Ukalta targeting the Clearwater formation. Ukalta production averaged 550 bbl/d in the third quarter of 2020 after being shut-in for much of the second quarter in response to the significant decline in crude oil prices.

Acquisitions and Dispositions

On April 1, 2020, the Company sold a 50% working interest in its East Edson property in West Central Alberta to the Purchaser. The consideration received, and calculation of the gain (loss) recorded on disposition is summarized below:

(\$ thousands)	
Cash proceeds from disposition (a)	34,750
Drilling program rights received (b)	18,000
Retained East Edson royalty obligation (c)	(6,996)
Carrying amount of assets held for sale disposed (d)	(52,803)
Carrying amount of decommissioning obligations held for sale disposed (e)	7,049
Gain (loss) on disposition	-

- | | | |
|----|---|--|
| a) | Cash proceeds from disposition | \$35.0 million of cash received on closing, net of \$0.2 million of transaction costs and closing adjustments. In order to reflect the nature of the proceeds received, cash proceeds from disposition have been allocated on the condensed interim consolidated statements of cash flows to financing and investing activities in the amount of \$7.0 million and \$27.8 million, respectively. |
| b) | Drilling program rights received | \$18.0 million of drilling program rights, comprised of the carried interest funding of the drill, complete, and tie-in costs for an eight-well drilling program. Two horizontal wells (1.0 net) targeting development of the Wilrich formation were drilled, completed and tied-in during the third quarter of 2020. The Purchaser is required to fulfill its entire commitment by April 1, 2022 and will be obligated to pay Perpetual \$2.25 million for each commitment well not completed and tied-in by this time. |
| c) | Retained East Edson royalty obligation | \$7.0 million that Perpetual will retain until December 31, 2022 on behalf of the Purchaser, comprising the Purchaser's 50% working interest in the existing gross overriding royalty on the East Edson property equivalent to 2.8 MMcf/d of natural gas and associated NGL production. This obligation has been recorded in the condensed interim consolidated statement of financial position under the heading "Royalty obligations". |
| d) | Carrying amount of assets held for sale disposed | \$52.8 million of oil and gas properties (\$50.4 million) and exploration and evaluation assets (\$2.4 million). |
| e) | Carrying amount of decommissioning obligations held for sale disposed | \$7.0 million of decommissioning obligations associated with oil and gas properties disposed. |

Expenditures on decommissioning obligations

During the three months ended September 30, 2020, Perpetual deferred spending on abandonment and reclamation projects, enabled by the Alberta Energy Regulator's ("AER's") suspension of area-based closure expenditure requirements for 2020. For the nine months ended September 30, 2020, Perpetual spent \$0.1 million (2019 – \$1.2 million) on abandonment and reclamation projects, and received 11 reclamation certificates from the AER during the same period (2019 – eight reclamation certificates) which will result in the cessation of associated property tax and surface lease expenses. The Company's aggregate AER Licensee Liability Rating ("LLR") was 1.7 at September 30, 2020 (September 30, 2019 – 4.4), down from 4.0 at June 30, 2020 due to the AER's transfer of operatorship of the East Edson properties to the Purchaser.

The Company has been approved for funding of \$1.5 million from the Alberta Site Rehabilitation program. Work on these funded abandonment and reclamation projects will be ongoing throughout the fourth quarter of 2020 and into 2021.

Operating netbacks

The following table highlights Perpetual's operating netbacks for the three and nine months ended September 30, 2020 and 2019:

(\$ thousands)	Three months ended September 30, 2020			Three months ended September 30, 2019		
	West Central	Eastern	Total	West Central	Eastern	Total
Total petroleum and natural gas revenue ⁽¹⁾	2,839	4,250	7,089	9,999	7,098	17,097
Realized gains (losses) on derivatives ⁽²⁾⁽³⁾	–	–	(181)	–	–	1,674
Royalties	(1,161)	(402)	(1,563)	(1,224)	(1,013)	(2,237)
Production and operating expenses	(1,002)	(1,616)	(2,618)	(1,492)	(2,770)	(4,262)
Transportation costs	(305)	(456)	(761)	(1,051)	(490)	(1,541)
Total operating netback	371	1,776	1,966	6,232	2,825	10,731

(\$ thousands)	Nine months ended September 30, 2020			Nine months ended September 30, 2019		
	West Central	Eastern	Total	West Central	Eastern	Total
Total petroleum and natural gas revenue ⁽¹⁾	12,040	9,268	21,308	37,833	20,698	58,531
Realized gains (losses) on derivatives ⁽²⁾⁽³⁾	–	–	(570)	–	–	706
Royalties	(3,789)	(951)	(4,740)	(5,249)	(2,628)	(7,877)
Production and operating expenses	(3,364)	(5,256)	(8,620)	(5,490)	(9,003)	(14,493)
Transportation costs	(1,716)	(1,097)	(2,813)	(3,232)	(1,475)	(4,707)
Total operating netback	3,171	1,964	4,565	23,862	7,592	32,160

(\$/boe)	Three months ended September 30, 2020			Three months ended September 30, 2019		
	West Central	Eastern	Total	West Central	Eastern	Total
Boe operating netback						
Production (boe/d)	2,601	1,587	4,188	6,508	1,875	8,383
Total petroleum and natural gas revenue ⁽¹⁾	11.87	29.10	18.40	16.70	41.15	22.17
Realized gains (losses) on derivatives ⁽²⁾⁽³⁾	–	–	(0.47)	–	–	2.17
Royalties	(4.85)	(2.75)	(4.06)	(2.04)	(5.87)	(2.90)
Production and operating expenses	(4.19)	(11.07)	(6.79)	(2.49)	(16.06)	(5.53)
Transportation costs	(1.27)	(3.12)	(1.98)	(1.76)	(2.84)	(2.00)
Total operating netback	1.56	12.16	5.10	10.41	16.38	13.91

(\$/boe)	Nine months ended September 30, 2020			Nine months ended September 30, 2019		
	West Central	Eastern	Total	West Central	Eastern	Total
Boe operating netback						
Production (boe/d)	3,690	1,416	5,106	7,487	1,837	9,324
Total petroleum and natural gas revenue ⁽¹⁾	11.91	23.88	15.23	18.51	41.26	22.99
Realized gains (losses) on derivatives ⁽²⁾⁽³⁾	–	–	(0.41)	–	–	0.28
Royalties	(3.75)	(2.45)	(3.39)	(2.57)	(5.24)	(3.09)
Production and operating expenses	(3.33)	(13.54)	(6.16)	(2.69)	(17.95)	(5.69)
Transportation costs	(1.70)	(2.83)	(2.01)	(1.58)	(2.94)	(1.85)
Total operating netback	3.13	5.06	3.26	11.67	15.13	12.64

⁽¹⁾ Includes revenues related to the natural gas market diversification contract and physical forward sales contracts which settled during the period.

⁽²⁾ Includes realized gains and losses on financial derivatives and financial prompt month price optimization contracts. Realized gains and losses on financial derivatives are not allocated to the Company's core areas.

⁽³⁾ Realized losses in the third quarter of 2020 include \$1.0 million (\$2.53/boe) from the modification of the market diversification contract for the November 1, 2020 to October 31, 2021 period. Realized gains in the third quarter of 2019 include \$2.7 million (\$3.50/boe) from the elimination of the Company's 40,000 MMBtu/d market diversification contract obligations for the period of December 1, 2019 to October 31, 2020.

Perpetual's operating netback of \$2.0 million (\$5.10/boe) in the third quarter of 2020 decreased 82% from \$10.7 million (\$13.91/boe) in the comparative period of 2019. This decrease resulted from the 50% drop in production compared to the prior year period. Modifications to the market diversification contract also reduced the Company's operating netback by \$1.0 million (\$2.53/boe) in the third quarter of 2020, compared to an increase of \$2.7 million (\$3.50/boe) in the prior year period. The significant decrease in production was the result of the East Edson Transaction which closed on April 1, 2020, combined with natural declines resulting from limited capital investment in the Company's natural gas assets. The continued shut-in of approximately 175 bbl/d of higher cost heavy oil production for much of the third quarter in response to the significant decline in global oil prices also contributed to the year-over-year decrease in production. Lower realized revenue per boe was due to natural gas basis hedging losses recorded in the third quarter of 2020 as a result of the relative strengthening of AECO natural gas prices compared to NYMEX. Additionally, realized NGL prices were significantly lower in the quarter, tracking the sharp decline in WCS oil prices. Lower

realized natural gas and NGL prices were partially offset by the 26% increase in realized oil prices, boosted by realized financial hedging gains of \$2.2 million (Q3 2019 – realized loss of \$1.1 million).

For the third quarter of 2020, royalties, production and operating expense, and transportation costs were significantly lower than the comparative period of 2019 on an absolute dollar basis, following the reduction in production volumes.

Perpetual's operating netback of \$4.6 million (\$3.26/boe) for the nine months ended September 30, 2020 decreased 86% from \$32.2 million (\$12.64/boe) in the comparative period of 2019, as a result of the combined impact of the 45% decrease in total Company production and the 36% decrease in realized revenue per boe.

Production

	Three months ended September 30,		Nine months ended September 30,	
	2020	2019	2020	2019
Natural gas (MMcf/d)				
Eastern Alberta	2.4	3.5	2.4	3.8
West Central	13.9	34.7	19.8	40.3
Total natural gas ⁽¹⁾	16.3	38.2	22.2	44.1
Crude oil (bbl/d)				
Eastern Alberta ⁽²⁾	1,184	1,291	1,021	1,200
West Central	9	1	8	7
Total crude oil	1,193	1,292	1,029	1,207
Total NGL (bbl/d) ⁽³⁾	273	731	382	757
Total production (boe/d)	4,188	8,383	5,106	9,324

⁽¹⁾ Natural gas production yielded a heat content of 1.17 GJ/Mcf for the three and nine months ended September 30, 2020 (2019 – 1.17). See "Commodity Prices" – Average Perpetual prices for the heat content premium relative to the AECO Daily Index.

⁽²⁾ Primarily heavy oil.

⁽³⁾ Primarily West Central liquids-rich gas.

Third quarter production averaged 4,188 boe/d, down 50% from 8,383 boe/d in the comparative period of 2019 due primarily to the sale of a 50% working interest in the East Edson property in West Central Alberta. The closing of the East Edson Transaction on April 1, 2020, combined with natural declines resulting from limited capital investment, reduced West Central production by 3,907 boe/d when compared to the third quarter of 2019. Production was lower than the 4,500 to 4,700 boe/d guidance released on July 31, 2020 with the Company's second quarter results as the two East Edson wells were tied-in to production later than forecast. Compared to the second quarter of 2020, total production increased by 14% or 526 boe/d, due to the reactivation of heavy oil production after the Company temporarily suspended production in response to low oil prices. In the third quarter of 2020, the production mix increased to 35% oil and NGL (Q3 2019 – 24% oil and NGL).

Third quarter natural gas production averaged 16.3 MMcf/d, down 57% from 38.2 MMcf/d in the comparative period of 2019. Natural gas production was impacted by the sale of a 50% working interest in the East Edson property, combined with the continued deferral of capital investment for drilling and completions in West Central during 2019 and the first half of 2020. Third quarter production at West Central declined just 108 boe/d from the second quarter of 2020 (Q2 2020 – 2,709 boe/d). Production from the first two East Edson carried interest wells (1.0 net) that started up in mid-September was offset by production shut-in for the five-day West Wolf Lake plant turnaround. Three additional East Edson carried interest wells (1.5 net) commenced drilling early in the fourth quarter and are expected to be on production in late November.

For the three months ended September 30, 2020, NGL production was 273 bbl/d, 63% lower than the comparative period of 2019, tracking lower natural gas production from East Edson. NGL yields at East Edson were 19.6 bbls per MMcf in the third quarter of 2020, consistent with 21.1 bbls per MMcf in the comparative period of 2019. Perpetual's average NGL sales composition for the third quarter of 2020 consisted of 61% condensate, comparable to the prior year period.

Crude oil production in Eastern Alberta was 8% lower than the third quarter of 2019, reflecting the continued shut-in of approximately 175 bbl/d of higher cost heavy oil production at Mannville which began in the second quarter of 2020 in response to the significant decline in global oil prices. The Company began reactivating certain low-cost heavy production in mid-May 2020 and has continued to ramp up production as oil prices recover. Ukalta production averaged 550 bbl/d in the third quarter of 2020 after being shut-in for much of the second quarter in response to the significant decline in crude oil prices.

For the nine months ended September 30, 2020, production decreased 45% to 5,106 boe/d compared to 9,324 boe/d in the prior year period. Production levels decreased through 2019 and the first half of 2020 with restricted capital spending in response to low and volatile Alberta natural gas prices, price-driven heavy oil shut-ins in the second quarter of 2020, and the April 1, 2020 50% working interest disposition of the East Edson property.

Commodity Prices

	Three months ended September 30,		Nine months ended September 30,	
	2020	2019	2020	2019
Reference prices				
NYMEX Daily Index (<i>US\$/MMBtu</i>)	1.98	2.23	1.88	2.67
AECO Daily Index (<i>\$/GJ</i>)	2.12	0.86	1.98	1.44
AECO Daily Index (<i>\$/Mcf</i>) ⁽¹⁾	2.24	0.91	2.09	1.52
Alberta Gas Reference Price (<i>\$/GJ</i>) ⁽²⁾	1.82	0.82	1.75	1.20
West Texas Intermediate ("WTI") light oil (<i>US\$/bbl</i>)	40.93	56.45	38.32	57.06
Western Canadian Select ("WCS") differential (<i>US\$/bbl</i>)	(9.09)	(12.24)	(13.69)	(11.73)
WCS average (<i>Cdn.\$/bbl</i>) ⁽³⁾	42.35	58.36	33.25	60.29
Average Perpetual prices				
Natural gas (<i>\$/Mcf</i>) ⁽¹⁾				
AECO Daily Index	2.24	0.91	2.09	1.52
Heat content premium ⁽⁴⁾	0.24	0.10	0.23	0.17
Market diversification contract	—	0.92	—	0.83
Realized gains (losses) on financial and physical gas derivatives ⁽⁶⁾	(2.40)	1.05	(1.62)	0.39
Realized gains (losses) on prompt month price optimization	(0.02)	0.15	(0.03)	0.08
Realized natural gas price (<i>\$/Mcf</i>) ⁽⁵⁾	0.06	3.13	0.67	2.99
Percent of AECO Daily Index (%)	3%	344%	32%	197%
Realized oil price (<i>\$/bbl</i>) ⁽⁵⁾	55.71	44.31	48.06	45.23
Realized NGL price (<i>\$/bbl</i>) ⁽⁵⁾	28.09	37.34	30.01	40.22

(1) Converted from $\$/GJ$ using a standard energy conversion rate of 1.06 GJ:1 Mcf.

(2) The Alberta Gas Reference Price is a representative market price for natural gas bought and sold within the province and is used to calculate Alberta Crown royalties.

(3) Derived internally using the Bank of Canada average foreign exchange rate of US\$1.00 = Cdn\$1.33 for the three months ended September 30, 2020 (Q3 2019 – \$1.32) and \$1.35 for the nine months ended September 30, 2020 (2019 – \$1.33).

(4) Realized natural gas prices are at a premium to the AECO Daily Index due to higher average heat content of 1.17 GJ/Mcf. For the three and nine months ended September 30, 2020, Perpetual received an 11% premium to the AECO Daily Index (three and nine months ended September 30, 2019 – 11%) related to its higher average heat content.

(5) Realized natural gas, oil and NGL prices include physical forward sales contracts for which delivery was made during the reporting period, along with realized gains and losses on financial derivatives and foreign exchange contracts.

(6) Realized losses in the third quarter of 2020 include \$1.0 million ($\$/Mcf$) from the modification of the market diversification contract for the November 1, 2020 to October 31, 2021 period. Realized gains in the third quarter of 2019 include \$2.7 million ($\$/Mcf$) from the elimination of the Company's 40,000 MMBtu/d market diversification contract obligations for the period of December 1, 2019 to October 31, 2020.

The third quarter of 2020 began with United States ("US") natural gas inventories approximately 341 Bcf above the 5-year average level. With global inventories of natural gas above historical averages, global LNG prices dropped to levels that resulted in low utilization of US LNG export capacity. Low global gas prices and above average hurricane activity in the Gulf of Mexico resulted in US LNG exports averaging only 4.3 Bcf/d for the period as compared to combined capabilities of 10.5 Bcf/d. Natural gas production declines began to take hold through the quarter, helping to restore the overall supply-demand balance. These factors led NYMEX natural gas prices to decrease 11% from US\$2.23/MMBtu for the third quarter of 2019 to US\$1.98/MMBtu in the third quarter of 2020. In comparison, the AECO Daily Index price increased 147% from \$0.86/GJ in the third quarter of 2019 to \$2.12/GJ in the third quarter of 2020. The increase in AECO pricing was due to significantly lower natural gas inventories as compared to the US, combined with the implementation of the Temporary Service Protocol by TC Energy for the April 1, 2020 through October 31, 2020 period which allowed prioritization of storage injections over firm receipt transportation contracts. AECO-NYMEX basis averaged US\$0.36/MMBtu for the third quarter of 2020 (Q3 2019 – US\$1.44/MMBtu).

The decrease in WTI to US\$40.93/bbl in the third quarter of 2020 (Q3 2019 – US\$56.45/bbl) was related to significantly lower global demand driven by the economic contraction caused by the COVID-19 pandemic. Compared to the second quarter of 2020, WTI prices traded in a much tighter range as OPEC+ production curtailments and demand recovery helped to reduce global stockpiles. As prices stabilized, North American production curtailments that were commenced in the second quarter began to ease, but drilling activity remained extremely low during the period.

The WCS differential tightened from an average US\$12.24/bbl in the third quarter of 2019 to US\$9.09/bbl in the third quarter of 2020, due to decreasing inventories of crude oil in Alberta. Production curtailments, facility turnarounds and natural production declines impacted the supply-demand balance in the province, and excess takeaway capacity was available resulting in historically strong WCS differentials. As WTI prices stabilized through the third quarter of 2020 and shut-in production gradually returned, the differential began to widen but still remained below historical levels.

Perpetual's realized natural gas price, including derivatives, decreased 98% to \$0.06/Mcf for the third quarter of 2020 from \$3.13/Mcf in the comparative period of 2019, and represented only 3% of the AECO Daily Index price compared to 344% in the prior year period. Compared to the AECO Daily Index, lower realized natural gas prices were the result of AECO-NYMEX basis hedging losses of \$2.6 million ($\$/Mcf$) on financial and physical contracts, which occurred as Western Canadian gas storage filled rapidly. During the second quarter of 2020, the Company closed out its remaining AECO-NYMEX basis hedge positions by entering into offsetting hedge arrangements for the remainder of 2020 (\$2.4 million unrealized loss) and 2021 (\$3.4 million unrealized loss). Realized losses on financial and physical gas derivatives, combined with prompt month price optimization operations decreased the realized price in the third quarter of 2020 by \$2.42/Mcf compared to the AECO Daily Index (Q3 2019 – increased the realized price by \$1.20/Mcf).

In the third quarter of 2020, the Company reduced its fixed volume obligations under the market diversification contract by 30,000 MMBtu/d to 10,000 MMBtu/d for the period commencing November 1, 2020 and ending on October 31, 2021 to align natural gas sales obligations with lower forecast production volumes following the East Edson Transaction. The modification resulted in a realized loss on derivatives of \$1.0 million ($\$/boe$) and reduced the Company's realized natural gas price by \$0.65/Mcf in the third quarter of 2020. In the third quarter of 2019, the

Company's 40,000 MMBtu/d market diversification contract obligations were eliminated for the period of December 1, 2019 to October 31, 2020, resulting in a \$2.7 million (\$3.50/boe) realized gain on derivatives. Perpetual's market diversification contract also contributed \$3.2 million or \$0.92/Mcf of incremental revenue over the AECO Daily Index price in the third quarter of 2019, on the relative strength of daily index prices at the five downstream markets compared to the AECO Daily Index. Subsequent to the third quarter of 2020, the Company reduced its fixed volume obligations under the market diversification contract by 14,600 MMBtu/d to 25,400 MMBtu/d for the period November 1, 2021 to October 31, 2022, resulting in a realized gain of \$0.5 million. Market diversification contract pricing is based on daily index prices at pricing hubs outside of Alberta (Chicago, Malin, Dawn, Michcon, Empress and Emerson) that generally track North American NYMEX prices. See "Natural Gas Sales Obligations" on page 16 of this MD&A for sales volume obligations by price hub. Approximately one third of 2021 forecast natural gas production and three quarters of 2022 forecast natural gas production is expected to be delivered to the market diversification contract with remaining production exposed to AECO prices.

During the third quarter of 2020, the average heat content conversion ratio for Perpetual's natural gas production was 1.17 GJ:1 Mcf, consistent with the comparative period of 2019. Natural gas production from East Edson yields higher heat content gas compared to Perpetual's other production areas.

Perpetual's realized oil price of \$55.71/bbl was 26% higher than the third quarter of 2019 and included realized hedging gains on crude oil derivative contracts of \$2.2 million or \$19.83/bbl (Q3 2019 – realized hedging losses of \$1.1 million or \$8.83/bbl). Excluding realized hedging gains, Perpetual's realized oil price was \$35.88/bbl in the third quarter of 2020, down 32% from \$53.14/bbl in the prior year period. Compared to the second quarter of 2020, Perpetual's realized oil price excluding hedging gains increased by 54% (\$12.64/bbl), attributable to a similar increase in WTI prices. WTI-WCS differential hedges remain in place for the remainder of 2020 on an average of 200 bbl/d at a fixed differential of US\$19.75/bbl. For 2021, the Company has fixed the WTI-WCS differential on 300 bbl/d at US\$13.25/bbl.

Perpetual's realized NGL price for the third quarter of 2020 was \$28.09/bbl, down 25% from the third quarter of 2019, reflecting a decrease in all NGL component prices which moved lower in concert with lower WTI light oil prices.

Revenue

(\$ thousands, except as noted)	Three months ended September 30,		Nine months ended September 30,	
	2020	2019	2020	2019
Petroleum and natural gas revenue				
Natural gas ⁽¹⁾	2,445	8,199	9,827	32,055
Oil	3,939	6,320	8,169	18,091
NGL	705	2,578	3,312	8,385
Total petroleum and natural gas revenue	7,089	17,097	21,308	58,531
Realized gains (losses) on derivatives ⁽²⁾	(181)	1,674	(570)	706
Realized revenue	6,908	18,771	20,738	59,237
Unrealized gains (losses) on derivatives	194	(9,182)	10,726	(18,524)
Total revenue	7,102	9,589	31,464	40,713
Realized revenue (\$/boe)	17.93	24.34	14.82	23.27
Total revenue (\$/boe)	18.43	12.43	22.49	15.99

⁽¹⁾ Includes revenues related to the market diversification contract and physical forward sales contracts which settled during the period.

⁽²⁾ Includes realized gains and losses on financial derivatives and certain financial prompt month price optimization contracts.

Perpetual's petroleum and natural gas ("P&NG") revenue, before financial derivatives, for the three months ended September 30, 2020 of \$7.1 million decreased 59% from the third quarter of 2019, due to the 50% decrease in average daily production combined with the impact of physical hedging losses on AECO-NYMEX basis natural gas contracts. For the nine-month period ended September 30, 2020, P&NG revenue decreased 64% compared to the prior year period, following the 45% decrease in average daily production combined with the decrease in crude oil and NGL reference prices along with physical AECO-NYMEX basis hedging losses.

Natural gas revenue, before financial derivatives, of \$2.4 million in the third quarter of 2020 comprised 34% (Q3 2019 – 48%) of total P&NG revenue while natural gas production was 65% (Q3 2019 – 76%) of total production. Natural gas revenue decreased 70% from \$8.2 million in the third quarter of 2019, reflecting the impact of the 57% decrease in natural gas production volumes driven by the East Edson Transaction. In the third quarter of 2019, the Company's 40,000 MMBtu/d market diversification contract was monetized for the period of December 1, 2019 to October 31, 2020 and therefore did not impact third quarter 2020 natural gas revenue. In the comparative period of 2019, the contract added \$3.2 million or \$0.92/Mcf of incremental revenue on the relative strength of daily index prices at the five downstream markets compared to the AECO Daily Index.

Oil revenue of \$3.9 million represented 56% (Q3 2019 – 37%) of total P&NG revenue while oil production was 28% (Q3 2019 – 15%) of total production. Oil revenue was 38% lower than the same period in 2019, due to the 27% decrease in both WTI light oil and WCS average prices, combined with the 8% decrease in crude oil production. During the third quarter of 2020, approximately 175 bbl/d of higher cost heavy oil production at Mannville remained shut-in, pending a sustained recovery of WTI oil prices. The 27% decrease in the WCS average price to \$42.35/bbl was due to the 27% decrease in the WTI light oil price, as WCS differentials tightened by 26% from US\$12.24/bbl to US\$9.09/bbl over the same period. For the nine months ended September 30, 2020, oil revenue decreased 55% compared to the prior year period, due primarily to the 45% decrease in the WCS average price to \$33.25/bbl (Q3 2019 – \$60.29/bbl), combined with temporary production shut-ins during the second and third quarters of 2020.

NGL revenue for the third quarter of 2020 was \$0.7 million, representing 10% (Q3 2019 – 15%) of total P&NG revenue while NGL production was 7% (Q3 2019 – 9%) of total Company production. NGL revenue decreased by 73% from the prior year period while NGL production decreased 63%, reflecting the decrease in all NGL component prices compared to the prior year period, following the decrease in WTI prices.

Realized losses on derivatives totaled \$0.2 million for the third quarter of 2020, compared to gains of \$1.7 million for the same period of 2019. The realized loss in the current period was comprised of \$2.4 million from natural gas derivatives (Q3 2019 – \$2.8 million gain), partially offset by realized gains of \$2.2 million from oil derivatives (Q3 2019 – \$1.1 million loss).

For the third quarter of 2020, Perpetual recorded an unrealized gain on derivatives of \$0.2 million (Q3 2019 – \$9.2 million unrealized loss). Unrealized gains and losses represent the change in mark-to-market value of derivative contracts as forward commodity prices and foreign exchange rates change. Unrealized gains and losses on derivatives are excluded from the Corporation's calculation of cash flow from operating activities as they are non-cash. Derivative gains and losses vary depending on the nature and extent of derivative contracts in place, which in turn, vary with the Corporation's assessment of commodity price risk, committed capital spending and other factors.

Royalties

(\$ thousands, except as noted)	Three months ended September 30,		Nine months ended September 30,	
	2020	2019	2020	2019
Crown	475	537	931	1,475
Freehold and overriding ⁽¹⁾	1,088	1,700	3,809	6,402
Total	1,563	2,237	4,740	7,877
Crown (% of P&NG revenue)	6.7	3.1	4.4	2.5
Freehold and overriding (% of P&NG revenue)	15.3	9.9	17.9	10.9
Total (% of P&NG revenue)	22.0	13.0	22.3	13.4
\$/boe	4.06	2.90	3.39	3.09

⁽¹⁾ Includes \$0.8 million in gross overriding royalty payments at East Edson for the three months ended September 30, 2020 (Q3 2019 – \$0.9 million) and \$3.0 million for the nine months ended September 30, 2020 (2020 – \$3.9 million).

Royalty expenses for the third quarter of 2020 were \$1.6 million, 30% lower than the comparative period of 2019 due to both lower production and P&NG revenue, partially offset by higher Alberta Gas Reference prices and AECO Daily Index prices which are used to calculate crown and freehold natural gas royalties, respectively. The combined average royalty rate on P&NG revenue increased to 22% in the third quarter of 2020 (Q3 2019 – 13%) due to the impact of the fixed volume East Edson gross overriding royalty on lower production. For the nine months ended September 30, 2020, royalties were \$4.7 million (2019 – \$7.9 million), 40% lower than the prior year period, for the same reasons noted above.

Crown royalties have decreased 12% from the third quarter of 2019, reflecting the impact of lower production (50% decrease) and lower WTI light oil prices (27% decrease), largely offset by the significant increase in Alberta Gas Reference prices over the same period (122% increase).

Freehold and overriding royalties have decreased 36% from the third quarter of 2019, due to the impact of the East Edson Transaction which closed on April 1, 2020, partially offset by higher AECO Daily Index prices. Prior to April 1, 2020, the East Edson gross overriding royalty was equivalent to a maximum 5.6 MMcf/d of natural gas and associated NGL production. As part of the East Edson Transaction, Perpetual agreed to retain the Purchaser's 50% working interest in the existing gross overriding royalty obligation on the property, equivalent to 2.8 MMcf/d of natural gas and associated NGL production for the period April 1, 2020 to December 31, 2022. This obligation has been recorded in the condensed interim consolidated statement of financial position under the heading "Royalty obligations". The retained East Edson royalty obligation is paid in-kind and settled through non-cash delivery of contractual natural gas and NGL volumes to the royalty holder.

For the nine months ended September 30, 2020, crown royalties decreased 37% compared to the prior year period. This decrease reflects the impact of lower production (45% decrease) and lower WTI light oil prices (33% decrease), partially offset by higher Alberta Gas Reference Prices (46% increase) compared to the prior year period.

Production and operating expenses

(\$ thousands, except as noted)	Three months ended September 30,		Nine months ended September 30,	
	2020	2019	2020	2019
Production and operating expenses	2,618	4,262	8,620	14,493
\$/boe	6.79	5.53	6.16	5.69

Total production and operating expenses were up 23% on a unit-of-production basis to \$6.79/boe for the third quarter of 2020, compared to \$5.53/boe for the comparable period of 2019. On an absolute dollar basis, production and operating costs were down by \$1.6 million (39%) over the prior year period. This decrease reflects the impact of the East Edson Transaction, the elimination of variable costs related to the ongoing shut-in of 175 bbl/d of higher cost heavy oil production at Mannville, and other cost mitigation initiatives.

West Central production and operating costs per boe increased by 68% to \$4.19/boe in the third quarter of 2020 (Q3 2019 – \$2.49/boe), due to \$0.3 million of costs associated with the five-day West Wolf Lake plant turnaround, combined with lower natural gas production. Eastern Alberta operating costs decreased 31% to \$11.07/boe over the same period (Q3 2019 – \$16.06/boe) as a result of the continued temporary shut-in of higher cost heavy oil production.

Transportation costs

<i>(\$ thousands, except as noted)</i>	Three months ended September 30,		Nine months ended September 30,	
	2020	2019	2020	2019
Transportation costs	761	1,541	2,813	4,707
\$/boe	1.98	2.00	2.01	1.85

Transportation costs include clean oil trucking and NGL transportation, as well as costs to transport natural gas from the plant gate to commercial sales points. Transportation costs in the third quarter of 2020 were \$0.8 million, down 51% from the prior year period of \$1.5 million. On a unit-of-production basis, company-wide transportation costs were largely unchanged, decreasing from \$2.00/boe in the third quarter of 2019 to \$1.98/boe in the same period of 2020. Effective July 31, 2020, Perpetual's natural gas firm transportation capacity was reduced from 25.5 MMcf/d to 15.4 MMcf/d, reducing unutilized demand charges at East Edson. Transportation costs averaged \$1.27/boe at West Central (Q3 2019 - \$1.76/boe) compared to \$3.12/boe for production from Eastern Alberta (Q3 2019 - \$2.84/boe).

Exploration and evaluation ("E&E") expenses

<i>(\$ thousands)</i>	Three months ended September 30,		Nine months ended September 30,	
	2020	2019	2020	2019
Lease rentals	90	87	145	138
Geological and geophysical costs	(3)	–	19	8
Lease expiries (non-cash)	–	779	65	840
Total E&E expense	87	866	229	986

Exploration and evaluation expenses include lease rentals on undeveloped acreage, geological and geophysical costs, and the write-down of carrying costs related to lease expiries. During the nine-month period ended September 30, 2020, the Company recorded \$0.1 million of non-cash write-downs (2019 – \$0.8 million) associated with certain P&NG leases deemed to no longer be part of Perpetual's future development plans.

General and administrative ("G&A") expenses

<i>(\$ thousands, except as noted)</i>	Three months ended September 30,		Nine months ended September 30,	
	2020	2019	2020	2019
Cash G&A expense	1,714	2,954	6,289	10,204
Overhead recoveries	(58)	(348)	(413)	(950)
Total G&A expense	1,656	2,606	5,876	9,254
\$/boe	4.30	3.38	4.20	3.64

During the third quarter of 2020, cash G&A expense was \$1.7 million, down 42% from the prior year period of \$3.0 million. The decrease was driven by the 25% reduction in Perpetual's corporate employee head count that was implemented late in the third quarter of 2019, combined with the reduction in work hours and corresponding compensation to 80% effective April 1, 2020. During the three and nine months ended September 30, 2020, the Company received payments through the Canada Emergency Wage Subsidy of \$0.5 million and \$1.0 million, respectively. For the nine months ended September 30, 2020, the grants were recognized as a reduction to general and administrative and production and operating expenses of \$0.9 million and \$0.1 million, respectively (2019 – nil).

Overhead recoveries decreased by 83% over the same period, due to reduced cash G&A expense and decreased capital expenditures associated with the Company's decision to defer capital spending until oil prices recover and stabilize.

On a unit-of-production basis, total G&A expense of \$4.30/boe for the third quarter of 2020 was up 27% from the prior year period, due to the impact of 50% lower production. For the nine months ended September 30, 2020, cash G&A expense was \$6.3 million, 38% lower than the prior year period of \$10.2 million for the same reasons noted above.

Share-based payments

<i>(\$ thousands, except as noted)</i>	Three months ended September 30,		Nine months ended September 30,	
	2020	2019	2020	2019
Share-based payments expense (non-cash)	98	(1,041)	413	283
Share-based payments expense (cash)	365	1,524	1,087	1,524
Total share-based payments	463	483	1,500	1,807

Share-based payments expense for the third quarter of 2020 was \$0.5 million, unchanged from the comparative period of 2019. No new awards were granted to employees in the third quarter of 2020, while 0.2 million deferred shares were granted to Directors of the Company. For the nine months ended September 30, 2020, share-based payments expense was \$1.5 million, 17% lower than the prior year period due to a reduction in the value of outstanding share-based payment awards.

Depletion and depreciation

(\$ thousands, except as noted)	Three months ended September 30,		Nine months ended September 30,	
	2020	2019	2020	2019
Depletion and depreciation	3,447	7,498	12,627	24,228
\$/boe	8.95	9.72	9.03	9.52

Perpetual recorded \$3.4 million of depletion and depreciation expense for the three months ended September 30, 2020, a decrease of 54% from the prior year period (Q3 2019 – \$7.5 million). The decrease reflects the 50% decline in production volumes compared to the prior year period. On a unit-of-production basis, depletion and depreciation expense decreased by 8% to \$8.95/boe (Q3 2019 – \$9.72/boe) due to non-cash impairments recognized in the fourth quarter of 2019 and the first quarter of 2020 (Q4 2019 – \$24.5 million; Q1 2020 – \$50.3 million).

Impairment

In accordance with IFRS, an impairment test is performed if the Company identifies an indicator of impairment. For the quarter ended September 30, 2020, the Company conducted an assessment of impairment indicators for the Company's cash-generating units ("CGUs"). There were no triggers identified and therefore, no impairments or impairment reversals recognized during the third quarter of 2020.

At March 31, 2020, management determined that the significant decline in global oil and natural gas prices, coupled with the considerable economic instability and uncertainty in the oil and natural gas markets which negatively impacts operating cash flows, justified calculation of the recoverable amount of the liquids-rich natural gas assets and heavy oil assets which comprise the West Central CGU and Eastern Alberta CGU, respectively. At March 31, 2020, the Company determined that the carrying amounts of the West Central CGU and Eastern Alberta CGU exceeded the estimated recoverable amounts and accordingly, a non-cash impairment charge of \$50.3 million was included in net loss.

E&E assets are tested for impairment both at the time of any triggering facts and circumstances as well as upon their eventual reclassification to oil and natural gas properties in property, plant and equipment. For the three months ended September 30, 2020, the Company conducted an assessment of impairment indicators for the Company's E&E assets. There were no triggers identified and therefore, no impairments or impairment reversals recognized during the third quarter of 2020.

At March 31, 2020, management determined that the significant decline in global oil and natural gas prices, coupled with the considerable economic instability and uncertainty in the oil and natural gas industry, justified calculation of the recoverable amount of certain undeveloped lands classified as E&E. As a result, the carrying value of the undeveloped lands was written down to the estimated recoverable amount, resulting in a non-cash impairment charge of \$10.2 million.

Finance expenses

(\$ thousands)	Three months ended September 30,		Nine months ended September 30,	
	2020	2019	2020	2019
Cash finance expense				
Interest on revolving bank debt	270	752	1,369	2,092
Interest on TOU share margin demand loan	–	99	–	335
Interest on term loan	911	911	2,724	2,709
Interest on senior notes	735	734	2,205	2,186
Interest on lease liabilities	44	47	134	145
Dividend income from TOU share investment	–	(199)	–	(563)
Total cash finance expense	1,960	2,344	6,432	6,904
Non-cash finance expense				
Amortization of debt issue costs	429	323	1,171	861
Accretion on decommissioning obligations	81	179	347	590
Change in fair value of royalty obligations	1,683	254	2,219	615
Total non-cash finance expense	2,193	756	3,737	2,066
Finance expenses recognized in net loss	4,153	3,100	10,169	8,970

Total cash finance expense of \$2.0 million for the three months ended September 30, 2020 was 16% lower than the prior year period (Q3 2019 – \$2.3 million), due to decreased interest expense on the reserve-based Credit Facility associated with lower average borrowings and lower floating interest rates.

In January 2020, the Company sold its remaining 1,000,000 TOU share investment and used the net cash proceeds of \$14.3 million to repay the remaining \$0.1 million TOU share margin demand loan, with the balance used to repay a portion of the Credit Facility. Accordingly, the Company no longer receives dividend income from its TOU share investment or incurs interest expense on the TOU share margin demand loan.

Total non-cash finance expense for the three months ended September 30, 2020 was \$2.2 million (Q3 2019 – \$0.8 million). An increase in the fair value of the royalty obligations of \$1.7 million was recorded in the third quarter of 2020 due to higher AECO future natural gas prices, resulting in a fair value at September 30, 2020 of \$8.2 million.

LIQUIDITY AND CAPITAL RESOURCES

Perpetual's strategy targets the maintenance of a strong capital base to retain investor, creditor and market confidence to support the execution of its business plans. The Company manages its capital structure and adjusts its capital spending in light of changes in economic conditions such as depressed commodity prices, available liquidity, and the risk characteristics of its underlying oil and natural gas assets. The Company considers its capital structure to include share capital, senior notes, the term loan, revolving bank debt, and net working capital. To manage its capital structure and available liquidity, the Company may from time to time issue equity or debt securities, sell assets, and adjust its capital spending to manage current and projected debt levels. The Company will continue to regularly assess changes to its capital structure and repayment alternatives, with considerations for both short-term liquidity and long-term financial sustainability.

Capital management

<i>(\$ thousands, except as noted)</i>	September 30, 2020	December 31, 2019
Revolving bank debt	15,089	47,552
Term loan, principal amount	45,000	45,000
TOU share margin demand loan, principal amount	–	100
Senior notes, principal amount	33,580	33,580
TOU share investment ⁽¹⁾	–	(15,220)
Net working capital deficiency ⁽²⁾	8,383	7,068
Net debt ⁽²⁾	102,052	118,080
Shares outstanding at end of period (<i>thousands</i>) ⁽³⁾	61,253	60,513
Market price at end of period (<i>\$/share</i>)	0.08	0.07
Market value of shares	4,900	4,236
Enterprise value ⁽²⁾	106,952	122,316
Net debt as a percentage of enterprise value (%)	95	97
Trailing twelve-months adjusted funds flow ⁽²⁾	(8,687)	14,534
Net debt to trailing twelve-months adjusted funds flow (<i>times</i>)	N/A	8.1

⁽¹⁾ The TOU share investment is valued based on the December 31, 2019 closing price per the Toronto Stock Exchange (\$15.22 per share) and 1.0 million TOU shares held.

⁽²⁾ See "Non-GAAP measures" in this MD&A.

⁽³⁾ Shares outstanding are presented net of shares held in trust.

At September 30, 2020, Perpetual had total net debt of \$102.1 million, down \$16.0 million (14%) from December 31, 2019 due to the closing of the East Edson Transaction on April 1, 2020 for consideration including net cash proceeds of \$34.8 million. The cash proceeds from the East Edson Transaction were used to repay bank debt. Compared to June 30, 2020, net debt increased by \$3.5 million (4%) due to increased draws on the reserve-based Credit Facility to fund net working capital payments and cash flows used in operating activities.

Perpetual had available liquidity at September 30, 2020 of \$3.6 million, comprised of the \$20 million Credit Facility Borrowing Limit, less current borrowings and letters of credit of \$15.1 million and \$1.3 million, respectively. Subsequent to quarter end, Perpetual has reduced its outstanding letters of credit to \$0.9 million.

Revolving bank debt

As at September 30, 2020, the Company's reserve-based Credit Facility had a Borrowing Limit of \$20.0 million (December 31, 2019 – \$55.0 million) under which \$15.1 million was drawn (December 31, 2019 – \$47.6 million) and \$1.3 million of letters of credit had been issued (December 31, 2019 – \$2.3 million). Borrowings under the Credit Facility bear interest at its lenders' prime rate or Banker's Acceptance rates, plus applicable margins and standby fees. The applicable Banker's Acceptance margins range between 3.0% and 5.5%. The effective interest rate on the Credit Facility at September 30, 2020 was 6.0%. For the period ended September 30, 2020, if interest rates changed by 1% with all other variables held constant, the impact on annual cash finance expense and net loss would be \$0.2 million.

Effective April 1, 2020, Perpetual's syndicate of Credit Facility lenders completed their borrowing base redetermination, incorporating the impact of the East Edson Transaction. The Borrowing Limit was reduced from \$45 million to \$20 million. On October 30, 2020, the \$20 million Borrowing Limit was confirmed, with the next Borrowing Limit redetermination scheduled on or prior to November 30, 2020. If not extended by November 30, 2020, the credit facility will cease to revolve, and all outstanding advances will be repayable. As a result, revolving bank debt has been presented as a current liability on the condensed interim consolidated statements of financial position as at September 30, 2020. Previously, on December 24, 2019, Perpetual's syndicate of Credit Facility lenders completed their semi-annual borrowing base redetermination, reducing the Borrowing Limit from \$55 million to \$45 million on January 22, 2020.

The Credit Facility is secured by general, first lien security agreements covering all present and future property of the Company and its subsidiaries, with the exception of certain lands pledged to the gas over bitumen royalty financing counterparty. The Credit Facility also contains provisions which restrict the Company's ability to repay second lien and unsecured debt and to pay dividends on or repurchase its common shares.

At September 30, 2020, the Credit Facility was not subject to any financial covenants and the Company was in compliance with all customary non-financial covenants.

Term loan

	Maturity date	Interest rate	September 30, 2020		December 31, 2019	
			Principal	Carrying Amount	Principal	Carrying amount
Term loan	March 14, 2021	8.1%	\$ 45,000	\$ 44,714	\$ 45,000	\$ 44,274

The term loan bears a fixed interest rate of 8.1% with semi-annual interest payments due June 30 and December 31 of each year. Amounts borrowed under the term loan that are repaid are not available for re-borrowing. The Company may repay the term loan at any time without penalty. The term loan matures and is repayable on March 14, 2021 and has been presented as a current liability on the condensed interim consolidated statement of financial position as at September 30, 2020.

The term loan has a cross-default provision with the Credit Facility and contains substantially similar provisions and covenants as the Credit Facility. The term loan is secured by a general security agreement over all present and future property of the Company and its subsidiaries on a second priority basis, subordinate only to liens securing loans under the Credit Facility, and certain lands pledged to the gas over bitumen royalty financing counterparty.

At September 30, 2020, the term loan is presented net of \$0.3 million in issue costs which are amortized over the remaining term of the loan using a weighted average effective interest rate of 9.5%.

At September 30, 2020, the term loan was not subject to any financial covenants and the Company was in compliance with all customary non-financial covenants.

Senior notes

	Maturity date	Interest rate	September 30, 2020		December 31, 2019	
			Principal	Carrying Amount	Principal	Carrying amount
2022 Senior Notes	January 23, 2022	8.75%	\$ 33,580	\$ 32,702	\$ 33,580	\$ 32,255

The 2022 Senior Notes bear a fixed interest rate of 8.75% with semi-annual interest payments due January 23 and July 23 of each year. The senior notes are direct senior unsecured obligations of the Company, ranking pari passu with all other present and future unsecured and unsubordinated indebtedness of the Company. Prior to January 23, 2021, the Company may redeem up to 100% of the senior notes at 103.3% of the principal amount. Subsequent to January 23, 2021, the Company may redeem up to 100% of the senior notes at the principal amount.

At September 30, 2020, the 2022 Senior Notes are recorded at the present value of future cash flows, net of issue and principal discount costs which are amortized over the remaining term using a weighted average effective interest rate of 10.9%.

The senior notes have a cross-default provision with the Company's Credit Facility. In addition, the senior notes indenture contains restrictions on certain payments including dividends, retirement of subordinated debt, and stock repurchases. At September 30, 2020, other than the restricted payment covenants noted above, the senior notes were not subject to any financial covenants and the Company was in compliance with all customary non-financial covenants.

Entities controlled by the Company's CEO hold \$14.6 million of the 2022 Senior Notes outstanding. An entity that is associated with the Company's CEO holds an additional \$9.1 million of the 2022 Senior Notes outstanding.

Equity

At September 30, 2020 there were 61.3 million common shares outstanding, net of 0.6 million shares held in trust to resource employee compensation programs. During the nine months ended September 30, 2020, no shares were purchased by the independent trustee to be held in trust (2019 – 0.8 million shares). Basic and diluted weighted average shares outstanding for the three months ended September 30, 2020 were 61.2 million (Q3 2019 – 60.3 million) and 60.9 million for the nine months ended September 30, 2020 (2019 – 60.2 million).

At November 10, 2020 there were 61.3 million common shares outstanding which is net of 0.6 million shares held in trust for employee compensation programs. In addition, the following potentially issuable common shares were outstanding as at the date of this MD&A:

(millions)	November 10, 2020
Compensation awards	7.6
Share options	5.4
Performance share rights	3.4
Total ⁽¹⁾	16.4

⁽¹⁾ 4.6 million compensation awards, 0.9 million share options, and 3.4 million performance share rights have an exercise price below the September 30, 2020 closing price of the Company's common shares of \$0.08 per share.

SUMMARY OF QUARTERLY RESULTS

<i>(\$ thousands, except as noted)</i>	Q3 2020	Q2 2020	Q1 2020	Q4 2019
Financial				
Oil and natural gas revenue	7,089	3,722	10,497	15,830
Net loss	(7,491)	(8,831)	(59,718)	(32,498)
Per share – basic and diluted	(0.12)	(0.15)	(0.98)	(0.54)
Cash flow from (used in) operating activities	(2,538)	(2,777)	(3,114)	(1,290)
Adjusted funds flow ⁽¹⁾	(2,098)	(3,328)	(3,601)	340
Per share – basic and diluted	(0.03)	(0.05)	(0.06)	0.01
Capital expenditures	251	(11)	5,233	1,995
Net payments (proceeds) on acquisitions and dispositions	133	(34,661)	–	–
Net capital expenditures	384	(34,672)	5,233	1,995
Common shares (thousands)				
Weighted average – basic and diluted	61,200	60,776	60,674	60,444
Operating				
Daily average production				
Natural gas (MMcf/d)	16.3	16.9	33.3	36.6
Oil (bbl/d)	1,193	573	1,320	1,275
NGL (bbl/d)	273	268	606	606
Total (boe/d)	4,188	3,662	7,479	7,991
Average prices				
Realized natural gas price (\$/Mcf) ⁽²⁾	0.06	0.28	1.16	2.00
Realized oil price (\$/bbl) ⁽²⁾	55.71	67.56	32.60	43.85
Realized NGL price (\$/bbl) ⁽²⁾	28.09	17.35	36.48	43.93

<i>(\$ thousands, except as noted)</i>	Q3 2019	Q2 2019	Q1 2019	Q4 2018 ⁽³⁾
Financial				
Oil and natural gas revenues	17,097	19,235	22,199	21,510
Net loss	(20,349)	(36,276)	(4,892)	(331)
Per share – basic and diluted	(0.34)	(0.60)	(0.08)	(0.01)
Cash flow from operating activities	5,509	4,295	9,292	5,163
Adjusted funds flow ⁽¹⁾	4,183	3,649	6,362	8,052
Per share – basic and diluted	0.07	0.06	0.11	0.13
Capital expenditures	4,506	5,200	1,238	5,617
Net payments (proceeds) on acquisitions and dispositions	–	–	–	(1,285)
Net capital expenditures	4,506	5,200	1,238	4,332
Common shares (thousands)				
Weighted average – basic and diluted	60,317	60,154	60,111	60,448
Operating				
Daily average production				
Natural gas (MMcf/d)	38.2	44.5	50.0	44.9
Oil (bbl/d)	1,292	1,207	1,121	1,301
NGL (bbl/d)	731	754	785	715
Total (boe/d)	8,383	9,370	10,240	9,491
Average prices				
Realized natural gas price (\$/Mcf) ⁽²⁾	3.13	2.25	3.54	4.38
Realized oil price (\$/bbl) ⁽²⁾	44.31	50.01	41.12	19.83
Realized NGL price (\$/bbl) ⁽²⁾	37.34	51.34	32.16	35.73

⁽¹⁾ See “Non-GAAP measures” in this MD&A.

⁽²⁾ Realized natural gas, oil, and NGL prices include physical forward sales contracts for which delivery was made during the reporting period, along with realized gains and losses on financial derivatives and foreign exchange contracts.

⁽³⁾ IFRS 16 was adopted January 1, 2019 using the modified retrospective approach; therefore, comparative information has not been restated. Refer to the recently adopted accounting pronouncements section in the Company’s MD&A for the year ended December 31, 2019.

The Company’s oil and natural gas revenue, net loss, cash flow from (used in) operating activities and adjusted funds flow are influenced by commodity prices and production levels. Natural gas production levels decreased during 2018 and 2019 due to natural declines and reduced capital expenditures in response to depressed AECO natural gas prices, and due to the shut-in of approximately 700 boe/d of production during the third and fourth quarters of 2018 at East Edson associated with the Sequoia bankruptcy. This production was restarted in mid-December 2018, causing natural gas production to increase temporarily in the first quarter of 2019. The disposition of a 50% working interest in the East Edson property which closed on April 1, 2020 for net cash consideration of \$34.8 million, further reduced natural gas production in the second and third quarters of 2020. Oil-focused capital expenditures increased beginning in the second quarter of 2019, as improved oil prices and differentials supported investment. In response to the significant decline in global oil prices which began in March 2020, oil-focused capital expenditures and high-cost production was temporarily suspended, pending a recovery of oil prices. Oil production was restarted mid-way through the second quarter, following the recovery of oil prices.

Commodity price risk management and sales obligations

Perpetual's commodity price risk management strategy is focused on managing downside risk and increasing certainty in adjusted funds flow by mitigating the effect of commodity price volatility. Physical forward sales contracts and financial derivatives are used to manage the balance sheet, to lock in economics on capital programs and to take advantage of perceived anomalies in commodity markets. Perpetual also utilizes foreign exchange derivatives and physical or financial derivatives related to the differential between natural gas prices at the AECO and NYMEX trading hubs and oil basis differentials between WTI and WCS in order to mitigate the effects of fluctuations in foreign exchange rates and basis differentials on the Corporation's realized revenue. Diversification of markets is a further risk management strategy employed by the Company.

The following tables provide a summary of open commodity price risk management contracts outstanding at November 10, 2020:

Crude Oil

The following table provides a summary of basis differential contracts between WTI and WCS:

Term	Volumes sold (bought) (bbl/d)	WTI-WCS differential (US\$/bbl)	Market prices (US\$/bbl) ⁽¹⁾	Type of contract
October 2020 – December 2020	200	(19.75)	(9.71)	Financial
January 2021 – December 2021	300	(13.25)	(12.80)	Physical

⁽¹⁾ Market prices for October and November are based on settled WTI-WCS differential prices. Market prices for subsequent months are based on forward WTI-WCS differential prices as of market close on November 10, 2020.

Natural Gas Sales Obligations

In July 2020, the Company reduced its fixed volume obligations by 30,000 MMBtu/d for the period commencing November 1, 2020 and ending on October 31, 2021. In October 2020, the Company reduced its fixed volume obligations by 14,600 MMBtu/d for the period commencing November 1, 2021 and ending October 31, 2022 in consideration for the receipt of \$0.5 million over the term of the associated contract volumes.

Natural gas volumes sold pursuant to the Company's market diversification contract are sold at fixed volume obligations and priced at daily index prices at each of the market price points, less transportation costs from AECO to each market price point as detailed below.

Market/Pricing Point	November 1, 2020 to October 31, 2021 Daily sales volume (MMBtu/d)	November 1, 2021 to October 31, 2022 Daily sales volume (MMBtu/d)	November 1, 2022 to October 31, 2024 Daily sales volume (MMBtu/d)
Chicago	4,000	12,200	–
Malin	–	–	15,000
Dawn	6,000	8,000	15,000
Michcon	–	5,200	–
Empress	–	–	–
Emerson	–	–	10,000
Total natural gas sales volume obligation	10,000	25,400	40,000

OFF BALANCE SHEET ARRANGEMENTS

Perpetual has no off balance sheet arrangements.

CHANGES IN ACCOUNTING POLICIES

Government grants

Government grants are recognized when there is reasonable assurance that the grant will be received, and all attached conditions will be complied with. When the grant relates to an expense item, it is recognized as an expense reduction in the period in which the costs are incurred. Government grants related to income are recorded as other income in the period in which eligible expenses were incurred or when the services have been performed. During the three and nine months ended September 30, 2020, the Company received government grants through the Canada Emergency Wage Subsidy of \$0.5 million and \$1.0 million, respectively. For the nine months ended September 30, 2020, the grants were recognized as a reduction to general and administrative and production and operating expenses of \$0.9 million and \$0.1 million, respectively (2019 – nil).

ACCOUNTING PRONOUNCEMENTS

Amendments to IFRS 3 "Business Combinations"

On January 1, 2020, the Company adopted the amendments to the definition of a business in IFRS 3 Business Combinations. The amendments are intended to assist entities in determining whether a transaction should be accounted for as a business combination or as an asset acquisition. IFRS 3 continues to adopt a market participant's perspective to determine whether an acquired set of activities and assets is a business. The amendments clarify the minimum requirements for a business; remove the assessment of whether market participants are capable of replacing any missing elements; add guidance to help entities assess whether an acquired process is substantive; narrow the definitions of a business and of outputs; and introduce an optional fair value concentration test.

No business combinations were completed during the three and nine-month periods ended September 30, 2020.

CORPORATE GOVERNANCE

The Corporation is committed to maintaining high standards of corporate governance. Each regulatory body, including the Toronto Stock Exchange and the Canadian provincial securities commissions, has a different set of rules pertaining to corporate governance. The Corporation fully conforms to the rules of the governing bodies under which it operates.

INTERNAL CONTROLS AND PROCEDURES

Evaluation of disclosure controls and procedures

There were no changes in the Corporation's internal control over financial reporting during the period beginning on July 1, 2020 and ended September 30, 2020 that have materially affected, or are reasonably likely to materially affect, internal control over financial reporting.

FORWARD-LOOKING INFORMATION AND STATEMENTS: Certain information and statements contained in this MD&A including management's assessment of future plans and operations, and including the information contained under the headings "Future Operations" and "Outlook" may constitute forward-looking information and statements within the meaning of applicable securities laws. This information and these statements relate to future events or to future performance. All statements other than statements of historical fact may be forward-looking information and statements. The use of any of the words "anticipate", "continue", "estimate", "expect", "may", "will", "project", "should", "believe", "outlook", "guidance", "objective", "plans", "intends", "targeting", "could", "potential", "strategy" and any similar expressions are intended to identify forward-looking information and statements.

In particular, but without limiting the foregoing, this MD&A contains forward-looking information and statements pertaining to the following: the potential outcome of the Sequoia Litigation, the ability to extend the Credit Facility or to refinance its term debt on favorable terms; the quantity and recoverability of Perpetual's reserves; the timing and amount of future production; future prices as well as supply and demand for natural gas, NGL and crude oil; the existence, operations and strategy of the commodity price risk management program; the approximate amount of forward sales and financial contracts to be employed, and the value of financial forward natural gas, oil and other risk management contracts; net income (loss) and adjusted funds flow sensitivities to commodity price, production, foreign exchange and interest rate changes; production and operating, general and administrative ("G&A"), and other expenses; the costs and timing of future abandonment and reclamation, asset retirement and environmental obligations; the use of exploration and development activity, prudent asset management, and acquisitions to sustain, replace or add to reserves and production or expand the Corporation's asset base; the Corporation's acquisition and disposition strategy and the existence of acquisition and disposition opportunities, the criteria to be considered in connection therewith and the benefits to be derived therefrom; Perpetual's ability to benefit from the combination of growth opportunities and the ability to grow through the capital expenditure program; expected compliance with credit facility and term loan covenants in 2020 and 2021; expected book value and related tax value of the Corporation's assets and prospect inventory and estimates of net asset value; adjusted funds flow; ability to fund exploration and development; the corporate strategy; expectations regarding Perpetual's access to capital to fund its acquisition, exploration and development activities; the effect of future accounting pronouncements and their impact on the Corporation's financial results; future income tax and its effect on adjusted funds flow; intentions with respect to preservation of tax pools and taxes payable by the Corporation; funding of and anticipated results from capital expenditure programs; renewal of and borrowing costs associated with the credit facility; future debt levels, financial capacity, liquidity and capital resources; future contractual commitments; drilling, completion, facilities, construction and waterflood plans, and the effect thereof; the impact of Canadian federal and provincial governmental regulation on the Corporation relative to other issuers; Crown royalty rates; Perpetual's treatment under governmental regulatory regimes; business strategies and plans of management including future changes in the structure of business operations and debt reduction initiatives; and the reliance on third parties in the industry to develop and expand Perpetual's assets and operations.

Various assumptions were used in drawing the conclusions or making the forecasts and projections in the forward-looking information contained in this MD&A, which assumptions are based on management's analysis of historical trends, experience, current conditions and expected future developments pertaining to Perpetual and the industry in which it operates as well as certain assumptions regarding the matters outlined above. Forward-looking information is based on current expectations, estimates and projections that involve a number of known and unknown risks, including, without limitation, the impact of COVID-19 as further described below, which could cause actual results to vary and in some instances to differ materially from those anticipated by Perpetual and described in the forward-looking information contained in this MD&A. In particular and without limitation of the foregoing, the recent outbreak of COVID-19 has had a negative impact on global financial conditions. Perpetual cannot accurately predict the impact COVID-19 will have on its ability to execute its business plans in response to government public health efforts to contain COVID-19 and to obtain financing or third parties' ability to meet their contractual obligations with Perpetual including due to uncertainties relating to the ultimate geographic spread of the virus, the severity of the disease, the duration of the outbreak, and the length of travel and quarantine restrictions imposed by governments of affected jurisdictions; and the current and future demand for oil and gas. In the event that the prevalence of COVID-19 continues to increase (or fears in respect of COVID-19 continue to increase), governments may increase regulations and restrictions regarding the flow of labour or products, and travel bans, and Perpetual's operations, service providers and

customers, and ability to advance its business plan or carry out its top strategic priorities, could be adversely affected. In particular, should any employees, consultants or other service providers of Perpetual become infected with COVID-19 or similar pathogens, it could have a material negative impact on Perpetual's operations, prospects, business, financial condition and results of operations. Undue reliance should not be placed on forward-looking information, which is not a guarantee of performance and is subject to a number of risks or uncertainties, including without limitation those described herein and under "Risk Factors" in Perpetual's Annual Information Form and MD&A for the year ended December 31, 2019 and in other reports on file with Canadian securities regulatory authorities which may be accessed through the SEDAR website (www.sedar.com) and at Perpetual's website (www.perpetualenergyinc.com).

The forward-looking information and statements contained in this MD&A reflect several material factors, expectations and assumptions of the Corporation including, without limitation, that Perpetual will conduct its operations in a manner consistent with its expectations and, where applicable, consistent with past practice; the general continuance of current or, where applicable, assumed industry conditions; the continuance of existing, and in certain circumstances, the implementation of proposed tax, royalty and regulatory regimes; the ability of Perpetual to obtain equipment, services, and supplies in a timely manner to carry out its activities; the accuracy of the estimates of Perpetual's reserve and resource volumes; the timely receipt of required regulatory approvals; certain commodity price and other cost assumptions; the timing and costs of storage facility and pipeline construction and expansion and the ability to secure adequate product transportation; the continued availability of adequate debt and/or equity financing and adjusted funds flow to fund the Corporation's capital and operating requirements as needed; and the extent of Perpetual's liabilities.

The Corporation believes the material factors, expectations and assumptions reflected in the forward-looking information and statements are reasonable, but no assurance can be given that these factors, expectations and assumptions will prove to be correct. The forward-looking information and statements included in this MD&A are not guarantees of future performance and should not be unduly relied upon. Such information and statements involve known and unknown risks, uncertainties and other factors that may cause actual results or events to differ materially from those anticipated in such forward-looking information or statements including, without limitation: volatility in market prices for oil and natural gas products; supply and demand regarding Perpetual's products; risks inherent in Perpetual's operations, such as production declines, unexpected results, geological, technical, or drilling and process problems; unanticipated operating events that can reduce production or cause production to be shut-in or delayed; changes in exploration or development plans by Perpetual or by third party operators of Perpetual's properties; reliance on industry partners; uncertainties or inaccuracies associated with estimating reserves volumes; competition for, among other things; capital, acquisitions of reserves, undeveloped lands, skilled personnel, equipment for drilling, completions, facilities and pipeline construction and maintenance; increased costs; incorrect assessments of the value of acquisitions; increased debt levels or debt service requirements; industry conditions including fluctuations in the price of natural gas and related commodities; royalties payable in respect of Perpetual's production; governmental regulation of the oil and gas industry, including environmental regulation; fluctuation in foreign exchange or interest rates; the need to obtain required approvals from regulatory authorities; changes in laws applicable to the Corporation, royalty rates, or other regulatory matters; general economic conditions in Canada, the United States and globally; stock market volatility and market valuations; limited, unfavorable, or a lack of access to capital markets, and certain other risks detailed from time to time in Perpetual's public disclosure documents. In addition, defence costs of legal claims can be substantial, even with respect to claims that have no merit and due to the inherent uncertainty of the litigation process, the resolution of the legal proceedings to which the Company has become subject could have a material effect on the Company's financial position and results of operations.

Readers are cautioned that the foregoing list of risk factors is not exhaustive. Forward-looking information is based on the estimates and opinions of Perpetual's management at the time the information is released, and Perpetual disclaims any intent or obligation to update publicly any such forward-looking information, whether as a result of new information, future events or otherwise, other than as expressly required by applicable securities law.