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, 2023, 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, 2023 as well as the audited consolidated financial statements and accompanying notes for the year ended December 31, 2022. Disclosure which is unchanged from the December 31, 2022 MD&A has not been duplicated herein. The Corporation's unaudited condensed interim 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"). The date of this MD&A is November 2, 2023.

This MD&A contains certain specified financial measures that are not recognized by GAAP and used by management to evaluate the performance of the Corporation and its business. Since certain specified financial measures may not have a standardized meaning, securities regulations require that specified financial measures are clearly defined, qualified and, where required, reconciled with their nearest GAAP measure. See "Non-GAAP and Other Financial Measures" for further information on the definition, calculation and reconciliation of these measures. This MD&A also contains forward-looking information. See "Forward-Looking Information and Statements". See also the other advisory sections in this MD&A for additional information.

Perpetual is an oil and natural gas exploration, production and marketing company headquartered in Calgary, Alberta. Additional information on Perpetual, including the most recently filed Annual Information Form, can be accessed at SEDAR+ at www.sedarplus.ca or from the Corporation's website at www.perpetualenergyinc.com.

SUBSEQUENT EVENTS

Subsequent to the end of the third quarter, on October 17, 2023, Perpetual announced that it had entered into a definitive Agreement with a private operator to sell certain assets at Mannville in Eastern Alberta for gross proceeds of $35.8 million in cash, prior to customary purchase price adjustments (the "Mannville Transaction"). The Mannville Transaction is expected to close on, or about, November 22, 2023 with a September 1, 2023 effective date. The properties included in the Mannville Transaction comprise substantially all of the production attributed to the Company's Eastern Alberta cash-generating-unit which averaged 1,431 boe/d (66% conventional heavy oil) during the third quarter of 2023. Proceeds from the Mannville Transaction will be used to reduce bank debt and manage future maturities on the Company's Term Loan and Senior Notes and other obligations as they come due, as well as provide Perpetual with the liquidity to invest in its remaining assets at East Edson and pursue other new venture opportunities.

Concurrent with the announcement of the Mannville Transaction, Perpetual announced it had completed the semi-annual borrowing base redetermination for its bank credit facility. Inclusive of the impact of the Mannville Transaction, the borrowing limit on Perpetual's credit facility was reconfirmed at $30.0 million by the Company's bank lending syndicate, with the next borrowing limit redetermination scheduled on or prior to May 31, 2024.

THIRD QUARTER 2023 OPERATIONAL AND FINANCIAL HIGHLIGHTS

- Perpetual's capital expenditures(1) in the third quarter of 2023 were $7.3 million to drill, complete, equip and tie-in a two (1.0 net) well pad at East Edson targeting the Wilrich formation. In addition, $0.9 million was spent on asset retirement obligations ("ARO") during the third quarter to abandon wells that had reached their end of life and execute surface lease reclamation activities.

- Third quarter average production was 6,570 boe/d(2), up 12% from the comparative period of 2022 (Q3 2022 – 5,882 boe/d) and essentially flat sequentially quarter-over-quarter (Q2 2023 – 6,532 boe/d). During the third quarter of 2023, there were production increases from the two (1.0 net) additional wells drilled, completed and brought on production during the quarter at East Edson. The Company is on track to achieve its 2023 production guidance as updated for the Mannville Transaction of 6,200 to 6,400 boe/d as a result of strong well performance from the new East Edson drills.

- Oil and natural gas revenue for the third quarter of 2023 was $17.5 million, 23% lower than the third quarter of 2022 due to lower reference prices for all products despite the 12% production increase. Revenue inclusive of a $4.3 million realized gain on risk management contracts for the third quarter of 2023 was $21.8 million, 12% lower than $24.7 million in the third quarter of 2022 (which included a $2.1 million realized gain on risk management contracts). Third quarter revenue increased 15% from the second quarter of 2023 as realized prices increased on higher prices for all products. Realized prices after gains on risk management contracts(1) increased 38% relative to the second quarter.

- Adjusted funds flow(1) in the third quarter of 2023 was $9.1 million ($0.14/share), down $0.5 million (5%) from $9.6 million ($0.15/share) in the third quarter of 2022. Adjusted funds flow on a unit-of-production basis was $15.10/boe, a 15% decrease from the $17.82/boe in the third quarter of 2022, driven by the decrease in commodity prices, partially offset by realized gains on risk management contracts and cost efficiencies related to higher production volumes.

- Cash costs(1) were $9.8 million or $16.16/boe in the third quarter of 2023, up 8% (up 4% on a unit-of-production basis) from the comparative period (Q3 2022 – $9.1 million or $16.78/boe). The increase was due to higher net operating costs, including carbon taxes, and transportation costs. In addition, general and administrative ("G&A") expenses increased 15% due to higher professional fees related to legal, consulting and computer services and interest costs increased 10% on higher interest rates being applied to higher outstanding bank debt.

- Net income for the third quarter of 2023 was $3.7 million (Q3 2022 – $8.2 million net income). Net income in the third quarter of 2023 was attributable to the same factors that impacted adjusted funds flow along with a $0.9 million deferred income tax expense.

- As at September 30, 2023, net debt(1) was $55.3 million, a decrease of $0.4 million from $55.7 million at December 31, 2022, attributable to lower capital spending and modest free funds flow during 2023.

- Perpetual had available liquidity (see "Liquidity and Capital Resources - Capital Management") at September 30, 2023 of $13.6 million, comprised of the $30.0 million borrowing limit of Perpetual's first lien credit facility ("Credit Facility Borrowing Limit"), less current borrowings and letters of credit of $15.1 million and $1.3 million, respectively.

(1) Non-GAAP financial measure and ratio. See "Non-GAAP and Other Financial Measures".
(2) See "Third Quarter Financial and Operating Results - Production" for details of product components that comprise Perpetual's boe production.

2023 OUTLOOK

Perpetual's Board of Directors previously approved annual exploration and development capital spending(1) of $25 to $32 million for 2023, prior to acquisitions and dispositions, if any, of which $2 to $4 million was allocated for potential spending in Eastern Alberta in the second half of 2023. As a result of the Mannville Transaction, the $2 to $4 million of spending previously allocated for Eastern Alberta will not occur. In addition, with further refinement of the execution timing of the East Edson drilling program, expected capital spending for the remainder of 2023 has been reduced to $5.5 to $6.5 million. These adjustments resulted in forecast annual 2023 exploration and development capital spending(1) of $22 - $23 million focused almost exclusively at East Edson, refined from previous guidance announced October 17, 2023.

During the fourth quarter of 2023, Perpetual plans to participate at its 50% working interest in an East Edson drilling program to drill, complete, equip and tie-in an additional two (1.0 net) horizontal Wilrich wells, to offset production declines through the West Wolf gas plant in order to optimize production and operating costs and meet transportation commitments. Additional expenditures are also planned for pad preparation for first quarter 2024 East Edson drilling activity.

The table below summarizes anticipated capital spending and drilling activities for Perpetual for the remainder of 2023.

	Q1-Q3 2023 (*$ millions*)	**# of wells (*gross/net*)**	**Q4 2023 (*$ millions*)**	**# of wells (*gross/net*)**	**2023 (*$ millions*)**	**# of wells (*gross/net*)**
West Central	$16.2	4 / 2.0	$5.5 - $6.5	2 / 1.0	$21.7 - $22.7	6 / 3.0
Eastern Alberta	$0.1	- / -	$—	- / -	$0.1	0 /0.0
Total(1)	**$16.3**	**4 / 2.0**	**$5.5 - $6.5**	**2/ 1.0**	**$21.8 - $22.7**	**6 / 3.0**

(1) Excludes abandonment and reclamation spending and acquisitions or land expenditures.

Prior to giving effect to the Mannville Transaction, the Company was on track to deliver results in line with previous 2023 guidance. Updated 2023 guidance assumptions, adjusted for the Mannville Transaction and refined East Edson capital spending for the remainder of the year, are as follows:

	Updated 2023 Guidance	**Previous 2023 Guidance(1)**
Exploration and development expenditures(2)(3)(*$ millions*)	$22 - $23	$23 - $28
Cash costs(2) (*$/boe*)	$16 - $18	$16 - $18
Royalties (% of revenue)(2)	16 - 18%	16 - 18%
Average daily production (*boe/d*)	6,200 - 6,400	6,200 - 6,400
Production mix (%)	20% NGL	20% NGL

(1) Previous guidance dated October 17, 2023.
(2) Non-GAAP measure or ratio. See "Non-GAAP and Other Financial Measures".
(3) Excludes abandonment and reclamation spending and acquisitions or land expenditures.

Perpetual will continue to address end of life ARO, with total abandonment and reclamation expenditures of approximately $1.5 to $1.6 million planned for 2023. This exceeds the Company's annual area-based closure mandatory spending requirement of $1.4 million as calculated by the Alberta Energy Regulator ("AER").

THIRD QUARTER FINANCIAL AND OPERATING RESULTS

Cash Flow used in Investing Activities, Capital Expenditures, Acquisitions and Dispositions

Cash flow used in investing activities for the three and nine months ended September 30, 2023 was $3.3 million and $13.4 million respectively (2022 - $6.8 million and $23.7 million), comprised of $7.3 million in capital expenditures and a $4.0 million change in non-cash working capital in the three months ended September 30, 2023 and $18.2 million in capital expenditures and a $4.8 million increase in non-cash working capital in the nine months ended September 30, 2023. In addition to cash flow used in investing activities, Perpetual uses capital expenditures to measure its capital investments compared to the Company's annual budgeted expenditures, which excludes acquisition and disposition activities.

The following table summarizes capital spending for both property, plant and equipment assets and exploration and evaluation assets, excluding non-cash items:

	Three months ended September 30,		Nine months ended September 30,	
($ thousands)	**2023**	2022	**2023**	2022
Exploration and development	**5,743**	22,583	**16,278**	31,766
Corporate assets	**1,567**	13	**1,943**	28
Capital expenditures	**7,310**	22,596	**18,221**	31,794

Exploration and development spending by area

($ thousands)	Three months ended September 30, **2023**	2022	Nine months ended September 30, **2023**	2022
West Central	**5,734**	14,081	**16,196**	17,694
Eastern Alberta	**9**	8,502	**82**	14,072
Total	**5,743**	22,583	**16,278**	31,766

Wells drilled by area

(gross/net)	Three months ended September 30, **2023**	2022	Nine months ended September 30, **2023**	2022
West Central	**2 / 1.0**	6 / 3.0	**4 / 2.0**	7 / 3.5
Eastern Alberta	**- / -**	3 / 3.0	**- / -**	5 / 5.0
Total	**2 / 1.0**	9 / 6.0	**4 / 2.0**	12 / 8.5

Perpetual’s exploration and development spending in the third quarter of 2023 was $7.3 million (Q3 2022 - $22.6 million), of which $5.7 million was attributable to the drilling, completion and tie-in of two (1.0 net) wells at the East Edson 50% working interest property. At Mannville in Eastern Alberta, there were nominal amounts spent in the third quarter of 2023.

Perpetual’s exploration and development spending in the second quarter of 2023 was $1.8 million (Q2 2022 - $4.4 million), of which $1.5 million was attributable to the completion and tie-in of the first quarter drilling program of two (1.0 net) wells at the East Edson 50% working interest property. At Mannville in Eastern Alberta, there were nominal amounts spent in the second quarter of 2023.

Perpetual's exploration and development spending in the first quarter of 2023 was $9.1 million, with $8.9 million (Q1 2022 - nominal) spent at East Edson to drill two (1.0 net) wells and included a portion of the completion costs for the new drills as well as $2.5 million of lease and pipeline costs relating to the remainder of the 2023 drilling program. At Mannville in Eastern Alberta, nominal amounts were spent in the first quarter of 2023.

Acquisitions and Dispositions

There were no acquisitions or dispositions during the first nine months of 2023. Subsequent to the end of the third quarter, Perpetual announced the signing of a definitive agreement for the Mannville Transaction for gross proceeds of $35.8 million in cash, prior to customary purchase price adjustments at closing which is expected on or before November 22, 2023.

Expenditures on decommissioning obligations

During the third quarter of 2023, Perpetual spent $0.9 million (Q3 2022 – $0.8 million) on abandonment and reclamation projects. There were two reclamation certificates received from the AER during the nine month period ended September 30, 2023 (2022 – nil reclamation certificate).

Production

	Three months ended September 30, **2023**	2022	Nine months ended September 30, **2023**	2022
Production				
Conventional natural gas *(Mcf/d)*(1)	**30,809**	26,939	**30,756**	30,363
Conventional heavy crude oil *(bbl/d)*(2)	**942**	1,002	**972**	821
NGL *(bbl/d)*(3)	**493**	390	**487**	385
Total production (*boe/d*)	**6,570**	5,882	**6,585**	6,267

(1) Conventional natural gas production yielded a heat content of 1.17 GJ/Mcf for the three months ended September 30, 2023 (Q3 2022 – 1.17), resulting in higher realized natural gas prices on a $/Mcf basis.
(2) Primarily from Eastern Alberta.
(3) Primarily from West Central which produces liquids-rich conventional natural gas.

	Three months ended September 30, **2023**	2022	Nine months ended September 30, **2023**	2022
Production by core area				
West Central	**5,139**	4,449	**5,114**	5,033
Eastern Alberta	**1,431**	1,433	**1,471**	1,234
Total production *(boe/d)*	**6,570**	5,882	**6,585**	6,267

Third quarter production averaged 6,570 boe/d, up 12% from 5,882 boe/d in the comparative period in 2022. The production mix was comprised of 78% conventional natural gas and 22% conventional heavy crude oil and NGL, as compared to 76% of conventional natural gas and 24% conventional heavy crude oil and NGL in the third quarter of 2022. During the third quarter of 2023, production increases were driven by solid well performance from the East Edson drilling programs, which brought on production an additional two (1.0 net) wells drilled in the third quarter.

Third quarter conventional natural gas production averaged 30.8 MMcf/d, an increase of 14% from 26.9 MMcf/d in the comparative period of 2022. The 2022 drilling program contributed production additions of six (3.0 net) East Edson liquids-rich gas wells through the second half of 2022, and one (0.5 net) Notikewin well from this program was brought on production in the first quarter of 2023. The East Edson drilling program resumed in February with two (1.0 net) wells drilled coming on production early in the second quarter of 2023 and two (1.0 net) wells drilled during the third quarter of 2023 contributing to sales production beginning in late August.

Third quarter NGL production was 493 bbl/d, 26% higher than the comparative period of 2022. The increase in NGL production is largely tied to higher NGL yields of 17.7 bbl per MMcf achieved in the third quarter of 2023 (Q3 2022 – 16.1 bbl per MMcf) and higher conventional natural gas production at East Edson. Perpetual's average NGL yields have increased in 2023 as a result of capital spent during the second half of 2022 on facility optimization to reduce emissions and increase NGL recoveries.

Conventional heavy crude oil production averaged 942 bbl/d, which was 6% lower than the third quarter of 2022. The decrease was primarily driven by natural declines as there have been no new heavy oil wells brought on production since the third quarter of 2022. Heavy oil represented 14% of total production during the third quarter of 2023, down from 17% in the comparative period in 2022.

For the nine months ended September 30, 2023, production increased 5% to 6,585 boe/d compared to 6,267 boe/d in the comparative period. Production levels increased as new wells in East Edson were brought on production, partially offset by 191 boe/d of lost production for the nine month period from the shut-ins related to the East Edson forest fires. There was no damage to the Company's assets as a result of the forest fires and the Company is on track with its updated guidance for 2023 annual production of 6,200 to 6,400 boe/d (22% oil and NGL) as result of strong well performance from the new East Edson drills.

Oil and Natural Gas Revenue

	Three months ended September 30,		Nine months ended September 30,	
(*$ thousands, except as noted*)	**2023**	2022	**2023**	2022
Oil and natural gas revenue				
Natural gas	**6,644**	11,578	**21,364**	48,724
Oil	**7,613**	8,045	**19,819**	22,170
NGL	**3,220**	3,065	**9,272**	9,703
Oil and natural gas revenue	**17,477**	22,688	**50,455**	80,597

	Three months ended September 30,		Nine months ended September 30,	
	2023	2022	**2023**	2022
Average Benchmark Prices				
AECO 5A Daily Index *($/GJ)*	**2.46**	3.94	**2.61**	5.10
AECO 5A Daily Index *($/Mcf)*(1)	**2.60**	4.16	**2.75**	5.38
West Texas Intermediate ("WTI") *(US$/bbl)*	**82.26**	91.56	**77.39**	98.09
Exchange rate *(US$/CAD$)*	**1.34**	1.31	**1.34**	1.28
West Texas Intermediate ("WTI") *(CAD$/bbl)*	**110.23**	119.55	**103.70**	125.84
Western Canadian Select ("WCS") *(CAD$/bbl)*	**92.96**	93.51	**80.33**	105.54
WCS differential to WTI *(US$/bbl)*	**(12.91)**	(19.87)	**(17.65)**	(15.73)
Perpetual Average Realized Prices(2)				
Natural gas *($/Mcf)*	**2.34**	4.67	**2.54**	5.88
Oil *($/bbl)*	**87.83**	87.24	**74.66**	98.95
NGL *($/bbl)*	**71.00**	85.48	**69.71**	92.37
Average realized price *($/boe)*	**28.91**	41.93	**28.06**	47.12

(1) Converted from $/GJ using a standard energy conversion rate of 1.06 GJ:1 Mcf.
(2) Non-GAAP ratio. See "Non-GAAP and Other Financial Measures".

Perpetual's oil and natural gas revenue for the three months ended September 30, 2023 of $17.5 million was a 23% decrease from $22.7 million in the comparative period in 2022 due to lower reference prices for all products. Perpetual's oil and natural gas revenue for the nine months ended September 30, 2023 of $50.5 million was a 37% decrease from $80.6 million in the prior year due to lower prices.

Natural gas revenue of $6.6 million in the third quarter of 2023 comprised 38% (Q3 2022 – 51%) of total revenue while natural gas production was 78% (Q3 2022 – 76%) of total production. Natural gas revenue was 43% lower than the comparative period, reflecting the impact of lower AECO Daily Index prices, partially offset by a 14% increase in production volumes. For the nine months ended September 30, 2023, natural gas revenue decreased by $27.4 million or 56% compared to prior year, as a result of lower benchmark gas prices.

Oil revenue of $7.6 million represented 44% (Q3 2022 – 35%) of total revenue while conventional heavy crude oil production was 14% (Q3 2022 – 17%) of total production. As a result of a 6% decrease in heavy crude oil production, oil revenue decreased 5% from the comparative period. Compared to the third quarter of 2022, the WCS average price was relatively unchanged at $92.96/bbl (Q3 2022 - $93.51/bbl) as a result of lower WTI prices partially offset by a narrowing of the WCS differential and an increase in the US$/CAD$ exchange rate. Perpetual's realized oil prices reflect a price offset for quality which averaged $5.13/bbl during the third quarter (Q3 2022 - $6.27/bbl). For the nine months ended September 30, 2023, oil revenue decreased 11% compared to prior year, as a result of lower prices partially offset by 18% higher production volumes.

NGL revenue for the third quarter of 2023 of $3.2 million represented 18% (Q3 2022 – 13%) of total revenue while NGL production was 8% (Q3 2022 – 7%) of total production. NGL revenue increased 5% from the comparative period, reflecting the 26% increase in NGL production which was driven by higher natural gas production and the increased NGL yields at East Edson, partially offset by lower realized prices. For the nine months ended September 30, 2023, NGL revenue decreased 4% compared to prior year, as a result of lower prices partially offset by a 27% increase in production volumes.

Risk Management Contracts

The Company uses financial derivatives, physical delivery contracts and market diversification strategies to manage commodity price risk. Derivative contracts are put in place to manage fluctuations in commodity prices, protecting Perpetual's cash flows from potential volatility. The Company's market diversification strategies balance pricing exposure over multiple markets and are put in place to mitigate market and delivery point risks and dislocations. As a result, Perpetual's realized prices deviate from the index prices. The Company uses "average realized prices after risk management contracts" which is not a standardized measure, and therefore may not be comparable with the calculation of similar measures by other entities. The measure is used by management to calculate the Company's net realized commodity prices, taking into account the monthly settlements of physical and financial crude oil and natural gas forward sales, collars, basis differentials and forward foreign exchange sales.

	Three months ended September 30,		Nine months ended September 30,	
($ thousands, except as noted)	**2023**	2022	**2023**	2022
Unrealized gain (loss) on risk management contracts				
Unrealized gain on foreign exchange contracts	**(246)**	(188)	**(29)**	(188)
Unrealized gain (loss) on natural gas contracts	**2,312**	5,392	**(528)**	747
Unrealized gain (loss) on oil contracts	**(1,389)**	3,393	**(1,731)**	961
Unrealized gain (loss) on risk management contracts	**677**	8,597	**(2,288)**	1,520
Realized gain (loss) on risk management contracts				
Realized gain on foreign exchange contracts	**59**	—	**140**	—
Realized gain (loss) on natural gas contracts	**4,849**	2,950	**9,117**	(865)
Realized gain (loss) on oil contracts	**(619)**	(890)	**(10)**	(3,904)
Realized gain (loss) on risk management contracts	**4,289**	2,060	**9,247**	(4,769)
Change in fair value of risk management contracts	**4,966**	10,657	**6,959**	(3,249)

The following table calculates average realized prices after risk management contracts, which is not a standardized measure:

	Three months ended September 30,		Nine months ended September 30,	
	2023	2022	**2023**	2022
Realized gain (loss) on risk management contracts (1)				
Realized gain (loss) on natural gas contracts *($/Mcf)*	**1.71**	1.19	**1.09**	(0.10)
Realized gain (loss) on oil contracts *($/bbl)*	**(6.46)**	(9.64)	**0.49**	(17.42)
Realized gain (loss) on risk management contracts (*$/boe*)	**7.10**	3.81	**5.14**	(2.79)
Average realized prices after risk management contracts(1)				
Natural gas ($/Mcf)	**4.05**	5.86	**3.63**	5.78
Oil *($/bbl)*	**81.37**	77.60	**75.15**	81.53
NGL (*$/bbl*)	**71.00**	85.48	**69.71**	92.37
Average realized price (*$/boe)*	**36.01**	45.74	**33.20**	44.33

(1) See "Non-GAAP and Other Financial Measures".

The realized gain on risk management contracts totaled $4.3 million for the third quarter of 2023, compared to a realized gain of $2.1 million for the comparative period of 2022. The realized gain on risk management contracts totaled $9.2 million for the first nine months of 2023 (2022 - $4.8 million realized loss). The gain on risk management contracts was attributable to reference price fluctuations relative to pricing on commodity contracts driven by changes in AECO, WTI and WCS differential prices as well as fluctuations in foreign exchange rates and the percentage of production volumes hedged at any given time.

The unrealized gain on risk management contracts totaled $0.7 million in the third quarter of 2023 (Q3 2022 – unrealized gain of $8.6 million) and the unrealized loss totaled $2.3 million for the nine months ended September 30, 2023 (2022 - $1.5 million unrealized gain). 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 Company's calculation of cash flow from operating activities as non-cash items. Derivative gains and losses vary depending on the nature and extent of derivative contracts in place, which in turn, vary with the Company's assessment of commodity price risk, committed capital spending and other factors.

Royalties

($ thousands, except as noted)	Three months ended September 30, 2023	2022	Nine months ended September 30, 2023	2022
Crown royalties				
Natural gas	**92**	1,454	**496**	3,878
Oil	**608**	905	**1,039**	1,908
NGL	**350**	656	**1,293**	1,248
Total Crown royalties	**1,050**	3,015	**2,828**	7,034
Freehold and overriding royalties				
Natural gas	**685**	1,467	**2,264**	5,245
Oil	**803**	1,124	**2,226**	2,388
NGL	**265**	(32)	**833**	847
Total freehold and overriding royalties	**1,753**	2,559	**5,323**	8,480
Total royalties	**2,803**	5,574	**8,151**	15,514
$/boe	**4.64**	10.30	**4.53**	9.07
Royalties as a percentage of revenue(1)				
Crown	**6.0**	13.2	**5.6**	8.7
Freehold and overriding	**10.0**	11.2	**10.5**	10.5
Total *(% of oil and natural gas revenue)*	**16.0**	24.4	**16.2**	19.1
Natural gas royalties (% of natural gas revenue)	**11.7**	24.9	**12.9**	18.5
Oil royalties *(% of oil revenue)*	**18.5**	25.2	**16.5**	19.4
NGL royalties *(% of NGL revenue)*	**19.1**	20.4	**22.9**	21.6

(1) See "Non-GAAP and Other Financial Measures".

Total royalties for the third quarter of 2023 were $2.8 million, 50% lower than the third quarter of 2022. On a unit-of-production basis, royalties were down 55% to $4.64/boe (Q3 2022 – $10.30/boe).

Total royalties for the nine months ended September 30, 2023 were $8.2 million, 47% lower than 2022. On a unit-of-production basis, royalties were down 50% to $4.53/boe (2022 – $9.07/boe).

Perpetual's royalties consists of Crown royalties payable to the Alberta provincial government and other freehold and gross overriding ("GORR") royalties. The mix between Crown and freehold production as a percentage of total production can change the composition of royalties from one period to the next. Under the Alberta Modernized Royalty Framework ("MRF"), the Company pays a flat Crown royalty of 5% on wells in their early production period. As Perpetual's wells begin to pay higher royalty rates this can fluctuate the amounts owing to the Crown. On an absolute basis, royalties were lower due to lower reference prices for all commodities and an annual gas cost allowance ("GCA") credit of $0.7 million which was received during the second quarter of 2023. The impact of the GCA credit was a reduction of royalties of $0.37/boe for the nine month period ended September 30, 2023. In 2022, there was a GCA payment to the Crown of $1.2 million which increased royalties by $0.70/boe for the nine month period ended September 30, 2022.

Freehold and overriding royalties decreased due to the impact of lower AECO Daily Index, heavy oil and NGL prices.

Net operating costs (1)

($ thousands, except as noted)	Three months ended September 30, 2023	2022	Nine months ended September 30, 2023	2022
Net operating costs (1)	**4,378**	4,265	**12,865**	11,768
$/boe (1)	**7.25**	7.88	**7.15**	6.88

(1) See "Non-GAAP and Other Financial Measures".

Total net operating costs were $4.4 million, 3% higher than the third quarter of 2022 (Q3 2022 - $4.3 million). For the nine months ended September 30, 2023, net operating costs were $12.9 million, 9% higher than the comparable period of 2022 (2022 - $11.8 million). The increase was related to higher purchased energy costs at the non-operated East Edson gas processing facility, higher carbon taxes and overall cost inflation applied to higher production volumes. Also contributing to higher costs in 2023 was higher heavy crude oil production as a percentage of total volumes as heavy oil production has higher operating costs than the Company's conventional natural gas and NGL production at East Edson.

On a unit-of-production basis, net operating costs decreased by 8% to $7.25/boe in the third quarter of 2023 (Q3 2022 – $7.88/boe) due to increased conventional natural gas production as a percentage of total production at East Edson which has a higher percentage of fixed operating costs as compared to the Company's conventional heavy crude oil production. For the nine month period ended September 30, 2023, on a unit-of-production basis, net operating costs increased by 4% to $7.15/boe in 2023 (2022 - $6.88/boe) attributable to both higher costs and higher heavy oil production as a percentage of total production. Incremental carbon tax obligations in 2023 totaled $0.8 million or $0.45/boe for the nine month period ended September 30, 2023.

Transportation costs

($ thousands, except as noted)	Three months ended September 30, 2023	2022	Nine months ended September 30, 2023	2022
Transportation costs	**1,102**	1,025	**3,391**	2,649
$/boe	**1.82**	1.89	**1.89**	1.55

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 2023 were $1.1 million, an 8% increase from the second quarter of 2022 (Q3 2022 - $1.0 million). For the nine months ended September 30, 2023, transportation costs were $3.4 million, a 28% increase from the comparable period of 2022 (2022 - $2.6 million). The increase in costs were a result of higher production volumes, higher fuel prices and surcharges and the impact the Alberta forest fires had on access and rates.

On a unit-of-production basis, transportation costs decreased by 4% to $1.82/boe in the third quarter of 2023 on higher production volumes (Q3 2022 – $1.89/boe) and increased by 22% for the nine month period to $1.89/boe (2022 - $1.55/boe) attributable to higher heavy oil production volumes, and higher costs and rates.

Operating netbacks

The following table highlights Perpetual's operating netbacks for the three and nine months ended September 30, 2023 and 2022:

	Three months ended September 30,				Nine months ended September 30,			
($/boe) ($ thousands)		**2023**		2022		**2023**		2022
Production (*boe/d*)		**6,570**		5,882		**6,585**		6,267
Oil and natural gas revenue	**28.91**	**17,477**	41.93	22,688	**28.06**	**50,455**	47.12	80,597
Royalties	**(4.64)**	**(2,803)**	(10.30)	(5,574)	**(4.53)**	**(8,151)**	(9.07)	(15,514)
Net operating costs (1)	**(7.25)**	**(4,378)**	(7.88)	(4,265)	**(7.15)**	**(12,865)**	(6.88)	(11,768)
Transportation costs	**(1.82)**	**(1,102)**	(1.89)	(1,025)	**(1.89)**	**(3,391)**	(1.55)	(2,649)
Operating netback(1)	**15.20**	**9,194**	21.86	11,824	**14.49**	**26,048**	29.62	50,666
Realized gain (loss) on risk management contracts	**7.10**	**4,289**	3.81	2,060	**5.14**	**9,247**	(2.79)	(4,769)
Total operating netback, including risk management contracts(1)	**22.30**	**13,483**	25.67	13,884	**19.63**	**35,295**	26.83	45,897

(1) Non-GAAP measure. See "Non-GAAP and Other Financial Measures".

For the third quarter of 2023, Perpetual's operating netback, including risk management contracts, was $13.5 million ($22.30/boe), down 3% from $13.9 million ($25.67/boe) in the second quarter of 2022. For the nine months ended September 30, 2023 the operating netback, including risk management contracts, was $35.3 million ($19.63/boe) a 23% decrease from $45.9 million ($26.83/boe) in the comparative year. The decrease was due to lower oil and natural gas revenue driven by lower pricing for all commodities, partially offset by lower royalties as a result of lower prices and the credit received from the annual GCA adjustment. Also contributing to the lower operating netbacks was higher costs related to net operating costs and transportation.

General and administrative ("G&A") expenses

($ thousands, except as noted)	Three months ended September 30, 2023	2022	Nine months ended September 30, 2023	2022
G&A before overhead recoveries	**4,433**	3,597	**14,112**	10,146
MSA recoveries(1)	**(929)**	(576)	**(2,541)**	(1,298)
Overhead recoveries	**(470)**	(372)	**(1,759)**	(1,792)
Total G&A expense	**3,034**	2,649	**9,812**	7,056
$/boe	**5.02**	4.90	**5.46**	4.12

(1) Concurrent with the sale of the Clearwater Assets to Rubellite Energy Inc. ("Rubellite") on September 3, 2021, Perpetual entered into a Management and Operating Services Agreement (the "MSA") with Rubellite whereby Perpetual receives payment for certain technical and administrative services provided to Rubellite split on a relative production basis.

For the three and nine months ended September 30, 2023, G&A expenses of $3.0 million and $9.8 million increased 15% and 39% over the comparative periods of 2022. Prior to overhead recoveries, G&A increased due to higher employee salaries and benefits, legal costs, professional fees and computer services. Overhead recoveries fluctuate from one period to the next based on the amount of capital spent by Perpetual or Rubellite under the MSA.

For the three and nine months ended September 30, 2023, the costs billed under the MSA to Rubellite were $0.9 million and $2.5 million (2022 - $0.6 million and $1.3 million). MSA recoveries in 2023 increased over the comparative period as a result of higher G&A expenses and Rubellite's increased production relative to Perpetual.

Share-based payments

($ thousands, except as noted)	Three months ended September 30, 2023	2022	Nine months ended September 30, 2023	2022
Share-based payments (non-cash)	**505**	1,985	**2,788**	5,444
Share-based payments (cash)	**—**	376	**—**	1,126
Total share-based payments	**505**	2,361	**2,788**	6,570

Share-based payments expense for the three and nine months ended September 30, 2023 decreased to $0.5 million and $2.8 million from $2.4 million and $6.6 million in 2022. The decrease is due to a higher fair value of grants issued through 2022, partially offset by a reduction in cash share-based payments as the related equity plan ended during the fourth quarter of 2022.

During the third quarter of 2023, the Company did not grant any awards to Officers, Directors, and employees of the Company.

Depletion and depreciation

($ thousands, except as noted)	Three months ended September 30, 2023	2022	Nine months ended September 30, 2023	2022
Depletion and depreciation	**5,171**	4,546	**16,206**	12,329
$/boe	**8.56**	8.40	**9.01**	7.21

The Company calculates depletion using the net book value of the asset, future development costs associated with proved and probable reserves, salvage values on associated production equipment, as well as proved and probable reserves. As at September 30, 2023, depletion was calculated on a $173.3 million depletable balance and $89.8 million in future development costs (December 31, 2022 – $176.1 million depletable balance and $104.6 million in future development costs). The depletable base excluded an estimated $3.8 million (December 31, 2022 – $3.8 million) of salvage value.

Depletion and depreciation expense for the third quarter of 2023 was $5.2 million or $8.56/boe (Q3 2022 – $4.5 million or $8.40/boe). Depletion and depreciation expense for the nine months ended September 30, 2023 was $16.2 million or $9.01/boe (2022 – $12.3 million or $7.21/boe).

The increase reflects higher depletion rates per barrel of oil equivalent. On a unit-of-production basis, depletion and depreciation expense increased from the comparable periods of 2022 due to an increase in the depletion rate driven by higher production and lower reserves in Eastern Alberta along with a higher depletable base from additions, increased future development costs and impairment reversals in 2022. Depletion and depreciation expense will fluctuate from one period to the next depending on the amount of capital spent, the amount of reserves added and volumes produced.

Impairment

There were no indicators of impairment for the Company's cash generating units ("CGU"s) as of September 30, 2023, therefore an impairment test was not performed. E&E assets are tested for impairment both at the time of any triggering facts and circumstances as well as upon their reclassification to oil and gas properties in PP&E. There were no transfers during the third quarter of 2023 and as such an impairment test was not performed.

During the first quarter of 2022, the Company determined that indicators of impairment reversal existed and that the estimated recoverable amounts of the Eastern Alberta CGU exceeded the carrying amounts. Accordingly, a non-cash impairment reversal of $7.4 million was included in net income in the comparative period.

During 2022, land of $0.2 million was transferred to PP&E, which was equal to the book value in E&E. As a result of the transfer, an impairment test was performed, resulting in no impairments recorded to E&E in 2022. There were no indicators of impairment or impairment reversal as at September 30, 2022.

Finance expense

($ thousands)	Three months ended September 30, 2023	2022	Nine months ended September 30, 2023	2022
Cash finance expense				
Interest on revolving bank debt	**456**	260	**1,154**	697
Interest on term loan	**53**	54	**162**	161
Interest on Senior Notes	**704**	801	**2,284**	2,405
Interest on lease liabilities	**40**	28	**103**	90
Total cash finance expense	**1,253**	1,143	**3,703**	3,353
Non-cash finance expense				
Gain on senior note extinguishment	**(77)**	(101)	**(182)**	(101)
Amortization of debt issue costs	**205**	462	**937**	1,428
Accretion on decommissioning obligations	**196**	213	**623**	525
Change in fair value of other liability	**224**	59	**340**	1,618
Change in fair value of royalty obligations(1)	**—**	439	**—**	2,619
Total non-cash finance expense	**548**	1,072	**1,718**	6,089
Finance expense recognized in net income (loss)	**1,801**	2,215	**5,421**	9,442

(1) The East Edson retained royalty obligation terminated on December 31, 2022.

Total cash finance expense for the three and nine month periods ended September 30, 2023 was $1.3 million and $3.7 million, an increase from the comparable periods of 2022 as a result of increased interest rates being applied to higher outstanding bank debt, partially offset by lower interest on Senior Notes due to lower principal outstanding.

Total non-cash finance expense for the three and nine month periods ended September 30, 2023 was $0.5 million and $1.7 million, a decrease from the comparable periods of 2022 driven by the termination of the East Edson retained royalty obligation on December 31, 2022, which was $2.6 million in 2022. Also contributing to the decrease in the nine month period was the change in the fair value of future contingent payments related to the Second Lien Loan Settlement which are recorded as other liability with the change being recognized through finance expense.

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 adjusted 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

($ thousands, except as noted)	**September 30, 2023**	December 31, 2022
Revolving bank debt	**15,144**	14,909
Term loan, principal amount	**2,671**	2,671
Senior notes, principal amount	**33,519**	35,647
Other liability, undiscounted amount	**2,788**	3,342
Adjusted working capital deficiency (surplus)(1)	**1,183**	(894)
Net debt(1)	**55,305**	55,675
Shares outstanding at end of period (thousands)(3)	**66,881**	65,944
Market price at end of period ($/share)	**0.65**	0.71
Market value of shares(1)	**43,473**	46,820
Enterprise value(1)	**98,778**	102,495
Net debt as a percentage of enterprise value(2)	**56%**	54%
Trailing twelve-months adjusted funds flow(1)	**35,897**	48,471
Net debt to trailing twelve-months adjusted funds flow(2)	**1.5**	1.2

(1) Non-GAAP measure. See "Non-GAAP and Other Financial Measures".
(2) Non-GAAP ratio. See"Non-GAAP and Other Financial Measures".
(3) Shares outstanding are presented net of shares held in trust.

At September 30, 2023, Perpetual had total net debt of $55.3 million, down $0.4 million from December 31, 2022 driven by lower capital expenditures in 2023.

Perpetual had available liquidity at September 30, 2023 of $13.6 million, comprised of the $30.0 million Credit Facility Borrowing Limit, less current borrowings and letters of credit of $15.1 million and $1.3 million, respectively.

Revolving bank debt

During the period, the Company completed the semi-annual borrowing base redetermination for the first lien credit facility (the "Credit Facility") and its borrowing limit was maintained at $30.0 million (December 31, 2022 - $30.0 million) with an initial term to May 31, 2024. The initial term may be extended to May 31, 2025 subject to approval by the syndicate. If the facility is not extended all outstanding balances would be repayable on May 31, 2025. The maturity date of the Company's third lien Senior Notes (the "Senior Notes") is January 23, 2025. Under the Credit Facility agreement, if by July 31, 2024, the January 23, 2025 maturity date of the Senior Notes has not been extended, by a period of at least two years, or refinanced with the maturity date of the refinancing debt being at least January 23, 2027, the maturity date of the Credit Facility springs to July 31, 2024 and any outstanding balance would become repayable at that time. As a result, the Company's revolving bank debt has been reclassified to current liabilities as at September 30, 2023. The next semi-annual borrowing base redetermination is scheduled to be completed on or before May 31, 2024.

As at September 30, 2023, $15.1 million was drawn (December 31, 2022 – $14.9 million) and $1.3 million of letters of credit had been issued (December 31, 2022 – $1.2 million) under the Company's Credit Facility. 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, 2023 was 9.1%. For the three and nine month periods ended September 30, 2023 if interest rates changed by 1% with all other variables held constant, the impact on annual cash finance expense and net income (loss) and comprehensive income (loss) would be $0.1 million.

As at September 30, 2023, the Credit Facility was not subject to any financial covenants and the Company was in compliance with all customary non-financial covenants and was presented as a long-term liability.

Term loan

($ thousands,			**September 30, 2023**		December 31, 2022	
except as noted)	**Maturity date**	**Interest rate**	**Principal**	**Carrying Amount**	Principal	Carrying amount
Term loan	December 31, 2024	8.1%	**2,671**	**2,575**	2,671	2,524

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 loans under the Credit Facility.

At September 30, 2023, the Term Loan was not subject to any financial covenants and the Company was in compliance with all customary non-financial covenants.

Senior notes

($ thousands,			**September 30, 2023**		December 31, 2022	
except as noted)	**Maturity date**	**Interest rate**	**Principal**	**Carrying Amount**	Principal	Carrying amount
Senior notes	January 23, 2025	8.75%	**33,519**	**33,340**	35,647	34,527

The secured third lien Senior Notes have been issued under a trust indenture and are secured on a third lien basis and allow for the semi-annual interest payments to be paid at Perpetual's option, in cash, or in additional Senior Notes (a "PIK Interest Payment").

The Company satisfied the January 23, 2023 and the July 23, 2023 semi-annual interest payments of $1.6 million by making a cash payment (January 23, 2022 - $1.6 million cash payment; July 23, 2022 - $1.6 million cash payment).

At September 30, 2023, the Senior Notes are recorded at the present value of future cash flows, net of $0.2 million in issue and principal discount costs which are amortized over the remaining term using a weighted average effective interest rate of 14.0%.

During 2023 the Company purchased and cancelled a portion of the Senior Notes balance with a carrying value of $2.1 million (2022 - $0.9 million) for gross costs of $1.9 million. A gain on extinguishment of $0.2 million (2022 - $0.1 million) is included in non-cash finance expense.

The Senior Notes are direct senior secured, third lien obligations of the Company. The Company may redeem the Senior Notes without any repayment penalty. 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, 2023, 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 $15.9 million of the Senior Notes outstanding. An entity that is associated with the Company's CEO holds an additional $10.3 million of the Senior Notes outstanding.

Equity

At September 30, 2023, there were 66.9 million common shares outstanding, net of 1.6 million shares held in trust for the Company's employee compensation program. During the third quarter of 2023, 0.2 million shares were purchased by the independent trustee to be held in trust (Q3 2022 – 0.1 million). Basic and diluted weighted average shares outstanding for the three months ended September 30, 2023 were 67.2 million and 74.3 million, respectively (three months ended September 30, 2022 - 65.0 million basic and 74.6 million diluted). Basic and diluted weighted average shares outstanding for the nine months ended September 30, 2023 were 66.6 million and 66.6 million, respectively (nine months ended September 30, 2022 - 64.0 million basic and 74.7 million diluted).

At November 2, 2023, there were 67.1 million common shares outstanding which is net of 1.4 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 2, 2023**
Share options	**3.7**
Performance share rights	**1.9**
Compensation awards	**10.0**
Total(1)	**15.6**

(1) 10.0 million compensation awards, 3.7 million share options, and 1.9 million performance share rights have an exercise price below the September 30, 2023 closing price of the Company's common shares of $0.65 per share.

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 increase certainty in adjusted funds flow (see "Non-GAAP and Other Financial Measures"), manage the balance sheet, 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 revenue. Diversification of markets is a further risk management strategy employed by the Company.

As at November 2, 2023, the Company had entered into the following swap commodity contracts:

Commodity	Volumes sold	Term	Reference/ Index	Contract Traded Bought/sold	
Natural gas	15,000 GJ/d	Oct 1, 2023 - Oct 31, 2023	AECO 5A (CAD$/GJ)	Swap - sold	$2.46
Natural gas	2,500 GJ/d	Nov 1, 2023 - Nov 30, 2023	AECO 5A (CAD$/GJ)	Swap - sold	$2.68
Natural gas	15,000 GJ/d	Nov 1, 2023 - Mar 31, 2024	AECO 5A (CAD$/GJ)	Swap - sold	$3.26
Natural gas	15,000 GJ/d	Apr 1, 2024 - Oct 31, 2024	AECO 5A (CAD$/GJ)	Swap - sold	$2.84
Natural gas	15,000 GJ/d	Nov 1, 2023 - Mar 31, 2024	AECO 5A (CAD$/GJ)	Swap - sold	$3.84
Crude oil	100 bbl/d	Jan 1, 2024 - Dec 31, 2024	WTI (CAD$/bbl)	Swap - sold	$100.40

As at November 2, 2023, the Company had entered the following US$/CAD$ foreign exchange swaps which settle in CAD$:

Contract	Notional amount	Term	Price (US$/CAD$)
Average rate forward (US$/CAD$)	$1,200,000 US$/month	Oct 1 – Dec 31, 2023	1.3572
Average rate forward (US$/CAD$)	$952,000 US$/month	Nov 1, 2023 – Mar 31, 2024	1.3740
Average rate forward (US$/CAD$)	$192,000 US$/month	Apr 1, 2024 – Oct 31, 2024	1.3700

Conventional 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	Apr 1, 2024 to Oct 31, 2024 Daily sales volume *(MMBtu/d)*
Malin	5,000
Dawn	2,500
Emerson	2,500
Total sales volume obligation	**10,000**

SEQUOIA LITIGATION

On August 3, 2018, the Company received a Statement of Claim that was filed by PricewaterhouseCoopers Inc. LIT ("PwC"), in its capacity as trustee in bankruptcy (the "Trustee") of Sequoia Resources Corp. ("Sequoia"), with the Alberta Court of Queen's Bench (the "Court"), against Perpetual (the "Sequoia Litigation"). The claim relates to a seven-year-old transaction when, on October 1, 2016, Perpetual closed the disposition of shallow conventional natural gas assets in Eastern Alberta to an arm's length third party at fair market value after an extensive and lengthy marketing, due diligence, and negotiation process (the "Sequoia Disposition"). This transaction was one of several completed by Sequoia. Sequoia assigned itself into bankruptcy on March 23, 2018. PwC is seeking an order from the Court to either set this transaction aside or declare it void, or damages of approximately $217 million. On August 27, 2018, Perpetual filed a Statement of Defence and Application for Summary Dismissal with the Court in response to the Statement of Claim. All allegations made by PwC have been denied and applications to the Court to dismiss all claims have been made on the basis that there is no merit to any of them.

On January 13, 2020, a written decision related to the Application for Dismissal, dismissed and struck all claims against the Company's CEO and all but one of the claims filed 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 could 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 "First Appeal"). The First Appeal proceedings were heard on December 10, 2020. On January 25, 2021, the Court of Appeal of Alberta issued their judgement with respect to the First Appeal proceedings, dismissing the appeal filed by Perpetual and granting certain aspects of the appeals filed by the Trustee, thereby reinstating certain elements of the Sequoia Litigation for trial. On March 24, 2021, Perpetual applied for leave to appeal the First Appeal decision to the Supreme Court of Canada (the "SCC"). On July 8, 2021, the SCC dismissed Perpetual's application.

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 (the "Second Summary Dismissal Application"). In July 2020, the Orphan Well Association ("OWA"), certain oil and gas companies, and six municipalities applied to intervene in the Second Summary 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 1 and 2, 2020. The Intervenors were also permitted to intervene in the First Appeal proceedings. On January 14, 2021 the Court issued its decision, finding that the Trustee could not establish a necessary element of the BIA Claim as Sequoia was not insolvent at the time of, nor rendered insolvent by, the Sequoia Disposition. The Court therefore concluded there is "no merit" to the BIA Claim and it summarily dismissed the balance of the Statement of Claim. The Trustee appealed this decision, and the Court of Appeal hearing took place on February 10, 2022, with the panel reserving judgement. On March 25, 2022, the Court of Appeal issued their judgement with respect to this matter and allowed PwC's appeal on the basis that the Court of Queen's Bench erred in law in its handling of the end-of-life obligations and that based on the record, it could not be concluded the error was without consequence, and that the Court of Queen's Bench also erred in agreeing to hear the Second Summary Dismissal Application. On this basis, the BIA Claim has been directed to trial.

The Trustee filed its Amended Statement of Claim with the Court of King's Bench of Alberta on October 14, 2022. Perpetual filed its Statement of Defence to the Amended Statement of Claim on December 12, 2022. The Trustee filed its Reply to Defence on March 3, 2023. On March 30, 2023, Perpetual filed an Application to Dismiss or Stay the Trustee's Amended Application for Summary Judgment. On April 6, 2023, the Court of King's Bench of Alberta granted Perpetual's application and stayed the Trustee's proposed amended application for summary judgment. Perpetual filed its Affidavit of Records on July 31, 2023.

Management expects that the Company is more likely than not to be 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 these financial statements.

OFF BALANCE SHEET ARRANGEMENTS

Perpetual has no off balance sheet arrangements.

NON-GAAP AND OTHER FINANCIAL MEASURES

Throughout this MD&A and in other materials disclosed by the Company, Perpetual employs certain measures to analyze financial performance, financial position and cash flow. These non-GAAP and other financial measures do not have any standardized meaning prescribed under IFRS and therefore may not be comparable to similar measures presented by other entities. The non-GAAP and other financial measures should not be considered to be more meaningful than GAAP measures which are determined in accordance with IFRS, such as net income (loss) and comprehensive income (loss), cash flow from operating activities, and cash flow from investing activities, as indicators of Perpetual's performance.

Non-GAAP Financial Measures

Capital expenditures or capital spending: Perpetual uses capital expenditures or capital spending related to exploration and development to measure its capital investments compared to the Company's annual capital budgeted expenditures. Perpetual's capital budget excludes acquisition and disposition activities.

The most directly comparable GAAP measure for capital expenditures or capital spending is cash flow used in investing activities. A summary of the reconciliation of cash flow used in investing activities to capital expenditures or capital spending, is set forth below:

	Three months ended September 30,		Nine months ended September 30,	
($ thousands)	**2023**	2022	**2023**	2022
Net cash flows used in investing activities	**3,308**	6,817	**13,387**	23,702
Purchase of marketable securities	**—**	(8)	**—**	(37)
Change in non-cash working capital	**4,002**	15,787	**4,834**	8,129
Capital expenditures	**7,310**	22,596	**18,221**	31,794

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 and regulatory requirements. 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. 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 is not intended to represent net cash flows from (used in) operating activities calculated in accordance with IFRS.

The following table reconciles net cash flows from (used in) operating activities as reported in the Company's consolidated statements of cash flows, to adjusted funds flow:

	Three months ended September 30,		Nine months ended September 30,	
(*$ thousands, except per share and per boe amounts*)	**2023**	2022	**2023**	2022
Net cash flows from operating activities	**2,460**	8,749	**18,191**	26,592
Change in non-cash working capital	**5,779**	311	**2,049**	7,517
Decommissioning obligations settled (cash)	**888**	582	**1,450**	155
Adjusted funds flow	**9,127**	9,642	**21,690**	34,264
Adjusted funds flow per share	**0.14**	0.15	**0.32**	0.52
Adjusted funds flow per boe	**15.10**	17.82	**12.06**	20.03

Free funds flow: Free funds flow is an important measure that informs efficiency of capital spent and liquidity. Free funds flow is calculated as adjusted funds flow generated during the period less capital expenditures. Adjusted funds flow and capital expenditures are non-GAAP financial measures which have been reconciled to its most directly comparable GAAP measure previously in this document. By removing the impact of current period capital expenditures from adjusted funds flow, Perpetual monitors its free funds flow to inform decisions such as capital allocation and debt repayment.

The following table shows the calculation of the removal of capital expenditures from adjusted funds flows:

	Three months ended September 30,		Nine months ended September 30,	
(*$ thousands, except per share and per boe amounts*)	**2023**	2022	**2023**	2022
Adjusted funds flow	**9,127**	9,642	**21,690**	34,264
Capital Expenditures	**(7,310)**	(22,596)	**(18,221)**	(31,794)
Free funds flow	**1,817**	(12,954)	**3,469**	2,470

Operating netback: Operating netback is calculated by deducting royalties, net operating costs, and transportation costs from oil and natural gas revenue. Operating netback is also calculated on a per boe basis using total production sold in the period and presented before and after realized gains or losses from risk management contracts. Perpetual considers that netback is a key industry performance indicator and one that provides investors with information that is also commonly presented by other crude oil and natural gas producers. Perpetual considers operating netback to be an important performance measure to evaluate its operational performance as it demonstrates its profitability relative to current commodity prices. Refer to reconciliations earlier in the MD&A under the "Operating netbacks" section.

Net operating costs: Net operating costs equals operating expenses net of other income, which is made up of processing revenue. Management views net operating costs as an important measure to evaluate its operational performance. The most directly comparable IFRS measure for net operating costs is production and operating expenses.

The following table reconciles net operating costs from production and operating expenses and other income in the Company's consolidated statement of income (loss) and comprehensive income (loss).

	Three months ended September 30,		Nine months ended September 30,	
($ thousands, except per share and per boe amounts)	**2023**	2022	**2023**	2022
Production and operating	**4,507**	4,385	**13,417**	12,167
Processing income				
Other income	**(129)**	(331)	**(552)**	(644)
SRP revenue [1]	**—**	211	**—**	245
Processing income [1]	**(129)**	(120)	**(552)**	(399)
Net operating costs	**4,378**	4,265	**12,865**	11,768
Per boe	**7.25**	7.88	**7.15**	6.88

(1) Processing income is other income less amounts related to Alberta Site Rehabilitation Program ("SRP") revenue.

Cash costs: Cash costs are controllable costs comprised of net operating costs, transportation, general and administrative, and cash finance expense as detailed below. 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.

	Three months ended September 30,		Nine months ended September 30,	
($ thousands, except per boe amounts)	**2023**	2022	**2023**	2022
Net operating costs	**4,378**	4,265	**12,865**	11,768
Transportation	**1,102**	1,025	**3,391**	2,649
General and administrative	**3,034**	2,649	**9,812**	7,056
Cash finance expense	**1,253**	1,143	**3,703**	3,353
Cash costs	**9,767**	9,082	**29,771**	24,826
Cash costs per boe	**16.16**	16.78	**16.56**	14.51

Net Debt: Perpetual uses net debt as an alternative measure of outstanding debt. Management considers net debt as an important measure in assessing the liquidity of the Company. Net debt is used by management to assess the Company's overall debt position and borrowing capacity. Net debt is not a standardized measure and therefore may not be comparable to similar measures presented by other entities.

The following table details the composition of net debt:

($ thousands)	**As of September 30, 2023**	As of December 31, 2022
Accounts and accrued receivable	**13,097**	15,804
Prepaid expenses and deposits	**2,664**	1,564
Marketable securities	**2,522**	1,814
Inventory	**750**	674
Accounts payable and accrued liabilities	**(20,216)**	(18,962)
Adjusted working capital surplus (deficiency)[1]	**(1,183)**	894
Bank indebtedness	**(15,144)**	(14,909)
Term loan (principal)	**(2,671)**	(2,671)
Other liability (undiscounted amount)	**(2,788)**	(3,342)
Senior notes (principal)	**(33,519)**	(35,647)
Net debt	**(55,305)**	(55,675)

(1) Alternative calculation of current assets less current liabilities adjusted for the removal of the current portion of risk management contracts.

Available Liquidity: Available Liquidity is defined as Perpetual's credit facility borrowing limit, less current 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.

Enterprise value: Enterprise value is equal to net debt plus the market value of issued equity and is used by management to analyze leverage. Enterprise value is calculated by multiplying the current shares outstanding by the market price at the end of the period and then adjusting it by the net debt. The Company considers enterprise value as an important measure as it normalizes the market value of the Company's shares for its capital structure.

Non-GAAP Financial Ratios

Perpetual calculates certain non-GAAP measures per boe as the measure divided by weighted average daily production. Management believes that per boe ratios are a key industry performance measure of operational efficiency and one that provides investors with information that is also commonly presented by other crude oil and natural gas producers. Perpetual also calculates certain non-GAAP measures per share as the measure divided by outstanding common shares.

Average realized prices after risk management contracts: are calculated as the average realized price by product type less the realized gain or loss on risk management contracts by production type.

Net debt to adjusted funds flow ratio: Net debt to adjusted funds flow ratios are calculated on a trailing twelve-month basis.

Net debt as a percentage of enterprise value: Net debt as a percentage of enterprise value is calculated by dividing net debt by enterprise value.

Adjusted funds flow per share: Adjusted funds flow ratios are calculated on a per share basis as the measure divided by basic shares outstanding.

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

Supplementary Financial Measures

"Average realized price" is comprised of total commodity sales from production, as determined in accordance with IFRS, divided by the Company's total sales production on a boe basis.

"Realized oil price" is comprised of oil commodity sales from production, as determined in accordance with IFRS, divided by the Company's oil sales production.

"Realized natural gas price" is comprised of natural gas commodity sales from production, as determined in accordance with IFRS, divided by the Company's natural gas sales production.

"Realized NGL price" is comprised of NGL commodity sales from production, as determined in accordance with IFRS, divided by the Company's NGL sales production.

"Realized gain (loss) on natural gas contracts per Mcf" is comprised of the realized gain or loss on natural gas contracts, as determined in accordance with IFRS, divided by the Company's total natural gas sales production.

"Realized gain (loss) on oil contracts per boe" is comprised of the realized gain or loss on oil contracts, as determined in accordance with IFRS, divided by the Company's total oil sales production.

"Realized gain (loss) on risk management contracts per boe" is comprised of the realized gain or loss on risk management contracts, as determined in accordance with IFRS, divided by the Company's total sales production.

"Depletion and depreciation expense per boe" is comprised of depletion and depreciation expense, as determined in accordance with IFRS, divided by the Company's total sales production.

"G&A expense per boe" is comprised of G&A expense, as determined in accordance with IFRS, divided by the Company's total sales production.

"Net operating expense per boe" is comprised of net operating expense, divided by the Company's total sales production.

"Realized gain or loss on risk management contract per boe" is comprised of realized gain on risk management contracts, as determined in accordance with IFRS, divided by the Company's total sales production.

"Transportation expense per boe" is comprised of operating expense, as determined in accordance with IFRS, divided by the Company's total sales production.

"Royalties as a percentage of revenue" is comprised of royalties, as determined in accordance with IFRS, divided by oil and natural gas revenue from sales production as determined in accordance with IFRS.

"Royalties per boe" is comprised of royalties, as determined in accordance with IFRS, divided by the Company's total sales production.

“Market value of shares” is comprised of common shares outstanding multiplied by the market price of shares.

“Adjusted funds flow per share” is comprised of adjusted funds flow divided by the Company’s shares outstanding.

FUTURE ACCOUNTING PRONOUNCEMENTS

The International Accounting Standards Board (“IASB”) and the IFRS Interpretations Committee regularly issue new and revised accounting pronouncements which have future effective dates and therefore are not reflected in Perpetual’s financial statements. Once adopted, these new and amended pronouncements may have an impact on Perpetual’s condensed interim consolidated financial statements.

On June 26, 2023, the International Sustainability Standards Board (“ISSB”) issued IFRS S1 “General Requirements for Disclosure of Sustainability-related Financial Information” and IFRS S2 “Climate-related Disclosures”. IFRS S1 and IFRS S2 are effective for annual reporting periods beginning on or after January 1, 2024. The sustainability standards as issued by the ISSB provide for transition relief in IFRS S1 that allow a reporting entity to report only on climate-related risks and opportunities, as set out in IFRS S2, in the first year of reporting under the sustainability standards.

The Canadian Securities Administrators (“CSA”) are responsible for determining the reporting requirements for public companies in Canada and are responsible for decisions related to the adoption of the sustainability disclosure standards, including the effective annual reporting dates. The CSA issued proposed National Instrument (“NI 51-107 – Disclosure of Climate-related Matters”) in October 2021. The CSA has indicated it will consider the ISSB sustainability standards and developments in the United States in its decisions related to developing climate-related disclosure requirements for reporting issuers in Canada. The CSA will involve the Canadian Sustainability Standards Board (“CSSB”) for their combined review of the ISSB issued sustainability standards for their suitability for adoption in Canada. Until such time as the CSA and CSSB make decisions on sustainability standard adoption here in Canada, there is no requirement for public companies in Canada to adopt the sustainability standards. The Company is actively evaluating the potential effects of the ISSB issued sustainability standards; however, at this time, the Company is not able to determine the impact on future financial statements, nor the potential costs to comply with these sustainability standards.

DISCLOSURE CONTROLS AND PROCEDURES AND INTERNAL CONTROLS OVER FINANCIAL REPORTING

There were no changes in the Company's disclosure controls or procedures or internal controls over financial reporting (ICFR) during the period beginning on July 1, 2023 and ending on September 30, 2023 that have materially affected, or are reasonably likely to materially affect, the Company's ICFR. It should be noted that a control system, including the Company's disclosure and internal controls and procedures, no matter how well conceived can provide only reasonable, but not absolute assurance that the objectives of the control system will be met and it should not be expected that the disclosure and internal controls and procedures will prevent all errors or fraud.

FORWARD-LOOKING INFORMATION AND STATEMENTS

Certain information in this MD&A including management's assessment of future plans and operations, and including the information contained under the heading "2023 Outlook" may constitute forward-looking information or statements (together "forward-looking information") under applicable securities laws. The forward-looking information includes, without limitation, statements with respect to: the benefits to be derived from the Mannville Transaction; the anticipated timing for closing the Mannville Transaction, the anticipated use of proceeds from the Mannville Transaction including to reduce bank debt and manage future maturities on the Company's Term Loan and Senior Notes and other obligations as they come due, as well as provide Perpetual with the liquidity to invest in its remaining assets at East Edson and pursue other new venture opportunities; forecast production and exploration and development capital spending for 2023; drilling activities for 2023 including the number of gross and net wells to be drilled; cash costs estimates; projected abandonment and reclamation expenditures and the funding thereof; expectations as to drilling activity plans in various areas and the benefits to be derived from such drilling including the production growth and expectations respecting Perpetual's future exploration, development and drilling activities; and Perpetual's business plan.

Forward-looking information is based on current expectations, estimates and projections that involve a number of known and unknown risks, 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 news release. In particular and without limitation of the foregoing, material factors or assumptions on which the forward-looking information in this news release is based include: forecast commodity prices and other pricing assumptions; forecast production volumes based on business and market conditions; foreign exchange and interest rates; near-term pricing and continued volatility of the market including inflationary pressures; accounting estimates and judgments; future use and development of technology and associated expected future results; the ability to obtain regulatory approvals; the successful and timely implementation of capital projects; ability to generate sufficient cash flow to meet current and future obligations; the ability of Perpetual to obtain and retain qualified staff and equipment in a timely and cost-efficient manner, as applicable; the retention of key properties; forecast inflation, supply chain access and other assumptions inherent in Perpetual's current guidance and estimates; climate change; severe weather events (including wild fires); the continuance of existing tax, royalty, and regulatory regimes; the accuracy of the estimates of reserves volumes; ability to access and implement technology necessary to efficiently and effectively operate assets; and the ongoing and future impact of the pandemics (including COVID-19) and the war in Ukraine and related sanctions on commodity prices and the global economy, and the Israel-Hamas war, among others.

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, 2022 and in other reports on file with Canadian securities regulatory authorities which may be accessed through the SEDAR+ website (www.sedarplus.ca) and at Perpetual's website (www.perpetualenergyinc.com). 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.

GLOSSARY

The following is a list of abbreviations that may be used in this MD&A:

Measurement:

bbl	barrel
bbl/d	barrels per day
boe	barrels of oil equivalent
boe/d	barrels of oil equivalent per day
Mboe	thousands of barrels of oil equivalent
Mcf	thousand cubic feet
Mcf/d	thousand cubic feet per day
MMcf/d	million cubic feet per day
GJ	gigajoule

Volume Conversions:

Barrel of oil equivalent ("boe") may be misleading, particularly if used in isolation. In accordance with National Instrument 51-101, a conversion ratio for conventional 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 conventional natural gas and heavy crude oil, based on the current prices of natural gas and crude oil, differ significantly from the energy equivalency of 6 Mcf:1 bbl. A conversion ratio of 1 bbl of heavy crude oil to 1 bbl of NGL has also been used throughout this MD&A. See "First Quarter Financial and Operating Results" section in this MD&A for details of constituent product components that comprise Perpetual's boe production.

Financial and Business Environment:

AECO	Alberta Energy Company
E&E	Exploration and evaluation
GAAP	Generally accepted accounting principles
G&A	General and administrative
IAS	International Accounting Standard
IASB	International Accounting Standards Board
IFRS	International Financial Reporting Standards
NGLs	Natural gas liquids
PP&E	Property, plant and equipment
WTI	West Texas Intermediate
WCS	Western Canadian Select

SUMMARY OF QUARTERLY RESULTS

($ thousands, except as noted)	**Q3 2023**	Q2 2023	Q1 2023	Q4 2022
Financial				
Oil and natural gas revenue	**17,477**	15,167	17,811	28,579
Net income (loss), before tax	**4,599**	(5,115)	(265)	8,637
Per share – basic	**0.06**	(0.06)	—	0.14
Per share – diluted	**0.05**	(0.06)	—	0.12
Cash flow from operating activities	**2,460**	8,295	7,436	8,749
Adjusted funds flow(1)	**9,127**	3,687	8,876	14,207
Per share – basic(2)	**0.14**	0.05	0.13	0.22
Capital expenditures(1)	**7,310**	1,800	9,111	115
Common shares (thousands)				
Weighted average – basic	**67,204**	66,551	65,978	65,883
Weighted average – diluted	**74,341**	66,551	65,978	75,090
Operating				
Daily average production				
Natural gas (MMcf/d)	**30.8**	30.6	30.8	33.0
Oil (bbl/d)	**942**	953	1,022	1,126
NGL (bbl/d)	**493**	474	495	508
Total (boe/d)	**6,570**	6,532	6,655	7,138
Perpetual Average Realized Prices(2)				
Natural gas ($/Mcf)	**2.34**	2.16	3.12	5.72
Oil ($/bbl)	**87.83**	73.46	63.39	71.14
NGL ($/bbl)	**71.00**	64.11	73.81	78.36

($ thousands, except as noted)	Q3 2022	Q2 2022	Q1 2022	Q4 2021
Financial				
Oil and natural gas revenue	22,856	33,092	24,817	21,449
Net income	8,234	4,470	7,162	5,669
Per share – basic	0.13	0.07	0.11	0.09
Per share – diluted	0.11	0.06	0.10	0.08
Cash flow from operating activities	8,749	11,571	6,272	1,624
Adjusted funds flow(1)	9,642	10,505	14,117	8,585
Per share – basic(2)	0.15	0.16	0.22	0.13
Capital expenditures(1)	22,596	4,361	4,837	7,558
Net payments (proceeds) on acquisitions and dispositions(1)	—	—	—	53,407
Common shares (thousands)				
Weighted average – basic	65,016	63,641	63,216	63,853
Weighted average – diluted	74,067	74,721	74,348	70,873
Operating				
Daily average production				
Natural gas (MMcf/d)	26.9	29.9	34.3	31.5
Oil (bbl/d)	1,002	775	682	714
NGL (bbl/d)	390	364	400	395
Total (boe/d)	5,882	6,123	6,804	6,359
Perpetual Average Realized Prices(2)				
Natural gas ($/Mcf)	4.67	7.85	5.11	4.80
Oil ($/bbl)	87.24	117.20	95.55	73.93
NGL ($/bbl)	85.48	104.71	87.86	73.44

(1) Non-GAAP measure. See "Non-GAAP and Other Financial Measures"
(2) Non-GAAP ratio. See "Non-GAAP and Other Financial Measures"