HIGHPEAK ENERGY

3Q21 Presentation

November 2021

DISCLAIMER

FORWARD-LOOKING STATEMENTS

The information in this presentation and in any oral statements made in connection herewith contains forward-looking statements that involve risks and uncertainties. When used in or in connection with this document, the words “believes,” “plans,” “expects,” “anticipates,” “forecasts,” “intends,” “continue,” “may,” “will,” “could,” “should,” “future,” “potential,” “estimate” or the negative of such terms and similar expressions as they relate to HighPeak Energy, Inc. (“HighPeak Energy” or the “Company”) are intended to identify forward-looking statements, which are generally not historical in nature. The forward-looking statements are based on the Company's current expectations, assumptions, estimates and projections about the Company and the industry in which the Company operates. Although the Company believes that the expectations and assumptions reflected in the forward-looking statements are reasonable as and when made, they involve risks and uncertainties that are difficult to predict and, in many cases, beyond the Company's control.

These risks and uncertainties include, among other things, volatility of commodity prices, product supply and demand, the impact of a widespread outbreak of an illness, such as the coronavirus disease 2019 (“COVID-19”) pandemic, on global and U.S. economic activity, competition, the ability to obtain environmental and other permits and the timing thereof, other government regulation or action, the ability to obtain approvals from third parties and negotiate agreements with third parties on mutually acceptable terms, litigation, the costs and results of drilling and operations, availability of equipment, services, resources and personnel required to perform the Company’s drilling and operating activities, access to and availability of transportation, processing, fractionation, refining and storage facilities, HighPeak Energy’s ability to replace reserves, implement its business plans or complete its development activities as scheduled, access to and cost of capital, the financial strength of counterparties to any credit facility and derivative contracts entered into by HighPeak Energy, if any, and purchasers of HighPeak Energy's oil, NGL and gas production, uncertainties about estimates of reserves, identification of drilling locations and the ability to add proved reserves in the future, the assumptions underlying forecasts, including forecasts of production, expenses, cash flow from sales of oil and gas and tax rates, quality of technical data, environmental and weather risks, including the possible impacts of climate change, cybersecurity risks and acts of war or terrorism. These and other risks are described in the Company’s Form 10-K filed with the Securities and Exchange Commission (the “SEC”) on March 15, 2021 (File No. 333-248898) and in its other filings with the SEC. In addition, the Company may be subject to currently unforeseen risks that may have a materially adverse effect on it. Accordingly, no assurances can be given that the actual events and results will not be materially different than the anticipated results described in the forward-looking statements. Readers are cautioned not to place undue reliance on forward-looking statements, which speak only as of the date hereof. The Company undertakes no duty to publicly update these statements except as required by law.

USE OF NON-GAAP FINANCIAL MEASURES

This presentation includes non-GAAP financial measures, including EBITDAX, net debt, operating margin and PV-10. HighPeak believes these non-GAAP measures are useful because they allow HighPeak to more effectively evaluate its operating performance and compare the results of its operations from period to period and against its peers without regard to financing methods, capital structure or tax status. HighPeak does not consider these non-GAAP measures in isolation or as alternatives to similar financial measures determined in accordance with GAAP. HighPeak’s computations of these non-GAAP financial measures may not be comparable to other similarly titled measures of other companies.

HighPeak defines EBITDAX as net income before interest expense, income taxes, depreciation, depletion and amortization, exploration and other expenses, impairment and abandonment expenses, non-cash gains or losses on derivatives, stock-based compensation, gain on exchange of debt, gains and losses from the sale of assets, transaction costs and nonrecurring workforce reduction severance payments. HighPeak’s management believes EBITDAX is useful as it allows them to more effectively evaluate HighPeak’s operating performance and compare the results of its operations from period to period and against its peers without regard to financing methods or capital structure. HighPeak excludes the items listed above from net income in arriving at EBITDAX because these amounts can vary substantially from company to company within the industry depending upon accounting methods and book values of assets, capital structures and the method by which the assets were acquired. HighPeak defines net debt as total debt outstanding less total cash on hand. HighPeak defines operating margin as realized price less lease operating expenses, gathering, processing and transportation expenses, production taxes and interest, on a per-Boe basis. HighPeak defines PV-10 as the present value of estimated future net revenues to be generated from the production of proved reserves, without giving effect to non-property related expenses, discounted at 10% per year before income taxes. For reconciliations of each such non-GAAP measure as presented herein to its most comparable measure prepared in accordance with GAAP, see the Appendix to this presentation.

RESERVE INFORMATION

Reserve engineering is a process of estimating underground accumulations of hydrocarbons that cannot be measured in an exact way. The accuracy of any reserve estimate depends on the quality of available data, the interpretation of such data and price and cost assumptions made by reserve engineers. Reserves estimates included herein may not be indicative of the level of reserves or PV-10 value of oil and natural gas production in the future, as they are based on prices significantly higher than current commodity prices. In addition, the results of drilling, testing and production activities may justify revisions of estimates that were made previously. If significant, such revisions could impact HighPeak's strategy and change the schedule of any further production and development drilling. Accordingly, reserve estimates may differ significantly from the quantities of oil and natural gas that are ultimately recovered.

Unless otherwise indicated, reserve estimates shown herein are based on a reserve report as of December 31, 2020 prepared by Cawley, Gillespie & Associates, Inc., the Company's independent reserve engineering firm, and were prepared in accordance with current SEC rules and regulations regarding reserve reporting, except that commodity prices were based on specified management parameters, referred to herein as "flat" pricing, rather than SEC pricing guidelines. The flat prices used in preparing the reserve report were $57.00 per Bbl of oil and $3.00 per MMBtu of natural gas, as compared to weighted average adjusted realized prices of $39.57 per Bbl for oil and $1.985 per MMBtu that would have been used if the reserve report had been prepared using SEC pricing guidelines. HighPeak believes that the use of flat pricing provides useful information about its reserves, as the flat prices reflect what management believes to be reasonable assumptions as to future commodity prices over the productive lives of its properties. However, HighPeak cautions you that the flat pricing used in preparing the reserve report is not necessarily a projection of future oil and natural gas prices, and should be carefully considered in addition to, and not as a substitute for, SEC prices, when considering HighPeak's oil, natural gas and NGL reserves.

Estimated Ultimate Recoveries, or "EURs," refers to estimates of the sum of total gross remaining proved reserves per well as of a given date and cumulative production prior to such given date for developed wells. Original oil in place, or "OOIP" refers to gross volumes of hydrocarbons without giving effect to recovery efficiency or the economic viability of production. Neither EURs nor OOIP constitute or represent reserves as defined by the SEC and neither is intended to be representative of anticipated future well results or aggregate production volumes. Each such metric is inherently more uncertain than proved reserve estimates prepared in accordance with SEC guidelines.

USE OF PROJECTIONS

This presentation contains projections for HighPeak, including with respect to its operating margin, capital expenditures, drilling pace, average lateral lengths, production, operating expenses and well results. HighPeak's independent auditors have not audited, reviewed, compiled, or performed any procedures with respect to the projections for the purpose of their inclusion in this presentation, and accordingly, have not expressed an opinion or provided any other form of assurance with respect thereto for the purpose of this presentation. These projections are for illustrative purposes only and should not be relied upon as being necessary indicative of future results. The assumptions and estimates underlying the projected information are inherently uncertain and are subject to a wide variety of significant business, economic and competitive risks and uncertainties that could cause actual results to differ materially from those contained in the projected information. Even if HighPeak's assumptions and estimates are correct, projections are inherently uncertain due to a number of factors outside its control. Accordingly, there can be no assurance that the projected results are indicative of HighPeak's future performance or that actual results will not differ materially from those presented in the projected information. Inclusion of the projected information in this presentation should not be regarded as a representation by any person that the results contained in the projected information will be achieved.

Northern Midland Basin Pure-Play Positioned for Efficient Oil-Weighted Value Generation

Key Highlights

Production

- Averaged ~ 8.2 MBoe/d in 3Q21; 85% oil and 94% liquids
- Average production since mid-October of ~ 15.5 MBoe/d
- 2nd rig expected to add meaningful production volumes in early 2022
- Added 3rd rig in late October without increasing 2021 capital budget
- Further acceleration of development plan with 4th rig during 4Q/21

Acreage

- Net acres ~ 62,000
  - Flat Top ~ 33,000 net acres
  - Signal Peak ~29,000 net acres
- ~ 92% operated with average operated unit WI of ~ 82%; ~ 75% GNRI

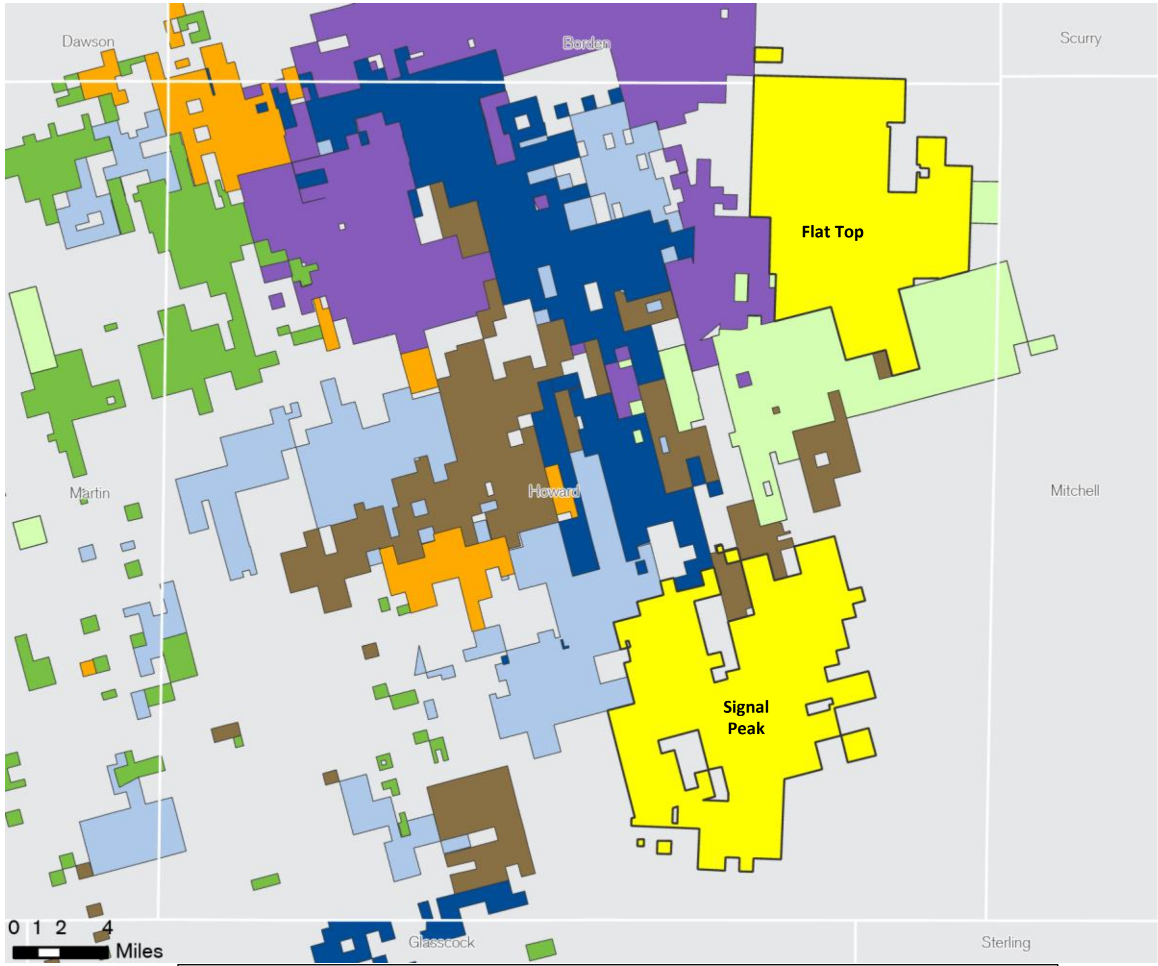
Acquisitions

- Closed series of bolt-on acquisitions comprising:
  - ~ 10,600 net acres
  - Estimated production averaging >1,400 Boe/d for the remainder of 2021 and interests in SWD wells & related infrastructure

Margins

- 3Q21 cash operating margin of $51.88/Boe (1)
- Average realized price of $63.18/Boe(1)

Acreage Position and Selected Offset Operators



HighPeak | Diamondback | Bayswater | SM Energy
Callon | Laredo | Ovintiv | Surge

Source: Acreage per Enverus.
(1) Realized Price is prior to the effect of derivatives. Cash operating margin defined as unhedged realized price less LOE, less GP&T, and less production taxes ($/Boe).

PRODUCTION GROWTH

Key Events

A **COVID-19 - Drilling halted**

- Drilling and frac'ing during 2020 deferred due to low oil prices
- Production ramped steadily from HPK's initial one rig development program

B **Winter Storm Uri – Production shut-in**

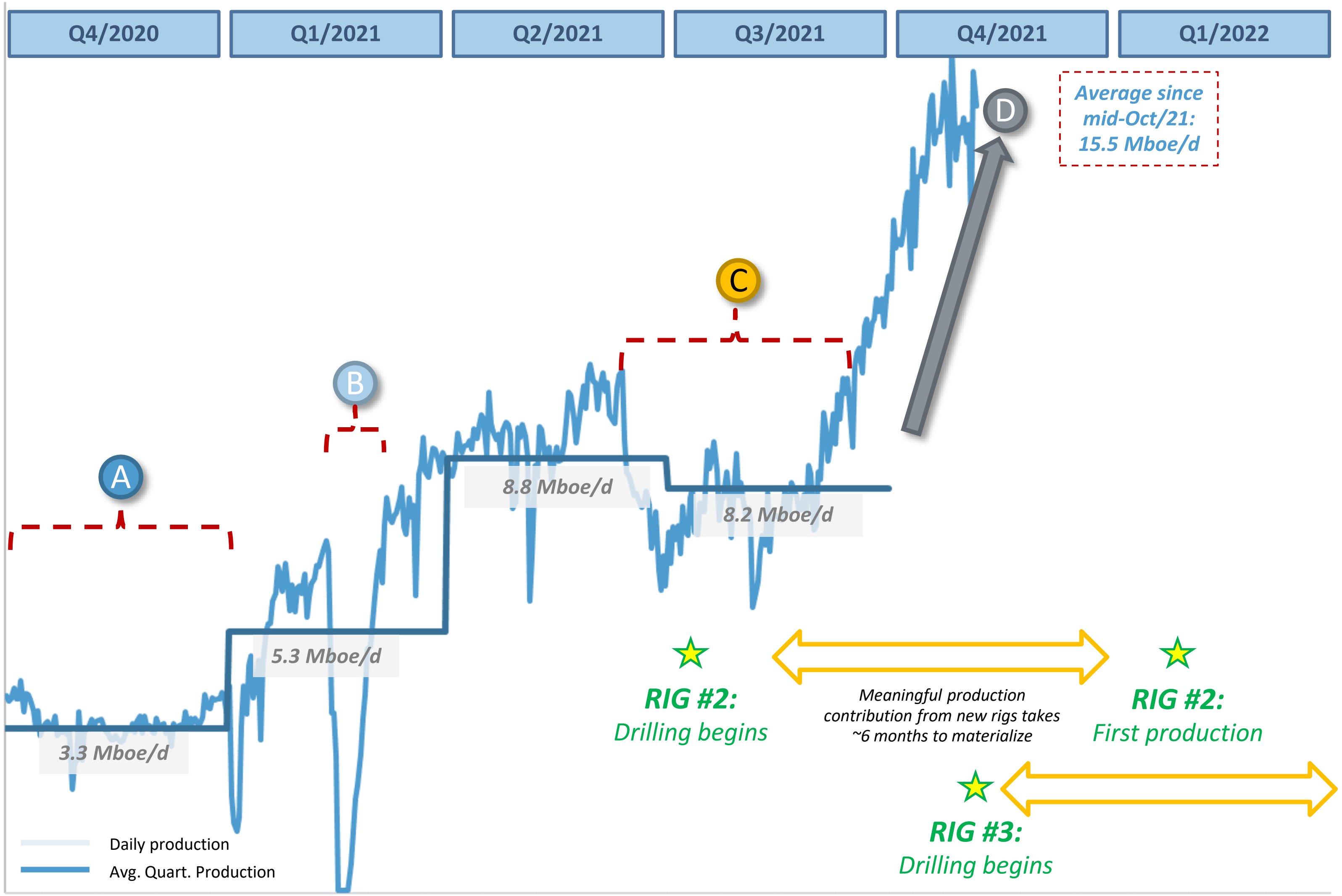
- Winter storm Uri interrupts production for ~3 weeks

C **Offset Frac'ing begins**

- Frac'ing activity during Q3/21 caused significant offset production to be temporarily shut-in
  - ~4,000 - ~6,000 boepd offline

D **Production takes off**

- New wells and returning shut-in wells have driven significant growth into Q4/21
  - 2nd rig in Q3/21 to contribute meaningful production in late Q4/21 and beyond
  - 3rd rig in mid-Q4/21 will further accelerate production growth



Q3 2021 SUMMARY

Production and Pricing	Q3 2021
Total production (MBoe)	751.4
Total production (MBoe/d)	8.2
Oil percentage	85%
Liquids percentage	94%
Realized Pricing	
Oil per Bbl	$69.84
NGL per Bbl	$35.83
Gas per Mcf	$3.69
Total per Boe	$63.18
Total per Boe (hedged)	*$57.88*
Costs (per Boe)	
LOE (including transportation)	$8.93
Production & Ad Valorem taxes	$2.37
G&A (Cash)	$2.22
Total cash costs	$13.52
Cash margin	$49.65
Cash margin (hedged)	*$44.36*

Earnings	Q3 2021
Net Income ($MM)	$8.05
GAAP Earnings (per diluted share)	*$0.08*
EBITDAX ($MM)	$33.3
EBITDAX (per diluted share)	*$0.33*
Other	
Capex excluding acquisitions ($MM)	$64.6
Lateral feet drilled (‘000s)	124.4 + SWD

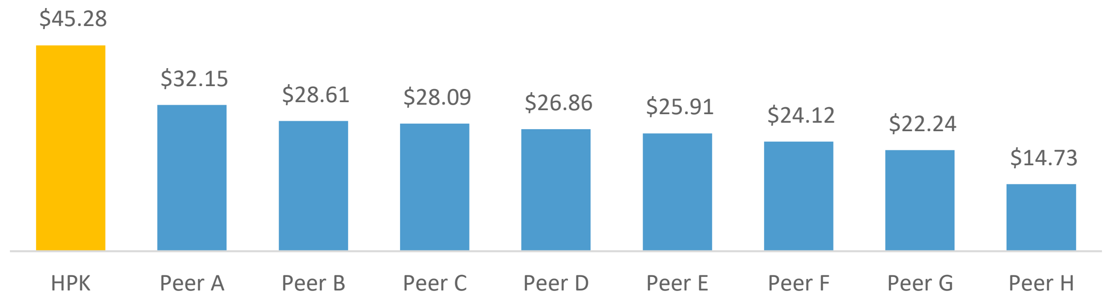
Q3 is the steppingstone to major growth in Q4/21 and 2022

2021 MARGINS

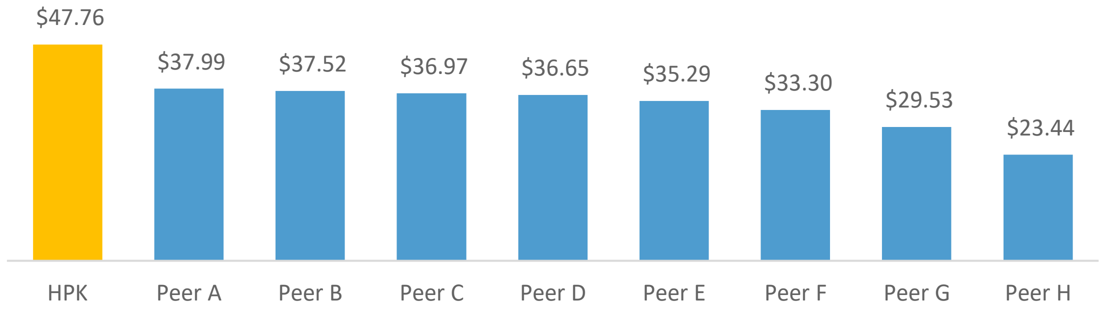
EBITDA margins for the 9 months ended 9/30/21 ($/Boe)(1)

- Strong oil-weighted margins
- Positioned to accelerate margin growth with LOE reduction initiatives and dilution of fixed costs

Hedged

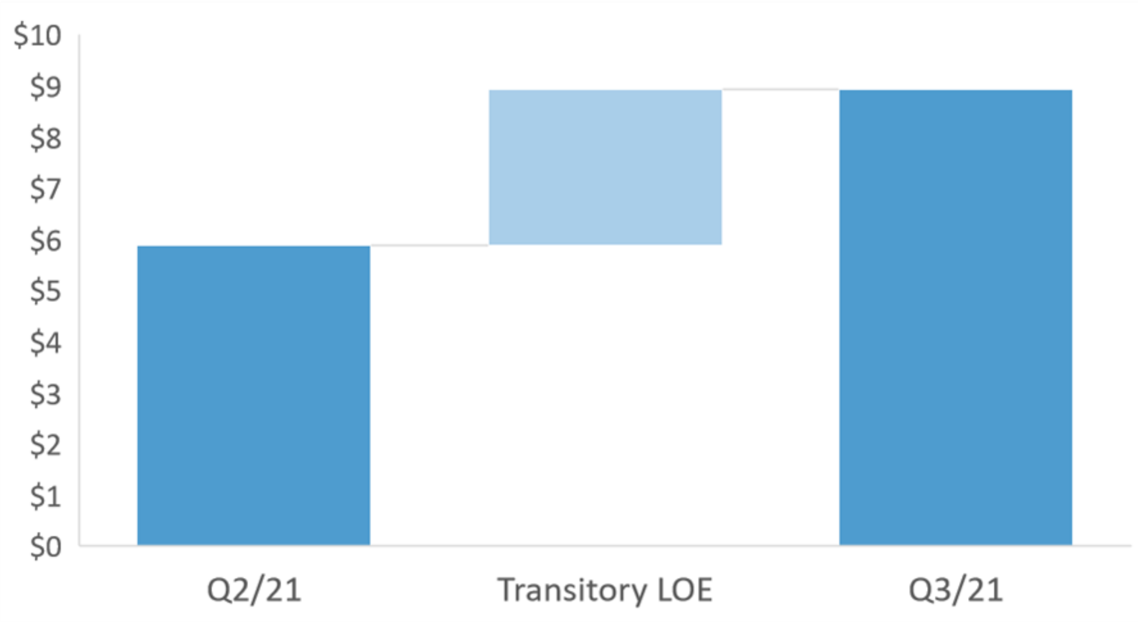


Unhedged



LOE ($/Boe)

- Transitory increase in LOE in Q3/21
  - Additional LOE from new wells prior to production ramp
  - Lower Q3/21 total production volumes due to offset fracs
  - Rental generators at many sites until substation is commissioned in Q2/22
- LOE expected to improve significantly in 2022

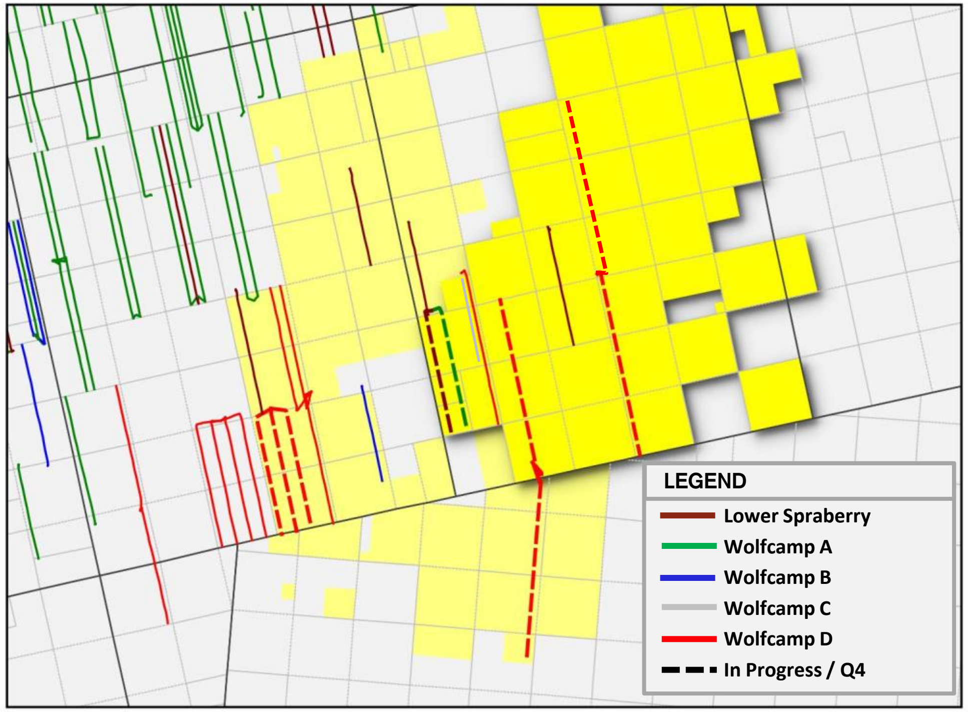


(1) EBITDA and production for the 9 months ended 9/30/21 based on 3Q'21 figures as filed. Peers include CDEV, CPE, ESTE, FANG, LPI, MTDR, PXD and SM.

Flat Top

Manufacturing mode

Signal Peak

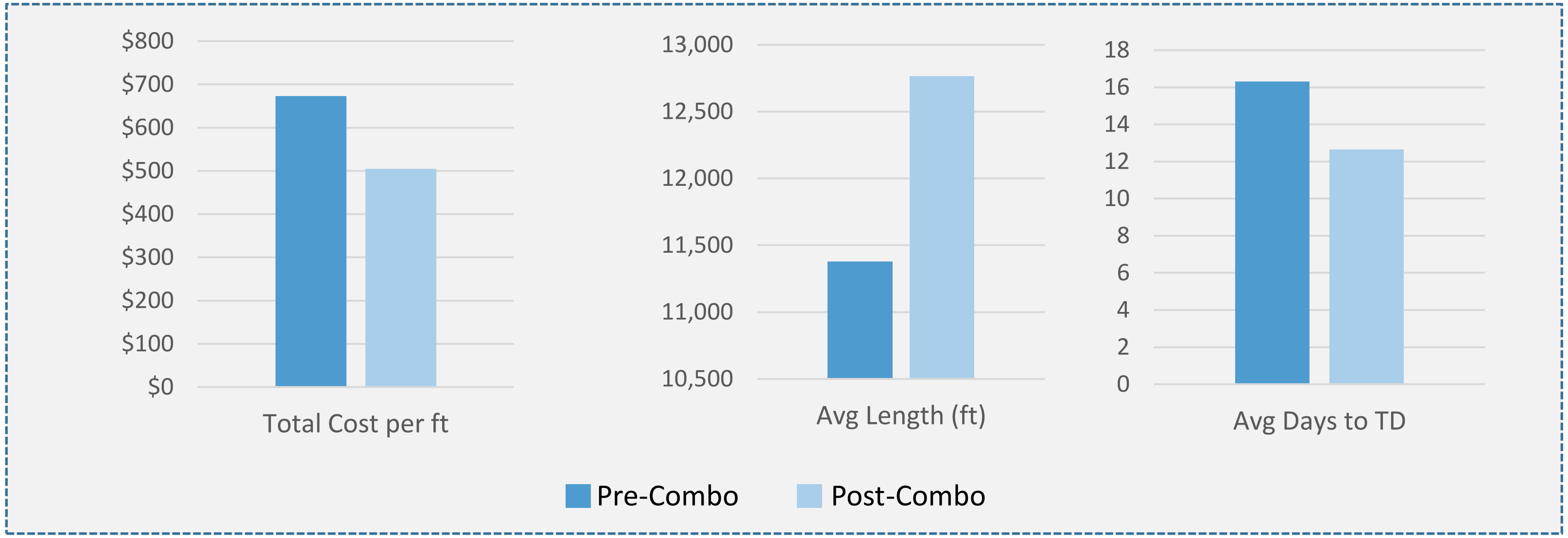


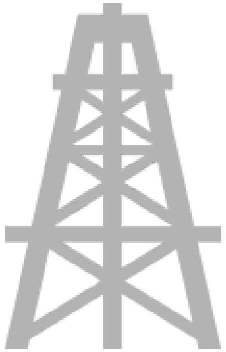
Initial pad development

Capital Efficiency

- Continuous capital improvement
  - Pad development
  - Longer laterals
  - Service company relationships
  - Ongoing operational improvements
  - D&C Post-Combination[3] average is ~$400/ft

Capital Efficiency Through 43 Wells Drilled[1]





Flat Top Well Payout Economics [2]

Wolfcamp A 12,500' Well	Lower Spraberry 12,500' Well
< 6 months at $80 oil (NPV10 ~$20mm)	< 7 months at $80 oil (NPV10 ~$18mm)
< 8 months at $65 oil (NPV10 ~$14mm)	< 9 months at $65 oil (NPV10 ~$13mm)

(1) Total cost per foot includes Drilling , Completion, Equipping and Facilities
(2) Assumes $5.00/MMBtu (gas) for $80/bbl case and $3.50/MMBtu (gas) for $65/bbl case and total well capex of $505/ft for 12,500 ft laterals. Payback period calculated from first production.
(3) "Combination" reflects the business combination ("IPO") of HighPeak Energy, Inc. on Aug. 21, 2020.

Environmental

- Increasing use of recycled produced fluids
- 13 MW Solar farm project in progress
- HighPeak substation on track for Q2/22 electrification start date

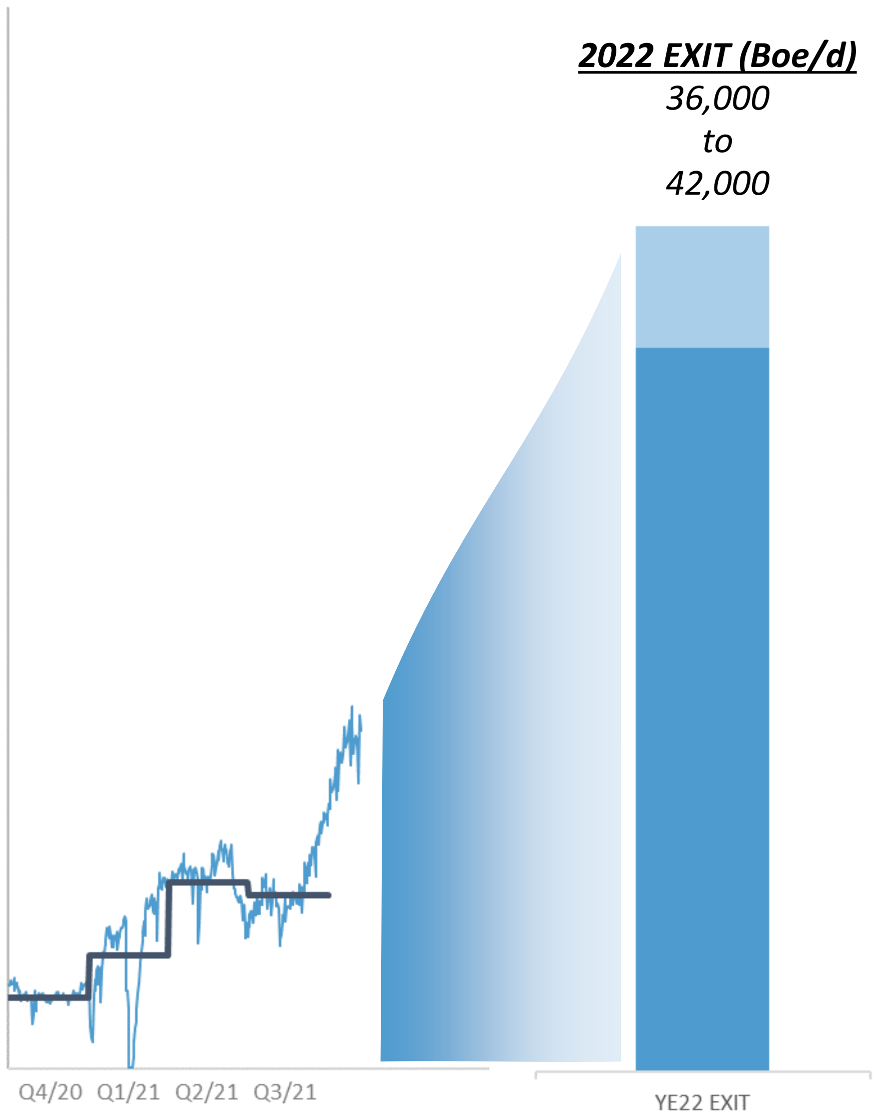
Social

- Workforce is >30% Women
- Safety first - zero recordable incidents
- Flexible work environment/ Active community member

Governance

- Joined the Environmental Partnership
- Majority of Board is independent despite controlled company status
- Established ESG Committee

2022 PRELIMINARY 4 RIG OUTLOOK



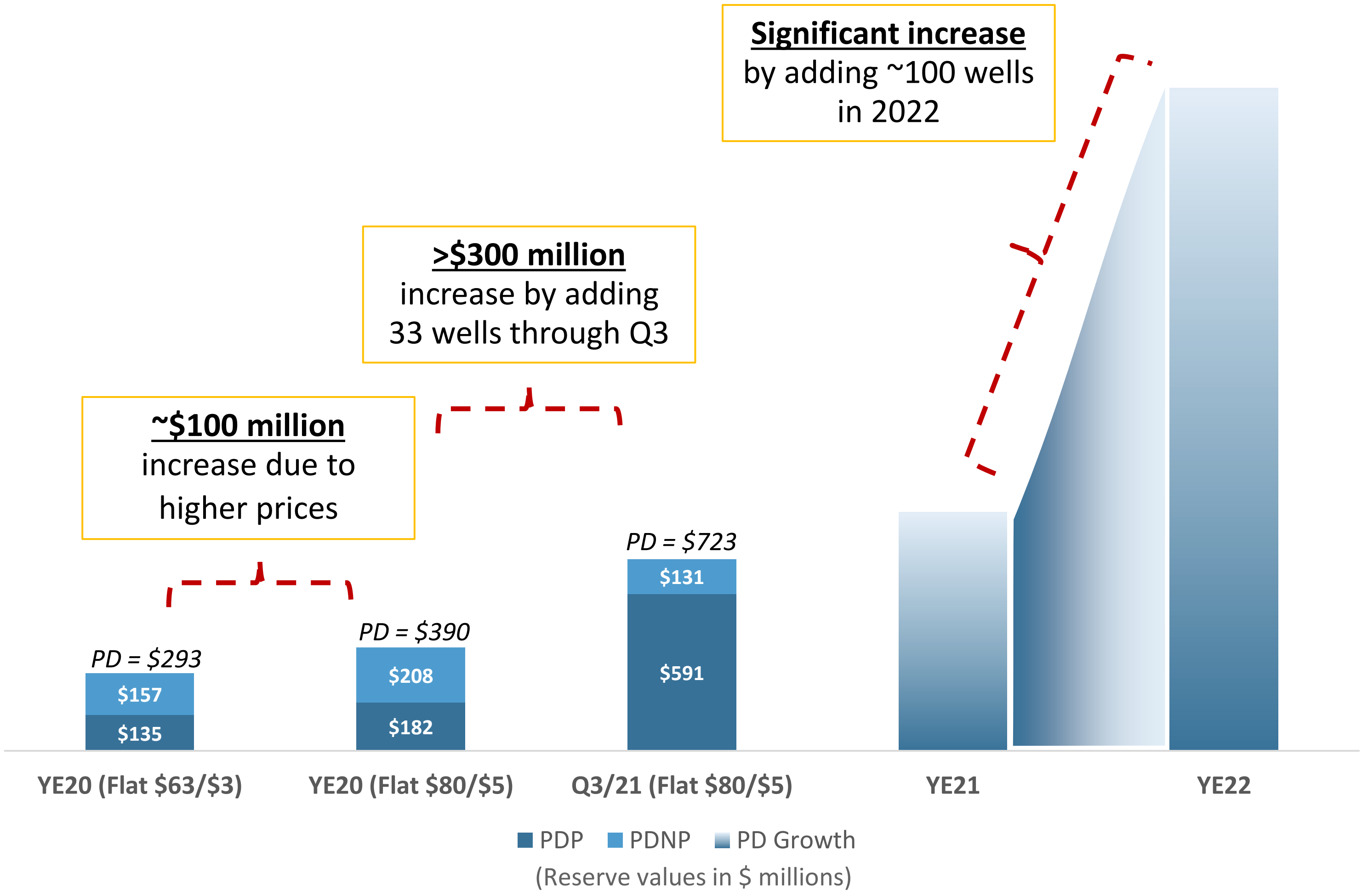
	4-RIG		
	Low		High
Production			
Average Rate (Boe/d)	26,000	-	31,000
Exit Rate (Boe/d)	36,000	-	42,000
Capex ($ millions)			
Capital Expenditures, D,C,E & F	$610	-	$660
Capital Expenditures, Land/Infra/Other	$35	-	$40
Capital Expenditures, Total	**$645**	-	**$700**
Unit Measures ($/Boe)			
Lease Operating Expenses	$4.50	-	$5.25
Production Taxes	$3.75	-	$4.50
General & Administrative	$1.00	-	$1.50
Total Cash Costs	**$9.25**		**$11.25**
Gross Operated Wells -- Online			
Total (wells)	**80**	-	**110**
Flat Top (%)	*60%*	-	*75%*
Signal Peak (%)	*25%*	-	*40%*
Realized Pricing and Differentials[1]	**Pct**		**Diff**
Oil	82%		-$0.40 WTI
Gas	7%		25% HH
NGL	11%		50% WTI

(1) Gathering , Processing and Transportation deducts included in realized prices

RAPID PROVED DEVELOPED RESERVE GROWTH

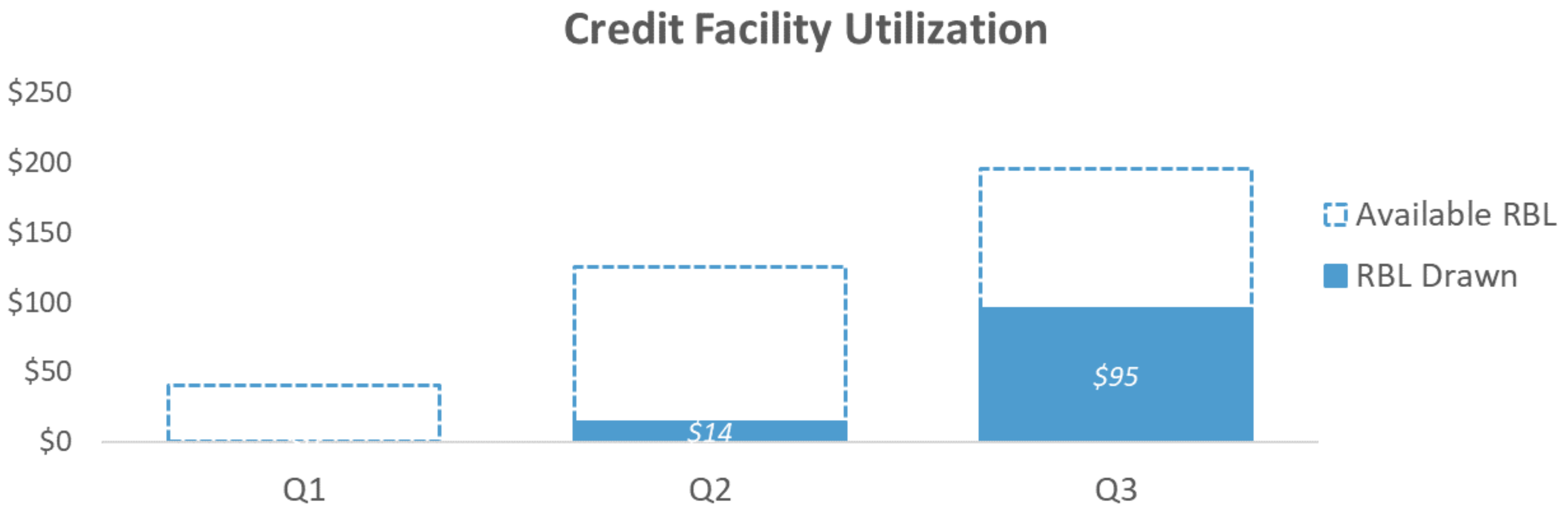
Overview

- PV10 for YE20 proved developed (PD) reserves value increased from $293mm to $390mm due to higher prices
- 2021 development increased PD PV10 by ~$330mm by adding 33 gross horizontal wells through Q3/21
- Development using 4 operated rigs would add ~100 PD horizontal wells by YE22 resulting in significant additional PD value
- 2021/22 development will support significant additions to PUD inventory



Overview

- Substantial increase in credit facility (RBL) to $195mm from continued production growth and expansion of bank group(2)
- Undrawn capacity of approximately $100mm
- Recently completed a public stock offering of 2.53 million shares for aggregate gross proceeds of $25.3mm
- Target Debt:EBITDAX < 1.0x in go-forward development plan



Net Debt/EBITDAX(1)

~0.6x

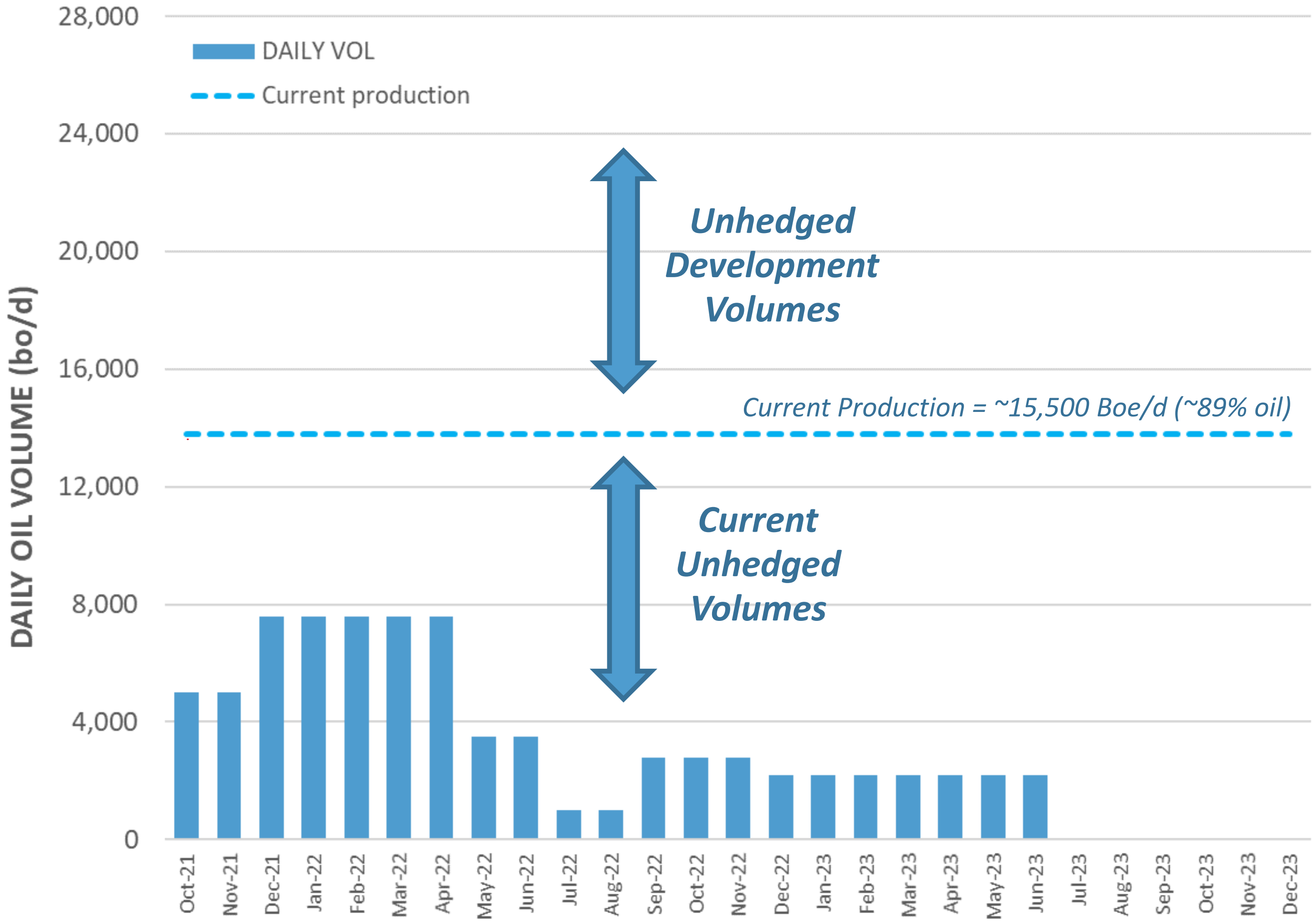
(1) Calculated as Net Debt divided by annualized Q3 EBITDAX. See Appendix for calculation of Net Debt and EBITDAX.
(2) RBL increased to $195mm on October 1st

HEDGES[1]

Summary

- Average volumes of ~4,100 Bo/d hedged in 2022 at average price of $65.80/bbl
- Hedged volumes reflect < 20% of projected 2022 oil volumes

	VOL (mbbl)	Price
2021-Q4	540.6	$64.35
2022-Q1	684.0	$67.52
2022-Q2	441.5	$66.59
2022-Q3	146.0	$65.88
2022-Q4	239.0	$59.37
2023-Q1	198.0	$57.22
2023-Q2	200.2	$57.22



Responsible Growth – Continuing efficient production growth

Strong Balance Sheet – Increased liquidity from RBL increase and equity offering

Operational Excellence – Focus on capital and operational efficiency

Attractive Product Mix – >90% liquids drive high margins

HIGHPEAK ENERGY, INC.

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Appendix

NON-GAAP RECONCILIATIONS

Reconciliation of Net Income to EBITDAX

(in thousands)	Three Months Ended
	30-Sept-21
Net income	$ 8,047
Interest expense	947
Income tax expense	2,145
Depletion, depreciation and amortization	13,917
Accretion on asset retirement obligation	44
Exploration and abandonment expense	488
Stock based compensation	905
Derivative-related noncash activity	6,844
EBITDAX	**$ 33,337**

Calculation of Net Debt

(in millions)	As of	
	30-Jun-21	**30-Sep-21**
Total debt	$ 14	$ 95
Less total cash on hand	(13)	(12)
Net Debt	**$ 1**	**$ 83**