

ASX:EEG

# Quarterly Report

For the period ending 31 March 2020



## Highlights

Empire Energy Group Limited (ASX:EEG) continues to progress the development of its 100%-owned 14.5 million acre shale petroleum project areas in the Beetaloo-McArthur Basins of the Northern Territory led by fresh 2D seismic interpretations. As a result of the process of building capital and team strength over the past year and capital raised in late 2020, the Company is well positioned to weather current economic conditions affecting global markets.

Highlights of the Quarter include:

- **Empire is actively progressing its work programs while reducing all non-essential expenditure** to make best use of the company's cash and maintain a stable balance sheet
- **Enhanced interpretation of recently acquired Beetaloo Basin 2D seismic** data confirms that Empire holds a material Beetaloo Sub-Basin acreage and resource position geologically continuous with the strata of adjoining operators
- **Northern Territory Government Ministerial consent for the drilling** of Empire's first well in EP187, 'Carpentaria-1', has been received. Approvals are valid for 2 years
- **Timing for drilling remains fluid** given evolving COVID-19 situation. The company is committed to progressing its work programs while maintaining the health and safety of local communities, including Traditional Owners, on whose land Empire operates
- **Agreement with Macquarie Bank** (lender and major shareholder) regarding credit terms in the company's credit facilities for all quarterly financial covenant tests until 31 December 2020 (inclusive)
- **US Appalachia business operations well hedged** for gas price exposure

During the Quarter, major operators in the Beetaloo-McArthur Basin reported material developments. Santos confirmed a gas discovery in EP161 after successfully flow testing the Middle Velkerri B and booked a maiden contingent resource of 22 mboe. Origin Energy announced that it had agreed to acquire an additional 7.5% working interest in its Beetaloo Basin tenements from its joint venture partner, Falcon Oil & Gas, implying a look through valuation for those properties of A\$333m.

### Comments from Managing Director Alex Underwood:

"The economic impact of COVID-19 and the flow on effects to oil & gas markets over the course of 2020 has been dramatic, characterised by significant global oversupply of oil and corresponding low commodity prices, and reduced equity valuations for upstream oil and gas companies including Empire.

In the face of this, Empire is well placed to emerge strongly once economic conditions improve. Following actions taken in 2019 to substantially reduce debt and increase cash holdings, we have recently taken further steps to protect our balance sheet, and we are minimising non-essential expenditure to preserve our cash holdings.

This report details for you the high level of activity being sustained internally in readiness for when Empire emerges into a reactivated economy. With volatility comes opportunity, and Empire's expanded technical and management team has been working to hold and build momentum.

A solid platform is being established to prepare for a recommencement of Beetaloo-McArthur Basin work program activities by Empire and its neighbours in the periods ahead."

# NT Operations

**Empire’s 2020 interpretation of newly acquired seismic data shows Beetaloo sub-Basin target shales extend into its acreage.**

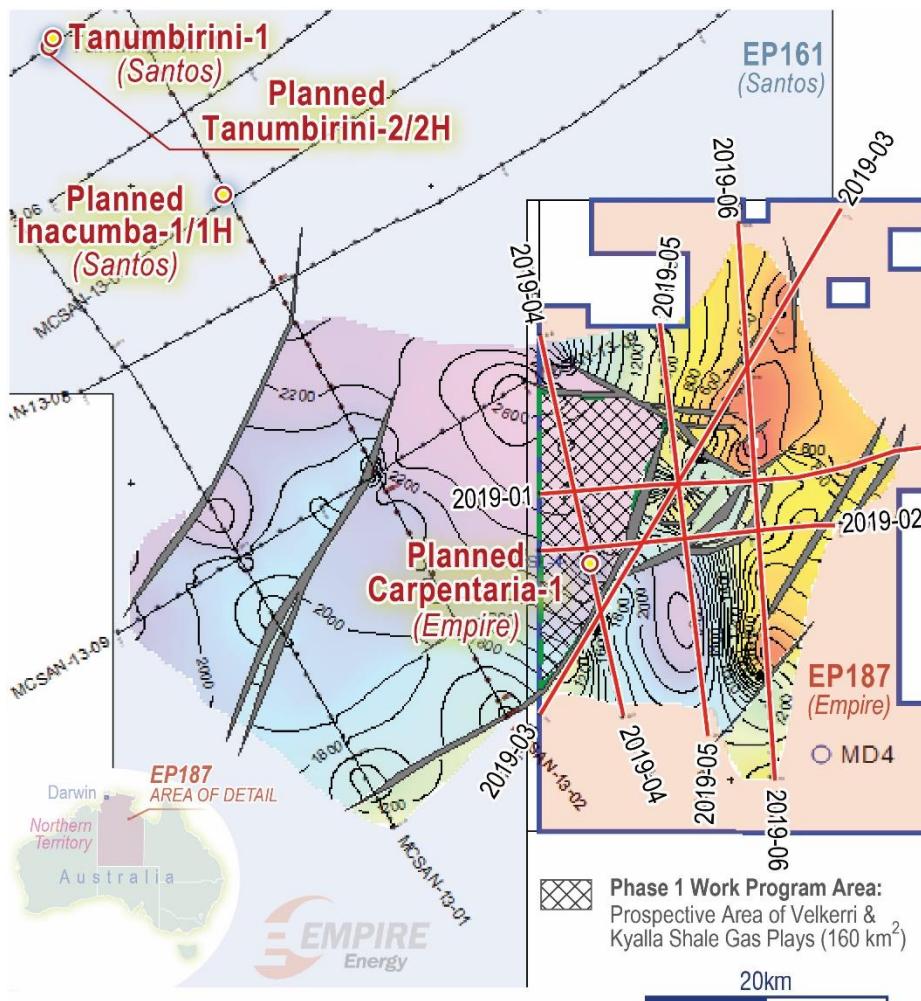
In January 2020, Empire started processing of 231-line kilometres of 2D seismic survey completed in Q4 2019, across its most southern tenement (NT) EP187.

Interpretation of the seismic data over the Quarter has materially validated an extensive area of structurally undisturbed and continuous Beetaloo sub-Basin strata in EP187. The seismic survey displayed very large thicknesses of the productive Velkerri Formation and Kyalla Formation. Both of these units contain marine shale targets now demonstrated to be equivalent and analogous to the properties drilled by Beetaloo operators to Empire’s west.

Two material areas were mapped that are contiguous with the adjoining resource acreage undergoing planning for lateral drilling, hydraulic stimulation and testing following positive appraisal activity by the two major and adjoining operators, Origin and Santos.

Empire’s target shales are interpreted to be at beneficially shallower depths than those successfully tested in neighbouring acreage. The Company’s planned Carpentaria-1 well will confirm the thickness of the shale targets and appraise the gas and liquid hydrocarbon potential of the Phase 1 Work Program Area.

Empire incurred US\$856,328 of exploration expenses on its Northern Territory assets during the Quarter.



## Resource Assessment

Empire has engaged Netherland, Sewell and Associates (“NSAI”), a premier international firm of petroleum consultants, to generate an independent resource report on Empire’s Northern Territory properties. This report will assess the volumes of in-place and recoverable oil, gas and petroleum liquids in Empire’s properties, utilizing existing data and the recent seismic program results. NSAI has vast experience in shale petroleum resource certification globally, including in the Northern Territory’s Beetaloo sub-Basin.

Empire expects to release the results of the NSAI report in Q2 2020.

## Ministerial consent to drill - Granted

Empire recently announced to shareholders it had received Ministerial consent to drill its first well in EP187. Those approvals are valid for two years. Empire is one of the most active companies in the McArthur and Beetaloo Basins, and one of the first to be granted Northern Territory approvals for drilling under a new regulatory framework. Empire’s new and detailed seismic picture of its gas and liquid hydrocarbon targets and the drilling approvals leave the Company poised to move forward in the field as soon as conditions permit.

The Northern Territory Government has implemented border restrictions preventing non-essential travel to remote indigenous communities and a 14-day isolation period for people entering the Northern Territory. The Northern Territory Department of Health has also released guidelines which provide for exemptions to the border restrictions for classes of persons (such as Empire employees and contractors) governed by a COVID-19 Management Plan to prevent the risk of transmission of COVID-19.

Empire continues to develop a COVID-19 Management Plan to ensure that it can continue to operate in the Northern Territory while minimizing the risk of COVID-19 transmission amongst its workforce, contractors, and Northern Territory communities. Because of these developments and considering current market conditions, the timing of the drilling of Carpentaria-1 scheduled for this year, and targeting the Velkerri and Kyalla Shales in EP187, is now open to progressive assessment by the management team and Board.

Recent interpretation of Empire’s 2D seismic data has demonstrated continuity of specific shale units right across the McArthur Basin (Beetaloo sub-Basin). Empire’s analysis shows direct interpreted connections with the positive results from Santos’ Tanumbirini-1 well gas discovery. This highlights the relevance of corporate transactions and the implied valuations that have occurred across the Basin over the period.





## Developments in the NT shale petroleum sector

- **On 7 April 2020, Origin Energy announced it had agreed with joint venture partner Falcon Oil & Gas (“Falcon”) to increase its interest in the Beetaloo Basin joint venture** by 7.5% in exchange for increasing its carry of Falcon’s share of costs by A\$25m over the coming years.<sup>1</sup> The transaction implies a valuation of A\$333m for 100% of the project, noting that this transaction has been executed during a period of depressed LNG and oil prices.
- **Falcon (AIM: FOG, Euronext: FAC, TSX-V: FO) also announced that the transaction with Origin has combined and increased the Stage 2 and Stage 3 gross joint venture gross cost caps from A\$150.5m to A\$263.8m<sup>2</sup>**, representing a material increase in capital to be invested in the project further demonstrating the joint venture’s confidence in the prospectivity of the Beetaloo Sub-Basin.
- Origin has indicated that Beetaloo Basin project exploration and appraisal activity is progressing well and that **results from the Kyalla 117 N2 well demonstrate good reservoir continuity, conductive natural fractures, and continuous gas shows**. Though operations have been temporarily paused due to the COVID-19 pandemic, Origin says it expects stimulation and extended production test of the well to occur in H1 FY2021<sup>3</sup> (H2 CY2020).
- In February 2020, Santos (75%) and its JV partner Tamboran Resources (25%) confirmed the Tanumbirini-1 vertical well gas discovery via production test in the Middle Velkerri shale gas play in EP161 which adjoins Empire’s EP187 permit. Santos reported on the four-stage stimulation program that **“Gas flow rates >1.2mmscf/d exceeded initial expectations”**.
- **Santos has booked a maiden contingent resource in the McArthur Basin of 22mboe<sup>4</sup> (~130PJ)**
- The Chairman of Santos confirmed that due to cost-cutting measures that the company had announced on 23 March 2020 in response to COVID-19 and the lower oil price environment, Santos will delay its two horizontal well program in the McArthur Basin.<sup>5</sup> Santos further indicated within its latest March quarter report that the drilling and multi-stage stimulation of the two horizontal wells is now expected to commence in 2021.<sup>6</sup>
- Santos also increased its McArthur Basin (Beetaloo sub-Basin) acreage position in the quarter with the award of new permit EP354 which adjoins the southeast border of Origin’s EP76 permit.

<sup>1</sup> Origin Energy ASX release dated 7 April 2020

<sup>2</sup> Falcon Beetaloo Farm-out announcement dated 7 April 2020

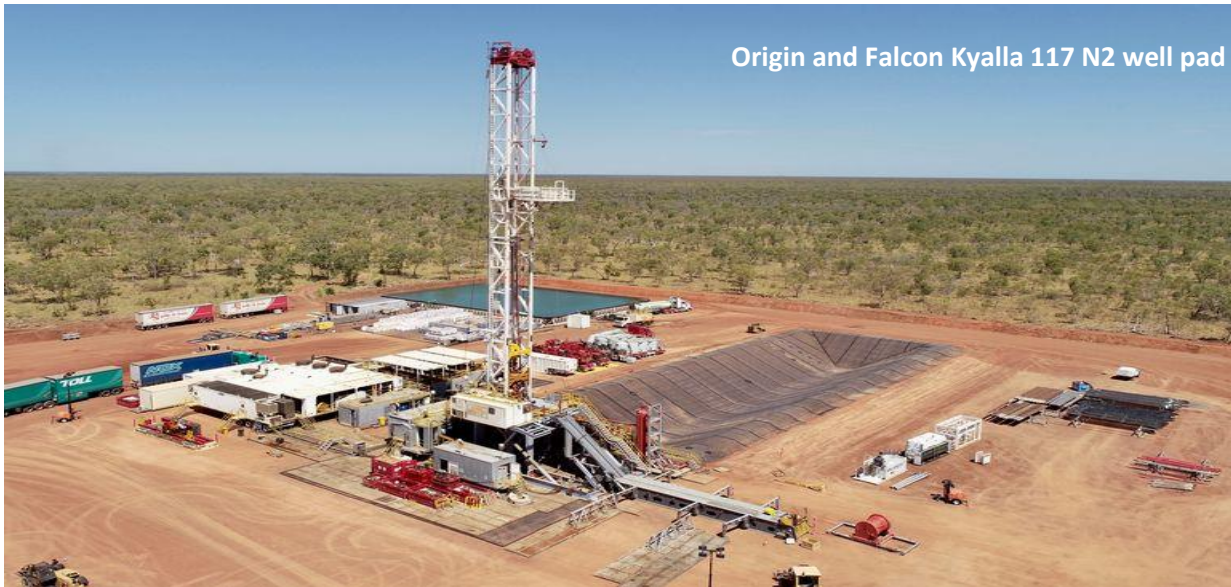
<sup>3</sup> Origin Energy ASX release dated 7 April 2020

<sup>4</sup> Santos 2019 Annual Report

<sup>5</sup> Santos ASX release 3 April 2020, 2020 Annual General Meeting addresses

<sup>6</sup> Santos 2020 First Quarter Activities Report released 23 April 2020

- During the Quarter and after Quarter end, **Santos announced equity interest movements at Darwin LNG and the Barossa gas field which will supply gas to Darwin LNG once production from the existing Bayu Undan field ceases in ~2022**. Santos has agreed to sell a 25% interest in Darwin LNG to SK E&S of Korea for US\$390m with effect from 1 October 2019<sup>7</sup> and signed a Letter of Intent to sell a 12.5% interest in the Barossa gas field offshore Northern Territory to JERA of Japan<sup>8</sup>, the world's largest buyer of LNG. Both transactions demonstrate the global interest in the Northern Territory oil and gas industry.



## Other News

### Technical team strengthened – Dr Alex Bruce

Empire's technical team was strengthened over the quarter with Dr Alex Bruce joining as our Chief Geoscientist. He was most recently with Cooper Basin focused player Bridgeport Energy which is owned by New Hope Corporation.

He is a well-credentialed oil & gas professional serving in similar roles with other mid-cap ASX oil & gas companies including AWE (now Mitsui), Drillsearch Energy (acquired by Beach Energy) and ROC Oil. He is the President of the NSW Branch of the Petroleum Exploration Society of Australia.

Alex earned his PhD from the University of NSW in Reservoir Characterisation.

At Empire he leads our technical analysis and understanding of our Northern Territory assets and the wider Basin.



<sup>7</sup> Santos ASX release 12 March 2020

<sup>8</sup> Santos ASX release 16 April 2020

### **New office – Relocation**

The Sydney head office has moved to new premises during the quarter at 20 Bond Street, Sydney to accommodate new appointments to the senior management team which is more suitable for the higher level of collaborative team work now required.

### **Options Exercised**

During the Quarter, Empire option holders exercised 450,000 options which raised A\$105,000<sup>9</sup>.

### **Broker Research Coverage**

After Quarter end, Taylor Collison initiated research coverage of Empire with a BUY recommendation and valuation range of A\$0.24 to A\$1.22 per share (mid-range of A\$0.53 per share).

Research as a Service (“RaaS”) updated its own research coverage of Empire with an updated base case valuation of A\$0.51 per share.

Both reports can be found on Empire's website <https://empireenergygroup.net/investor-information/research-and-media/>.



<sup>9</sup> Of which A\$60,000 was received late in Q4 2019

## Energy Market Update

### Empire is working through the oil & gas market downturn in a position of relative strength.

Empire's focus is primarily on delivering production into market well beyond the current period. However, Empire's US operations are influenced by current market factors and sentiments, have somewhat of a bearing on the share price, so are worthy of comment.

The WTI (West Texas Intermediate) spot price fell from US\$61.14 / bbl on 31 December 2019 to US\$20.51 as at Quarter end because of the threat of an oil price war between Russia and OPEC (led by Saudi Arabia). This coincided with falling demand for oil with the onset of COVID-19 lockdowns. OPEC+ announced a production cut of 9.7mmbopd on 12 April 2020.

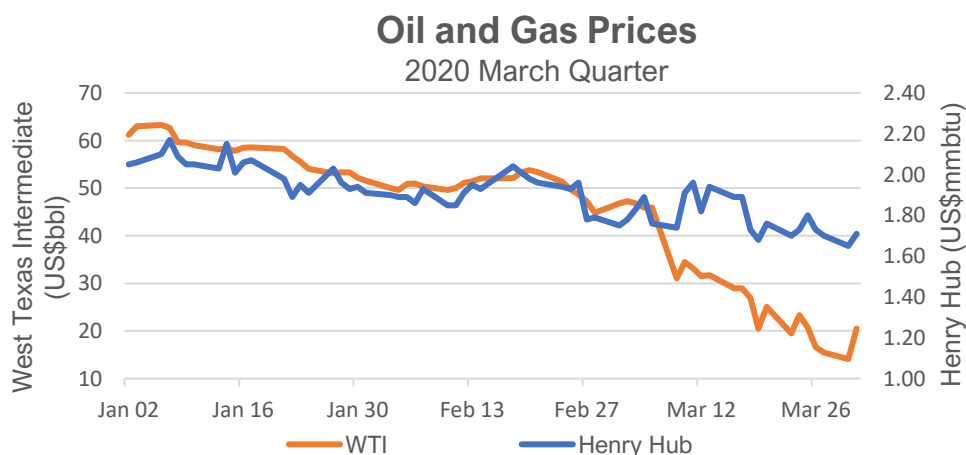
The move had yet to stabilise prices, when, during the preparation of this report, the price for the WTI May futures contract fell to a historic and previously unthinkable low of minus US\$37.60/bbl. This indicated that the supply of oil far exceeded the demand for the commodity such that there was insufficient storage capacity to handle deliveries. Prices have since recovered somewhat but remain at very low levels.

Following the sale of Empire's Kansas oil production assets in H2 2019, Empire has minimal direct exposure to oil prices from its US operations which are principally gas-focused.

Empire's US operations deliver gas referenced against the 'Henry Hub' spot price and other regional markers which broadly correlate with Henry Hub. The Henry Hub is a distribution hub on the natural gas pipeline system in Erath, Louisiana and prices have fallen due to a decline in industrial activity resulting from government COVID-19 restrictions. Empire operations are, however, continuing relatively unaffected, working under its internal COVID-19 policy, and protected under its status as an essential business in New York State.

Empire anticipates that as the impacts and movement restrictions of COVID-19 ease and industrial activity returns to more normalised levels, together with reduced shale drilling activity (particularly shale oil drilling with 'associated' gas being produced and sold with oil from these wells) in the US as a result of lower commodity prices, gas prices may recover as 2020 progresses and the northern Winter, typically a high demand period for natural gas, approaches.

Empire came into the downturn well-positioned with a strong cash balance following the A\$12m placement during November 2019, significantly reduced debt and reaching agreement with our lenders and major shareholder Macquarie Bank on financial covenant waivers until 31 December 2020.





## US Operations

Empire's US operations are significantly protected from current market turmoil by comprehensive hedging arrangements. US EBITDA for Q1 2020 was US\$(31)k (Q4 2019: US\$(307)k). The improved EBITDA for the quarter reflects ongoing cost reductions to a sustaining level following conclusion of the Kansas divestment and incurrence of certain Kansas closure and restructuring expenses during Q4 2019. A lower weighted average sales price for gas before hedging of US\$2.04Mcf for Q1 2020 (Q4 2019: US\$2.37Mcf) has also had a detrimental impact on revenues for unhedged volumes.

Total net Appalachia gas production was 403,704Mcf (4,436Mcf/d), representing a decrease of 356Mcf/d vs. Q4 2019 of 440,851Mcf (4,792Mcf/d), representing additional seasonal demand for gas in the run up to the festive season in Q4 2019.

Empire incurred US\$457k lease operating expenses during the quarter. No expenses were incurred on exploration or development activities in the US.

Empire is continuing operations under its COVID-19 policy, working under its status as an essential business. Our US staff are adhering to strict measures including social distancing, hygiene practices and self-isolation and testing for suspected COVID-19 cases. To date, there have been no confirmed cases of COVID-19 amongst Empire's workforce.

During the Quarter, a new pipeline connection to the NEA Cross Inc (local utility and infrastructure owner) network was completed. This allows for a proportion of Empire gas to be sold directly to market at a premium.

Description	3 months to 31 Mar 2020	3 months to 31 Mar 2019	YTD 31 Dec 2020	YTD 31 Dec 2019
<b>Net Oil Production (Bbls)</b>				
Appalachia	416	180	416	180
Mid-Con	-	33,010	-	33,010
Total Oil	416	33,190	416	33,190
<b>Net Natural Gas Production (Mcf)</b>				
Appalachia	403,704	432,604	403,704	432,604
Mid-Con	-	1,952	-	1,952
Total Natural Gas	403,704	434,556	403,704	434,556
<b>Net Gas Equivalent (Mcf):</b>				
Appalachia	406,200	433,684	406,200	433,684
Mid-Con	-	200,015	-	200,015
Total	406,200	633,699	406,200	633,699
<b>Mcf/d</b>	<b>4,464</b>	<b>7,041</b>	<b>4,464</b>	<b>7,041</b>
<b>Weighted Avg Sales Price (\$/Mcf)</b>				
Before Hedge	2.08	2.77*	2.08	2.77*
After Hedge	2.69	2.93*	2.69	2.93*
<b>Lifting Costs (incl. taxes):</b>				
Total Natural Gas Equivalent (\$/Mcf)	1.20	1.20*	1.20	1.20*

\* excluding oil sales to allow for like-for-like comparison



## Balance Sheet & Liquidity

Empire is taking proactive steps to protect its balance sheet in the face of low commodity prices and uncertain market conditions.

All non-essential expenditure has been reduced to a minimum, including the curtailment of expenditure on external consultants, to preserve Empire's cash balance. Empire's cash balance at March 2020 quarter end was US\$7.0m, of which A\$10.3m was held in Australian dollars, with the remainder (US\$0.6m) held in United States dollars.

As detailed below, Empire is participating in Australian Government and US Federal Government stimulus programs designed to preserve jobs during COVID-19 related economic shutdowns. These will partially offset employment costs in the periods ahead.

Empire's debt facility with Macquarie Bank Limited, which matures in September 2024, is supported by its gas production assets located in the Appalachia region of the USA. Empire has minimal direct exposure to oil prices (less than 1% of total production).

During the Quarter, Empire sought, and Macquarie agreed to, a waiver of existing and potential breaches of the financial covenants under the debt facility for all quarterly covenant tests until 31 December 2020 (inclusive).

In consideration for Macquarie granting these waivers, Empire made an accelerated principal prepayment totalling US\$687,500, in addition to a scheduled repayment of US\$137,500 which otherwise would have been due on 31 March 2020. The principal payments were funded from existing US dollar denominated cash balances, and the remaining balance of the debt has been reduced to US\$6,675,000 as at March 2020 quarter end.

In line with the loan amortisation schedule of the debt facility, Empire will make minimum debt repayments of US\$137,500 at the end of each quarter (US\$550,000 p.a.) until debt maturity in September 2024.

To provide a level of cash flow stability, the Company has in place a prudent gas hedging policy through put options ensuring price protection below the US\$2.50 per mmbtu strike price for hedged volumes and allowing Empire full exposure to gas prices should they rise above the US\$2.50 per mmbtu strike price.

As at 1 April 2020, Empire's hedge portfolio covers 1,080,000 mmbtu in 2020 (April to December), 900,000 mmbtu in 2021, 900,000 mmbtu in 2022 and 300,000 mmbtu in 2023:

Period	Volume mmbtu/month	Hedge Type	Strike Price US\$/mmbtu	Premium US\$/mmbtu
Apr 20 to Dec 20	120,000	Put Options	\$2.50	\$0.23
Jan 21 to Dec 21	25,000	Put Options	\$2.50	\$0.23
Jan 21 to Dec 21	25,000	Put Options	\$2.50	\$0.37
Jan 21 to Dec 21	25,000	Put Options	\$2.50	\$0.41
Jan 22 to Dec 22	25,000	Put Options	\$2.50	\$0.35
Jan 22 to Dec 22	50,000	Put Options	\$2.50	\$0.41
Jan 23 to Dec 23	25,000	Put Options	\$2.50	\$0.41

The accompanying Appendix 5B details cash flow movements over the quarter which include a US\$1.0m fall in the US dollar reported cash balance attributed to the fall in the Australian dollar vs the US dollar over the quarter leading to a non-cash FX loss on Empire's Australian dollar cash holdings. Empire intends to continue holding most of its cash in

Australian dollars as this is the currency in which most exploration and corporate costs are expected to be incurred.

During the Quarter, the company made payments to related parties of \$36,122. These payments comprised the Managing Director's salary and Non-Executive Directors' fees paid in cash.

### Liquidity

Quarter Ended	31/03/2020	31/12/2019	30/09/2019	30/06/2019
Cash (US\$m)	\$6,978,526	\$9,923,707	\$3,893,512	\$4,826,182
Debt (US\$m)	\$(6,675,000)	\$(7,500,000)	\$(7,500,000)	\$(25,358,259)
<b>Net Cash /(Debt)<sup>10</sup></b>	<b>\$303,526</b>	<b>\$2,423,707</b>	<b>\$(3,606,488)</b>	<b>\$(20,532,077)</b>

### Capital Expenditure

Capitalised expenditure of \$848k included EP187 seismic program costs and plant and equipment for new office headquarters.

Description	3 months to 31/03/2020	3 months to 31/03/2019	YTD 31/03/2020	YTD 31/03/2019
Exploration	\$835,652	\$45,124	\$835,652	\$45,124
Property, plant & equipment	\$12,304	-	\$12,304	-
<b>Capitalised Expenditure</b>	<b>\$847,956</b>	<b>\$45,124</b>	<b>\$847,956</b>	<b>\$45,124</b>
Other exploration costs (expensed)	\$20,676	\$131,843	\$20,676	\$131,843

### Government COVID-19 Stimulus Packages

As an employer in both the United States of America and Australia, Empire and its subsidiaries are eligible to participate in several Government stimulus programs designed to preserve jobs during the current COVID-19 related economic shutdown as described below:

#### 1) Cash Flow Boost – Australian Commonwealth Government

The Australian Government is providing temporary cash flow support of up to A\$100,000 for eligible businesses that must have held an Australian Business Number on 12 March 2020. Empire as an eligible business will receive two sets of A\$50,000 cash flow boosts, with the first expected to be delivered in the second quarter of 2020, through credits in the business activity statement system, and the second expected to be received in the third quarter of 2020.

#### 2) JobKeeper Payments – Australian Commonwealth Government

The Australian Government has advised that exploration companies with no Australian GST turnover will not be able to participate in the JobKeeper subsidy

<sup>10</sup> Note: Net Cash / (Debt) is defined as USD equivalent cash minus USD debt for the purposes of this calculation

either through the legislated test or through a Commissioner's discretion as part of an alternate test.

### **3) Paycheck Protection Program ("PPP") – United States Federal Government**

Empire has applied for a forgivable loan of ~US\$605,000 under the Paycheck Protection Program ("PPP") which forms part of the US *Coronavirus Aid, Relief, and Economic Security Act* (the "CARES Act"). PPP has been legislated by the US Federal Government to incentivize small and medium sized businesses to keep employees during the COVID-19 pandemic.

PPP loans can be applied to business expenses including payroll, interest, rent and utilities with the quantum of loan forgiveness totaling the amount spent by the borrower on these items in the 8 week period after loan origination. However, not more than 25% of the loan forgiveness amount may be attributable to non-payroll costs.

The original US\$349bn allocated to the program by the US Federal Government has been exhausted due to unprecedented demand. On 24 April 2020, President Trump signed into law an increase in the PPP by a further US\$310bn.

PPP loans are administered by banks approved by the United States Small Business Administration ("SBA"). Empire's application is being processed through our US transactional bank, PNC Bank. The loan has been approved by PNC Bank however is awaiting assignment of an SBA loan number which is required to finalise the loan. Macquarie Bank, Empire's existing lender, has agreed to waive the restriction on additional indebtedness under the credit facility provided Empire uses the loan proceeds to cover eligible PPP expenses and complies with all other conditions under the PPP to ensure that the loan is not repayable.

If Empire receives funding under the recently expanded program, it intends to use proceeds of the loan only for forgivable purposes, and not for purposes which would require it to repay a portion of the loan.

### **4) Economic Injury Disaster Loan ("EIDL") – United States Federal Government**

The CARES Act also allows for Economic Injury Disaster Loans ("EIDL") of up to US\$10,000 in cash support for US companies with less than 500 employees that have experienced a reduction in revenue as a result of COVID-19. These loans do not have to be repaid and are therefore, in effect, a grant.

During the Quarter, Empire applied for, and received, a US\$10,000 non-repayable payment under the EIDL scheme which will be utilized for US working capital purposes.



## About Empire Energy

Empire Energy holds over 14.5 million acres of highly prospective exploration tenements in the McArthur and Beetaloo Basins, Northern Territory. Work undertaken by the Company since 2010 demonstrates that the Eastern depositional Trough of the McArthur Basin, of which the Company holds around 80% has enormous conventional and unconventional hydrocarbon potential. The Beetaloo sub-Basin, in which Empire holds a substantial position, has world-class hydrocarbon volumes in place and a ramp up in industry activity to appraise substantial discoveries already made by major Australian oil and gas operators has recommenced.

Empire Energy is an experienced conventional oil and natural gas producer with operations in the Appalachia region of the USA (New York and Pennsylvania). Empire has been successfully developing and producing oil and gas since 2006.



Empire COO David Evans (left) reviews the new seismic interpretations with MD Alex Underwood

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