



PHU BIA MINING

2019

ANNUAL REVIEW AND SUSTAINABILITY REPORT



PHU BIA
MINING
IS WAY
AHEAD



BECAUSE OF ITS PEOPLE.

Phu Bia Mining's people develop and operate world-class projects in challenging geographic locations.

Phu Kham Copper-Gold Operation Mining Operator,
Ms Vongdeuan at the Operation's go line, November 2018

COMPANY PROFILE



Phu Kham Copper-Gold Operation Training and Safety Supervisor,
Yeelor Souvanh working in the Operation's process plant,
November 2018



Phu Bia Mining Limited ('Phu Bia Mining', the 'Company') is a leading copper and gold producer in Laos.

Phu Bia Mining's producing assets are the Phu Kham Copper-Gold Operation and the Ban Houayxai Gold-Silver Operation, both located in the Company's 2,600 square-kilometre Phu Bia Contract Area (the 'Contract Area').

Phu Bia Mining has a Mineral Exploration and Production Agreement (MEPA) with the Government of Laos which regulates exploration, development and mining activities within the Contract Area, and sets out the Company's tax and royalty obligations.

Company structure

Phu Bia Mining is 90 per cent owned by PanAust Limited. The Government of Laos owns the remaining 10 per cent.

PanAust is an Australian incorporated company that is owned by Guangdong Rising H.K. (Holding) Limited, a wholly owned subsidiary of Guangdong Rising Assets Management Co. Ltd (GRAM) is a Chinese state-owned company regulated under the state-owned Assets Supervision and Administration Commission of the People's Government of the Guangdong Province in China.

PanAust's corporate office in Brisbane, Australia provides leadership and support across Phu Bia Mining in relation to strategy, financial management, commercial and technical services, risk management, sustainability, corporate communications, human resources, governance and reporting.

The PanAust Asia business unit has a regional office located in Vientiane. The business unit has responsibility for operations in Laos and for supporting the implementation of business development strategies within Laos and the region.

PanAust's Project Development business unit is responsible for the Company's development and operational improvement projects. It comprises teams responsible for the evaluation and implementation of capital-efficient project developments and strategic improvement initiatives to support and enable the Company's growth.

Scope of this report

This Report covers production, business and sustainability-related information for 2018. It summarises data taken from PanAust's 2018 Business Review and Sustainability Report (available at www.panaust.com.au/reports) which presents data for a three-year period and was prepared in accordance with Global Reporting Initiative (GRI) Standards: Core option, as well as the Mining and Metal Supplement.

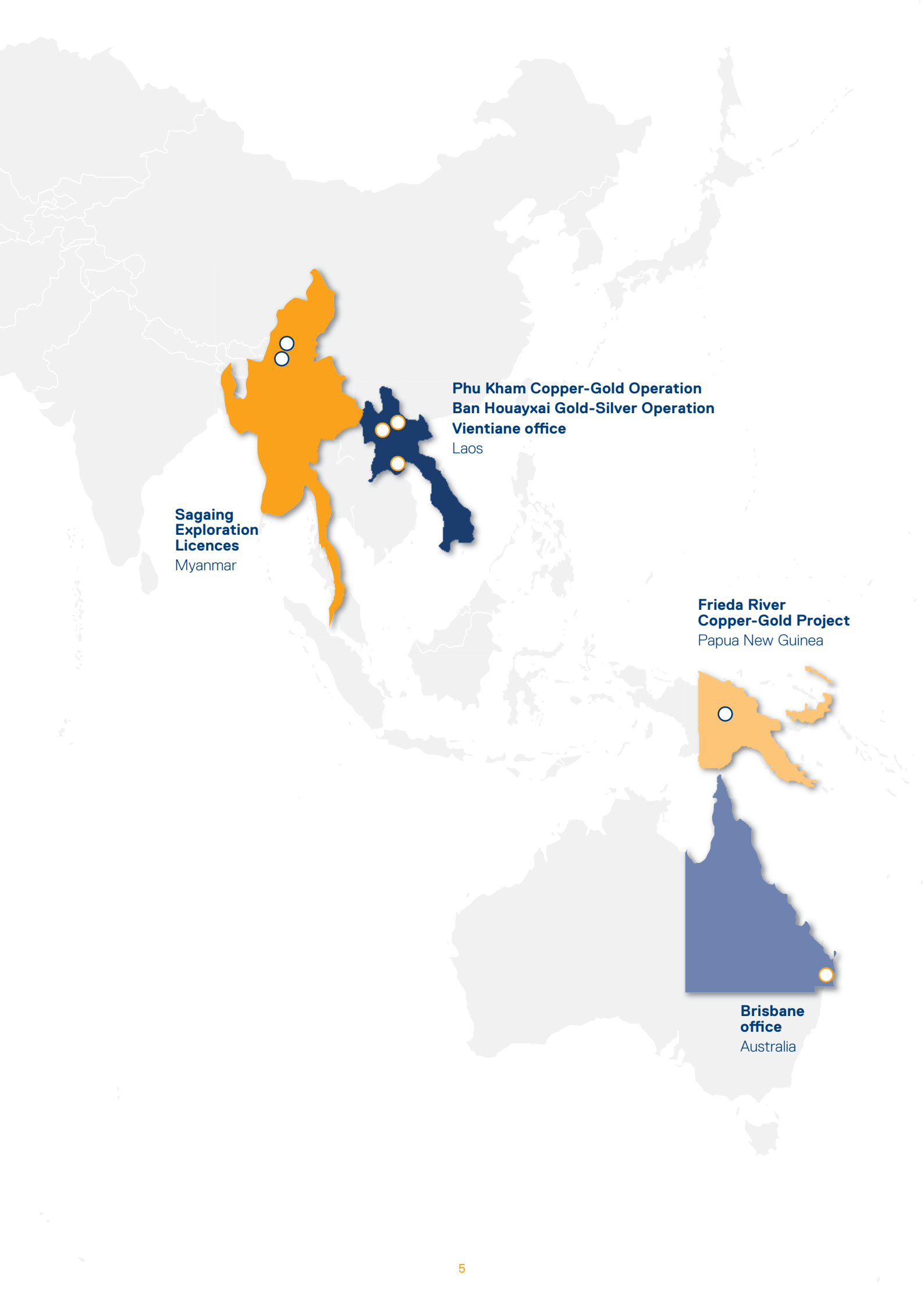
PanAust applies a consistent approach to identifying assessing and verifying material sustainability issues that matter most to PanAust and its stakeholders; those issues are covered in both PanAust's 2018 Business Review and Sustainability Report and in this Report.

Materiality Counts, an independent assurance provider, provided assurance of a selection of material issues within PanAust's 2018 Business Review and Sustainability Report prior to its publication.



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**Sagaing
Exploration
Licences**
Myanmar

**Phu Kham Copper-Gold Operation
Ban Houayxai Gold-Silver Operation
Vientiane office**
Laos

**Frieda River
Copper-Gold Project**
Papua New Guinea

**Brisbane
office**
Australia

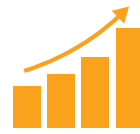


HIGHLIGHTS



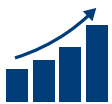
US\$86.35 MILLION

Direct contributions to government of Laos in 2018



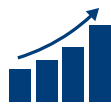
2.4%*

Of Lao GDP attributable to Phu Bia Mining activity in 2018



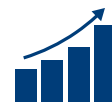
83,680 TONNES

Of copper in concentrate produced



179,357 OUNCES

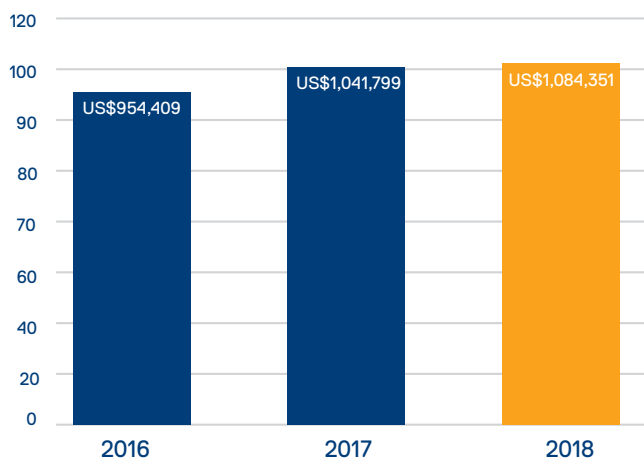
Of gold in concentrate and doré produced



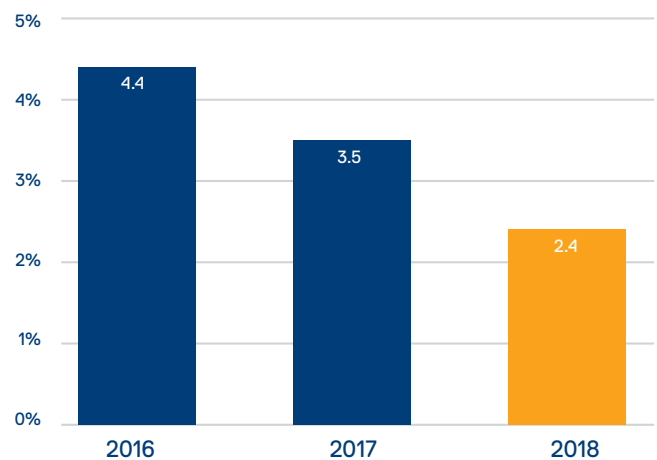
1,204,516 OUNCES

Of silver in concentrate and doré produced

Income generate for local communities



Percentage of Laos' 2018 gross domestic product (GDP) attributable to Phu Bia Mining activity



* The Company estimates Laos' real GDP to be approximately US\$17.7 billion. Total Phu Bia Mining activity including indirect benefits through employment, training, community development and payments to local suppliers accounted for 2.4 per cent of this estimated GDP. 2018 GDP data was not available as at 31 March. The 2018 GDP estimate was calculated using a five-year average growth rate.



US\$2.25 MILLION

Invested in public road infrastructure and maintenance



92 PER CENT

Lao-national workforce (as percentage of 2018 workforce)



US\$1,084,351

Income generated for local communities through the purchase of vegetables, drinking water, eggs, cloth bags, fruit and fish in 2018



US\$158,000

Total sponsorship and donations made through cash and in-kind donations



31

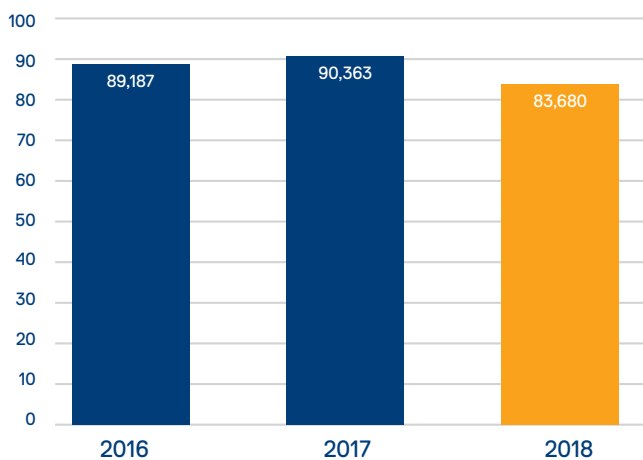
Small-scale projects implemented through Community Development Funds (CDFs)



\$671,653**

Total investment in communities (through CDFs)

Copper production (tonnes)



** Expenditure increased in 2018 to finalise projects that were not completed in 2017.

CHAIRMAN'S REVIEW



A view of the Ban Houayxai Gold-Silver Operation process plant with open-pit in the background, November 2018

AT PHU BIA MINING, WE ARE GUIDED BY OUR SHARED VALUES.

Our values dictate that we build our projects and operations on strong technical, social, environmental and economic foundations to enable fruitful long-term investments.

As a testament to this approach, in 2018 the Company celebrated the tenth anniversary of the start of production at its flagship Phu Kham Copper-Gold Operation.

It is natural upon reaching such a milestone to reflect on the business, our journey to date, the lessons we have learned and the reasons for the Company's success.

Before we entered the area that hosts both our producing assets, Phu Kham and the Ban Houayxai Gold-Silver Operation, was a designated special security zone with low levels of socio-economic development. Participation in the broader economy by local communities was constrained and subsistence farming was the norm. Remoteness and a sparse population meant infrastructure was limited as was the delivery of government services.

With no substantial mining taking place, skilled Lao-national labour was lacking. Similarly the legislative and regulatory environment were not advanced and bureaucratic capacity was limited.

Mining companies go where others fear to tread, so despite the challenges, Phu Bia Mining made the decision to invest and to do so with a view to establish a long-term presence. A keen focus on safety, sustainability and operational excellence laid the basis for success.

Fast forward to year-end 2018 and we see vibrant local communities benefiting from our ongoing presence.

Our total investment in Laos to date stands at US\$1.45 billion. Total direct payments to the Government of Laos in taxes, royalties and dividends total around US\$716 million. We have spent US\$1.8 billion on goods and services from Lao and Lao-based companies.

At a local level, in 2018 we contributed US\$628,000 to community development, donations and sponsorships in Laos. We have also directly purchased US\$1,084,351 of consumables from our local community businesses during the course of 2018.

The Company provides direct and indirect employment and business development opportunities. Roads, electricity and telecommunications infrastructure link communities to the national economy. Development indicators including in relation to female capacity building, education, health and household income levels are much improved. Importantly, people within our local communities have a greater capacity to determine their own destinies.

We reached our highest levels of localisation to date in 2018 with Lao-nationals making up 92 per cent of the workforce, 19 per cent of whom were women. We continue to treat our people with respect and, through continued vigilance, achieved excellent safety outcomes in the same year, with a total recordable injury frequency rate (TRIFR) of 0.6.

In 2018, production at Phu Kham reached 83,680 tonnes (t) of copper, 70,787 ounces (oz) of gold and 537,888 oz of silver at a competitive all-in sustaining cost (AISC) of US\$1.32/lb copper. Gold and silver production at Ban Houayxai totalled 108,570 oz and 666,628oz respectively, at an AISC of US\$931/oz gold.

This brings our total accumulated production to 748,000t copper, 1.48 million ounces (Moz) gold and 10.38Moz silver at year end 2018.

Naturally this is an ongoing journey. We learn from our mistakes, and refine our approach to all aspects of the business.

Our quest for zero harm is a good example. Phu Bia Mining's parent company, PanAust has consistently over a number of years out performed its industry peers through a visible commitment to zero harm. The Company's total recordable injury frequency rate (TRIFR) and lost-time injury frequency rate (LTIFR) continue to trend at record lows.

Since our humble beginnings as junior explorer, we have been conscious of the need to apply high standards and hold ourselves accountable for meeting those standards in Laos.

As we head toward the closure phase of our operations, we are working with all stakeholders, including local communities and various levels of government, to implement a sustainable closure plan that gives communities a solid foundation for the future.

During the year, heavy rainfall and associated flooding caused substantial damage in Laos. On Monday 23 July, a failure at the Xepian-Xe Nam Noy hydropower dam in the southern Attapeu Province occurred causing fatalities and leading to the Government of Laos declaring the Province a natural disaster zone. Phu Bia Mining provided support to disaster relief operations in coordination with the Government of Laos through the deployment of personnel with specialist capabilities including a doctor, paramedic emergency responders, and logistics specialists along with a boat, vehicles and emergency medical and other supplies. Separately, PanAust donated US\$50,000 to the Government of Laos' central relief coordination agencies. Phu Bia Mining employees donated money, food, blankets, water and other essential supplies as part of the relief effort.

The heavy rainfall also caused geotechnical issues at Phu Kham where a landslip near the open-pit occurred, and at Ban Houayxai where road access was cut. Despite these setbacks, I am happy to say that there was little impact on production and the safety of our employees was not compromised. This can be attributed to our



vigilant wet season preparedness, robust safety systems including pre-emptive inspection regimes and warning systems, water management, and crisis and emergency response processes.

Turning to our engagement with our employees, another 51 young Lao people graduated from the Company's apprenticeship training program. The group – nine of whom were women – included 17 apprentices from the Chifeng LXML Sepon-owned Sepon copper-gold mine in southern Laos. The tradespeople received an Australian-recognised Certificate III trade qualification in a variety of disciplines including automotive electrical; heavy equipment plant mechanical; metal fabrication and welding; fitting and machining; and electrical. Apprentices began transitioning into Phu Bia Mining Operations' fixed plant maintenance and mobile maintenance teams in December. This brings the total number of apprentices trained to 85. We are particularly proud of this achievement and of each of these tradesmen and women who will help drive the future development of Laos.

Pleasingly, Phu Bia Mining's parent company, PanAust was recognised by the Association of Southeast Asian Nations (ASEAN) during the year, with receipt of the 'Friend of ASEAN Award' at the ASEAN Business Awards. The 'Friend of ASEAN' award is given to a foreign company that has demonstrated a continuous and increased commitment to growing its presence and thereby positively impacting its host country's economy. This followed success earlier in the year when the Company won the 'Friend of Laos' Award in recognition of its contribution to the socio-economic development of Laos.

2019 will be a year of change for Phu Bia Mining's parent company, with PanAust focussing on an alternative strategy for operations and growth. In January 2019, Dr Fred Hess retired from his position of PanAust Managing Director. At the time of his departure, a business efficiency review was implemented with a new organisational structure to support the alternate strategy.

I would particularly like to acknowledge and thank Dr Fred Hess for his four-year tenure as Managing Director and his previous nine years as an executive at Phu Bia Mining in Laos and PanAust in Brisbane. There is no indication of Fred's dedication to the business during that time than the outstanding operational and sustainability outcomes, and record production results achieved. I would like to thank those who left PanAust in the beginning of 2019 for their immeasurable contribution towards making PanAust one of the most respected mid-tier copper and gold mining companies in the world.

I would like to take this opportunity to welcome Dr Qun Yang, PanAust Executive Chairman as PanAust's new leader. Our way of doing business, the PanAust Way, is a modern approach to mining that measures success not merely by production volumes but equally the sustainability of its interactions with its people, its host communities and governments, the environment, and its shareholders.

On behalf of Phu Bia Mining's Board of Directors, I sincerely thank the Government of Laos, all our employees, business partners and everyone concerned with Phu Bia Mining for their ongoing support in 2018.

Phu Bia Mining Chairman, Mr Chanpheng Bounnaphol

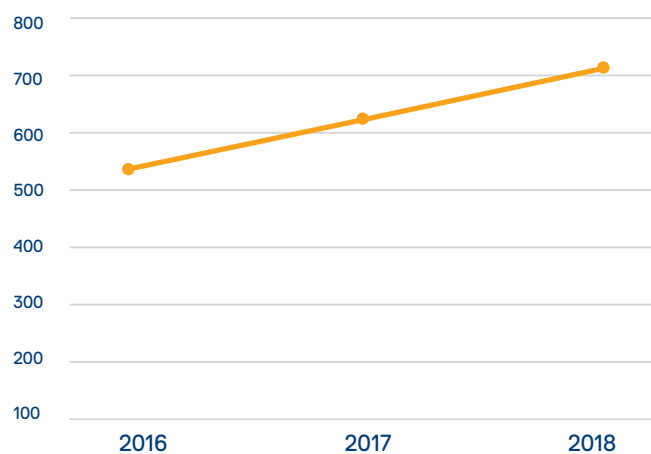


FINANCIAL CONTRIBUTIONS TO LAOS

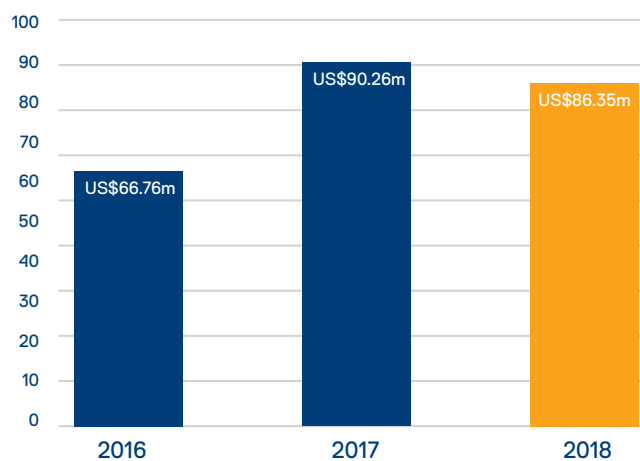
2018 total payments by Phu Bia Mining (US\$ million):

Description	US\$ million		
Contribution	2016	2017	2018
Payroll tax	4.24	4.16	4.21
Customs excise (Import service fee)	1.74	1.70	2.35
Road tax	4.48	4.70	4.54
Profit tax (Income tax)	16.19	25.33	28.90
Royalties	35.55	43.81	41.01
Concession fees	0.06	0.06	0.06
Dividend	4.52	10.50	5.35
Total contribution	66.76	90.26	86.35
Copper price (US\$/lb)	2.25	2.84	2.88

Direct cumulative contributions to Laos
(US\$ millions)



Direct annual contributions to Laos
(US\$ million)



In 2018, copper and gold production at the Company's Lao Operations exceeded targets. The Operations consistently maintained record production outcomes and excellent cost performance throughout the year.

Phu Kham Copper-Gold Operation, Laos

The Phu Kham Copper-Gold Operation is located approximately 140 kilometres north of Laos's capital city, Vientiane and is the Company's flagship Operation. In 2018, above budget production was achieved at Phu Kham.

Production results

Above-budget production and cost performances were achieved at Phu Kham in 2018 with an annual copper in concentrate production of 83,680t. Gold and silver production totalled 70,787oz and 537,888oz respectively.

Copper recovery averaged 81.4 per cent, attributable to improved grade and ore quality, in conjunction with further advances in automated process control and operating practices within the grinding and flotation circuits.

Cost

The average 2018 C1* and all-in sustaining costs (AISC**) were US\$1.32/lb of copper after precious metal credits and was US\$1.74/lb of copper respectively.

Mining and processing

Mining operations performed well as ore continued to harden with the multi-stage deepening of the open-pit. Total ex-pit material mined was 52 million tonnes (Mt) and included 21Mt of ore. Close to 19Mt of ore was milled.

The Phu Kham Ore Reserve supports a mine life of approximately three years from the end of 2018.

Ban Houayxai Gold-Silver Operation, Laos

Ban Houayxai celebrated its sixth full-year of operations in 2018 and achieved above budget production. Strong C1 and AISCs were recorded.

Production results

The Operation produced 108,570oz of gold and 666,628oz of silver in doré.

Cost

The average C1 cost after silver credits was US\$726/oz gold and an AISC of US\$931/oz gold was achieved.

2 PER CENT

Increase in ore milled (mt)
compared to 2017 (Phu Kham)

6 PER CENT

Increase in ore milled (mt)
compared to 2017 (Ban Houayxai)

8 PER CENT

Increase in total material mined (mt)
compared to 2017 (Phu Kham)

Mining and processing

Above budget production was achieved at the Ban Houayxai during the year. Total material mined was an annual record of 15.8Mt and included 5.3Mt of ore. Over 5.3Mt of ore was processed; over 19 per cent above the nameplate capacity.

The Ban Houayxai Ore Reserve supports a mine life of approximately two years from the end of 2018.

Contract Area Exploration, Laos

Near-mine drilling was completed at the Phu Kham Operation and will continue in 2019. The results of this drilling will be used to assess an extension of the Phu Kham deposit open-pit.

Infill drilling and definition was undertaken at the Ban Houayxai Operation in 2018 and will also continue in 2019.

A desktop review of the 2013 prefeasibility studies conducted on the Kham Thong Lai (KTL) Copper-Gold Project in the north of the Contract Area was completed in 2018. The review assessed opportunities to lower the Project's capital cost by using equipment that will become available as closure of the Phu Kham and Ban Houayxai Operations approaches. Findings supported a prefeasibility study based on updated Project metrics which commenced in early 2019. Ongoing maintenance of the KTL sediment dams was also completed during the year.

* Brook Hunt convention for reporting direct costs comprising: mine site, production transportation and freight, treatment and refining charges and marketing costs; based on payable metal content after by-product credits

** AISC reporting are the C1 cost plus royalties, allocated corporate charges, shared services costs, sustaining capital, lease principle and interest charges, and deferred mining and inventory adjustments capitalised



ASEAN-BAC
LAOS



OPERATIONAL REVIEW

Platinum



Petroleum

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CASE STUDY

2018 – AN AWARDING YEAR FOR PHU BIA MINING AND PANAUST

In 2018, Phu Bia Mining and its parent company PanAust were proud to receive three internationally recognised awards for health and safety, and sustainability practices.

In April, Phu Bia Mining won the 'Excellence Award' at the ASEAN Occupational Safety and Health Network (OSHNET) Conference in Siem Reap, Cambodia. The ASEAN OSHNET Awards recognise companies for their excellence in occupational health and safety management from those nominated by each ASEAN country across the region. The Awards also support the ASEAN Labour Ministers' vision for the cultivation of a favourable environment for economic growth through a productive, competent and competitive workforce.

In September, PanAust received the 'Friend of Laos Award' at the Lao ASEAN Business Awards in Vientiane. The Award recognised the contribution the Company has made to socio-economic development in Laos since its Operations commenced in 2008.

Finally, in November PanAust received the prestigious 'Friend of ASEAN Award' at the '2018 ASEAN Business Awards' gala event in Singapore. The 'Friend of ASEAN Award' was bestowed on PanAust for demonstrating a continuous and increased commitment to growing its presence and thereby positively impacting Laos's economy.

For further information, see page 26 of PanAust's 2018 Business Review and Sustainability Report.

Above: (left to right) PanAust General Manager External affairs and Business Support Shaun Massey; PanAust Executive General Manager Support Services, Adrian Bell; Phu Bia Mining Chairman, Mr Chanpheng Bounnaphol and Phu Bia Mining Government Relations Manager, Manilath Arounlangsy accept the 'Friend of Laos' award at the Lao ASEAN Business Awards ceremony, 28 September



COMMUNITY DEVELOPMENT AND COMMUNITY RELATIONS

The Company's community development programs in Laos aim to make meaningful contributions to building long-term community capacity, thereby empowering people to determine and progress their own development priorities now and beyond the life of the Operations.

Community Development Funds

Community development programs support villages adjacent to the Company's mining operations and logistics and haulage routes in achieving the UN Sustainable Development Goals by contributing to poverty alleviation and economic progress in rural communities. Community development priorities are aligned with national development strategies and goals, informed by data from periodic socio-economic surveys, and developed through consultation with local villagers.

During the year, CDFs were in place with a Memoranda of Understanding (MoU) between Phu Bia Mining and the Government of Laos defining coordination and management arrangements. As closure of the Company's Operations approaches, CDF projects are strategically focused to ensure benefits will continue to support the communities post-closure.

In 2018, the Company's CDF projects comprised 31 small-scale development projects related to infrastructure, health, education, agricultural development, small business development, microfinance and infrastructure.

Projects that were partially completed in 2018 included: water intake improvements at Nam Deuan, construction of the Namsak 2 gabion weir, construction of a new community health clinic at Nam Mo and upgrading N Nam Gnone primary school infrastructure. The remaining costs for these projects will be carried over into 2019 when they are scheduled to be completed.

Enterprise Development (Support local businesses)

In 2018, Phu Bia Mining Operations collectively purchased \$1,084,351 from local small community businesses producing consumables such as vegetables, drinking water, eggs, cloth bags, fruit and fish. Agricultural training was provided for local villagers in order to improve crop quality and yield diversity and build capacity in animal husbandry.



Access to financial services

Since 2010, the Company has assisted 12 local communities to establish microfinance schemes through Village Savings and Credit Funds (VS&CF). The Funds provide access to savings and loan facilities that are not otherwise available in rural areas. Members can take loans to support a variety of small-scale income generating activities as well as to cover household expenditure on education and healthcare. After a period of oversight, Phu Bia Mining officially handed over responsibility for the management of ten VS&CFs to relevant villages and districts. The remaining VS&CFs in Nam Gnone and Nam Mo continue to be supported by the Anouvong District Supervisory Committee on a monthly basis and through an annual audit. To support closure objectives, these funds will develop into Credit and Savings Unions registered with the Bank of Laos.

Resettlement, livelihood restoration and compensation

No involuntary resettlement has taken place for the Company's Operations in Laos.

Given the maturity of Phu Bia Mining's Operations, including minimal requirements to disturb new land for mining purposes, in 2018, US\$24,465 was paid in compensation and remediation for economic livelihood impacts related to land.

Sponsorships and donations

Phu Bia Mining provides sponsorships of, and donations to, programs, organisations or causes that build goodwill in operational areas and align with its Values.

In 2018, Phu Bia Mining donated US\$158,000 to a wide-range of recipients through cash and in-kind donations.

Separately, Phu Bia Mining donated US\$50,000 to the Government of Laos's central relief coordination agencies following the failure of the Xe Pian-Xe Nam Noy hydropower dam in the country's southern Attapeu Province.

The Company provided support to disaster relief operations in coordination with the Government of Laos through the deployment of personnel with specialist capabilities including a doctor, paramedic emergency responders, and logistics specialists along with a boat, vehicles and emergency medical and other supplies. Phu Bia Mining employees also donated money, food, blankets, water and other essential supplies to assist with relief efforts.

Closure preparedness

Throughout 2018, Phu Bia Mining commenced engagement with the host communities on closure options for the Phu Kham and Ban Houayxai Operations. The Company continued a dialogue regarding the impacts of closure, post-closure land use, and other closure-related issues with the Government of Laos and host communities.

For more information about Phu Bia Mining's approach to closure management, see the case study on page 16.

Grievance management

Phu Bia Mining has mechanisms in place to receive and respond to stakeholder grievances and concerns.

In 2018, two grievances were raised in Laos and related to impacts to property from road maintenance activities and were closed out in January 2019.



Ms Jue Yang, a vegetable farmer from the village of Nam Gnone, November 2018



CASE STUDY

COMMUNITY CONSULTATION FOR CLOSURE

Phu Bia Mining is intent on delivering mine closure responsibly. The Company aims to leave a lasting positive legacy for host communities to ensure that they can sustain themselves at a higher economic standard than was possible before operations commenced.

In 2018, two phases of engagement with communities and Government of Laos representatives were completed to identify mutually acceptable post-closure outcomes that align with the Company's vision for closure. Phase one focussed on mine site landforms and possible uses, while phase two looked at post-closure livelihoods for communities. External consultants, GeoSys were commissioned to manage this two-phase program. Government of Laos and Phu Bia Mining representatives attended the sessions as required.

GeoSys spent three days in each host community (Nam Mo, Nam Gnone and Nasaysavang) to discuss Phu Bia Mining's strategies for negotiable (waste rock dump, the process plant, workshop areas and non-process infrastructure) and non-negotiable (open-pits, tailings storage facilities and embankments) mine site landforms. Formal presentations, posters, written handouts, question and answer sessions, informal conversations and workshops helped communicate the Company's plans for each landform.

Through ongoing and targeted community engagement, Phu Bia Mining will be able to clearly understand the issues so it can refine development approaches to progress enduring opportunities beyond the life of mine.

For further information, see page 54 of PanAust's 2018 Business Review and Sustainability Report.



Background: View of the Phu Kham Copper-Gold Operation's tailings storage facility from the village of Nam Gnone; the close proximity of the village to the Operation highlights why for Phu Bia Mining, planning for closure is an integral part of strategic and life of mine planning

Above: Villagers from Nam Mo with the proposed regional land-use map during phase two of the community consultation for closure

ENVIRONMENTAL PERFORMANCE

Phu Bia Mining acknowledges that leading-practice environmental management is essential for ongoing business growth and success. The Company continues to meet relevant environmental standards and operates in line with global best practice, as confirmed by various external audits and reviews undertaken during the year.

Environmental incidents

In 2018, Phu Bia Mining had no significant environmental incidents (defined as Level 3 incidents or above*), complaints, spills, penalties, fines or sanctions for any legal non-compliance.

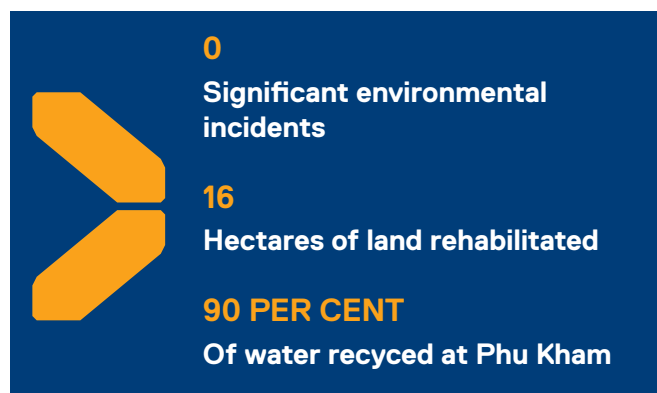
Tailings and waste rock management

Tailings Storage Facilities (TSFs)

Phu Bia Mining implements the following well-established program for its two purpose-built TSFs in the Phu Kham and Ban Houayxai Operations:

- > Executive management commitment from the Executive Chairman to implement appropriate governance processes and construction and operating procedures for the facilities
- > Tailings Independent Review Panel (TIRP), including geotechnical and water specialists
- > Tailings Review Committee reporting directly to the Company's Board of Directors
- > Overview and quality assurance, reviewed by the Principal Tailings Engineer on the design and construction activities
- > Annual dam safety inspections by an independent comprehensive dam safety review Annual risk-based review
- > An Engineer of Record responsible for design, construction, operation, and performance monitoring of TSFs
- > Quarterly inspections by the Company's Principal Tailings Engineer
- > Daily, weekly and monthly inspections and monitoring by trained Phu Bia Mining employees
- > Detailed dam design for each construction period by the Design Engineer
- > On-site laboratory for the quality control and assurance of construction materials

A pre-feasibility study for PBM mine closure was completed in 2017. This work was finalised to a feasibility study level in 2018 as part of the closure plan.



During the year, planned reviews including on-site inspections continued for the Phu Kham and Ban Houayxai TSFs. Overall, the review findings were positive, with no significant deficiencies identified. Both Operations discharged excess water from their TSFs in a controlled manner in accordance with internal site permits and government regulations.

Exceedances of Total Suspended Solids (TSS) occurred during the 2018 wet season following peak rain events. At the Ban Houayxai TSF, there were occasional exceedances of TSS, which also continue to be studied in collaboration with Government of Laos officials.

Acid Rock Drainage (ARD)

ARD management plans were in place at both Phu Kham and Ban Houayxai well before mine operations commenced. The plans provide strategies for the identification, control and monitoring of waste rock. High-level governance of ARD management is provided through the Company's ARD Review Committee which comprises internal management personnel and external ARD specialists. The Committee checks that management strategies effectively limit the potential for ARD generation during construction and placement of waste, and that such strategies will continue to be effective post mine closure. Consultant reviews at Phu Kham and Ban Houayxai confirm that the ARD Management Plan to control risks is comprehensive and consistent with methods described in the Global Acid Rock Drainage Guide.

Water management

While Phu Bia Mining's water use is significant, the vast majority is recycled. Approximately 95 per cent of the water used at the Phu Kham Operation is recycled, with the balance drawn from the Nam Mo River.

Water recycling is limited at the Ban Houayxai due to geographical constraints. The overall percentage of water recycled across the Phu Kham and Ban Houayxai Operations in 2018 was 85 per cent.

* Each issue is ranked on its level of importance to stakeholders and PanAust. The criteria for ranking are largely based on how PanAust defines issues of significance (defined as levels 4 and 5 incidents/potential incidents using the Company's 'consequence table') and benchmarking activities. The consequence table is available on PanAust's website, www.panaust.com.au/corporate-governance.

Water discharge at the heap leach Gold Operation (GMO)

In 2018, works commenced to reform the heap leach pad to achieve final landform design.

A constructed wetland downstream of the heap leach pad passively treats stormwater discharge from the site has proven to be successful in treating leach pad run-off from the site. Extensive monitoring of the downstream river system continues and confirms that excess water discharged from the site throughout the year is within ambient limits.

Cyanide management

Phu Bia Mining's parent company, PanAust is a signatory to the Cyanide Code and maintains certification of its Ban Houayxai Operation to the Code. The Cyanide Code is administered by the International Cyanide Management Institute (ICMI) and is a voluntary program for the responsible manufacture, transport, use and disposal of cyanide used in gold production.

The Ban Houayxai Operation uses cyanide in the processing circuit for metal production; no cyanide is used at Phu Kham. Ban Houayxai received pre-operational certification in 2012, operational certification in March 2013, and was recertified in 2016. Phu Bia Mining conducts annual internal gap audits at Ban Houayxai to ensure the Operation remains compliant to the Cyanide Code. PanAust's certification audit reports and signatory status are available on the ICMI website, www.cyanidecode.org/signatory-company/panaust-limited.

Land rehabilitation and closure planning

Both Phu Kham and Ban Houayxai have land rehabilitation plans in place. In 2018, 77 hectares of land was disturbed across the two Operations and 16 hectares rehabilitated. The remaining total land disturbed at both sites is 1,518 hectares. Both Operations have nurseries to propagate native seedlings for use in rehabilitation programs.

A Government of Laos Closure Committee is also in place. The Committee is a structured engagement forum that ensures PBM's closure activities are aligned with stakeholder expectations. A Memorandum of Understanding between the Company and the Government of Laos sets out the Committee's membership details and expectations of members.

Energy and carbon management

The Company's Operations predominantly use a combination of direct and indirect energy sources (fuel and electricity), to carry out its activities. Each year, teams across the business identify and implement projects that will reduce energy and/or materials consumed. Ongoing campaigns to minimise the consumption of energy and materials to lower operating costs are consistent with the intent of the ICMM Principles for Climate Change Design.



The Phu Kham TSF showing the decant water pumps (foreground) and tailings lines (middle ground)



CASE STUDY

PHU BIA MINING PARTICIPATES IN THE 'MINE CLOSURE LEGAL FRAMEWORK IN ASEAN MEMBER STATES' WORKSHOP

Phu Bia Mining's approach to mine closure hinges on strategies that will deliver its closure vision: that closed sites exemplify responsible mine closure that the Company is proud of and enhances opportunities to deliver its next Operation. Recognising the importance that Phu Bia Mining places on closure, in 2018 the Company was invited to participate in a project to develop mine closure legislation for Laos.

Phu Bia Mining's Environment and Closure Manager, Peter Bayliss was invited to speak at the 'Mine Closure Legal Framework in ASEAN Member States' workshop in Vientiane. Peter presented the Company's closure framework and environmental and social studies that support closure planning.

Phu Bia Mining was the only mining company invited to present. The Company's approach was well received and aligned with what is considered to be accepted international best-practice.

Following the workshop, Phu Bia Mining hosted delegates from ASEAN member states at the Phu Kham Operation. The visit gave the Company the opportunity to showcase its biophysical and social closure strategies and stakeholder engagement programs.

For further information, see page 65 of PanAust 2018 Business Review and Sustainability Report.



Background: An aerial photograph showing the proximity of the village of Nam Gnone to the Phu Kham Copper-Gold Operation open-pit and tailings storage facility

Above: Delegates at the 'Mine Closure Legal Framework in ASEAN Member States' workshop (of which Phu Bia Mining was invited to be the keynote speaker) May 2018

Safety performance

In 2018, the Company's safety focus was to improve current systems rather than introduce new programs. Expatriate personnel are providing increased coaching and on-the-job training of Lao supervisors. Lead indicator programs continued to focus on visible safety leadership, job safety observations (JSO) in the field, deep dive reviews, workplace inspections, planned task observations (PTO) and safety training.

Safety training

The Company runs a number of mandatory core safety training programs as well as specialist training for high-risk activities. During 2018, 21,436 hours of safety inductions and health, safety and environment training was completed.

Safety culture

Phu Bia Mining continues to develop a proactive and positive safety culture to reflect the Company's Value of integrity and its commitment to achieve Zero Harm safety objectives. The Company's safety culture is measured through a range of lead and lag indicators. The Company uses training programs (including Leading the PanAust Way), supported by the Visible Safety Leadership Program (led by executives through deep dive reviews of high-risk activities), Positive Performance Indicators (PPI) – including JSOs and PTOs – and the Annual Risk and Sustainability Workshop.

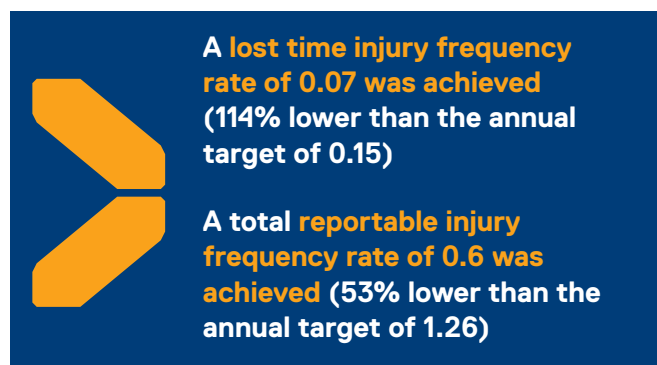
In 2018, the Company developed and rolled out phase two of Injury and Incident Free (IIF) Program to ensure that employees continue to embrace safety culture as a core value, to improve workplace behaviours and provide a supportive safety culture. The Program comprises five core components: effective communication, visible leadership, fitness for work, behavior-based safety and hazard identification.

Contractor management

Phu Bia Mining is committed to improving the safety performance of local contractors, and these efforts continued in 2018.

Contractors are prioritised in the Company's contractor matrix and risk-based audit program. Contractors are included in operational safety awareness programs, and quarterly contractor meetings continued during the year. Representatives from key contractors once again attended the Company's Annual Risk and Sustainability Workshop to reinforce the Company's expectations with regard to safety. A deep dive review of the Company's main general freight transport contractor was conducted during the year.

The Company has a Group Contractor Management Standard that details health, safety and environmental requirements for contractors and contract owners. In 2018, the Standard's expectations were reinforced through training for contract owners and superintendents on how to implement the Standard.



Transport, vehicles and mobile equipment

Vehicle safety at both Operations and along the Company's transportation and concentrate haulage routes is a significant area of focus area due to the inherent risk exposure that comes with continuous operations and logistic movements on public roads.

Ongoing vigilance in this area, with the aim of continual improvement, has seen a four-year decline in vehicle-related incidents (15 in 2018; 12 reported in 2017; 14 reported in 2016; 26 in 2015; 44 in 2014; and 101 in 2013). While the number increased slightly in 2018, the number remains low compared to earlier reporting years.

At Phu Bia Mining's Operations, fatigue management procedures are in place and random drug and alcohol testing is conducted. During 2018, a number of initiatives related to fatigue management continued, including:

- > The development of the Fatigue Committee Strategy
- > The rollout of the fatigue management standard and fatigue management risk assessment programs
- > A review of potential risk factors for logistics and its findings presented by a consultant
- > An evaluation of fatigue detection cameras in vehicles
- > Continued upgrades of logistics personnel accommodation to reduce disturbances from noise and light
- > A 'Logistic Safety Day' to educate family members about how they can support drivers to combat fatigue
- > Increased coverage of the Phu Kham and Ban Houayxai FM radio stations to cover fleet management systems

CASE STUDY

SAFETY STEP CHANGE AT THE BAN HOUAYXAI GOLD-SILVER OPERATION

Ban Houayxai's journey to improve safety outcomes demonstrates the strength of Phu Bia Mining's safety systems and what can be achieved when operational and safety teams work together.

Between 2015 and 2017, safety performance at Ban Houayxai was steadily deteriorating. Recognising this trend, Phu Bia Mining focused on strengthening the awareness of existing safety systems and processes on site. An emphasis was placed on improving employees' familiarity of safety tools and developing skills to help individuals better understand safety risks and how to manage them.

By 2018, Ban Houayxai's safety the Company utilises a visible safety leadership program, involving conversations, inspections, training and coaching in changing the way operational and safety teams interact at Ban Houayxai.

The safety team used feedback from field interactions and the Operation's safety incident history to develop and implement educational campaigns focussed on topical safety hotspots (shutdowns, general plant maintenance or holiday seasons).

Safety teams are also now more visible in the field, wearing yellow high visibility shirts as opposed to the standard orange. This simple change has further opened up conversations between the safety and operations team.

This continued focus on safety drove a drop in the Operation's 2018 TRIFR to 0.00; its best safety performance since operations began in 2012.

Phu Bia Mining is proud of the improvements in safety performance at Ban Houayxai. The Operation's journey to improve safety demonstrates the strength of the Company's existing safety systems and processes, and how continued vigilance is required to ensure safety remains at the forefront of employees' minds.

For further information, see page 73 of PanAust's 2018 Business Review and Sustainability Report.

Above: Safety Supervisor, Xayya Inthavong provides safety support to operational teams in the Ban Houayxai process plant, November 2018

OUR PEOPLE

In 2018, the Company increased Lao localisation to 92 per cent. The result demonstrates the success of the systems and programs in place for Lao employees and the Company's commitment to its localisation objectives.

Localisation

Localisation relies on the training and development of Lao staff to meet the requisite skills and competencies required to perform a role to the desired level. Phu Bia Mining continually reviews and sets targets for the localisation of its workforce in Laos.

In 2018, the Company achieved its workforce of 92 per cent localisation. During the year, a total of 399 Lao employees throughout the business were either promoted, or had a role grade progression. Most notably, 84 Lao employees were promoted to senior technical or team leader roles, with an additional five being promoted to superintendent level. A number of ongoing formal initiatives and programs support the development of Lao employees are discussed below.

Leadership development

Leadership development is delivered via two separate yet complementary programs: the Supervisory Skill Training Program and Leading the PanAust Way.

Supervisory Skills Training Program

In 2018, 141 Lao employees (including 13 women) graduated from the Supervisory Skills Training Program aimed at providing existing team leaders, supervisory and high-potential employees with the training required for success in frontline leadership roles.

Each participant completed more than 80 hours of structured training and post-course assignments. The program has contributed to the Company's ability to appoint Lao employees to senior roles and has reduced Phu Bia Mining's reliance on expatriate employees.

Leading the PanAust Way

Leading the PanAust Way is an internally designed and facilitated leadership development program which integrates key aspects of The PanAust Way, Vision and Values and strategy, a 360-degree feedback survey and a leadership development plan. The program aims to bolster the existing succession plan by developing an internal pool of leaders and potential leaders for the Company.

The Program was rolled out to all executives and managers in 2017. In 2018, the Program continued to be rolled out to superintendents in Laos and Brisbane, who also completed 360-degree leadership surveys and attended feedback sessions led by trained, in-house leadership coaches.



Mentoring

The mentoring program is an internally run initiative to guide and encourage high-potential employees who have been identified as future leaders achieve their full potential. The third 18-month mentoring program launched in November 2017, with a select group of 28 high-potential mentees from PanAust and Phu Bia Mining completing in late October 2018. The mentee/mentor relationship provides mentees with access to experienced and knowledgeable leaders who can help them achieve their individual and business-focused development goals and guide leadership behaviours that are aligned with the Company's Values and Leading the PanAust Way.

Trades training programs

Phu Bia Mining operates two distinct trades training programs. The first is a trades training program for maintenance employees, under which trades skills are assessed, and training plans put in place for each employee. The program was implemented in 2014, and at year end 2018 has resulted in 342 Lao employees progressing from Trades Assistant to Tradesperson level. In 2019 Phu Bia Mining will provide the necessary support for Lao maintenance trainees to obtain a Lao Government recognised Diploma of Technical Trades in their chosen vocation from the Lao German Technical College.

The second program is the Apprenticeship Program. Established in 2013, the Program offers a five-year apprenticeship in a technical trade, in partnership with the Lao-German Technical College in Vientiane. In 2018, the Company's final intake of 51 apprentices (35 from PBM and 16 from Chifeng LXML Sepon) included nine women (eight from PBM and one from Chifeng LXML Sepon) completed their assessments and obtained an Australian Certificate III Trade Qualification and a Lao Higher Diploma of Technical Training. The PBM apprentices transitioned into full-time trade roles within the Company's fixed plant and mobile maintenance teams in December 2018. With the potential closure of the Company's Operations within the next 4 years, it was decided that the Apprenticeship Program will discontinue in 2019.



CASE STUDY

GENDER DIVERSITY UPDATE

PBM (and Laos') first ever female firefighter!

In a first for Phu Bia Mining, in 2018 the Company hired its first female firefighter; Onekeo Chansombath. Onekeo beat a large number of applicants for the position with Phu Kham's Fire and Emergency Services Team in January 2018.

The female firefighter completed her three-month probationary period in April 2018. She was required to demonstrate her understanding of basic fire and rescue competencies and has since joined her new crew at Phu Kham under FES Team Leader, Saly Boualong. She will now progress to more advanced skills training including vehicle rescue, advanced firefighting, rope rescue, confined space entry and medical skills.

During her short time in the role she has attended a number of bush fires and other incidents around Phu Kham. Her new crew, on average, attend to 200 calls per year, including community calls such as vehicle accidents, bush fires and medical intervention. Fire and Emergency Services Supervisor, Phatthana Thorphialouang spoke highly of his new recruit.

"Having previously worked as a loss prevention officer with the Company, Onekeo's security background has given her a solid understanding of procedures, discipline and the importance of the 'chain of command'. All essential to being a part of the FES team," Phatthana said.

For further information, see page 88 of PanAust's 2018 Business Review and Sustainability Report.

Above: Onekeo Chansombath (centre) surrounded by the Phu Kham fire and emergency services team

