

2021



PHU BIA MINING

Annual
Review and
Sustainability
Report



A view of the Ban Houayxai Gold-Silver Operation from ETL hill



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Company profile

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

Ban Houayxai Gold-Silver Operation Process Operator, Mr Paohuethau at the Operation's process plant

Phu Bia Mining is 90 per cent owned by Pan Mekong Exploration Pty Limited., a wholly owned subsidiary of PanAust Limited ('PanAust'). The Government of Laos owns the remaining 10 per cent.

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

PanAust's registered head office is located in Brisbane, Australia and provides leadership and support to Phu Bia Mining in relation to strategy, financial management, commercial and technical services, risk management, sustainability, corporate communications, human resources, legal, information systems and technology, governance and reporting.

Phu Bia Mining's producing assets are the Phu Kham Copper-Gold Operation (Phu Kham) and the Ban Houayxai Gold-Silver Operation (Ban Houayxai). Both are 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. The MEPA regulates exploration, development and mining activities within the Contract Area, and sets out the Company's tax and royalty obligations.

The corporate office in Vientiane oversees Phu Bia Mining's operations and supports the implementation of the Company's strategic business endeavours.



The Ban Houayxai
Gold-Silver Operation open-pit

Report scope

This report has been prepared by Phu Bia Mining for the purpose of providing the Government of Laos with an overview of the Company's production, business and sustainability-related information for the 2020 calendar year. It summarises data taken from PanAust's 2020 Business Review and Sustainability Report (available at www.panaust.com.au/annual-publications/) which presents data for a three-year period and was prepared in accordance with Global Reporting Initiative (GRI) Standards: Core option and the G4 Sector: Disclosure for Mining and Metals. Phu Bia Mining applied a consistent approach to identifying, assessing and verifying material sustainability issues that matter most to Phu Bia Mining and its stakeholders; those issues are covered in both PanAust's 2020 Business Review and Sustainability Report and in this Report.

Transparent reporting

Materiality Counts, an independent assurance provider, provided assurance of a selection of material issues within PanAust's 2020 Business Review and Sustainability Report prior to its publication.

This report does not contain all the information necessary to fully evaluate any transaction or investment, and you should not rely on the contents of this report. Phu Bia Mining disclaims and excludes all liability (to the extent permitted by law), for losses, claims, damages, demands, costs and expenses of whatever nature arising in any way out of or in connection with the information contained in this report, its accuracy, completeness or by reason of reliance by any person on any of it. The recipient acknowledges that circumstances may change and that this document may become outdated as a result. Phu Bia Mining is under no obligation to update or correct any inaccuracies or omissions in this report.

Forward-looking statements

PanAust's 2020 Business Review and Sustainability Report includes certain 'forward-looking statements'. All statements, other than statements of historical fact, included herein, including without limitation, statements regarding forecast production performances, potential mineralisation, resources and reserves, and future expansion plans and development objectives of PanAust Limited, are forward-looking statements that involve various risks and uncertainties. There can be no assurance that such statements will prove to be accurate and actual results and future events could differ materially from those anticipated in such statements.

These statements may be identified by the use of words like "anticipate," "believe," "estimate," "expect," "intend," "may," "plan," "will," "should," "seek," and similar expressions. The forward-looking statements reflect our views and assumptions with respect to future events and are subject to risks and uncertainties. Those risks and uncertainties include factors and risks specific to the industry in which Phu Bia Mining operates as well as general economic conditions, prevailing exchange rates and interest rates and conditions in the financial markets. Any such statements are also affected by a range of variables, which include, but are not limited to commodity price fluctuations, input price fluctuations, currency fluctuations, actual demand, geotechnical factors, mineral resource and reserve estimates, operating results, governmental and regulatory factors, economic, financial and political conditions in various countries, approvals and cost estimates. Actual and future results and trends could differ materially from those described by such statements due to various factors, including those beyond our ability to control or predict. Given these uncertainties, you should not place reliance on the forward-looking statements.

Certain information contained in this document has been obtained from published sources and/or prepared by other parties (including service providers, and governmental agencies), which has not been updated through the date hereof. While such sources are believed to be reliable based on present circumstances, market conditions and beliefs, neither Phu Bia Mining nor any of our respective directors, officers, employees, advisors, members, partners, shareholders or affiliates assumes any responsibility for the accuracy or completeness of such information.



Chairman's review

I humbly extend my sincere thanks to the Government and people of Laos our shareholder and our people for the many ways they contributed to and supported Phu Bia Mining in 2020.

The Ban Houayxai Gold-Silver process plant

Mr Chanpheng Bounnaphol
Phu Bia Mining Chairman

2020 was an extraordinary 12 months for Phu Bia Mining's people and our Operations; testing our agility, strength and resilience in ways we could never have imagined. We have come out stronger and have demonstrated that we have strong relationships and partnerships, great people and a resilient business.

Our multicultural workforce, bolstered by the unwavering support from our shareholder, a Chinese State-owned Enterprise, Guangdong Rising Holding Group Co. Ltd (GRHG), protected each other and our communities, safeguarded our operations and carried us through the years' challenges.

Despite the unpredictable nature of the COVID-19 pandemic, Phu Bia Mining's response remained strong throughout 2020. Fundamental to this success has been our strong partnership with and support to the Government of Laos and the broader community. As we implemented our business continuity and customer response to COVID-19, we quickly realised we had an important role to play in supporting our communities during this challenging period.

In 2020, we were one of the first companies in Laos to announce our support to the central and provincial governments to help them fight COVID-19. This included the provision of in-kind medical aid for Xaisomboun Province, the country's first mobile sample collection unit and a large suite of life saving medical equipment including installation in hospitals and training for health professionals. Our total support to Laos was more than US\$1 million, reinforcing our commitment to protect our communities and increase access to quality healthcare in Laos.

Operational performance

Notwithstanding the challenges that COVID-19 presented, we recorded another year of strong production and returns for our shareholder and the Government and people of Laos. This was achieved against a backdrop of temporary cessation of operating sites, budget and target changes due to lockdowns in Laos and changed market conditions.

Phu Kham produced 48,433 tonnes (t) of copper, 43,274 ounces (oz) of gold and 286,107 oz of silver at an all-in sustaining cost (AISC²) of US\$1.14/lb copper. A C1¹ cost of US\$1.88 was recorded. Gold and silver production at Ban Houayxai totalled 68,736 oz and 635,715 oz respectively, at a C1 and AISC of US\$940 and US\$1,346/oz gold respectively.

We are proud of our operational performance in 2020, which was achieved in the face of the challenges we were presented with. We honoured our commitment to ongoing direct financial contributions to the Government of Laos and continued our indirect support to the Lao economy at a community and national level. With border closures in Vietnam and Thailand, we explored options for transshipments of copper concentrate to ensure that we complied with the contract terms of our customers and tax obligations in Laos.

In October, our Mobile Maintenance teams retained their Caterpillar's 5-star Contamination Control ratings for our mobile maintenance and warehouse facilities. This is the seventh and sixth consecutive year for the Ban Houayxai and Phu Kham facilities respectively. Our Operations are two of only three facilities in the world to achieve these ratings in 2020 – an outstanding achievement for our Mobile Maintenance team, in light of COVID-19 lockdown challenges.

Social performance

At year-end, we made direct payments of US\$55 million to the Government of Laos through taxes, royalties and dividends. Our activities were equivalent to 1.8 per cent of the nation's gross domestic product.

Throughout the COVID-19 pandemic, a total of US\$148 million was spent on Lao-registered suppliers of goods and services and Lao-based international companies. Locally, through community sponsorships and donations, we invested over US\$1 million in host communities.

In 2020, 15 community development programs that were scheduled were partially completed with total spending of US\$243,475. After the imposed COVID-19 hiatus, some programs commenced in the second half of the year. With the primary aim of building better socio-economic linkages in Xaisomboun Province, we made an additional investment to build a 1.9 kilometre road at a cost of US\$1 million in Nam Mo village. The project is aimed at strengthening local community infrastructure in support of, and continuing, the friendship between Phu Bia Mining and the Lao People's Democratic Republic.

Our site Sustainable Livelihoods team worked collaboratively with provincial government officials to diversify agricultural projects that will continue to generate income for local communities near our Operations after end of mine life is reached.

Health and Safety

Phu Bia Mining reacted swiftly as COVID-19 ushered in enormous changes to how our people work and how we run our operations.

Our early response to COVID-19 demonstrated the priority that Phu Bia Mining places on the health, safety and wellbeing of our people. Page 20 of this report outlines a timeline of how we responded when two of our own employees tested positive for COVID-19, leading to an operational shutdown from 5 – 28 April. A two-phased restart plan was implemented across our Operations after we regained confidence and approval from the Government of Laos. In line with the COVID-19 controls mandated by the Government of Laos, Phu Bia Mining also put in place others.

As demonstrated by our COVID-19 response, at Phu Bia Mining, safety is paramount. It is at the core of all our business decisions and is the single most important factor at all our sites.

Our commitment to safety is enshrined in our Zero Harm safety philosophy, which is a beacon to ensuring we all continue to work, and go home, safe every day.

Phu Bia Mining's parent company, PanAust has consistently outperformed industry peers. In 2020, the Company's total recordable injury frequency rate of 0.43 and its lost time injury frequency rate of 0.07 were significantly better than industry averages. Yet despite these positive metrics, we know we have a long way to go.

It is with great sadness that one of our colleagues, Abbe Shall – a Myanmar citizen working at an exploration site in Laos – tragically lost his life in August 2020. In the aftermath of the incident, we provided all practical support to Abbe's family and those who were affected by the incident. This tragic loss highlights our responsibility to continue to push for exceptional safety performance every day to achieve Zero Harm. Following an in depth investigation, we consolidated our learnings and put in place an action plan across our Operations to prevent similar incidents from occurring. On behalf of everyone at Phu Bia Mining, I convey my deepest condolences to Abbe's family.

Growing and improving our business

Phu Bia Mining made significant progress on delivering on our strategy to continue our long term presence in Laos.

During the year, we continued to take a rigorous and structured approach to our Logistics business, unlocking more value by extending the in-house management of our concentrate haulage, saving approximately US\$15-16 million to the life of mine of our Operations. The innovative approach the team adopted to safeguard our operations during COVID-19 border closures in Vietnam and Thailand demonstrates the maturity of our processes and our agility in unpredictable times.

Our teams also pursued work packages for mine life extension and future closure planning with key stakeholders to ensure successful post closure outcomes.

At the end of November, we were named runner up in the '2020 SAP Best Run Awards'. The recognition highlights our commitment to embracing technology to improve our business practices.

¹ 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.

² 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.

Our people

At Phu Bia Mining the contributions our people make are the cornerstone to our success. Our training and development programs strengthen the capacity of our workforce and help provide a long-lasting, positive legacy of skilled people that will help contribute to and grow the Lao economy. Pleasingly during the year, we achieved our highest level of localisation to date, with Lao-nationals making up 93 per cent of the workforce.

In 2020, 40 young Lao people joined the Company's Trades Training Apprenticeship Program. During the year, the Apprentices' site-based training was interrupted due to COVID-19 lockdowns. The intake – 43 per cent of whom are women – were chosen from a group of more than 3,500 applicants. Upon completion of the Program, the participants will receive an Australian TAFE Certificate III trade qualification in their chosen field, a Lao High Diploma of Technical Trade Studies and a Certificate of Technical English.

I would like to once again express my heartfelt thanks to everyone who worked and partnered with us in 2020. While the challenges of the pandemic are likely to remain for some time, I look to the future with great optimism and confidence knowing that our people have the strength to grow the Company while pursuing the highest safety standards and working with absolute integrity.

Finally, on behalf of Phu Bia Mining's Board of Directors, I sincerely thank the Government of Laos for their guidance and support in 2020.

Mr Chanpheng Bounnaphol
Phu Bia Mining Chairman





Concentrate haulage drivers standing in front of their concentrate haulage convey at the Company's logistics hub at Ban Thouay

2020 highlights

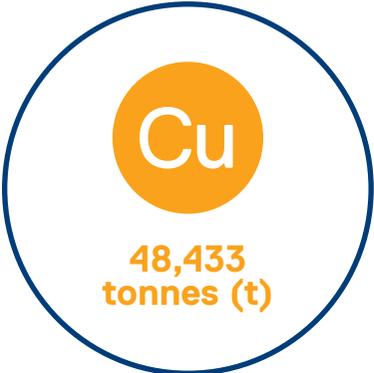
Guided by our clear purpose to deliver sustainable value for the Government and people of Laos



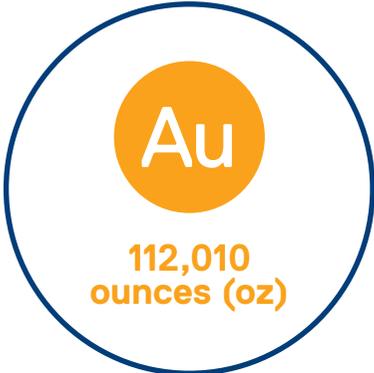
Direct contributions to the Government of Laos



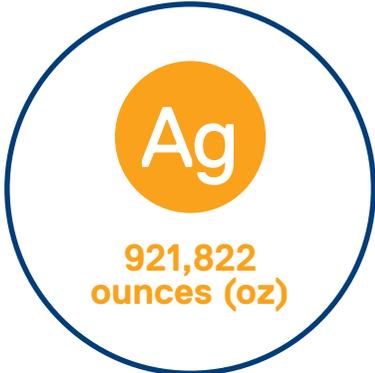
Portion of Lao gross domestic product attributable to Phu Bia Mining activity which was US\$19.1 billion in 2020



Of copper in concentrate produced



Of gold in concentrate and doré produced

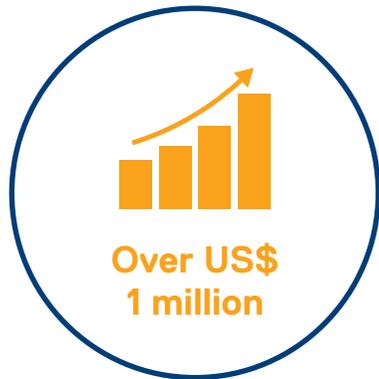


Of silver in concentrate and doré produced

¹ The Company uses the Bank of Laos' annual report for the GDP figure and converts it from Kip into US dollars using the average exchange rate over the 2020 calendar year. In 2020, Laos' GDP was US\$19.1 billion.



Invested in public road infrastructure and maintenance



Total sponsorship and donations made through cash and in-kind donations including COVID-19 relief efforts



Lao-national workforce



Implemented through community development funds (CDFs)



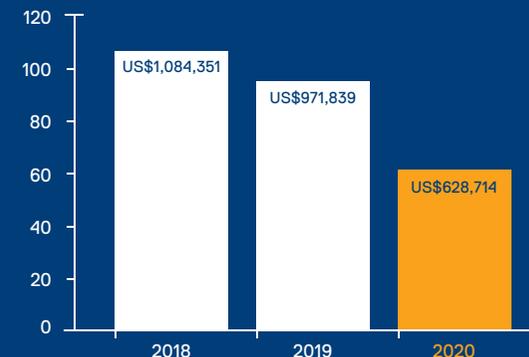
Total investment in communities through CDFs



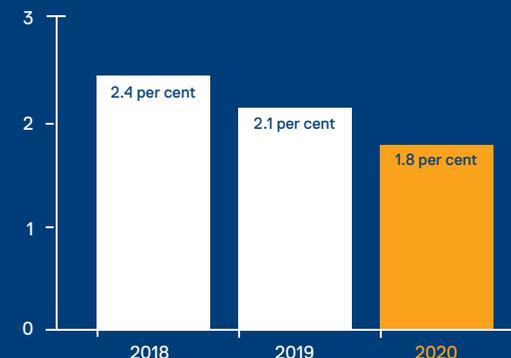
Income generated for local communities through the purchase of vegetables, drinking water, eggs, cloth bags, fruit and fish

² Expenditure was notably lower in 2020 due to COVID-19 pandemic restrictions and the Company's strict controls for limited community interaction to minimise the spread of infection.

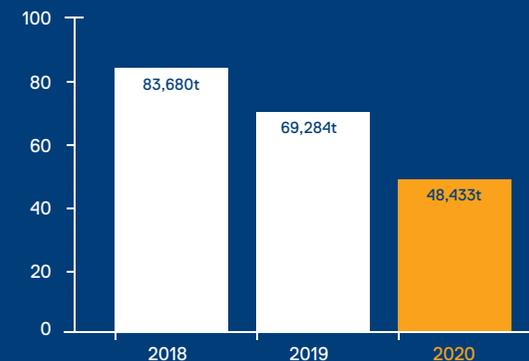
Income generated for local communities



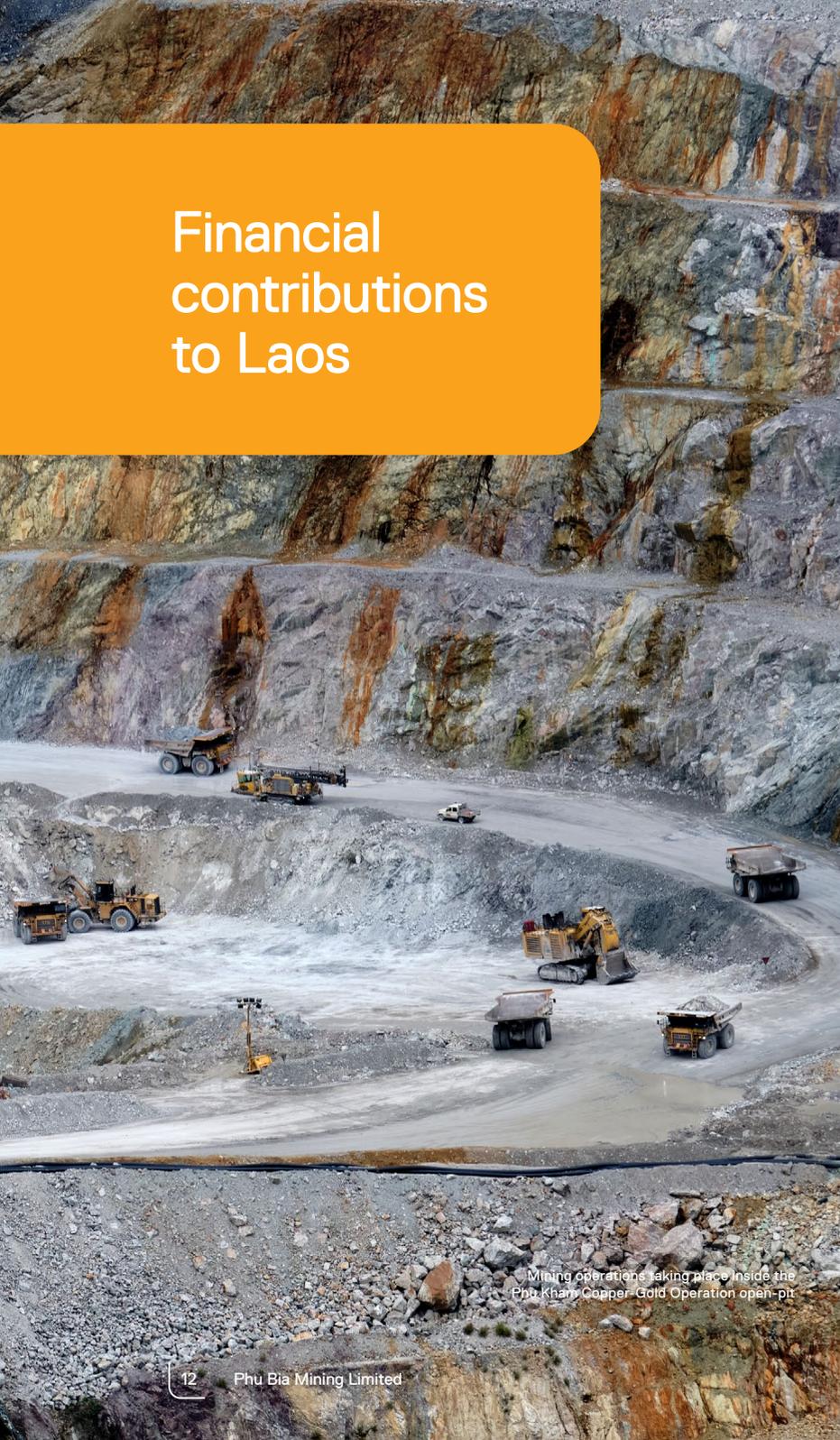
Percentage of Laos' 2020 gross domestic product (GDP) attributable to Phu Bia Mining activity



Copper production



Financial contributions to Laos



Mining operations taking place inside the Phu Kham Copper-Gold Operation open-pit

2020 total payments by Phu Bia Mining (US\$ million)

Description	US\$ million		
	2018	2019	2020
Contribution			
Payroll tax	4.21	4.15	4.03
Customs excise (Import service fee)	2.35	1.74	1.48
Road tax	4.54	4.11	3.61
Profit tax (Income tax)	28.90	23.68	11.54
Royalties	41.01	36.92	32.64
Concession fees	0.06	0.06	0.06
Dividend	5.35	21.00	1.7
Total contributions	86.35	91.66	55.07
Copper price (US\$/lb)	2.88	2.74	2.81

Direct contributions to Laos (annual) (US\$ millions)

Year	US\$ million
2018	86.35
2019	91.66
2020	55.07

Direct contributions to Laos (cumulative)

Year	US\$ million
2018	716
2019	800
2020	855

Economic value generated

Phu Bia Mining recognises it has a responsibility to make a positive social and economic contribution to the communities and regions in which it operates.

The Company's philosophy is that wherever it operates, it collaborates with central and local governments and communities to improve the socio-economic livelihood of the region. The focus areas are: public infrastructure, health, education, agriculture, small business development and microfinance.

To date, approximately US\$1.57 billion has been invested in Laos. This figure represents the expenditure on physical assets and exploration activities also includes Phu Bia Mining's 2020 expenditure of US\$2.88 million towards public road infrastructure and maintenance along the Company's logistic route and regional roads close to the Company's Operations.

Since 2006, Phu Bia Mining has invested more than US\$100 million in Lao public road infrastructure. Improvements and maintenance of sections of the Phu Kham and Ban Houayxai transport and haulage routes have benefited 12 villages with a combined population of more than 16,000 people, by providing faster access to markets and public services including hospitals and schools. For more details, see page 57 of PanAust's 2020 Business Review and Sustainability Report.

The Company contributes to the Lao economy in many ways, including through:

Government of Laos

- › Revenues from copper, gold and silver including royalty payments.
- › Profit tax and other payments including tenement rental fees.
- › Payment of dividends.
- › Salaries paid to employees and salary taxes to provincial governments.

Supporting local businesses

- › Capital expenditure in exploration, project development and project operating costs, particularly through local buying payments to registered Lao suppliers of goods and services.
- › Local procurement of goods and services from contractors and businesses.

Community development

- › Training and skills development of employees and communities through capacity-building programs.
- › Investments in community development programs through community development funds.
- › Investment in regional infrastructure including roads, water and sanitation and schools.
- › Sponsorships and donations.

Where appropriate, Phu Bia Mining engages registered local companies (Lao and international companies based in Laos) to procure goods and services for Lao-based activities. In doing so, the Company takes into consideration commercial competitiveness, the suppliers risk profile and capacity to ensure goods and services are provided in a safe and responsible manner. Support and training is also provided to local companies where required to ensure the Company's health and safety standards are met.

In 2020, 45 per cent of goods and services for the Company were purchased in Laos; 73 per cent of goods and services were purchased regionally (Laos and Thailand). For more details, see page 57 of PanAust's 2020 Business Review and Sustainability Report.

During 2020, Phu Bia Mining's other economic contributions to Laos included:

- › The payment of US\$148 million to Lao suppliers of goods and services; over 47 per cent of expenditure on goods and services was to companies in Laos and the Government of Laos.
- › Contribution of approximately US\$55 million to the Government of Laos.
- › Contribution to capacity-building programs and activities at district, provincial and central government levels.
- › Employment of 3,683 people in Laos during 2020. By year-end, 93 per cent were Lao-national employees, of whom 22 per cent are from local villages adjacent or in close proximity to Phu Bia Mining's Operations.
- › Administering a sponsorships and donations program in Laos (in addition to the community development program), providing support of over US\$1 million to a wide range of recipients through cash and in-kind donations. For more details, see page 57 of PanAust's 2020 Business Review and Sustainability Report.



Senior Livelihood Officer, Banthavong Silapaphan (far right) purchasing vegetables from local women farmers at Nam Gnone as part of the Company's support for small business development



Health and safety performance

Paramedic, Mr Souvaxay Lartsapho performing COVID-19 temperature tests at the Ban Houayxai Gold-Silver Operation medical clinic

Safety performance



At Phu Bia Mining, safety is paramount. The Company's Zero Harm philosophy considers all workplace incidents and injuries preventable.

Achieving business objectives, while keeping the workforce and host communities safe, is essential to Phu Bia Mining's success and is closely aligned with the Company's Values. This approach was applied to the Company's response to the COVID-19 pandemic and actions Phu Bia Mining took to safeguard the health, safety and wellbeing of its workforce and surrounding communities.

In 2020, the Company's safety focus was on COVID-19 control surveillance programs. These included: increased deep cleaning of equipment and facilities; reducing site-based workforce number to manage population density; mandating our people could only travel to and between sites on Company-controlled transport; stringent social distancing and personal hygiene protocols; and mandating the wearing of face masks; testing of the reticulated water systems for E. coli and coliforms, monthly food safety audits; adenosine triphosphate surface testing program; and assisting the Medical teams with PCR tests for the site-based workforce (including contractors).

Lead-indicator programs prioritise visible safety leadership and include: hazard identifications, job safety observations (JSOs) in the field, deep dive reviews, workplace inspections, planned task observations (PTOs) and safety training.

In 2020, Phu Bia Mining's parent Company, PanAust achieved a loss time injury frequency rate (LTIFR) of 0.07 (based on one million hours worked) from one lost time injury. In 2020, the Company's total recordable injury frequency rate (TRIFR) of 0.43 was 72 per cent lower than the annual target of 1.54. The year-on-year improvement of our safety metrics signifies the maturation of the safety processes and systems in place at our Operations. For more details, see page 88 of PanAust's 2020 Business Review and Sustainability Report.

Despite these figures, in August 2020, an exploration geologist contractor from Myanmar tragically lost their life working at Phu Bia Mining exploration prospect in Laos. The contractor was separated from their team while walking back to their vehicle at the end of the day. Upon their return to the vehicle, the team discovered the contractor to be missing. The incident was escalated to management and a Significant Incident Management Team (SIMT) was formed. Local authorities and air assets were deployed to assist with a search for the missing contractor. The search located their body the following day in heavy vegetation. The cause of death was unable to be determined. Phu Bia Mining's parent Company, PanAust provided financial support to the contractor's family and helped repatriate their body to Myanmar. Counselling support for their family and any employees impacted by the incident was also offered. A comprehensive investigation was undertaken to determine the cause of the incident and to develop an action plan to prevent similar incidents from occurring.



Safety culture

Completing a Take 5 hazard identification prior to commencing a work activity at the Ban Houayxai Gold-Silver Operation crusher bin

Achieving business objectives, while keeping the workforce and host communities safe, is essential to Phu Bia Mining's success and is closely aligned with the Company's Values. This approach was applied to the Company's response to the COVID—19 pandemic and actions Phu Bia Mining took to safeguard the health, safety and wellbeing of its workforce and surrounding communities

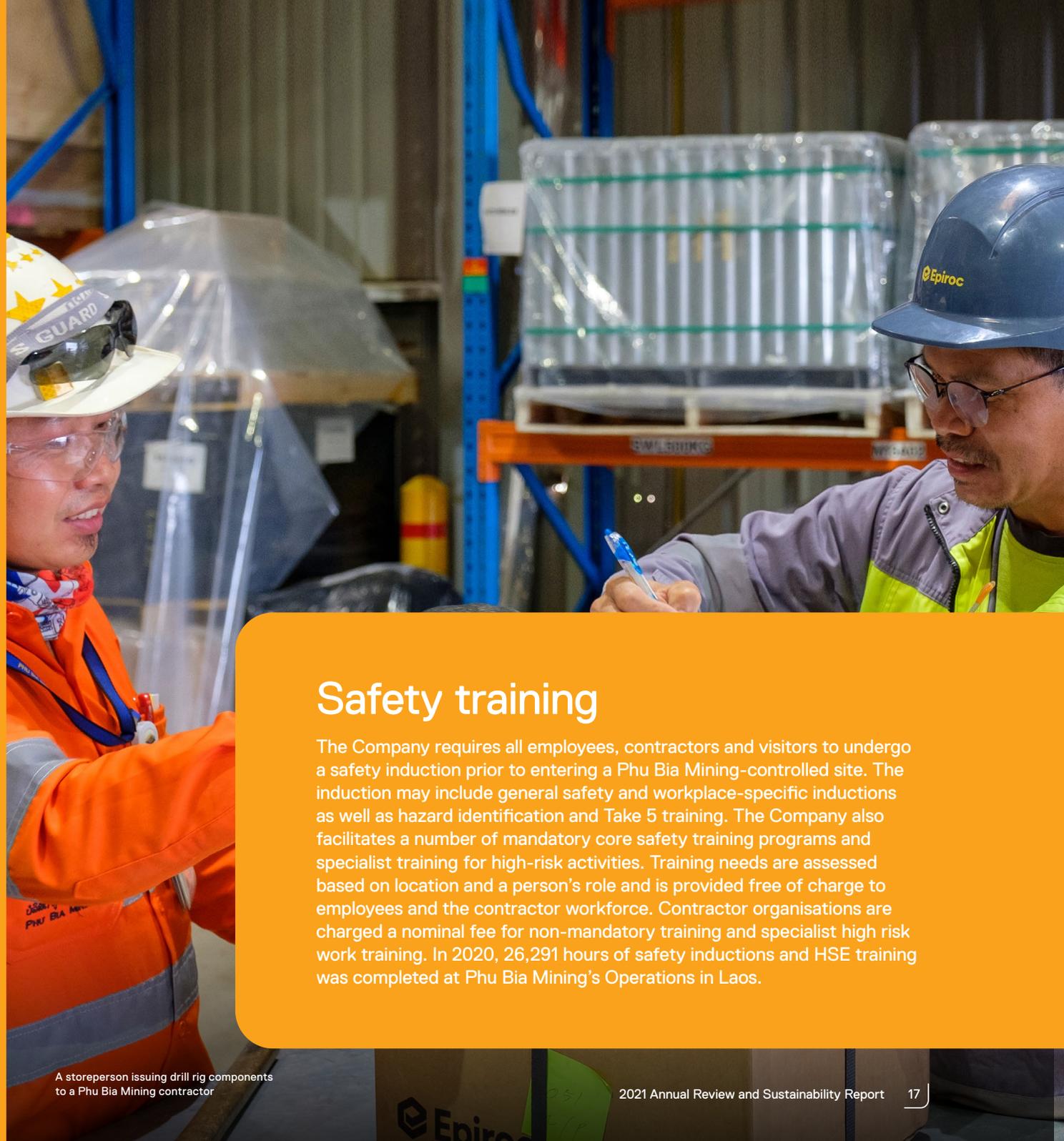
Through visible leadership, plans and actions, Phu Bia Mining's leaders are committed to promote a culture of Zero Harm. Visible safety leadership is driven at all levels of the organisation. Recognising that a risk-aware workforce is fundamental to achieving strong safety outcomes, behavioural-based safety programs contribute to the Company's remuneration incentives and drive continual safety improvement.

Lead-indicator programs prioritise visible safety leadership and include: hazard identifications, job safety observations (JSOs) in the field, deep dive reviews, workplace inspections, planned task observations (PTOs) and safety training.

Contractor management

The Company works closely with local contractors with little to no mining experience to improve their safety culture. This approach is not without challenges and contractor management continues to be a high risk exposure area. The death of a contractor in August highlights the need for the Company's continued vigilance in this area and its continued focus on closing gaps in its contractor workforce's safety performance. For more details, see page 89 of PanAust's 2020 Business Review and Sustainability Report.

The Company has a Group Contractor Management Standard that details health, safety and environmental requirements for contractors and Company contract owners. The Company works with contractors to help them meet the requirements of the Standard by providing templates and direct access to supporting documentation on the Company's intranet and file-sharing sites. Phu Bia Mining's contractor expectations are reinforced through training for contract owners and superintendents on how to implement the Standard. For more details, see page 92 of PanAust's 2020 Business Review and Sustainability Report.



Safety training

The Company requires all employees, contractors and visitors to undergo a safety induction prior to entering a Phu Bia Mining-controlled site. The induction may include general safety and workplace-specific inductions as well as hazard identification and Take 5 training. The Company also facilitates a number of mandatory core safety training programs and specialist training for high-risk activities. Training needs are assessed based on location and a person's role and is provided free of charge to employees and the contractor workforce. Contractor organisations are charged a nominal fee for non-mandatory training and specialist high risk work training. In 2020, 26,291 hours of safety inductions and HSE training was completed at Phu Bia Mining's Operations in Laos.

A storeperson issuing drill rig components to a Phu Bia Mining contractor

HEALTH AND SAFETY PERFORMANCE CASE STUDY:

Improving driver fatigue

Phu Bia Mining's journey to reduce driver fatigue related safety incidents and the roll out of the Caterpillar MineStar Detect Driver Safety System

Fatigue, in particular driver fatigue, is a serious safety concern for Phu Bia Mining given its Operations work on 24-hour cycle. Managing driver fatigue has been a journey for the Company. It began with the identification of the concern, the progressive execution of initiatives to combat fatigue, and the implementation of an automated driver fatigue detection system, the Caterpillar (CAT) MineStar Detect Driver Safety System (DSS).

Identifying the issue

In 2014, management teams across the PanAust Group, Phu Bia Mining's parent company developed a plan to improve the safety performance at the Operations in Laos. Four years of safety incident data was audited to develop a baseline for improvement. The audit showed 48 vehicle-to-equipment or equipment-to-equipment contact (collision) events were recorded across the four years, an average of 12 incidents each year. An additional 38 equipment-to-environment or infrastructure contact events (approximately 9.5 per year) were recorded in the same period.

Further analysis of the collision events uncovered 30 per cent of the incidents were directly attributable to driver fatigue while an additional 10 per cent were the result of driver distraction (i.e. using a mobile phone).

While a fatigue management system was in place, the audit highlighted that drivers had become complacent and a review of the system was needed. A fatigue committee was formed in 2016 to help facilitate this review and embed initiatives that would help address the broader issue of fatigue in Laos. These initiatives included:

- › Identifying and establishing locations where concentrate haulage drivers could have frequent rest breaks.
- › Establishing break/rest rooms at the Phu Kham Operation.
- › Commissioning an independent review into the Company's fatigue systems, processes and infrastructure.
- › Improving operator accommodation on-site, focusing on noise and light reduction strategies and reducing the number of drivers per room.
- › Holding a 'Logistics Safety Day', an awareness campaign to educate driver's families about the dangers of fatigue and how they can help the Company's drivers combat fatigue.
- › The expansion of the Company's highly successful 'Phu Kham FM' radio station to the Ban Houayxai Operation.
- › The establishment of a fatigue management function within the mine control rooms that prompted drivers to assess their fatigue and encourage them to confidentially advise the mine control room if they felt fatigued.

- › The assignment of room controllers for the Phu Kham mining fleet to manage and minimise disruptions to their sleep.
- › The revision of the Company's fatigue management plan.
- › Roll out of roster changes that shortened the number of consecutive shifts worked before a 24-hour break, as well as the introduction of 15-minute fatigue breaks every two hours during night shift.
- › The installation of cameras in the 777D mine fleet that recorded drivers, sending a live feed to the mine control room where they were being monitored for signs of fatigue.

These initiatives had a positive effect on the overall safety performance at the Operations. For example, by December 2016, the Phu Kham Operation's TRIFR decreased from 5 to 0.5 – including 10 months of TRIFR of 0.

Despite this overall improvement in safety metrics, Phu Bia Mining knew it could do more to minimise driver fatigue, seeing limitations to the effectiveness of some of its initiatives to combat the issue given they relied on people monitoring drivers. It was clear an automated system to detect fatigue was required.

Using technology to identify and manage driver fatigue-related incidents

In response to the continually high rates of the driver fatigue, in 2017, the fatigue committee began to review and trial fatigue monitoring technologies. That year, it pushed forward with the trial of CAT Smartbands (a wristband that measured sleep quality and length) and the CAT DSS which was installed in five 777D mine fleet trucks at the Phu Kham Operation.

A non-intrusive, in-cab fatigue detection technology, the DSS automatically alerts a driver once it identifies a fatigue or distraction event through an in-cab vibration and/or alarm.

The system uses an algorithm to identify a fatigue event by measuring the time a driver's eyes are closed and monitoring a driver's head position and how long a driver's face could not be seen. Distraction events are measured by how long a driver looks away from the road. This data is sent to the CAT Fleet Monitoring Centre, a 24-hour facility focusing on fatigue monitoring and data analysis.

Also in 2018, the Company conducted a fatigue risk assessment in partnership with CAT. The assessment reviewed the data recorded during the DSS and the Smartband trial. The results were positive and in 2019, Phu Bia Mining pushed forward with the full rollout of the DSS across its 777D mining fleet at the Phu Kham and Ban Houayxai Operations.

The benefits of the system and the reduction in driver fatigue-related safety incidents

In the first six months after full implementation at Phu Kham, the Operation recorded a 41 per cent reduction in overall fatigue events and an 80 per cent reduction in drivers needed to be relieved from work from due to fatigue.

One year since the full implementation of the DSS, in July 2020, DSS detected driver fatigue events had reduced by 62 per cent. Bolstered by these positive results, the Company approved the implementation of DSS across its entire haulage fleet.

The identification and significant improvement of driver fatigue-related safety incidents at Phu Bia Mining is testament to its commitment to continuing to keep its workforce safe.

Overall fatigue-related
events reduced by

41%

Driver fatigue-related
events reduced by

62%

Drivers needed to
be relieved from
work due to fatigue
reduced by

80%

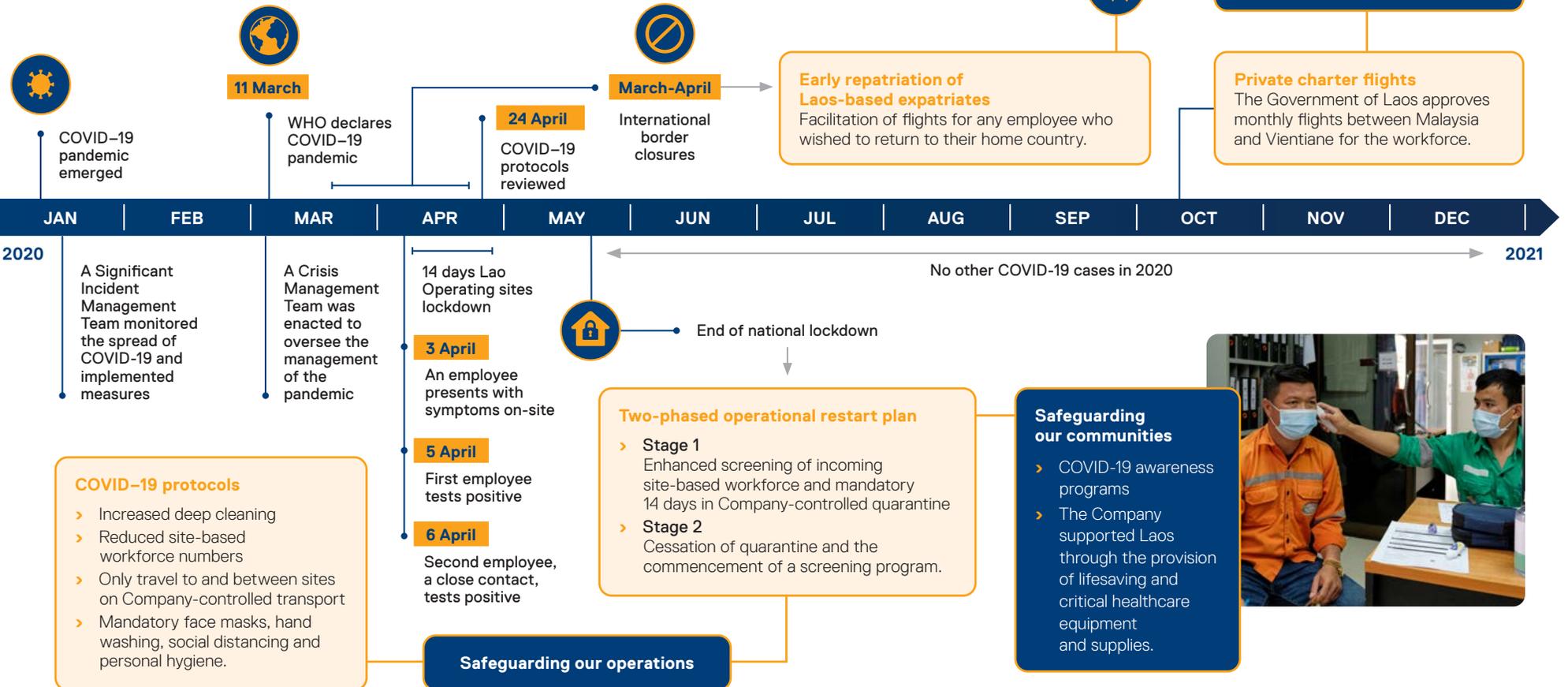
Responding to the COVID-19 pandemic

Phu Bia Mining's response to the impacts of the COVID-19 pandemic focused on three key areas: safeguarding its operations, safeguarding the health, safety and wellbeing of its workforce, and its host communities.



Safeguarding our workforce

- > Early repatriation of Laos-based expatriates
- > Flexible working arrangements
- > Salary maintenance and uplifts
- > Support for employees remaining on-site
- > Roster changes
- > Ongoing communication and updates
- > Facilitation of travel
- > Employee Assistance Program



Safeguarding our operations

In 2020, the COVID-19 pandemic emerged as a significant health and safety issue across Phu Bia Mining's Operations. The Company understood it needed to act fast to protect the health, safety and wellbeing of its people and host communities.

In January, a Significant Incident Management Team (SIMT) was initiated following reports a new highly contagious respiratory virus (COVID-19) was fast becoming a concern for global health authorities. Managed from Laos, the SIMT monitored the spread of COVID-19.

On 11 March, the World Health Organization (WHO) declared COVID-19 a pandemic and shortly after, the Company enacted the Crisis Management Team (CMT). Run from the Company's head office in Brisbane, the purpose of the CMT was to tactically support the SIMT and oversee the management of the COVID-19 pandemic.

The Company initiated a number of COVID-19 protocols to control the possible spread of the virus and protect its people and communities. These included: increased deep cleaning of equipment and facilities; reducing site-based workforce numbers to manage population density; mandating its people to only travel to and between sites on Company-controlled transport; stringent social distancing and personal hygiene protocols; and mandating the wearing of face masks.

Shortly after, COVID-19 related border closures effected the movement of its people, goods and product in and out of Laos. It was thanks to the agility of the workforce and Logistics team that Phu Bia Mining overcame these obstacles with little disruption to its operations.

On 3 April, an employee working at the Phu Kham Operation presented with COVID-19 symptoms to the site medical clinic.

On 5 April, a polymerase chain reaction (PCR) test confirmed the employee was positive for COVID-19. In line with Government of Laos guidelines, the employee was transferred for treatment at a hospital in Vientiane and the Company provided all necessary support to him and his family during that difficult time.

The following day, the Company announced it would be locking down its Operations in Laos for an initial period of 14 days. This was done to protect the health, safety and wellbeing of its people and host communities, and protect its Operations while the Company assisted the Government of Laos with their contact tracing efforts. On 5 April, the Lao National Taskforce for COVID-19 Prevention and Control instructed Phu Bia Mining to cease all operating activities at its sites in response to the positive case detected at Phu Kham.

A second employee on break – and identified as a close contact of the first case on site – tested positive for COVID-19 on 6 April.

From the two positive cases, contact tracing identified 44 people as an exposure risk and were placed into quarantine for 14 days in separate rooms at the Phu Kham accommodation camp. No further positive cases were detected and everyone was released following their quarantine period. Furthermore, the employees who tested positive for COVID-19 made a full recovery and eventually returned to site.

On 24 April, the strength of its COVID-19 site protocols was reviewed by a visiting contingent from the Taskforce. Their assessment was positive and was a testament to the strength of the Company's proactive approach to managing COVID-19 at its Operations. This is reinforced by the fact that there were no more positive cases recorded at its Operations in Laos for the rest of 2020.



Empty 15,000 fuel tank being removed from a concentrate haulage truck at the Company's logistics hub at Ban Thouay



Members of the Phu Kham Copper-Gold Operation workforce being temperature-tested prior to boarding Company-controlled transport

Following the end of the national lockdown, Phu Bia Mining implemented a two-phased restart plan that outlined how to maintain safe production against the risk of the potential spread of COVID-19 to its people and communities.

Stage one involved enhanced screening of the incoming site-based workforce. This included a requirement to record a negative PCR test and complete 14-days in Company-controlled quarantine.

In partnership with the Government of Laos, stage two saw the cessation of Company-controlled quarantine and the commencement of a screening program to prevent the spread of COVID-19 by early detection through testing and containment. A PCR test was administered by Government of Laos' National Centre for Laboratory and Epidemiology to the incoming workforce, who were only cleared to return to site once they recorded a negative result.

Safeguarding our workforce

Phu Bia Mining's commitment to the wellbeing of its workforce is reflected in its values of integrity and respect.

In 2020, the Company's response to the COVID-19 pandemic included ensuring the health and safety of its people the health, safety and wellbeing of its host communities and safeguarding its operations against the impacts of COVID-19.

Importantly, Phu Bia Mining's response also focused on safeguarding the wellbeing of its people. Facilitation of travel and repatriation, flexible working arrangements, salary incentives, mental health initiatives, site roster changes and securing international travel arrangements were actions the Company took to protect the wellbeing of its workforce.

Early repatriation of Laos-based expatriates

In late March and April, international borders began to close in response to the COVID-19 pandemic. Commercial flights were also limited due to these closures. In early recognition of the impact these closures and limitation on flights would have to its Lao-based expatriate workforce, Phu Bia Mining facilitated repatriation flights for any employee and/or dependant who wished to return to their country of origin due to ongoing uncertainty around the developing pandemic.

Implementation and expansion of flexible working arrangements

The Company fast tracked flexible working from home arrangements for employees able to perform their roles remotely after the COVID-19 international travel restrictions prevented employees from returning to work and the forced closure of sites. To manage population density in workplaces, and to comply with Government mandates, personnel in the Company's Vientiane office also put in place work from home arrangements.

Managers maintained contact with their reports who were working from home (via the phone, email and/or video conferencing) to ensure that they were both supported to work safely and productively from home and that they remained connected and engaged with other members of their teams.

Salary maintenance and uplifts

Recognising the significant potential impact COVID-19 may have on its employee's financial position and wellbeing, the Company worked to minimise reductions in headcounts, and alleviate the impact to employee pay.

All Lao site-based employees who were unable to return to site due to COVID-19 travel restrictions and were unable to work remotely, were retained on full pay for a period of three months.

Additionally, all Superintendent level and below site-based employees who remained in country, or on-site for an extended period of time due to the site lockdowns, were given a 30 per cent temporary salary uplift.

Support for employees remaining on-site

A significant number of employees remained on-site during the lockdown with no access to recreation or social activities. To support employees while they were in this situation, the Communications team ran a number of online engagement activities, which were hosted and promoted via the Company's internal Facebook group.

As soon as it was safe to do so, and in accordance with Government of Laos decrees and COVID-19 site protocols, the Company reinstated the site gyms, sporting facilities and social activities at each wet mess.

Roster changes

Following the resumption of site-based activities in Laos due in part from the tireless work from the Company's Government Relations team, the Company was given permission to move its people in-and-out of its sites. However, continuing international travel restrictions saw fly in fly out (FIFO) employees who were overseas unable to return to site. This situation resulted in a shortage of incoming FIFO and specialist employees to replace those currently on site, and a number of FIFO employees were unable to leave Laos for the rest and recreation (R&R) portion of their roster.

To address this issue, the production budget was reforecast to ensure minimum compliments of employees were available for each cycle shift and to allow site-based employees to rotate off site for R&R.

A new roster was also implemented for all site-based employees. This eight week cycle included two weeks in Company-controlled quarantine, four weeks on site and two weeks R&R.

Once Company-controlled quarantine was removed for the incoming site-based workforce, FIFO employees still unable to transit out of Laos were given the option to move to a shorter 14 and 7 roster (14 days on site and 7 days R&R in Laos).

Facilitation of travel

Once international borders were closed, the Company's Lao-based FIFO employees were either unable to leave Laos, or travel to-and-from their country of origin. This presented significant difficulties and risks to business continuity.

In October, after negotiations with the Government of Laos (facilitated by the Government Relations team) the Company secured permission to commence monthly private charter flights between Kuala Lumpur in Malaysia and Vientiane using a Boeing 737. This allowed the Company's Lao-based FIFO workforce who had remained in country following border closures to return to their country of origin for R&R. It also allowed Lao-based expatriates stranded outside Laos the opportunity to travel back to resume work.

This charter service operates with strict COVID-19 controls including PPE and PCR testing for all passengers and aircrew and all regulatory requirements in Malaysia and Laos are adhered to. Permission to fly and land the charter is sought every month with the Lao National Taskforce Committee for COVID-19 Prevention and Control and Phu Bia Mining is the only company in Laos running a regular charter. This highlights the faith the Government of Laos has in the Company's strict COVID-19 controls and prevention methods.

Employee Assistance Program

Due to the uncertainty created by COVID-19 and its potential impact on employee's wellbeing, the Company undertook a significant campaign to promote the Employee Assistance Program throughout 2020. This Company funded service, is available to all employees, offers a wide range of counselling, mental health and financial advice services.

The service was promoted through many channels including the Company's internal newsletter, Facebook group and ad hoc email communications. Notably, more employees accessed this service in 2020 than in 2019.

Communication

During 2020, the Company prioritised frequent, open and transparent communication with all employees and contractors about the COVID-19 situation, the impact it was having on working arrangements and the actions the Company was taking to address concerns about job security.

Formal and information communication channels including emails, team meetings, leader-led updates, the Company's internal newsletter and Facebook group, posters and videos were utilised to disseminate these messages to the workforce. Importantly, given English is the second language to a significant portion of the workforce in Laos, wherever possible, messages were delivered/distributed in Lao and English to bridge the language barrier and enable maximum comprehension.

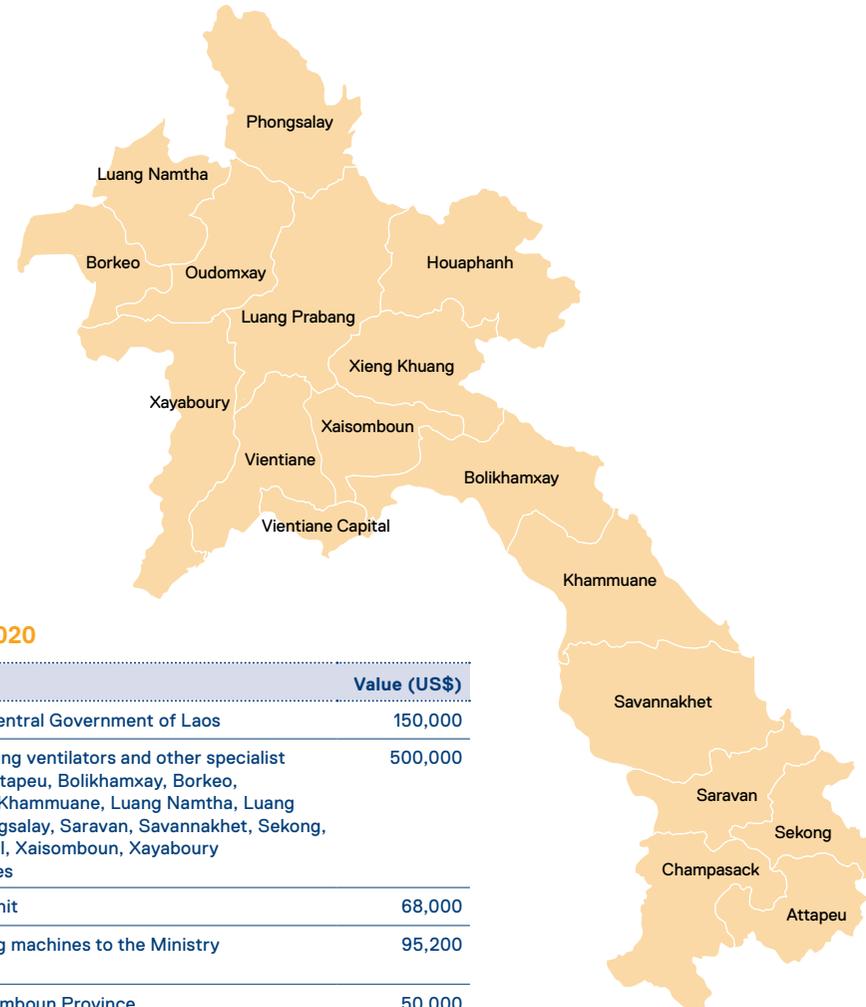
Safeguarding our communities

Given the highly contagious nature of the COVID-19 virus, the Company quickly identified that local health authorities in its communities would not be able to adequately manage and/or maintain an outbreak of the virus should one occur.

In April, an employee working at the Phu Kham Operation tested positive for COVID-19. A second employee on R&R break and a close contact of this employee would also later test positive for COVID-19. Strict COVID-19 site protocols – in addition to those which were already in place on-site – were immediately enacted to protect the health, safety and wellbeing of its workforce, including contractors and communities. These protocols also included a lockdown of everyone on-site, including those residing in neighbouring communities. This approach was consistent with the Government of Laos' requirements to restrict the movement of people in-and-out of the Company's sites to help reduce the potential spread of COVID-19 in country.

This lockdown impacted the Company's local workforce who could not return to their villages at shift end. This approach was necessary to ensure there were no community transmission resulting in a subsequent outbreak in neighbouring villages.

The site Medical teams, in conjunction with the Community teams carried out education and awareness programs about COVID-19 in the local villages. These awareness programs included information on wearing face masks, correct hand washing techniques and social distancing. The Company also supported the broader Lao community through the provision of lifesaving and critical healthcare equipment and supplies to the provincial and central Government of Laos (see the case study on page 34-35).



Support to Laos in 2020

Support	Value (US\$)
Monetary support to the central Government of Laos	150,000
Medical equipment (including ventilators and other specialist equipment) provided to: Attapeu, Bolikhamxay, Borkeo, Champasack, Houaphanh, Khammuane, Luang Namtha, Luang Prabang, Oudomxay, Phongsalay, Saravan, Savannakhet, Sekong, Vientiane, Vientiane Capital, Xaisomboun, Xayaboury and Xieng Khuang Provinces	500,000
Mobile sample collection unit	68,000
Two PCR COVID-19 testing machines to the Ministry of Health	95,200
Monetary support to Xaisomboun Province	50,000
Medical equipment to Xaisomboun Province	135,540
Meals for doctors, nurses and COVID-19 patients	7,000
Computer equipment for the Department of Mining Management, Ministry of Energy and Mines	3,700



Disinfecting of a light vehicle before entering an Operating site

The Ban Houayxai Gold-Silver Operation process plant at dusk

Operational performance

Processing and mining operations at Phu Kham and Ban Houayxai were suspended from 5 to 28 April during the lockdown of the Operations after two employees tested positive for COVID-19. Following the lockdown, the change out of the workforce and the introduction of a new site-based roster that included 14 days in Company-controlled quarantine for the incoming site-based workforce saw the process plant shut again from 10-27 May due to workforce shortage on-site.

Processing and mining operations progressively ramped up from 15 June once polymerase chain reaction (PCR) testing replaced Company-controlled quarantine, before returning to normal production rates in July.

Logistics operations were disrupted following Vietnam and Thailand border closures which impacted the Company's concentrate haulage operations to ports and shipping schedules to customers.

Phu Kham Copper-Gold Operation

The Phu Kham Copper-Gold Operation is located within PanAust's 2,600 square-kilometre Phu Bia Contract Area in northern Laos, approximately 140 kilometres from the capital city, Vientiane. Phu Kham is the Company's flagship Operation. Phu Kham celebrated its twelfth full-year of operations in 2020.

Production results

Driven primarily by impacts of lost operating time due to the COVID-19 lockdown and lower head grades, Phu Kham recorded lower production volumes and higher cost performances during the year with 48,433 tonnes (t) of copper in concentrate produced. Gold and silver production totalled 68,736 ounces (oz) and 635,715oz respectively. For more details, see page 25 of PanAust's 2020 Business Review and Sustainability Report.

Copper recovery averaged 82.3 per cent which is a slight increase on 2019 which averaged 80.6 per cent. The Phu Kham Ore Reserve supports a mine life to the end of 2023.

Costs

The 2020 C1¹ and all-in sustaining costs (AISC²) after precious metal credits was US\$1.14/lb and US\$1.88/lb copper respectively.

Mining and processing

Despite lost operating time, mining operations performed well during the year even as ore continuing to harden with the multi-stage deepening of the open-pit. Total ex-pit material mined was 38 million tonnes (Mt) and included 10Mt of ore, over 12Mt of ore was milled.

Ban Houayxai Gold-Silver Operation

The Ban Houayxai Gold-Silver Operation is located approximately 25 kilometres west of the Phu Kham Operation in the Company's Contract Area in northern Laos. Ban Houayxai celebrated its eighth full-year of operations in 2020.

Production results

Impacts from the COVID-19 lockdown resulted in lower than 2019 production and total material mined at the Ban Houayxai Operation in 2020.

Mill operating time also reduced to 85 per cent resulting in lost throughput for the year however subsequent improvements to production in the second half of 2020 improved throughput.

The Operation produced 68,736oz and 635,715oz of gold and silver in doré respectively. For more details, see page 25 of PanAust's 2020 Business Review and Sustainability Report.

The Ban Houayxai current Ore Reserve supports a mine life to the end of 2023.

Costs

The average C1¹ cost after silver credits was US\$940/oz gold and an AISC² of US\$1,346/oz gold was achieved.

Mining and processing

A total of 13.2Mt of material was mined in 2020, which included 3.6Mt of ore; over 4.3Mt of ore was processed.

Contract Area exploration

In 2019, ongoing maintenance of the Kham Thong Lai (KTL) sediment dams was also completed.

In 2020, near-mine drilling was completed at the Phu Kham Operation and will continue in 2021. Drilling results will be used to assess an extension of the open-pit at the Phu Kham Operation.

Infill drilling and definition was also undertaken at the Ban Houayxai Operation in 2020 and will continue in 2021. For more details, see page 26 of PanAust's 2020 Business Review and Sustainability Report.

Product stewardship

Phu Bia Mining produces copper concentrate which is sold directly in Asia to international smelters or through merchant traders. Gold-silver doré is sold directly to a refinery. Given the volume of product relative to the overall market size, the Company has limited influence on the end-purchaser or end-product (copper cathode or refined precious metals).

When a direct sales contract is placed with a smelter, due diligence is conducted to provide assurance on the customer's reputation, financial capability, and legal and business structure. Contracts are subject to Phu Bia Mining's standard terms and conditions. All sales are secured by pre-payment or letter of credit.

Phu Bia Mining's product stewardship approach focuses on the safe storage and transport of copper concentrate from mine gate to ports in Vietnam and Thailand through to the delivery of product in such a way that it meets customer specifications and in country requirements.

The Company owns and operates its own road transport fleet for concentrate movement in Laos and Vietnam. The management systems and associated auditing processes are integral to the product stewardship approach and they include global positioning system monitoring and tracking of the product. The use of escort vehicles on high-risk sections of the haulage route enhances road safety and reduces the risk of concentrate spillage.

The market considers Phu Bia Mining's copper-gold concentrate 'clean' and product metal specifications are incorporated in contract terms and conditions with international customers. The Company was in compliance with agreed contract specifications applied to product shipments during 2020. All trace elements, including arsenic, were in compliance with destination country maximum limits. The Company engages directly with its customers through industry forums and office or site visits. The Company received two customer complaints in 2020, both related to disputed shipment weights.

A Komatsu PC2000 excavator loading a 777D truck inside the Phu Kham Copper-Gold Operation open-pit



1 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.

2 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.

Preparing a diesel backloading convoy by loading an empty concentrate container on top of a full 15,000 litre fuel tank prior to hauling from the Company's logistics hub at Ban Thouay to the Phu Kham Copper-Gold Operation



ECONOMIC PERFORMANCE CASE STUDY:

Extending the in-house management of concentrate haulage and how the Logistics team managed COVID-19 border closures

In 2020, Phu Bia Mining extended its in-house management of concentrate haulage by utilising Company trucks and Lao-national drivers to transit copper concentrate from its Phu Kham Operation, direct to the Hon La Port in Vietnam. In conjunction with this, Phu Bia Mining also assumed direct management and operation of stockpile warehouses at the Hon La port in Vietnam and the Sriracha port in Thailand and of the general freight consolidation warehouse located in a Freezone in Thailand.

Identified as part of the Company's commitment to continuous improvement and cost saving initiatives, these successful transitions will significantly reduce Company concentrate haulage and general freight costs until the end of life of mine of its Operations.

Shortly after this transition, COVID-19 border closures in Thailand and Vietnam presented challenges for the Company's concentrate and general freight haulage routes. The Logistics' team's proactive management of these closures significantly helped to safeguard Phu Bia Mining's operations against the impact of COVID-19 during the year.

Extending the in-house management of concentrate haulage

At the commencement of mining operations in 2008, the Company's concentrate haulage was contracted to third parties. In 2015, Phu Bia Mining assumed responsibility for its concentrate haulage in Laos, purchasing a fleet of 57 Volvo prime mover trucks and trailers and oversaw the recruiting and training of over 250 Lao-national drivers and support staff. During this time, concentrate haulage from the Lao border to the port in Vietnam was carried out by third party contractors. This was in part due to the Company's in-house Logistics team not having the requisite experience to manage the complex operation. However, since 2015, Phu Bia Mining has significantly invested in the training and development of its Logistics team and the Company has significantly matured operationally to take on the end-to-end management of concentrate haulage.

Prompted by the impending expiration of the contract with its third party concentrate haulage contractor in February 2020, in late 2019, Phu Bia Mining investigated options to assume responsibility for direct management and operation of its concentrate haulage from the Lao border to the port at Vietnam.

The analysis on its in-house capabilities confirmed the transition was both safe and feasible and prompted the development of an in-house model to support the transition.

The in-house model identified a new fleet of trucks and a significant reorganisation of the existing operational plan was necessary.

To this end, a new fleet of 40 Scania trucks was purchased to replace the aged fleet of Volvo prime movers, each of which had travelled over 1,000,000 km.

The logistics hub and accommodation camp at Thakhek was also relocated closer to the Lao border at Langkhang. This was to enable Company trucks and Lao-national drivers to complete the return journey from the Lao border to the Hon La port in Vietnam within 12 hours. This was crucial to the success of the transition as the Laos-Vietnam border is only open during daylight hours. Significant driver training on port unloading procedures and how to complete the new 140 km haulage route was then provided to more than 60 of the Company's Lao-national drivers.

In parallel with the changes to the Vietnam concentrate haulage route, in Thailand, the Company engaged and monitored a new transport contractor for general freight haulage and backloading of concentrate between Thailand and Laos. The Company also took over the direct management and operation of the copper concentrate storage warehouse at the Sriracha Port, and the General Freight consolidation warehouse located in the Freezone near the Laem Chabang port.

By February 2020, the Company had successfully embedded the extension of its in-house management of concentrate haulage. The move is projected to save the Company approximately US\$15-16 million in concentrate haulage and logistics costs over the next four years. Encouraged by this successful transition, in late 2020, Phu Bia Mining purchased additional bulk haulage tankers and assumed full responsibility for the haulage of quicklime from a producer in Laos.

Quicklime was previously sourced from Thailand and hauled using a third party contractor. The Company is also investigating further extension of the in-house haulage of consumables, including cyanide.

As an added benefit, extending the in-house management of concentrate haulage has also supported the Company's commitment to localisation in Laos. Given mine production was forecast to reduce from 2020 onwards, the number of concentrate haulage drivers required would have also reduced. However, the Company was able to retain all its existing Lao-national drivers using the new in-house model.

Managing COVID-19 border closures

In March 2020, restrictions and closures were imposed at the Thailand and Vietnam borders in response to the COVID-19 pandemic. Given the Company's concentrate and general freight haulage routes utilised both borders, innovative solutions were necessary to ensure the Company continued to meet its concentrate shipment obligations and continue supply of general freight and dangerous goods to the Operations in Laos.

In Vietnam, Phu Bia Mining engaged a Vietnamese transport contractor to haul concentrate from the Vietnam border to the Hon La port. This was facilitated by a trailer swapping process conducted between the Laos and Vietnam border crossing checkpoints. The Company collected the Vietnamese trailers loaded with empty concentrate containers and hauled them to its Langkhang logistics hub in Laos. The empty containers were then replaced with full concentrate containers and Phu Bia Mining returned the Vietnamese trailers to the border. Trailers loaded with full containers were then re-connected to the Vietnamese trucks and taken to the Hon La port.

In Thailand, full and empty concentrate containers were trans-shipped between Lao and Thai trucks at the customs yard (on the Laos side of the border). A trailer swap process, similar to the process implemented in Vietnam, was then implemented at the customs yard to facilitate the import of the Company's general freight and dangerous goods.

Processes at both borders followed strict COVID-19 protocols which included no direct contact between employees and contractors, wearing full COVID-19 personal protective equipment, and sanitising all vehicles, equipment and goods.

These innovative solutions to conducting concentrate shipments and general freight activities in the face of border closures were crucial to safeguarding Phu Bia Mining's operations from the impacts of COVID-19 during 2020. Furthermore, it highlights the maturity and sophistication of the Company's in-house Logistics model.

Social performance

Phu Bia Mining is committed to ensuring its presence positively impacts the host communities in which it operates.

The Company's approach to community development is underpinned by its commitment to meeting the global demand for resources in a socially responsible way, ensuring respectful and ongoing dialogue with stakeholders, recognising and supporting traditional rights and values and respecting cultural heritage. Community development projects enable host communities to build long-term capacity and empower them to determine their own development priorities.



Nam Gnone vegetable farmer, Ms Jue Yan

The Company's community development plans consider host communities' needs, host countries' development plans and the UN Sustainable Development Goals. The plans are developed in consultation with government authorities and community representatives and are supported by the information obtained from socio-economic surveys. This approach ensures that the development projects meet the needs of the communities while aligning with government and/or aid agencies working in the region where appropriate.

In 2020, the COVID-19 pandemic presented the Company with complex challenges associated with the safe delivery of its community development and engagement mechanisms. Many ongoing programs were delayed due to COVID-19 related travel restrictions and the Company's internal processes to limit interaction with communities to prevent the possible risk of COVID-19 infection. Programs that were limited will resume when the risk of COVID-19 infection within Phu Bia Mining's communities reduces. Further details are discussed in this section of the Report.

Community Development Funds (CDFs) programs started during the year comprised 15 projects across rural communities directly and indirectly affected by Phu Bia Mining's activities. Work also continued on 21 CDF projects that were carried over from 2019.

In 2020, a total of US\$381,000 was budgeted for CDF activities in Laos: Phu Kham, US\$300,000 and Ban Houayxai, US\$81,000. CDF programs started during the year comprised 15 projects across rural communities directly and indirectly affected by Phu Bia Mining's activities. Work also continued on 21 CDF projects that were not finalised in 2019.

A total of US\$243,475 was expended on CDF projects during the year. Expenditure was lower in 2019 due to the completion of projects aligned to an earlier life of mine. In 2020, COVID-19 restrictions delayed the implementation of new projects.

Local enterprise development

Phu Bia Mining aims to build long-term capacity in communities through economic development and strengthening community resilience.

The Company prefers to source products and services locally and/or regionally. This approach encourages local suppliers to expand their customer base in preparation for the eventual transition to mine closure.

Agriculture is an industry in which local communities can build on their existing farming capabilities to supply Phu Bia Mining's Operations, while providing for the expansion of enterprise opportunities.

Post-closure, agriculture will provide an important source of cash income for local communities. This is an improvement on what existed prior to the Company's presence when activities were largely restricted to subsistence-level farming.

A Sustainable Livelihoods Program (SLP) was implemented in 2018 with the aim of developing positive legacies for local economies that can be sustained beyond the life of the Operations. Program objectives include:

- > The promotion and development of two to three commercial agriculture products in Xaisomboun Province.
- > To build the capacity of Provincial and District Government agencies to deliver effective services to their communities in a sustainable manner.
- > Implement a land-use framework to ensure post-closure agriculture will be conducted in a sustainable manner.

In 2020, the SLP implemented three commercial agriculture products programs: clean commercial vegetables, cattle fattening, and pineapple growing and harvesting. Additional programs that were prioritised for implementation in 2020 included avocado and orange production and direct seeded rice paddies.

In 2020, through CDF programs, Phu Bia Mining contributed US\$29,624 towards agriculture and small business support activities.

These included completing construction of fresh vegetable markets, assistance to local weavers, continuing assistance with the Nam Daeng water intake improvement project, a feasibility study for a rice paddy development and continued work on the gabion weir construction at Nam Kor 2.

During the year, the Company, in conjunction with the Department of Agriculture (DOA) and the Ministry of Agriculture and Forestry (MAF), actively promoted a program to encourage disadvantaged and ethnic groups to apply for the Lao Organic Agriculture System. A total of 24 farmers from the five closest villages to the Operations in Laos attended the training in the system's theories and practices. These farmers have been certified to train other farmers in the systems practices ensuring vital agricultural skills are retained within the communities.

In 2020, Phu Bia Mining operations collectively purchased US\$628,714 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.

Income generated from small business initiatives (US\$)

Products	2018	2019	2020
Vegetables, drinking water, eggs, cloth bags, fruit and fish	\$1,084,351	\$746,119	\$628,714



Dr Soulivong Khemvilay from the Ban Houayxai Gold-Silver Operation delivering a COVID-19 awareness program at the Nasaysavang village

Infrastructure provision

Phu Bia Mining has made significant contributions to improving infrastructure in Laos. This includes medical and educational facilities, other building infrastructure, road development and maintenance, and water and sanitation systems. The Company delivers infrastructure projects (as much as possible) in partnership with governments and host communities. Under this 'community-constructed infrastructure' model, Phu Bia Mining procures the materials for projects and host community members. Where appropriate, and with supervision from local authorities and Company representatives, community members complete the projects themselves.

In 2020, infrastructure improvements included the beginning of the construction of a 1.9 kilometres (km) concrete road through Nam Mo, the construction of a cable bridge at Nam Ou and contributions to construction funds at Nam Lin.

Community health

A key to Phu Bia Mining's commitment to ensuring its presence has a positive impact on those living in its host communities, is its drive to safeguard their health, safety and wellbeing. This was highlighted in 2020 during the initial outbreak of the COVID-19 pandemic across its sites.

In 2020 given the highly contagious nature of the COVID-19 virus, the Company quickly identified that local health authorities in its communities would not be able to adequately manage and/or maintain an outbreak of the virus should one occur. For more details, see page 47 of PanAust's 2020 Business Review and Sustainability Report.

The Company's site Medical teams, in conjunction with the Community teams carried out education and awareness programs about COVID-19 in the local villages near the Operations.



Construction begins on the Nam Mo concrete road

Since Phu Bia Mining's operations commenced in Laos, the Company has made a significant contribution to improving infrastructure in country.

Phu Bia Mining is a heavy user of the road network in Laos to transport goods and services to and from its sites. In recognition of this, the Company pays particular importance to the development, ongoing maintenance and improvement of roads in Laos. Highlighting this commitment, in 2020 the Company began constructing a concrete road between the Nam Mo village and the Nam Mo secondary school.

Made possible through the Company's Community Development Fund (CDF) program, the construction is being supervised by the Phu Kham Infrastructure and Road Maintenance team and is estimated to cost over US\$1 million. The 1.9 km long, 6 metre-wide road will provide additional long-term benefits, including better linkages to different parts of Xaisomboun Province for those residing in Nam Mo.

The concrete road is scheduled to be completed in the second half of 2021.

The Phu Bia Mining Infrastructure and Road Maintenance team laying concrete for the Nam Mo road

These awareness programs included information on wearing face masks, correct hand washing techniques and social distancing. The Company also supported the broader Lao community through the provision of lifesaving and critical healthcare equipment and supplies to the provincial and central Government of Laos.

In 2020, Phu Bia Mining contributed US\$10,225 towards improved health outcomes in local communities. Community health checks run during 2020 primarily focused on COVID-19 controls and assistance.

Education

Phu Bia Mining understands that education is a foundation for improving people's lives. A sound education is a cornerstone of social development with literacy and numeracy skills opening up opportunities for advancement in many areas of life. For these reasons, Phu Bia Mining's first CDF programs in Laos included a particular focus on education.

Phu Bia Mining's education programs aim to improve learning outcomes for children and adults in host communities. Projects have focused on improving children's access to primary school through: school construction, provision of school uniforms and stationery, education scholarships, and providing measures to improve the quality of education through teacher training, and the provision of teaching aides. Since 2006, Phu Bia Mining has contributed to the construction, expansion and/or improvement of 19 schools in Laos, thereby directly improving access to education for almost 1,700 students.

During 2020, the Company contributed US\$11,488 towards initiatives designed to increase access to education and the quality of learning within communities close to its Operations. This figure is lower than previous years and is driven by COVID-19 delaying delivery of or finalising some programs.

Programs for the year included: construction works for the primary school at Nam Gnone and teachers and nurses' dormitory facilities, the provision of toys and educational supplies for Nam Gnone and Nam Mo and supporting summer school programs in the villages around Phu Kham and Ban Houayxai.

Access to financial services

The Company has helped 12 local communities establish microfinance schemes through Village Savings and Credit Funds (VS&CF). The Funds empower communities, in particular women, through enterprise development and other benefits that accrue from saving for the future.

The VS&CFs provide access to savings and loan facilities that are not otherwise available in rural areas.

Members can access small loans to support a variety of small-scale income generating activities and to cover household expenditure such as education and healthcare. Village-level management committees provide oversight of the Funds and are supervised by a District Supervisory Committee, which is headed by the Lao Women's Union.

Phu Bia Mining has been working closely with local villages and districts to pursue a more sustainable long-term structure for the Funds promoting responsible self-management. After a period of oversight, Phu Bia Mining handed over responsibility for the management of VS&CFs to relevant villages and districts.

Resettlement, livelihood restoration and compensation

No involuntary resettlement has taken place for the Company's Operations in 2020. The Company seeks to minimise involuntary physical relocation and to minimise the negative impacts of economic displacement related to business activities.

Protocols and procedures that the Company has in place to achieve this goal include planning, participative land access and acquisition practices, transparent compensation and livelihood restoration approaches. For more details, see page 54 of PanAust's 2020 Business Review and Sustainability Report.

In 2020, US\$172,433 was paid in compensation for impacts to land use in Laos.

Sponsorships and donations

Phu Bia Mining sponsors and donates to programs, organisations and causes that build goodwill in operational areas and align with its Values. For more details, see page 36 of PanAust's 2020 Business Review and Sustainability Report.

In 2020, under the guidance of the sponsorships and donations committees, Phu Bia Mining provided support of more than US\$1 million to relevant causes, including COVID-19 relief efforts. For more details, see page 49 of PanAust's 2020 Business Review and Sustainability Report.

Closure preparedness

Closure planning is an integral part of strategic and life of mine planning for Phu Bia Mining. While mine closure for the existing Lao Operations has been extended to the end of 2023, it is recognised as good practice to establish early dialogue with stakeholders and to align operational commitments with post-closure outcomes during the life of the Operations. The Company acknowledges the need to ensure that communities close to its operations are supported to build capacity and skills to plan for, and manage, post-closure issues and capitalise on any commercial opportunities.

Where possible meetings were held at the village district and provincial level to discuss the extension of the mine life to the end of 2023 and what impact this would have on local communities and more specifically post closure livelihood activities. A Sustainable Livelihoods team was established within Phu Bia Mining to help facilitate these discussions. The focus of this department is to take carriage of the SLP, implemented in 2018.

In 2019, the Company facilitated market access in Vientiane and other provinces focused on produce type and quality, managing supply and demand and capitalising on opportunities to sell as a group. With the emergence of COVID-19, a limited amount of direct contact work was possible with the local communities. Planning and implementation of a number of post closure livelihood initiatives however continued.

Grievance management

Phu Bia Mining has mechanisms in place at its Operations. Grievance mechanisms are designed to meet the intent of Principle 31 of the United Nations Guiding Principles on Business and Human Rights.

The Company's Grievance Management Procedure provides for escalation and arbitration if required. Depending on the nature and severity of the concern raised, it may require further investigation or referral to an independent party.

In 2020, three grievances were raised in Laos. The grievances related to impacts to property from the construction of the new farm dump and waste rock dump at the Phu Kham Operation. All grievances have been closed out.



SOCIAL PERFORMANCE CASE STUDY:

Helping the Government of Laos fight COVID-19 through the provision of vital medical aid

In 2020, Phu Bia Mining's respect for the Government and people of Laos was matched only by its resolve to work with them to fight COVID-19. An essential element of this assistance was the significant effort the Company placed on increasing access to quality healthcare and vital medical equipment for its local and broader Lao communities.

In-kind medical aid for Xaisomboun Province

In April, the Phu Kham Medical team presented two ventilators to Xaisomboun Province's Department of Health. Additional medical equipment was presented to the Head of the National Taskforce Committee for COVID-19 Prevention and Control, Lao Deputy Prime Minister and Minister of Finance, H.E. Somdy Douangdy in May. The items were sent to medical facilities that were screening and treating cases of COVID-19 in country.

In October, two additional ventilators, three syringe pumps and 100 viral transport medium tubes were given to the Head of Xaisomboun Provincial Taskforce Committee for COVID-19.

This diagnostic and treatment equipment improved treatment pathways for people living in Xaisomboun Province after the onset of the COVID-19 pandemic in Laos.

Mobile medical sample collection unit

In October, the Company presented Laos' first mobile medical sample collection unit to the Government of Laos in Vientiane. Worth US\$68,000, the unit was presented to the Minister of Health, Associate Professor Dr Bounkong Syhavong.

The mobile sample collection unit is used by the Lao National Centre for Laboratory and Epidemiology to collect COVID-19 and other virus/disease specimens for laboratory testing across the country, particularly from those living in remote provinces.

(Front row, left to right) Company representatives, Government Relations Manager, Vannaly Phounsavanth; Senior Manager External Affairs, Manilath Arounlangsy; Phu Bia Mining Chairman, Mr Chanpheng Bounnaphol with Minister of Health, His Excellency Associate Professor Dr Bounkong Syhavong standing in front of Laos' first mobile medical sample collection unit

Customised and fitted on a four-wheel drive, the mobile sample collection unit was ergonomically designed and on-board systems – including laboratory facilities, air conditioning, lights, ozone disinfection, surveillance cameras and a microphone – are centrally controlled. The design also incorporates personal protective equipment to allow medical personnel to collect samples from inside the unit through protective sleeves.

Medical equipment installation in hospitals across Laos

By November, the Company announced it had completed the installation of essential medical equipment at 25 public hospitals and medical facilities across Laos. Equipment included ventilators, patient monitoring systems and suction pumps. Upon the successful installation of the equipment, Medical teams at each facility received training on its use.

The Company sourced the equipment through its partner, Kanya Mittaphab Export-Import Sole Company Limited. The program commenced at the Mahosot, Mittaphab, Setthathirath, 103, Mother and Newborn and Children Hospitals in Vientiane. The program later continued in 17 other provincial hospitals in country.

The Company's commitment to increasing access to quality healthcare in Laos during the unprecedented COVID-19 pandemic in 2020 demonstrates the importance Phu Bia Mining places on protecting communities in the countries in which it operates.



(Left to right) Two representatives of the Xaisomboun COVID-19 Taskforce receiving ventilators for the Xaisomboun provincial hospital from Phu Kham Mining Manager, Trevor McIlwaine and Phu Bia Mining Chief Medical Officer, Dr Bounhome Phouvang

A photograph of three men in safety gear (hard hats, sunglasses, and face masks) standing in a field of tall green grass. They are wearing orange high-visibility shirts. The man on the left is gesturing with his hands while speaking. The background shows a rocky area and a forested hill under a blue sky with white clouds. A large white graphic element is overlaid on the left side of the image.

Environmental performance

Respect for the environment is a core Company Value and is at the forefront of business strategy, decision-making and day-to-day operations.

(Left to right) Environment Manager, Gerard Bradley; TSF Construction Supervisor, Ha Yang; and Loss Prevention Trainer, Sueyang Hnianou discussing the application of hydroseeding material downstream of the Ban Houayxai Gold-Silver Operation TSF

From exploration to development, throughout operations and into mine closure, Phu Bia Mining endeavours to limit its impact on the natural environment. It does this by complying with host country legal requirements and/or international standards (when local standards are either lower and/or silent on a material environmental issue) through the effective management of mine waste, efficient use of resources, progressive rehabilitation of land and the maintenance of ecosystem services¹.

Planning for the management of environmental issues at the pre-development stage is the cornerstone of Phu Bia Mining's success with regard to its environmental performance.

The Company's approach to environmental management firstly requires an understanding of baseline environmental conditions, followed by the identification of project-specific risks and impacts, then finally the implementation of controls in conjunction with monitoring and measurement of performance.

Baseline studies, environmental and social impact assessments (ESIAs), external audits and an international panel of experts for tailings management are used in conjunction with internal risk management processes to understand Phu Bia Mining's environmental risk profile.

Environmental risks are managed through Phu Bia Mining's parent company, PanAust's Environmental Management System which includes sustainability standards, procedures and management and monitoring plans for each site. Progress against management and monitoring plans is assessed at regular intervals. For key material issues, external audits and/or detailed reviews of performances are undertaken (for example, for tailings and waste rock management).

The Company recognises that an environmentally aware workforce is integral to achieving high standards and continual improvement. Each year, Phu Bia Mining delivers environmental awareness training programs. This includes inductions to all employees and contractors working at its Operations in Laos.

Phu Bia Mining encourages the reporting of all environmental incidents as it reinforces a risk-aware culture and ensures that even minor issues are investigated and appropriately addressed. Incidents are recorded in Phu Bia Mining's electronic reporting and corrective action event management system, InControl Software (INX). The use of INX allows for trends to be identified to assist in avoiding repeat occurrences where possible. In 2020, Phu Bia Mining's parent company, PanAust, reported no significant environmental incidents, complaints, spills, penalties, fines or non-monetary sanctions for any legal non-compliance.

Environmental incidents

In 2020, Phu Bia Mining reported no significant environmental incidents, complaints, spills, penalties, fines or sanctions for any material legal non-compliance.

TSF Construction Supervisor, Ha Yang walking between the Ban Houayxai Gold-Silver Operation TSF spillway and pond



¹ Ecosystem services are the benefits people, including businesses, derive from ecosystems. They can be grouped into four broad categories: provisioning, such as the production of food and water; regulating, such as the control of climate and disease; supporting, such as nutrient cycles and crop pollination; and cultural, such as spiritual and recreational benefits.

Water management

Phu Bia Mining recognises that water resources need to be managed responsibly to meet operational requirements – including water for processing ore – while limiting adverse impacts on receiving environments and communities. To this end, Phu Bia Mining manages water related risk through internal risk management processes.



Local boats moored at the Nam Ve port on the Nam Ngum 2 reservoir where the site-based workforce board the speed boats to transit between the Phu Kham and Ban Houayxai Operations



At the Phu Kham and Ban Houayxai Operations, mine water run-off challenges stem from the location of the sites (steep mountainous terrain in a tropical climate with distinct wet and dry seasons). The Phu Kham and Ban Houayxai Operations are not located in areas of water stress (all human and ecological demands for water are sufficiently met).

Water balance models are in place at the Phu Kham and Ban Houayxai Operations. The models are supported by water management and monitoring programs and incorporate water consumption and run-off and groundwater inputs to the open-pits and tailings storage facilities (TSFs) to predict water discharge volumes. Models also account for high sulphur tailings and waste rock that must remain under a cover of water encapsulated in clay-lined cells to prevent the generation of ARD. At each Operation the majority of water entering the TSF is rainfall run-off from the upper catchments, with a small volume of treated water coming from site processing activities, and at Phu Kham, from pit dewatering.

The controlled discharge from each Operation's TSF is closely monitored by the Company's Environment team together with Government of Laos Environmental Monitoring Unit (EMU) officials. Results are assessed against World Bank, International Finance Corporation and Lao ambient water-quality guidelines as well as background water quality conditions.

The Phu Kham open-pit and TSF have been designed with clean water diversion drains to minimise the capture of rainfall run-off. Water management aims to divert as much clean water run-off as possible and maximise recycling to limit fresh water consumption and discharge volumes. Given the amount of annual rainfall, there is a net positive water balance, and excess water is discharged as necessary in a controlled manner throughout the year.

In 2020, controlled wet season discharge from the Phu Kham TSF occurred between May and November in accordance with internal permitting specifications. The Government of Laos is notified when discharge events occur during this time and receive discharge volume and monitoring reports from EMU officials. All discharges were compliant with relevant water quality guidelines.

While Phu Bia Mining's Operations use a significant amount of water, considerable effort is placed on effective resource management. At Phu Kham, approximately 95 per cent of the water is recycled. The fresh water used at Phu Kham is drawn from the nearby Nam Mo River and is used predominantly for specialised cooling systems and equipment for the process plant. Water used for domestic purposes is extracted from a combination of water bores and surface water supplies.

Ban Houayxai's TSF is located a significant distance from the Operation's processing plant. This geographical constraint limits the amount of water recycling that can occur. Water reuse is therefore maximised within the processing plant area. For more details, see page 66 of PanAust's 2020 Business Review and Sustainability Report.

In 2020, work continued at Heap Leach Gold Operation (GMO) to improve surface water management of the heap leach pad at the decommissioned facility. A constructed wetland downstream of the heap leach pad passively treats stormwater and leach pad run-off from the site. Regular monitoring of the downstream river system continues on an annual basis and confirms that water discharged from the site throughout the year remains within ambient water quality limits. Should this trend continue, the Company will look to by-pass the wetland system to directly discharge water into the Nam Gnone River, enabling the wetland to be rehabilitated in line with agreed end user requirements.

Tailings and waste rock management

Tailings and waste rock management continues to be the most significant short- and long-term environmental risk for Phu Bia Mining. The quantity of tailings material, its mineral composition and fine sediment nature, and the requirement for long-term stable TSF necessitates robust tailings management strategies.

The management of waste rock to prevent acid rock drainage (ARD) is comprehensive due to the potential for ARD to induce acidity and dissolved metals into water which can be harmful for receiving environments. To effectively manage these risks, detailed planning and designs are required before mine development. Further comprehensive governance during operations is crucial to ensure environmental impacts are equal to, or better than, international standards. Operational governance also promotes beneficial post-mining land use and reduces post-closure liability.

Tailings

Phu Bia Mining operates two purpose-built TSFs at the Phu Kham and Ban Houayxai Operations. Each is designed and constructed to international standards and guidelines (including the Australian National Committee on Large Dams, ANCOLD) and considers an integrated life of mine and closure management strategy. The Phu Kham TSF contains waste rock and tailings. The Ban Houayxai TSF is used to store tailings with waste rock placed in a separate engineered waste rock dumps.

TSFs require comprehensive management and governance processes throughout the life of each facility. Phu Bia Mining has a well-established stewardship program for its TSFs which includes the following:

- › **PanAust senior management commitment:** A commitment from the MD and CEO to ensure appropriate governance processes are in place and construction and operating procedures for the facilities are consistently adhered to.

- › **Tailings Independent Review Panel (TIRP):** The TIRP directly reports to PanAust's Board of Directors via the MD and CEO on material risks to the facilities. The TIRP consists of up to three industry-leading tailings, geotechnical and water specialists. Each year, the TIRP review process includes physical inspections of the Phu Kham and Ban Houayxai TSFs and an evaluation of the monitoring and measurement systems.

In 2020, due to COVID-19 related travel restrictions, the TIRP review of the both TSF operations was carried out remotely using documentation and information on the facilities including photographs, videos and drone footage. The Panel reports its findings to PanAust's MD and CEO and PanAust's Tailings Review Committee. Action plans are developed and a follow-up audit is completed ahead of each wet season to confirm progress. For more details, see page 41 of PanAust's 2020 Business Review and Sustainability Report.

- › **Tailings Review Committee:** The Committee reports directly to the PanAust Board of Directors via the MD and CEO and consists of the PanAust MD and CEO, the Phu Bia Mining Managing Director, the PanAust General Manager Technical Services, the Phu Bia Mining General Manager Operations, the PanAust Group Risk Superintendent, the PanAust Principal Tailings Engineer and the Phu Bia Mining Tailings and Geotechnical Manager. Each year the Committee oversees the implementation of actions related to material risks, facilitates the TIRP review and oversees the actions and updates in the relevant risk register.

During 2020, a gap analysis was completed on the draft requirements of the Global Industry Standard on Tailings Management (GISTM) and current stewardship activities undertaken by the Company for the management of their tailings facilities. The findings of this analysis were presented to the committee for consideration. Further work around tailings dam governance and the GISTM will continue in 2021.

- › **Overview and quality assurance:** The Principal Tailings Engineer, based in the Brisbane head office and the Engineer of Record provide overview and quality assurance of design and construction activities.
- › **Annual dam safety inspections:** In 2020, an independent intermediate dam safety inspection in accordance with the ANCOLD guidelines on Dam Safety Management was completed for both facilities by Australian-based consultancy, ATC Williams. Due to COVID-19 travel restrictions, the inspections were completed remotely via the review documentation, photographs and videos including drone footage of both facilities.
- › **Risk-based review:** A risk-based review of both facilities is completed monthly by the site teams.
- › **Engineer of Record:** The Engineer of Record is responsible for the design, construction, operation and performance monitoring of Phu Bia Mining's TSFs.
- › **Quarterly inspections:** Completed by the Principal Tailings Engineer remotely in the 2020 June and September quarters due to COVID-19 travel-related restrictions. The Engineer of Record conducted one physical site inspection during the March quarter and the Company engaged Knight Piesold (Singapore) to undertake another physical inspection during the December quarter.

- › **Inspections and monitoring:** Daily, weekly and monthly inspections and monitoring by trained Phu Bia Mining employees reporting to a site-based Tailings and Geotechnical Manager. Monitoring of seepage and embankment deformation is undertaken as well as inspections and audit programs to ensure that the equipment is operational and working appropriately.
- › **Detailed dam design:** A detailed dam design for each construction period by the Design Engineer, Knight Piesold.
- › **On-site laboratory:** The quality control and assurance of construction TSF materials is completed at the on-site laboratory at each Operation.
- › **Mine closure:** Mine closure designs for both facilities progressed during 2020. Excavation of the Ban Houayxai closure spillway commenced at the end of 2020.

Waste rock

Phu Bia Mining's approach to Acid Rock Drainage (ARD) management is considered leading-practice across the global mining industry.

Phu Bia Mining actively manages the potential for ARD from the early stages of mine planning through to operations and closure. At Phu Kham and Ban Houayxai, the management strategy to address the potential for ARD commenced well before mining operations began, with sulphur content being an integral component of ore-body modelling and mine planning processes. The sulphur content assessment facilitated detailed characterisation of rock types based on their acid-forming potential, which informed the development of an integrated ARD life of mine plan.

Mining operations at Phu Kham and Ban Houayxai use a mobile fleet management system (Jigsaw) that incorporates real time global positioning technology to ensure that specific waste rock types are directed to the correct destination on a truck-by-truck basis.

High-level governance of ARD management is provided through Phu Bia Mining's parent company, PanAust's ARD Review Committee, which is comprised of PanAust and external ARD specialists. The Committee ensures 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 of ARD management at Phu Kham and Ban Houayxai confirm that the programs are comprehensive and consistent with methods described in the Global Acid Rock Drainage Guide (which is sponsored by the International Network for Acid Prevention with the support of the Global Alliance, 2014). For more details, see page 70 of PanAust's 2020 Business Review and Sustainability Report.

Waste rock being loaded into a 777D truck inside the Ban Houayxai Gold-Silver Operation open-pit



The Ban Houayxai Gold-Silver process plant at night



Cyanide management

The Ban Houayxai Operation uses cyanide in the processing circuit to extract gold and silver from mined ore. Phu Bia Mining recognises that the use of cyanide for precious metal extraction is a sensitive issue and that stringent operating and environmental controls are necessary to ensure the safe transportation, use and disposal of cyanide and cyanide-related products.

Phu Bia Mining's parent company, PanAust is a signatory to the International Cyanide Management Code (the 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. For more details, see page 71 of PanAust's 2020 Business Review and Sustainability Report.

Ban Houayxai received pre-operational certification to the ICMC in 2012 and operational certification in March 2013. It was recertified in 2016, again in 2019 with the next recertification due in 2022. 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, <https://cyanidecode.org/sig-directory-type/panaust-limited-australia/>

Land rehabilitation and closure

Environment Manager, Gerard Bradley checking the quality and diversity of the progressive rehabilitation on Waste Rock Dump 1 at the Ban Houayxai Gold-Silver Operation

The progressive rehabilitation of land and appropriate closure planning is essential for ensuring end land-use meets stakeholder expectations and environmental requirements. The Phu Kham and Ban Houayxai Operations progressively rehabilitate land to minimise ongoing environmental impacts and facilitate post-mining land use objectives.

Both Operations have plant nurseries to propagate native seedlings used in rehabilitation. This is supplemented by hand seeding with the assistance of locally sourced casual labourers and mechanised hydro-seeding across large areas to both facilitate revegetation and promote surface stability.

Annual programs to rehabilitate disturbed land are incorporated into each site's operating plan. Phu Bia Mining recognises that, in most cases, achieving full rehabilitation to meet stakeholder agreed completion criteria may take several years and that monitoring and maintenance form an important component of successful rehabilitation at both Operations. For more details, see page 73 of PanAust's 2020 Business Review and Sustainability Report.

A concentrate haulage convoy returning from the Phu Kham Copper-Gold Operation to the Company's logistics hub at Ban Thouay

Energy and carbon management

Fuel and electricity are significant cost drivers for Phu Bia Mining. Energy efficiency is considered in the design phase for Phu Bia Mining's Operations and projects. Ongoing campaigns to minimise the consumption of energy and materials to lower operating costs, are consistent with the intent of the International Council on Mining and Metals (ICMM) Principles for Climate Change Design. For more details, see page 77 of PanAust's 2020 Business Review and Sustainability Report.





(Left to right) Loss Prevention Trainer, Sueyang Hnianou; TSF Construction Supervisor, Ha Yang; and Environment Manager, Gerard Bradley inspecting the slurry pipeline at the Ban Houayxai Gold-Silver Operation TSF pond

**ENVIRONMENTAL PERFORMANCE
CASE STUDY:**

Climate change as basis for closure design

Planning ahead for the best possible outcome

Phu Bia Mining's approach to mine closure hinges on strategies that will ensure the Company is proud of its former operational sites which exemplify responsible mine closure. This vision is embodied in objectives that aim to achieve acceptable outcomes for closure and rehabilitation.

In 2020, a study for closure designs of operational infrastructure (i.e. Tailings Storage Facility, spillway, open-pit) was developed for the Phu Kham and Ban Houayxai Operations. For the first time, this study included an assessment of future climatic conditions.

The 2020 design work on the red road waste dump (RRWD) at Phu Kham highlighted future climate under climate change conditions as a necessary consideration for closure designs. A long-term synthetic climate data set for the 2100 to 2200 timeframe under specific climate change scenarios were developed for both Operations using a detailed climate sequence.

The Company assessed how future climatic conditions may differ from those experienced at present. For example, consideration was given to what the likely annual rainfall and short term rainfall patterns would be for the 2100 to 2200 period. Operational infrastructure was designed using this data to ensure it would meet any future closure governance requirements and manage additional maintenance far into the future.

Moving forward, Phu Bia Mining will use long-term climate data to assess infrastructure remaining at the Operations at closure for their suitability under long-term future climate conditions.

The inclusion of this data to the Company's closure planning and design process highlights how Phu Bia Mining is working to ensure it remains at the forefront of closure practices to provide the best possible outcomes for environments and surrounding communities at closure and beyond.



The operational spillway at the Ban Houayxai Gold-Silver Operation; the next iteration of this landform will be designed for closure and will consider potential impacts possible future climatic conditions may have



Our people

Phu Bia Mining acknowledges and values its multicultural workforce and the significant contribution its people make to its businesses continued success.

In 2020, this was highlighted in the work the Company carried out to protect the health, safety and wellbeing of its people from the impacts of the COVID-19 pandemic. The pandemic however did impact the Company's ability to continue its regular people development commitments and programs throughout the year.

Phu Bia Mining Chief Medical Officer, Dr Bounhome Phouvang (seated) with members of the Company's Medical team at the Phu Kham Copper-Gold Operation site clinic



Protecting employee wellbeing during COVID-19

Phu Bia Mining's commitment to the wellbeing of its workforce is reflected in its values of integrity and respect.

In 2020, the Company's response to the COVID-19 pandemic included ensuring the health, safety and wellbeing of its people and host communities, and safeguarding its operations against the impacts of COVID-19. For more details, see pages 19, 47 and 84 of PanAust's 2020 Business Review and Sustainability Report.

Importantly, Phu Bia Mining's response also focused on safeguarding the wellbeing of its people. Facilitation of travel and repatriation, flexible working arrangements, salary incentives, mental health initiatives, site roster changes and securing international travel arrangements were actions the Company took to protect the wellbeing of its workforce. For more details, see page 103 of PanAust's 2020 Business Review and Sustainability Report.

Social activities at the Ban Houayxai Gold-Silver Operation
wet mess with COVID-19 site protocols in place



Localisation and regionalisation strategy

Phu Bia Mining remains focused on the localisation of its workforce.

Trades Apprentices undergoing on the job training at the maintenance facility at the Company's logistics hub at Ban Thouay

The Company's localisation strategy enables national employees to increasingly operate, maintain and manage the Company's Operations and Projects. This has the added benefit of meeting one of the Company's long-term legacy objectives to develop a skilled workforce that can continue to participate in, and help grow, the national economy post-closure.

The strategy relies on the training and development of Lao-national employees to meet the requisite skills and competencies required to perform a role to the desired level. It links into the annual workforce planning process, which predicts workforce numbers and identifies expatriate positions targeted for localisation. Phu Bia Mining continually reviews and sets targets for the localisation of its workforce in Laos.

In 2020, localisation in Laos increased to a landmark 93 per cent. This is the highest level of localisation the Company has ever reported and demonstrates the success of the systems and programs in place and the ongoing commitment to its localisation objectives.

During the year, 441 Lao-national employees were promoted. Most notably, 95 were promoted to senior technical or team leadership roles, 14 were promoted to superintendent level, and two were promoted to manager level. All promotion categories saw an increase on the numbers recorded in 2019, further supporting the Company's focus on continuing to transition professional, leadership and management roles to Lao employees.



Supervisory Skills Training Program

Phu Bia Mining has established programs to develop an internal talent pipeline to support future Company growth, and build a sustainable workforce.

Boat Training Officer, Pany Saengsoulinthavong supervising a truck being unloaded at the barge crossing at Ban Houayxai Barge Port on the Nam Nguem 2 Dam

Throughout 2020, the in-house training team in Laos focused on ensuring that high-potential Lao employees and team leaders completed the Supervisory Skills Training Program in addition to applicable technical/trades/engineering training relevant to their discipline.

In 2020, 139 employees (the majority of whom were Lao-national and included 28 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.



In 2020, the Company reintroduced the Trades Training Apprenticeship Program under a new 'accelerated' concept (three years, rather than five years) designed to compress the time period required to complete appropriate certification while still maintaining the quality of training. The intent of this was to have new tradespeople available for the Company to utilise prior to mine closure.

The intake consisted of 40 apprentices across five key trade vocations including mechanical, automotive electrical, fabrication and welding, fitting and machining, and electrical.

Upon successful completion of the Program, participants will graduate with an Australian TAFE Certificate III trade qualification in their chosen discipline, a Lao High Diploma of Technical Trade Studies and a Certificate of Technical English.

Accelerated Trades Training Programs

Annual safety refresher training at the Company's logistics hub at Ban Thouay

OUR PEOPLE CASE STUDY:

Phu Bia Mining's Trades Training Apprenticeship Program spans generations, helps build a skilled workforce and enhances gender diversity

The story of a dynamic father and daughter duo working for the Company's Mobile Maintenance team in Laos is an inspiring one. It demonstrates the robustness of Phu Bia Mining's training and development programs which are strengthening gender diversity and helping deliver long-term legacy objectives for the Company.

Component Rebuild Supervisor, Mr Fong Payengfue commenced his employment with the Company in 2008. Since then he has proven himself to be a very valuable member of the Mobile Maintenance team. Mobile Maintenance Manager, Mark McCartney agrees.

"Mr Fong is a pleasure to work with. He has worked his way through the ranks and has earned the respect of his team, peers and management," Mark said.

Mr Fong said one of the things he admires most about the Company is its training and development programs. He has seen first-hand how these programs have positively impacted the lives of young people in Laos, providing an opportunity for them to develop skills on a working mine site that will support their future career development.

It was to his pleasure and delight then that in 2020, his daughter, Ms Mee Vue joined the Company's Mobile Maintenance team as an auto electrician apprentice with the Company's Trades Training Apprenticeship Program.

Reintroduced in 2020 under a new 'accelerated' model, the Program offers successful applicants a three-year apprenticeship in a technical trade discipline.

Participants graduate with an Australian TAFE Certificate III trade qualification in their chosen field, a Lao High Diploma of Technical Trade Studies and a Certificate of Technical English.

The Program helps deliver one of Phu Bia Mining's long-term legacy objectives in Laos, which is to develop a skilled workforce that can continue to participate in and grow the national economy post-closure. It also builds a pool of talent for the Company to draw on.

The Program also builds on Phu Bia Mining's commitment to fostering gender diversity. In 2020, over 43 per cent of the Program's initial intake were females. During the Program's recruiting phase, more than 3,500 applications were received for 40 positions.

Ms Mee said she is finding her placement and studies very exciting. And it sounds like she is following in her father's footsteps in more ways than one.

"I am very pleased with Ms Mee's performance. Her passion and commitment to her studies has been evident, as has her strong work ethic. It has been inspirational to watch her join the Mobile Maintenance team and work alongside her father."

"There will be markedly more career opportunities available to Ms Mee after she graduates from the Program. It will lay the foundation of her future success within the Company and beyond. I wish her, and all our current apprentices, the very best with the completion of their studies," Mark concluded.

(Left to right) Component Rebuild Supervisor, Mr Fong Payengfue and his daughter, second year Auto Electrical Apprentice, Ms Mee Vue







An aerial view of the Phu Kham
Copper-Gold Operation open-pit



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