



**PHU BIA MINING**

**WAY AHEAD**

*2017 Annual Review & Sustainability Report*





# COMPANY PROFILE

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

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

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

## COMPANY STRUCTURE

Phu Bia Mining is 90 per cent owned by PanAust Limited, with the Government of Laos owning the remaining 10 per cent.

PanAust is an Australian incorporated company that is owned by Guangdong Rising H.K. (Holding) Limited, a wholly owned subsidiary of Guangdong Rising Assets Management Co. Ltd (GRAM). GRAM 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 corporate office is located in Brisbane, Australia. The office provides leadership and support in relation to growth, financial management, commercial and technical services, risk management, investor relations and corporate communications, human resources, and governance and public reporting.

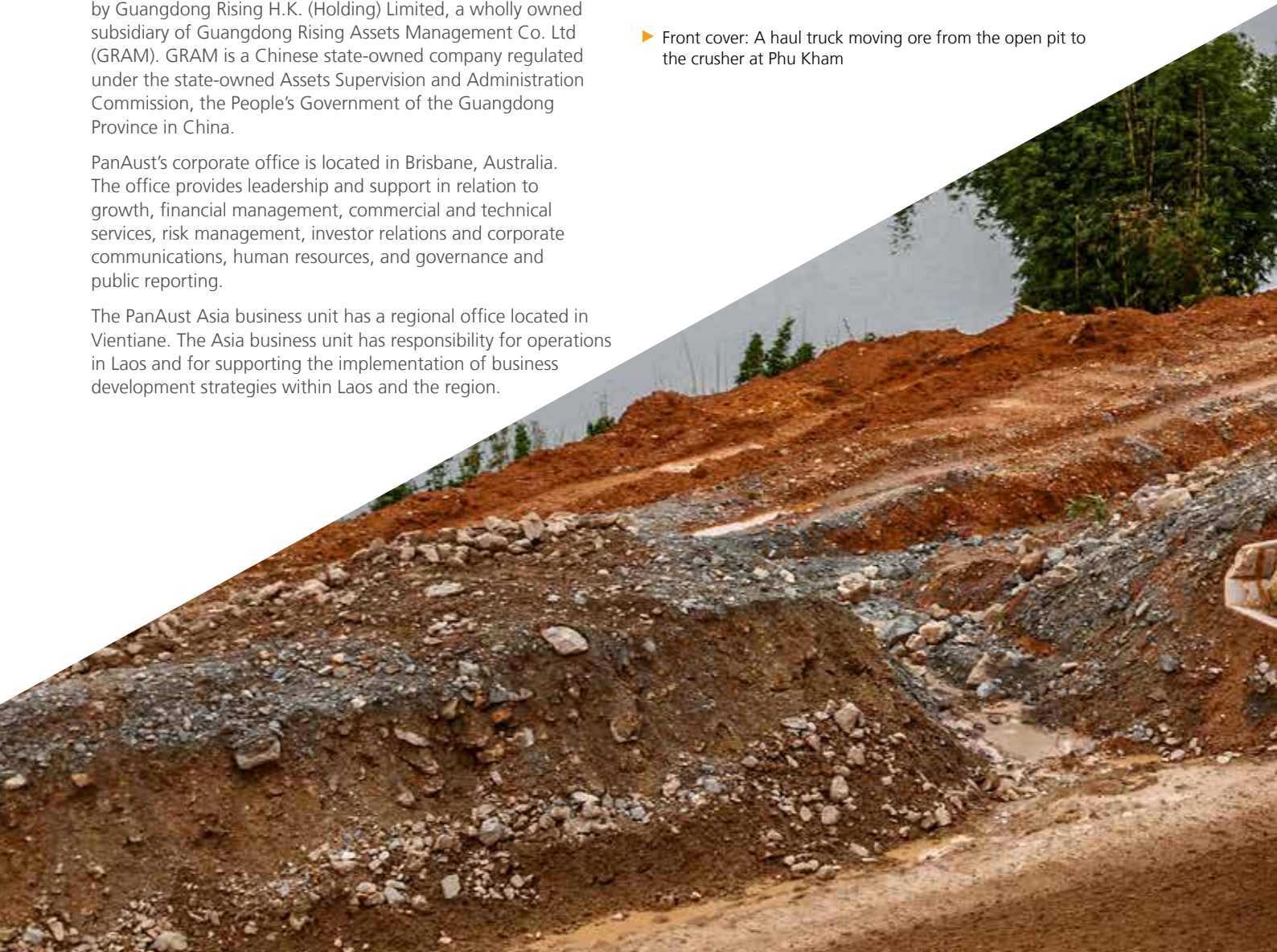
The PanAust Asia business unit has a regional office located in Vientiane. The Asia business unit has responsibility for operations in Laos and for supporting the implementation of business development strategies within Laos and the region.

## ABOUT THIS REPORT

This report covers production, business and sustainability-related information for 2016. It summarises data taken from PanAust's *2016 Business Review & Sustainability Report* (available at [www.panaust.com.au/reports](http://www.panaust.com.au/reports)) which has been externally verified prior to publication.

PanAust uses a materiality determination process to identify the issues that matter most to PanAust and its stakeholders; those issues are covered both in PanAust's Business Review and Sustainability Report 2016 and in this Phu Bia Mining report.

- Front cover: A haul truck moving ore from the open pit to the crusher at Phu Kham





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► 777D hauling ore at Ban Houayxai above the Nam Ngum reservoir

## 2016 HIGHLIGHTS

**US\$66 MILLION**  
DIRECT CONTRIBUTION  
TO THE GOVERNMENT  
OF LAOS IN 2016

**4.4 per cent**

OF LAO GROSS DOMESTIC  
PRODUCT (GDP) ATTRIBUTABLE TO  
PHU BIA MINING ACTIVITY IN 2016

**217,482  
OUNCES**

OF GOLD IN CONCENTRATE  
AND DORÉ PRODUCED

**89,187  
TONNES**

OF COPPER IN  
CONCENTRATE  
PRODUCED

**1,636,591  
OUNCES**

OF SILVER IN CONCENTRATE  
AND DORÉ PRODUCED

**\$27,000**

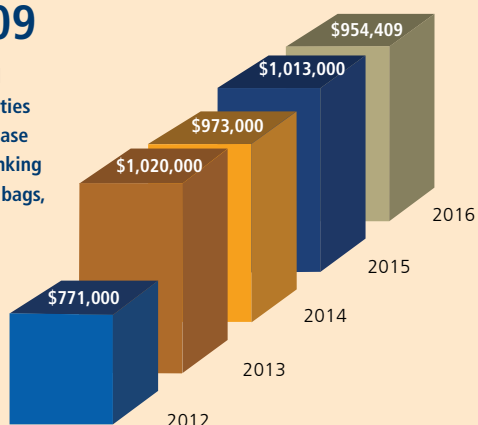
TOTAL DONATIONS MADE  
(THROUGH CASH AND IN KIND  
DONATIONS)

**\$1.9 million**

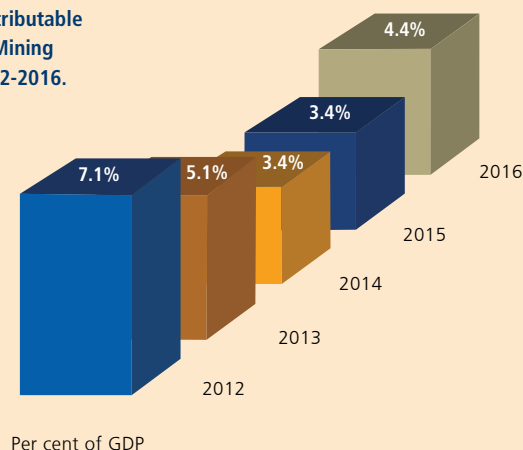
INVESTED IN PUBLIC ROAD  
INFRASTRUCTURE AND  
MAINTENANCE

**\$954,409**

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

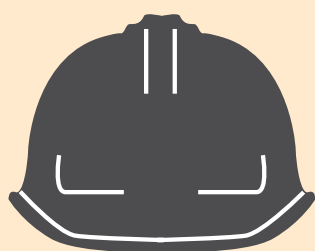


Lao GDP attributable  
to Phu Bia Mining  
activity 2012-2016.



**91 per cent**

LAO EMPLOYEE (AS PERCENTAGE OF 2016 WORKFORCE)



**LAO LABOUR ORDER MEDAL FOR SOCIO-ECONOMIC DEVELOPMENT RECOGNITION IN KHAMMOUANE PROVINCE**

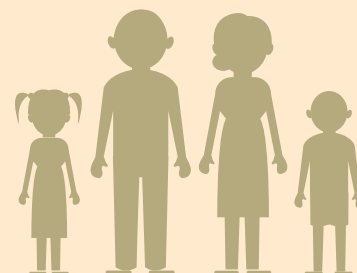


**44**  
**SMALL-SCALE COMMUNITY DEVELOPMENT PROJECTS**  
IMPLEMENTED THROUGH COMMUNITY DEVELOPMENT FUNDS



Proud Partner of  
**Interplast™**

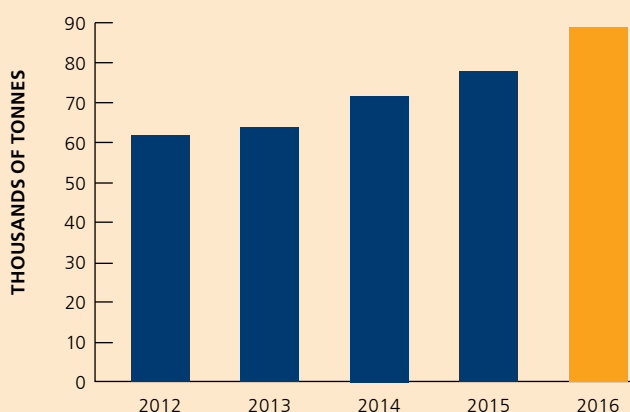
**\$38,000**  
MADE TO INTERPLAST FOR SURGICAL TREATMENT



**\$349,190**

TOTAL INVESTMENT IN COMMUNITIES (THROUGH THE COMMUNITY DEVELOPMENT FUND)

## Copper Production 2012-2016





## CHAIRMAN'S REVIEW



2016 was an excellent year for Phu Bia Mining operations, characterised by strong performances at its operations with several production and safety records achieved. Consolidated annual metal production included a record 89,187 tonnes (t) of copper in concentrate, 217,482 ounces (oz) of gold and 1,636,591oz of silver in concentrate and doré. These outstanding results were achieved by the improved performance and productivity of employees and increased reliability of existing equipment rather than through additional capital investment.

I am proud that during 2016, Phu Bia Mining improved on the previous year's landmark achievement of 90 per cent localisation of the workforce, with 91 per cent achieved. During the year, 77 Lao employees were promoted to senior technical or leadership roles, with an additional two being promoted to superintendent level. This continual improvement in localisation demonstrates the Company's commitment to workforce succession planning and the success of our training and development programs.

I am also proud that the Company places a premium on its safety performance. This trend continues and, at the end of 2016, Phu Bia Mining achieved 18 months without a lost time injury (LTI) and the Phu Kham Copper-Gold Operation achieved an exceptional 21 months LTI-free. With operations, exploration and projects in remote, mountainous, high rain fall locations, this is a remarkable achievement. Despite these pleasing results, the Company recognises it needs to remain vigilant in its continued pursuit of Zero Harm. As such, safety will always remain a priority for the Business.

Phu Bia Mining made substantial direct economic contributions to Laos at both a community and national level in 2016. More than 4.4 per cent of the nation's GDP and 26 per cent of total Lao exports in the year estimated by the Economist Intelligence Unit as US\$2,705 million. Approximately US\$66 million was contributed to the Government of Laos through taxes, and royalties and paid Lao suppliers of goods and services totalled US\$160 million. To date, the Company's contribution to the Government of Laos has reached over US\$533 million. Cumulatively, the Company has invested over US\$1.38 billion into the Lao economy.

The Company delivers significant benefits in the communities closest to our operations through direct employment and a range of projects through Community Development Funds (CDF) exceed US\$4.1 million. In 2016, 44 small-scale projects were implemented in the 18 communities closest to our Operations. Focus areas were education, health, agricultural development, small business development, microfinance and infrastructure. The CDF achievements for the year included primary school and community centre construction; a new gravity-fed water system at Ban Nam Gnone and Ban Nam Mo and capacity-building programs and activities at district, provincial and central government levels, for officials, farmers, health workers, teachers and community members.

In May 2016, the Ban Houayxai Operation successfully completed its three-yearly International Cyanide Management Code recertification audit, confirming that it continues to operate in full compliance with the Code. This renewal reflects our strong sustainability standards and is indicative of the Company's approach to managing both environmental risks and maintaining industry-leading health and safety practices.

Furthermore in March 2017, Phu Bia Mining was honoured to receive the 2016 Lao Labour Order Medal from the Government of Laos. The medal recognised the Company's outstanding contribution to upgrading road infrastructure in the Khammouane Province, and our contribution to broader socio-economic development in Laos.

On behalf of Phu Bia Mining and its Board of directors, I sincerely thank the Government of Laos, all our employees and our business partners.

**CHAIRMAN, MR. CHANPHENG BOUNNAPHOL**

# FINANCIAL CONTRIBUTIONS TO LAOS

WAY AHEAD

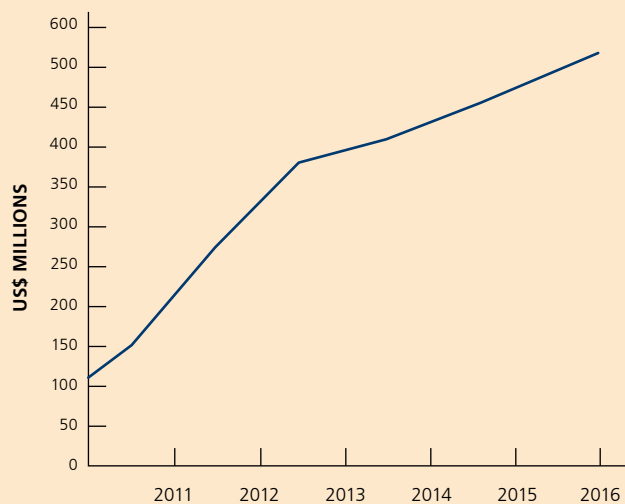
DESCRIPTION	US\$000					
Contribution	2011	2012	2013	2014	2015	2016
Personal Income Tax (Salary tax)	5,190	6,092	5,639	5,472	4,693	4,240
Import service fee	1,545	2,563	2,611	1,846	2,784	1,739
Road Tax				2,966	4,258	4,477
Profit Tax**	48,236	46,775	26,329	8,235	1,182	16,188
Royalties**	33,904	40,206	45,093	35,374	37,365	35,554
Rental Fee (Concession fee)***	59	59	59	59	59	59
Prepaid Profit Tax (VAT and BTT paid upfront)*	16,304	21,974	20,768	15,420	14,217	12,057
Fuel Excise Tax paid upfront*			2,478	5,113	7,587	9,869
Cross boarder tax paid upfront*				78	899	1,513
Dividend		4,148	4,150	4,310	4,800	4,500
<b>Total Contribution</b>	<b>88,933</b>	<b>99,842</b>	<b>83,880</b>	<b>58,261</b>	<b>55,141</b>	<b>66,757</b>
<b>Total Cumulative Contribution</b>	<b>169,429,621</b>	<b>269,272,077</b>	<b>353,152,153</b>	<b>414,413,273</b>	<b>466,554,207</b>	<b>533,301,207</b>

\* In accordance with the MEPA, PBM is exempt from value added tax and all import duties and excises and these are offset against profit tax in the year in which they are incurred; for the years 2014 and 2015, these payments exceeded profit tax payable and accordingly are treated as a prepayment against future profit tax.

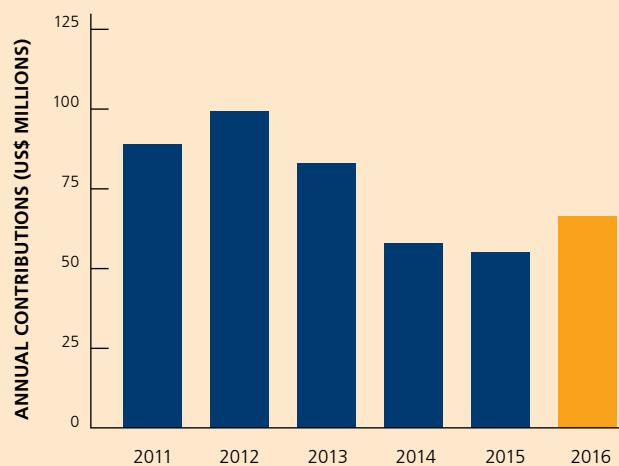
\*\* In 2016, the Company initiated a strategy to reduce the prepaid profit tax balance by direct deduction of royalties and other payments to the Government of Laos.

\*\*\* Concession fees include payments to Treasury Department and land tenement rental.

DIRECT CONTRIBUTIONS TO LAOS (CUMULATIVE) 2011-2016



DIRECT CONTRIBUTIONS TO LAOS (ANNUAL) 2011-2016



## OPERATIONAL REVIEW

The Phu Kham Copper-Gold and Ban Houayxai Gold-Silver Operations consistently delivered excellent safety, production and cost outcomes in 2016. New annual records were set for copper production at Phu Kham and gold for the Ban Houayxai. Outstanding cost outcomes were also achieved.

### PHU KHAM COPPER-GOLD OPERATION

Phu Kham achieved record production performance in 2016 with total copper production increasing by eleven per cent compared with the previous year.

#### PRODUCTION RESULTS

The Operation achieved a record 79.9 per cent metallurgical recovery for copper as grades and ore quality improved, producing 89,187t of copper, 89,657oz of gold and 535,198oz of silver.

#### COSTS

The average C1<sup>1</sup> cash cost for the year was US\$1.10/lb of copper after precious metal credits (2015: US\$1.30/lb). The all-in sustaining cost<sup>2</sup> was US\$1.60/lb (2015: US\$1.69/lb). The average copper price realised during 2016 was US\$2.00/lb (2015: US\$2.38/lb).

#### MINING AND PROCESSING

A record total of 57.0 million tonnes (Mt) of material was mined during the year (2015: 55.8 million) as the Operation continued to increase in scale with an anticipated peak in mining expected in 2018.

### BAN HOUAYXAI GOLD-SILVER OPERATION

2016 was the fourth full-year of operation for Ban Houayxai. A new annual record was set for gold production, C1 cost and all-in sustaining cost.

#### PRODUCTION RESULTS

A total of 127,825oz of gold and 1,101,393oz of silver in doré was produced (poured).

#### COSTS

The average C1 cash cost of production was a record low of US\$450/oz gold after silver credits (2015: US\$516/oz). The all-in sustaining cost was US\$662/oz gold (2015: US\$687/oz).

#### MINING AND PROCESSING

Open-pit material movements at Ban Houayxai totalled 13.2 (Mt). Over 4.7Mt of ore was processed, 18 per cent above the process plant nameplate capacity.

### PHU KHAM DISTRICT EXPLORATION, EM SURVEY AND DRILLING

Exploration activities in the Phu Kham district transitioned into early stage generative and target identification work in 2016. An airborne electromagnetic (EM) survey of the Company's 2,600 square-kilometre Phu Bia Mining Contract Area identified a number of geophysical anomalies in the northwest-southeast trending volcanics between the Phu Kham and Ban Houayxai Operations. The EM survey data showed anomalies at Phu Dok On, Nam Ve and Pha Piang. These anomalies will be investigated in 2017. In addition, the ground induced polarisation (IP) survey was completed over the four airborne electro-magnetic (AEM) anomalies at Phu Dok On. Two were defined during the survey with an eight holes drilling program of 1,885 metres scheduled for 2017.

**11 per cent**

increase in copper production compared to 2015 (Phu Kham)

**6 per cent**

increase in gold production compared to 2015 (Ban Houayxai)

**9 per cent**

increase in silver production compared to 2015 (Phu Kham)

**2 per cent**

increase in recovery compared to 2015 (Phu Kham)

- 1. C1 cost is a Brook Hunt convention for the reporting of direct costs comprising: mine site, product transportation and freight, treatment and refining charges and marketing costs; based on payable metal content after by-product credits
2. All-in sustaining cost (AISC) is C1 cost plus indirect costs (an allocation of Brisbane corporate support and shared services costs); royalties; sustaining capital; lease principal and interest charges; and deferred mining and inventory adjustments capitalised.



**CASE STUDY****OPERATIONAL EXCELLENCE  
WITHOUT A LOST TIME  
INJURY (LTI)**

Phu Kham Operation has achieved an exceptional 21 months without a lost time injury (LTI). The outstanding safety performance reflects the Company's commitment to Zero Harm and the success of targeted safety programs which focus on hot spot and lead indicators, including job safety observation processes, the roll out of planned task observations and expanding leadership participation in deep dive audits.

► An aerial of operations in the Phu Kham open-pit; drilling and in pit sampling for ore and waste prior to handling



# COMMUNITY DEVELOPMENT AND COMMUNITY RELATIONS

In 2016, the Company completed 44 small-scale community development projects. Focus areas were education, health, agricultural development, small business development, microfinance and infrastructure.

## COMMUNITY DEVELOPMENT FUND (CDF)

The Company's CDF programs support programs in villages that host mining operations, exploration activities, and/or are located along haulage routes. Community development priorities are aligned with Government programs, informed by data from periodic socio-economic surveys, and developed through consultation with local villagers. In 2016, programs focused on establishing capacity-building programs and building support infrastructure for communities as part of the Company's preparations for mine closure. The CDF achievements for the year included:

- Training for health service staff, teachers and farmers
- Adult education classes and mother and child health education
- A new gravity fed water system at Ban Nam Gnone and Ban Nam Mo
- Construction of a community centre at Ban Phonsavang
- Construction of a community market at Ban Nam Mo
- Construction of a primary school at Ban Nasaysavang

## COMMUNITY BUSINESS INITIATIVES

In 2016, Phu Bia Mining collectively purchased US\$954,409 from local small community businesses producing consumables such as vegetables, drinking water, eggs, cloth bags, fruit and fish that were purchased by the mines. Agricultural training was provided for local villagers in order to improve crop quality and diversity of yields, and build capacity in animal husbandry. In addition, Phu Bia Mining also carried out honey bee, strawberry, lime and choko farming pilot projects to provide alternative business opportunities post-closure.

## ACCESS TO FINANCIAL SERVICES

1,794 people (from 12 villages) were members of microfinance savings and credit funds by year end 2016. The funds provide access to savings and loan facilities that are not otherwise available in rural areas. Members can take loans to support a variety of small-scale income generating activities as well as to cover household expenditure such as education and healthcare.

## LIVELIHOOD RESTORATION

In 2016, a total of US\$488,901 was paid in compensation and remediation for economic livelihood impacts related to land. The amount included the final compensation payment for land used for the former Heap Leach Gold Operation as part of closure implementation.

## MAJOR PARTNERSHIPS

Since 2012, the Company has contributed approximately US\$200,000 to Interplast Australia and New Zealand in sponsorship of a surgical program. The program - which is in conjunction with the Women's International Group - rectifies conditions such as cleft palate, cleft lip and burn contractures. In 2016, the Company provided \$38,000 to continue the program in Mahosot Hospital, Vientiane Capital.

## CLOSURE PREPAREDNESS

In 2016 the Company continued to engage with the Government of Laos and host communities regarding the impacts of closure, post-closure land use and other closure-related issues. A closure alignment workshop was held during the year to establish a common vision and objective for closure.

**US\$349,190<sup>3</sup>**

expenditure on new CDF projects

**44** small-scale CDF projects implemented

**18** communities benefitted from CDF projects

Options assessments were completed to support a pre-feasibility study and closure plan update in 2017. In 2018 the study is expected to achieve a feasibility study level of accuracy.

## COMMUNITY CONCERNS

Phu Bia Mining has mechanisms in place to receive and respond to stakeholder grievances and concerns. During 2016, two grievances, relating to sediment impacts to agricultural land, were processed and closed out.

## PHYSICAL RESETTLEMENT

In 2016, no involuntary resettlement requiring physical displacement (that is, relocation or loss of shelter), was needed by Phu Bia Mining to develop projects or run its Operations.

► 3. Includes US\$132,917 that was spent in 2016 from 2015 CDF projects.

## CASE STUDY CONTRIBUTIONS TO EDUCATION

Mr Khamphet Chanveesay and his family are residents of Nam Mo Village, a host community near Phu Bia Mining Operations. Previously, due to the distance of the school from the village and lack of money for transportation, Mr Chanveesay was unable to send his older children to school.

*"My hope is that I would like all my kids to have a good education and permanent job on completion. Currently access to school is much better when compared to previous times," said Mr Khamphet. Greater access to educational facilities in the village has meant that Mr Chanveesay's youngest daughter has the opportunity to go to school. "I will now pay attention to support and encourage my last daughter to finish upper secondary and then continue to study at the vocational school." added Mr Khamphet.*

► (Left to right) Mr Khemphet Chavixay, a Junior Technician with the Environment Department at Phu Kham with his daughter Ms Vee Chavixay in front of the Ban Nam Mo Secondary School



## ENVIRONMENTAL PERFORMANCE

In 2016, Phu Bia Mining had no significant environmental incidents. Management of water and acid rock drainage (ARD) continued to receive close attention. The Company continues to meet relevant environmental standards and operate in line with global best practise, as confirmed by various external audits and reviews undertaken during the year.

### ENVIRONMENTAL INCIDENTS

In 2016, Phu Bia Mining had no significant environmental incidents (defined as Level 3 incidents or above<sup>4</sup>), complaints, spills, penalties, fines or sanctions for any legal non-compliance.

### TAILINGS STORAGE FACILITIES (TSFs)

During the year, planned reviews of the Company's tailings facilities at PKM and BHX including on-site inspections were completed. Overall, the review findings were positive, with no significant deficiencies identified. Both Operations discharge excess water from their TSFs on a controlled, ongoing basis. Occasional exceedances of Total Suspended Solids (TSS) occurred during the 2016 wet season following peak storm events. It is common for all waterways in Laos to become non-compliant for TSS during the wet season, mainly due to sediment, but non-conformances are automatically examined and action taken as needed. At the Ban Houayxai TSF, there were occasional exceedances of TSS, which continue to be investigated.

### ACID ROCK DRAINAGE (ARD)

ARD management plans were in place at both Phu Kham and Ban Houayxai well before mine operations commenced. The plans provide strategies for the identification, control and monitoring of waste rock. Consultant reviews at both sites confirm that the programs for managing ARD risks are highly developed, and are consistent with methods described in the Global Acid Rock Drainage Guide.

### WATER USE

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

the Nam Mo River. Water recycling is limited at the Ban Houayxai Operation due to geographical constraints; the overall percentage of water recycled across Phu Kham and Ban Houayxai Operations is 86 per cent.

### WATER DISCHARGE (HEAP LEACH GOLD OPERATION)

Decommissioning of the Heap Leach Gold Operation continued in 2016 with the removal of all processing related infrastructure, offices and some accommodation facilities which are not required for future use or handover to third parties. The construction of a wetland system to naturally filter and treat stormwater discharge from the site has proven successful in treating leach pad runoff. A final closure process is expected to be implemented in 2017. Extensive monitoring of the downstream river system confirmed that excess water discharged throughout the year was within ambient limits.

### INTERNATIONAL CYANIDE MANAGEMENT CODE

Ban Houayxai uses cyanide in the processing circuit for metal production; no cyanide is used at Phu Kham. The Operation achieved operational certification to the International Cyanide Management Code in March 2013. In 2016, the operation successfully underwent its three-yearly recertification audit and was found to be in full compliance with the Code.

### REHABILITATION AND CLOSURE PLANNING

Both Phu Kham and Ban Houayxai have rehabilitation plans in place; 43 hectares of land were disturbed across the two Operations in 2016 and 11 hectares rehabilitated. The remaining total land disturbed at both sites is 1,380 hectares. Both Operations have

**0** significant environment incidents

**11** hectares of land rehabilitated

**95 per cent** of water recycled at Phu Kham

nurseries to propagate native seedlings for use in rehabilitation. In 2016, due to a government reorganisation, the Phu Bia Mining Closure Committee was transferred from provincial to central government under the Ministry of Energy and Mines, membership is to be reviewed in the June quarter of 2017. Closure plans are in place for Phu Kham, Ban Houayxai and the Heap Leach Gold Operation, and are reviewed and updated annually.

### DUST CONTROL

In 2016, the dust monitoring program was extended to include additional dust monitoring locations; one at the Phu Kham accommodation camp and the other at the Phu Kham process plant. A review of the results from these and existing locations was undertaken by external consultants. The findings and recommendations will be incorporated into a revised Dust Monitoring Plan for the site which will be finalised in 2017.

### SEDIMENT AND EROSION CONTROL

During 2016, work continued in planning and implementing sediment and erosion control improvements. In Laos, the focus has primarily been on the prevention of erosion through improved ground surface stabilisation and revegetation.

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

**CASE STUDY****VOLVO'S ASIA PACIFIC  
FUELWATCH CHALLENGE**

In 2016, PanAust competed in Volvo's Asia Pacific Fuelwatch Challenge which is a competition in fuel efficiency and driver productivity. After intense competition in Laos, Phu Bia Mining concentrate haulage driver Amrith Chittavong was awarded first place and the honour of representing Laos at the Asia Pacific final in Sweden. Amrith more than adequately did so, having recorded no warnings or major speed breaches in the 12 months prior to the competition. In Sweden, Amrith achieved third place in the competition which was a significant achievement.

- Logistics driver, Amrith Chittavong accepting third place at the Asia Pacific Fuelwatch Challenge in Sweden from Volvo Senior Vice President Truck Sales Area International, Helen Mellquist

## HEALTH AND SAFETY

At the end of 2016, the Company achieved a milestone 18 months without incurring a lost time injury in several key areas. As always, efforts to seek further improvement continue.

### OVERALL SAFETY PERFORMANCE

The focus of safety efforts in 2016 was on improving current systems, rather than on the introduction of new safety programs. The rationale behind this was to support Lao employees who had been promoted into more senior roles. Expatriate personnel are now providing increased coaching and on-the-job training of Lao supervisors. Lead indicator programs continued to focus on visible safety leadership, job safety observations in the field, deep dive audits, workplace inspections, hazard identification and safety training. In 2016, planned task observations (PTO) were added to the suite of lead indicator programs.

### SAFETY TRAINING

The Company runs a number of mandatory core safety training programs as well as specialist training for high-risk activities. In 2016, 24,859 hours of induction and health, safety and environment training was completed. Company leaders, from executives to front-line supervisors, participate in Safety Leadership Training; during 2016, 73 Lao employees attended the course.

### FITNESS FOR WORK

All Phu Bia Mining Operations have fatigue management procedures and undertake random drug and alcohol testing. During 2016, a number of initiatives related to fatigue management were implemented, including a review of logistic driver-reviver stops; improvements to logistic driver accommodation with noise and light reduction strategies; a 'Logistic Safety Day' themed 'don't drive tired' informing family members how they can support drivers to combat fatigue; and extending reception of Phu Kham FM radio station to cover Ban Houayxai.

### CONTRACTOR MANAGEMENT

Phu Bia Mining is committed to improving the safety performance of local contractors, and these efforts continued in 2016. Contractors are prioritised in the Company's contractor matrix and risk-based audit program. Contractors are included in operational safety awareness programs, and quarterly contractor meetings continued during the year. Representatives from key contractors once again attended the Company's Risk and Sustainability Workshop to reinforce the Company's expectations. A deep dive audit on key contractors completing high-risk activities was completed by management.

### VEHICLE INCIDENTS

2016 vehicle incidents continued to see year-on-year improvements; with 14 high-potential incidents occurring, compared to 26 reported in 2015, 44 in 2014 and 101 in 2013. Vehicle safety at both Operations and along transport and haulage routes remains a focus area for the business and ongoing vigilance is applied with the aim of continual improvement. In 2016, a number of initiatives were introduced to improve vehicle safety, including: in-cab cameras for the entire logistics fleet; implementation of roll over protection for certain passenger vehicles; commissioning of a new safer concentrate haulage fleet; enhancements to the public road design and quality and a pro-active tyre inspection program.

**15 per cent**

improvement in total reportable injury frequency rate (compared to the target of 1.35)

**"MAINTAINED"**

in DART<sup>5</sup> frequency rate

**46 per cent**

reduction in moderate/high potential vehicle incidents (compared to 2015)

► 5. Days away, restricted or transferred.



ວັນຂຶ້ນ

## CASE STUDY

## LOGISTICS SAFETY JOURNEY

Phu Bia Mining has invested heavily to become a world class logistics provider and each year sets annual goals and targets to drive continuous safety improvements with the aim of achieving a Zero Harm. A rigorous six-week training program, including driver simulator training which covers a range of adverse condition and emergency scenarios, is in place to ensure high levels of competency for all PBM drivers on all routes. GPS tracking installed in the whole PBM logistics fleet reports on speed, harsh braking, accelerating and cornering. This data is sent back to the logistics control room. The logistics control room notifies drivers on speeding and they have five seconds to correct their behavior before it is logged; initiatives to help address and reduce fatigue related incidents include air-conditioned accommodation, in-cab camera footage and manned-driver-reviver stations.

Feedback from the drivers about the upgraded accommodation facilities has been extremely positive. *"We do not disturb each other while sleeping or when we wake up, there is more privacy and we get good sleep," said Mr Bounthan, a Night Shift Truck Driver. "The new room is dark enough to make us able to sleep well," Mr Bounthan added.*

- Driver Trainer Team Leaders, Khamphone Phonevilay quizzed children about how they can help their parents combat driver-fatigue at the Ban Thouay Logistics Safety Day, October 2016

## OUR PEOPLE

During 2016, the Company was able to improve on the previous year's landmark achievement of 90 per cent localisation of the workforce, achieving 91 per cent. The result demonstrates the benefits of its training and development programs for Lao employees.

### LOCALISATION

Phu Bia Mining is continually reviewing and setting targets for localisation. In 2016, PBM achieved 91 per cent localisation of the workforce. This improvement relies on the training and development of Lao staff to meet the requisite skills and competencies required to perform a role to a desired level. During the year, 77 Lao employees were promoted to senior technical or leadership roles, with an additional two being promoted to superintendent level. A number of ongoing formal initiatives and programs support the development of Lao employees, and are listed below.

### LEADERSHIP DEVELOPMENT PROGRAM

In 2016, 97 Lao employees (including 34 women) participated in the Leadership Development Program designed for frontline supervisors. Each participant completes more than 200 hours of structured training and post-course assignments. The Leadership Development Program has contributed to the Company's ability to appoint Lao employees to senior roles, and has therefore helped to reduced reliance on expatriate employees. Since 2012, almost 300 Lao employees have graduated from the course.

### MENTORING

The mentoring program is an internally run initiative to guide and encourage high-potential employees, who have been identified as future leaders to achieve their full potential. An initial pilot program, which commenced in 2012, involved 15 high-potential Lao mentees and was successfully completed in 2014. A formal program review concluded that the program provided two-way benefits for the Lao mentees as well as expatriate mentors. Benefits include enhanced job satisfaction and greater engagement. All 32 mentees from 2015 (including 21 Lao-nationals) continued to participate in the program in 2016.

### TRADES TRAINING PROGRAMS

Phu Bia Mining operates two distinct trades training programs. The first is a trades training program for maintenance employees, under which trades skills are assessed and training plans put in place for each employee. This program was implemented in 2014. As at year end 2016, 181 Lao employees progressed from Trades Assistant level to Tradesperson level. The second scheme is the Apprenticeship Program. Established in 2013, the Program offers a five-year apprenticeships in a technical trade in partnership with the Lao-German Technical College in Vientiane. In 2016, a total of 68 Phu Bia Mining apprentices (including 13 women) were in either their first or second year of training. The first intake of apprentices will graduate from the program as qualified tradespeople in 2018.

**3,249** full time employees

**93** average number of hours training per employee during 2016

**77** Lao employees promoted to senior technical or leadership roles





▶ Phu Bia Mining's Workplace Representative Committee

## CASE STUDY WORKPLACE REPRESENTATIVE COMMITTEE

Established in 2011, Phu Bia Mining's Workplace Representative Committee was founded with the aim of promoting harmonious relationships between the Company and its employees' and to provide a mechanism by which both the Company and employees can constructively raise and resolve issues when differences exist. The committee has grown from an initial six person group to now total 22, with each department across Phu Bia Mining represented. Committee members elect a President and Deputy President to serve a two year term. Some of the programs that have been implemented as a direct result of the committee's activities include: the establishment of a travel allowance for eligible Lao employees; a service award program that recognises the contribution that long serving employees make to the Company; and greater flexibility with regards to working hours for employees in the Vientiane Office. The committee also invites various government officials to attend its meetings on an ad-hoc basis.



### PHU KHAM COPPER-GOLD OPERATION

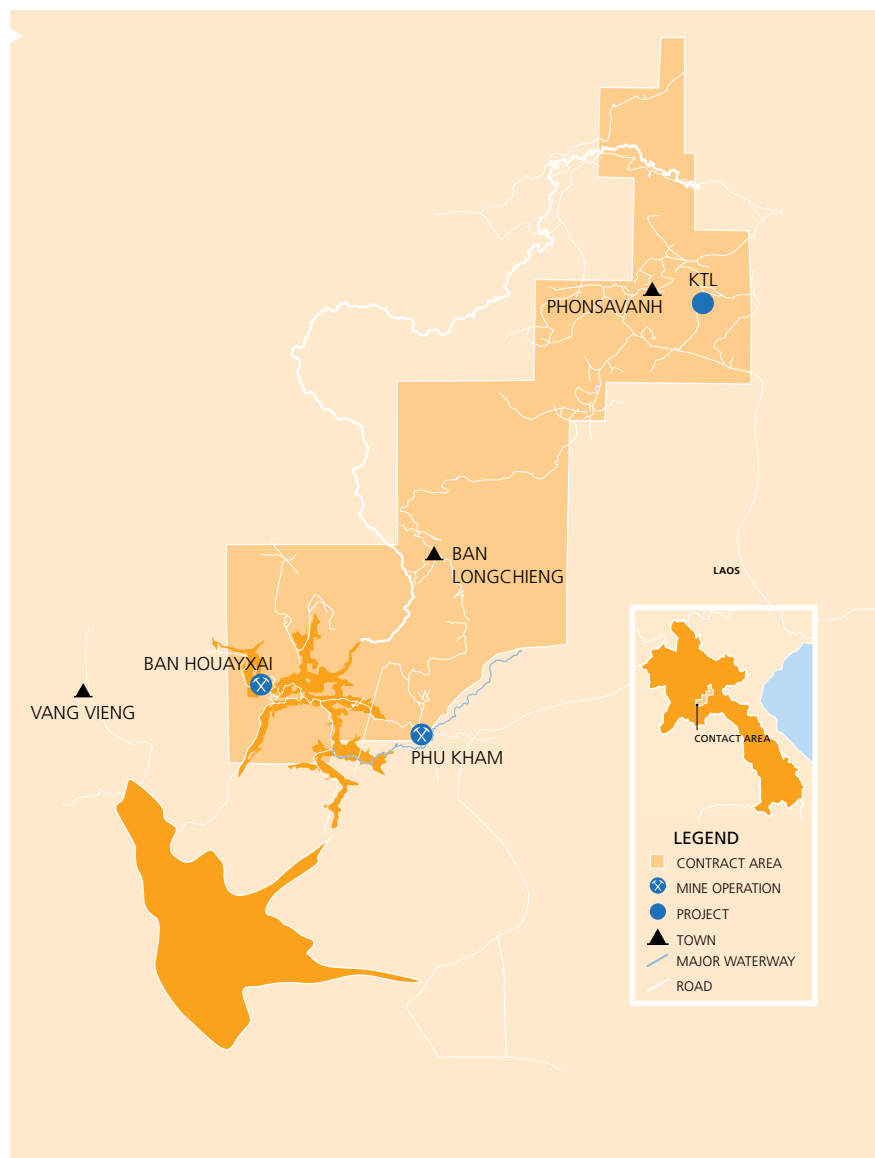
Annual copper in concentrate production is expected to continue to rise steadily until 2017, as the average copper head grade increases and improving ore quality leads to further gains in metallurgical recovery rates. Annual production of copper in concentrate is expected to peak in 2017 at approximately 85,000t to 90,000t, before subsequently declining with ore grade. Gold in concentrate is expected to generally range between 70,000oz and 80,000oz per annum from 2016 onwards. No further development capital is currently expected for this targeted growth. The Phu Kham Ore Reserve supports a mine life of approximately four years from the end of 2016.

### BAN HOUAYXAI GOLD-SILVER OPERATION

The Ban Houayxai Ore Reserve supports a mine life of approximately five years from the end of 2016. During 2017, Ban Houayxai is expected to produce gold in doré of 178,000oz and silver in doré of 1,290,000oz.

### KTL

The KTL Copper-Gold Project is located in the northern part of the Contract Area and is focused on the KTL copper-gold deposit which lies close to existing road and power infrastructure and is near the town of Phonsavan. Desktop work occurred during 2016 and will continue in 2017; however, no material expenditure is currently budgeted for the KTL Project.







▶ The Phu Kham processing plant at night



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