

12 Months at BAN PHUC NICKEL MINE

FIVE KILOMETRES of MINE DEVELOPMENT in 12 MONTHS at Remote Vietnam Mine Site

The Mancala Group of companies has achieved 5,000 metres of underground mine development in 12 months and has ramped production to 30,000 tonnes per month at the Ban Phuc Nickel Mine, located in the remote Son La Province of Vietnam. The achievement has been made with a majority of Vietnamese miners with no lost time incidents.

In 2013, under two contracts with Ban Phuc Nickel Mines LLC of Vietnam (BPNM), a subsidiary of Asian Mineral Resources Limited (Canada listed - AMR), Mancala was engaged to provide technical management and equipment lease services for the re-opening of the Ban Phuc Nickel Mine. The mine is located some five hours drive west of Hanoi near the township of Bac Yen.

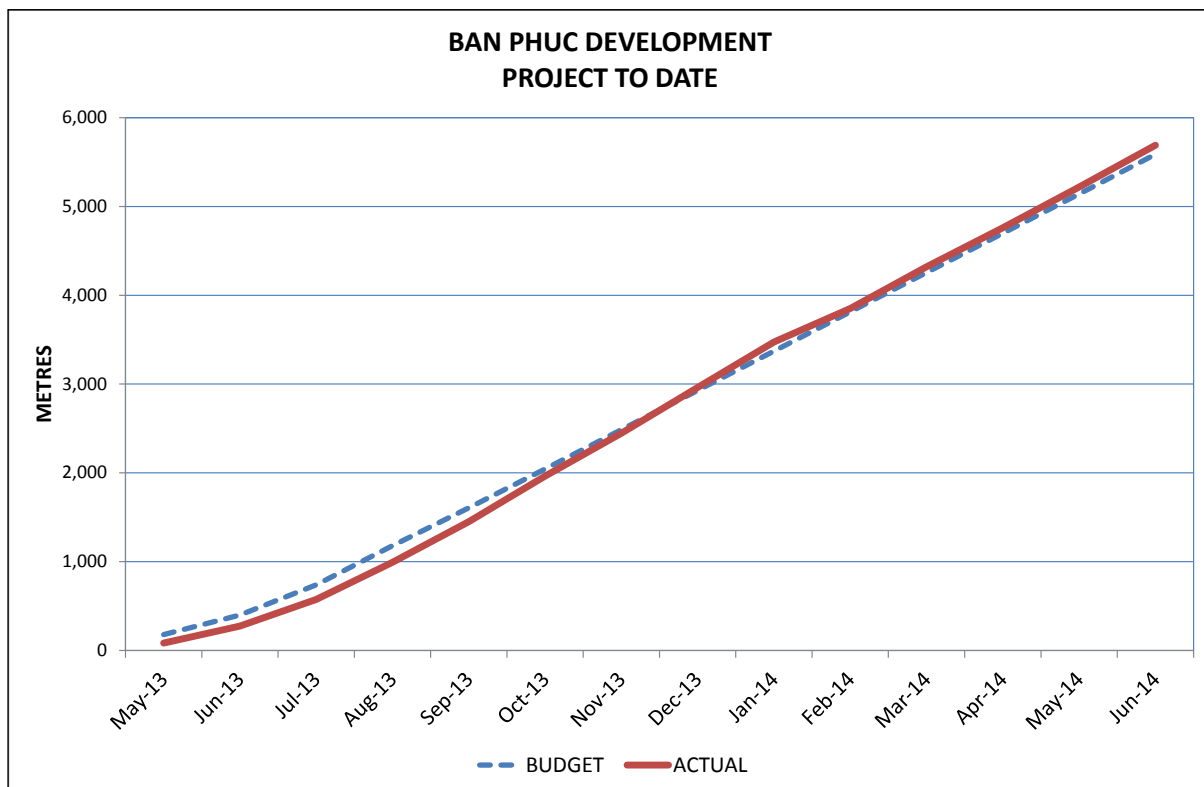


BPNM's desire was to commence site operations as soon as possible after Mancala was awarded the contracts. Under a Heads of Agreement, Mancala mobilised skilled expatriate trainers to prepare the site in readiness for mobile equipment arrival some six weeks after contract award.

The mine was initially opened in 2006 and subsequently closed in 2007 after some initial development activity. Two mine portals had been established, the lower one at the mill location and the upper portal, some three kilometres up an existing track and some 215 vertical metres above. Incline development of 450 metres to the lower ore body had been completed and 150 metres into the upper one.

On arrival at site Mancala were required to establish all required surface infrastructure and re-establish underground services. Lack of suitable accommodation on site required Mancala's employees to commute daily around one hour each way to Bac Yen. Commuting time plus 12 hour shifts resulted in arduous days until site accommodation was established.

Initial development in the lower portal commenced with one Atlas Copco M2D jumbo and one CAT 1700G loader and 930 IT. Despite initial teething problems, development productivity rapidly improved to budgeted levels. With an additional M2D jumbo, two 1700G loaders, two ITs, two Cat AD30s and an Atlas Copco 104 long hole drill, the monthly development target of 440m and production target of 30,000 ore tonnes are routinely met.





**Ban Phuc Concentrator
Under Construction**

In order to maintain acceptable equipment availability Mancala engaged assistance and support from the two major equipment suppliers, Caterpillar and Atlas Copco. Both companies were already established in Vietnam with Caterpillar well represented by agent Phu Thai Cat (PTC). Robert Stephenson, the MD of PTC, was of great assistance to Mancala in the methods of establishing operations within Vietnam.

Both PTC and Atlas Copco established support services at the mine location as little or no mining services support agencies existed within the region. Mancala's support base out of Bendigo, Victoria, was, and still is, critical to the continuing supply/support chain to the mine site.



**Front End Of A Cat 1700G
Ready For Transport
From Australia To
Vietnam**

With the first shipment of mobile equipment to site, Mancala commenced the gradual mobilisation of specialised expatriate mining employees predominantly out of its Australian base. The Company began employing nationals, training them in equipment operation, and teaching them Australian standards of mine operation, and most importantly high standards of mine safety. Around 30 expatriates were ultimately deployed. These included on-site safety trainers, equipment maintenance trainers and professional mining staff. Currently around 100 nationals are employed within three crews working a four weeks on and two week off roster continuously over a 24 hour period, seven days of the week.

The number of expatriate trainers is reducing over time commensurate with the increase in national employee skill base.



Mancala Trainers and Vietnamese Miners – Crew 1

Within each crew an expatriate shift supervisor, together with an English speaking national counterpart, convey the daily shift requirements to the inexperienced national crews. Training was at times slow and difficult. With mine targets to be achieved it was a credit to all the expatriate trainers, national employees and the Mancala management team that by Christmas 2013 the project was meeting all budgeted site physicals.

The conditions over the first months were challenging. With temperatures in the high 30 degrees most days combined with a high ambient humidity it was hoped being underground would provide relief. However, ventilation was difficult and the conditions tested all expatriates and indeed some of the nationals. Now some 12 months on the development targets are consistently being achieved with production, after the successful commissioning of the long hole drill, now at some 30,000t delivered each month to the mill.

Mancala is very proud of its achievement to date at the Ban Phuc Nickel Mine, not only for its achievement of the mine targets, but its overall success in the training of a strong national workforce without one lost time injury in the 12 months while on-site. It is a credit to all expatriates and management, together with the support of the BPNM team, in the establishment of a first class mine.

