

PERFORMANCE FY18

Papua New Guinea

The case for exploration investment in Papua New Guinea remains strong. Harmony closely monitors the environment for new opportunities to enhance our project portfolio, in line with core operating capabilities. The country is hugely prospective and under-explored. Harmony has an established track record of discovery and adding value through cost-effective exploration:

- Since 2003, resource growth from Harmony-held tenements, both those held in joint venture (Harmony's 50% equity share) and by Harmony alone (100%-held), amounts to 12.7Moz of gold and 5.1Mt of copper
- Discovery cost on a per ounce gold equivalent basis of less than US\$10 is among the best in the world

Key work streams underpinning the FY18 exploration programme included:

- The Wafi-Golpu copper-gold deposit feasibility study update, and progressing of the special mining lease application
- Near-mine exploration and projects in support of extending mine life at Hidden Valley
- Maintenance of a greenfield exploration portfolio to enhance Harmony's world-class copper-gold footprint
- In FY18, we spent R407.4 million (US\$37.0 million) (FY17: R431 million; US\$32 million) on exploration

Wafi-Golpu update

The feasibility study for Wafi-Golpu was updated to incorporate the recommendations of previous studies and additional orebody data obtained. The proposed project involves development of the high-grade Golpu orebody and optimised capital expenditure profile, rate of production and cash flow.

The updated feasibility study confirmed a staged approach to project development and that block caving was the preferred mining method.

Supporting documents for the special mining lease application were submitted in March 2018 and the environmental impact statement in June 2018. Granting of the special mining licence is expected by

June 2019 to be followed by board approval and the securing of a funding solution.

Key statistics for the Wafi-Golpu project (100% basis) include:

- Resource containing 18.6Moz gold and 8.6Mt copper
- Estimated life of mine of more than 28 years
- Steady state production estimated at 161 000t of copper, 266 000oz of gold (more than 1.4Moz of gold equivalents ounces annually)
- Above average recovery grades:
 - Gold – 0.90g/t,
 - Copper – 1.27%
- Estimated costs of US\$0.26/lb are in the lowest decile for copper production
 - expressed in terms of gold, an all-in sustaining cost of minus US\$2 128/oz is estimated

Hidden Valley brownfield exploration

Following the acquisition of 100% of the contiguous tenement package surrounding the Hidden Valley mining lease in FY17, our exploration strategy shifted its focus to near-mine brownfield targets covering an area of 502km² of tenure, centered on one of Papua New Guinea's premier goldfields and including the historic mining centre at Wau.

Prefeasibility studies have begun on the down dip extensions of the Hidden Valley orebody to extend the mine life. Target generation to identify potential high-grade satellite epithermal gold deposits progressed and a systematic grid-based geochemical coverage over the Hidden Valley mining lease was completed. Initial drill intercepts together with widespread alteration and gold geochemical footprint highlighted the excellent prospectivity at the historic mining centre at Wau.

Greenfield exploration and tenement rationalisation

Regional greenfield exploration expenditure was scaled back in favour of near-mine brownfield exploration. Harmony's (100%) tenement holding reduced to 963.75km² (FY17: 1 265km²). The joint venture (Harmony 50%) tenement holding was reduced to 325.3km² (FY17: 495km²).

Exploration licence 1629 was held under option to purchase by Pacific Niugini Minerals who are also responsible for maintaining the joint venture tenement in good standing. Harmony continues to manage exploration on the portfolio tenement package on behalf of the exploration portfolio joint venture participants (ultimate parent companies: Newcrest 50%; Harmony 50%).

