



## NOVA RAMP-UP PROGRESS UPDATE

Independence Group NL (IGO or the Company) (ASX:IGO) provides this update on the progress of the production ramp-up of the Nova nickel – copper – cobalt mine to name plate capacity.

Operational ramp-up is proceeding to plan and IGO expects to declare commercial production from the end of June 2017. Recent milestones include:

- First offshore shipments of copper and nickel concentrates being completed
- FY17 metal production in concentrate expected to be  $\approx 3,400\text{t}$  nickel and  $\approx 1,500\text{t}$  copper
- Process plant is transitioning from campaign feed to continuous operations
- Metallurgical recoveries approaching life of mine design as expected
- Underground ore production to reach name plate capacity of 1.5Mtpa in the September 2017 quarter
- Close spaced grade control drilling of the Nova and Bollinger deposits is 70% complete and has led to an improved understanding of both deposits from which an updated JORC Code Mineral Resource estimate is being prepared
- The Nova Operations management team has been strengthened

### First offshore shipments from Esperance being completed

The loading of the first offshore shipment of nickel and copper concentrate from Esperance Port is expected to be completed tonight with the shipment of  $\approx 6,700$  wet metric tonnes of nickel concentrate and  $\approx 5,600$  wet metric tonnes of copper concentrate.

IGO has two nickel concentrate offtake agreements, one with Glencore where concentrate is shipped overseas, and one with BHP Nickel West where concentrate is trucked to the Kambalda on an ongoing basis. IGO has a copper concentrate offtake agreement with Trafigura where the concentrate is shipped overseas.

### FY17 metal production in concentrate expected to be $\approx 3,400\text{t}$ nickel and $\approx 1,500\text{t}$ copper

We have made considerable progress with underground development and production, as well as in the processing plant transitioning through to continuous operations.

Metal production in concentrates in FY17 is expected to be about  $\approx 3,400\text{t}$  nickel and  $\approx 1,500\text{t}$  copper which is in line with plan. Note that prior guidance inadvertently reported total metal in the mill feed not metal in concentrate.

FY18 guidance is to be provided in late July with our June 2017 quarter results presentation.



## Process plant transitioning to continuous operations

Since commissioning in October 2016, the processing plant has been constrained by ore production from underground and, as such, has operated on a campaign basis. Campaign processing has allowed the process design and installed equipment to be tested but has not provided opportunity for the process to be optimised.

With the commencement of mining of the first of the larger stopes from the Nova underground mine, the processing plant has now transitioned to continuous operations. This transition has delivered many positive outcomes:

- The stope ore has proven to be softer than the lower grade ore sourced from the upper levels of Nova that have been processed project to date. Indicatively, overall power draw has dropped by ≈35% and crushing and grinding at name plate throughput rates of 188 tonnes per hour have been demonstrated.
- Operating continuously has enabled IGO's process team to focus on optimisation of reagent addition and conditioning time, delivering a step change improvement in the separation of copper and nickel in the flotation circuits. As a result, concentrate quality has improved and is expected to continue to improve through the ramp-up process. Earlier campaign based processing resulted in higher than design amounts of nickel reporting to copper concentrate, and higher copper reporting to nickel concentrate but the concentrates have still been saleable under our offtake agreements.
- Two minor concentrate quality issues have been identified, being excess chlorides and some caking of the concentrate. Minor changes to the process methodology, such as increasing the filtrate washing times to remove chlorides and compaction of concentrate stockpiles, are expected to resolve these quality issues.
- Recent metallurgical recovery rates when processing stope ore from Nova Main have been approaching life of mine expectations (88% Ni and 89% Cu) although project to date (to 31 May 2017) recovery rates have been lower at 79% and 64% respectively for nickel and copper which is commensurate with the lower grades mined and processed to date from ore development. In recent production, daily average recovery rates of up to 87% for both nickel and copper have been achieved. The next step is to achieve the higher levels consistently and optimise recovery rates incrementally up to design levels.

## Underground ore production expected to hit name plate capacity of 1.5Mtpa in the September 2017 quarter

Substantial progress has been made on the lateral mine development of the Nova deposit allowing the first large stope of 60,000t to be accessed in May 2017 and subsequently mined. Mining of two similar tonnage stopes commenced in June 2017.

Through the September 2017 quarter, the number of stopes accessed will be increased in order to ramp-up the underground ore production from the 74,000t achieved in May 2017, to the name plate monthly target of 125,000t by September 2017. This progress is in-line with previous guidance.

Mine development of the Bollinger deposit is continuing and ore development is expected to commence late in the December 2017 quarter. Stoping from Bollinger is expected to commence in the June 2018 quarter.

The Company expects to declare commercial production from the end of June 2017 which is in-line with previous guidance. From the September 2017 quarter, IGO will report Nova's cash costs and production



data in a similar manner to that provided for other operations in quarterly reports and regular market updates and presentations.

## **Close spaced grade control drilling of the Nova-Bollinger deposits is 70% complete**

Grade control at the Nova and Bollinger deposits is ongoing with 120,000m of diamond core drilling completed by the end of May 2017 compared to the planned program total of 170,000m. Approximately 95% of the metres have been drilled at Nova and 5% at Bollinger. The drilling has targeted a 12.5m × 12.5m pierce point spacing of the ore to establish internal continuity of volumes and grade, provide quality data for an interim Mineral Resource estimate, and further de-risk the ongoing optimisation of the mine design and mine schedule.

The drilling is being carried out by Swick Mining Services who have five underground drill rigs on site. The program is planned for completion in the September 2017 quarter at Nova, and in the December 2017 quarter at Bollinger.

Work on an interim Mineral Resource estimate for both Nova and Bollinger, which incorporates drilling information to 30 April 2017, is near completion and is undergoing final checks prior to JORC Code sign-off by consultants Optiro. Drilling information collected post 30 April 2017 through to completion of grade control drilling in the December 2017 quarter will be incorporated into an early 2018 update.

## **Reconciliation improving with updated modelling from grade control drilling**

Ongoing mine to mill reconciliations compare satisfactorily with grade control modelling. A more detailed reconciliation study will be prepared in parallel to the pending interim Mineral Resource estimate.

## **Nova management team strengthened**

IGO has appointed Mr Chris Carr as General Manager Nova and Chris replaces Mr Brett Hartmann who resigned and departed to pursue new opportunities in May 2017.

Chris is a qualified mining engineer with substantial experience in underground mining operations throughout Australia with recent assignments with Xstrata, Glencore and MMG. Chris has been embedded in the team at Nova since early 2017.

Brett Hartmann had worked with IGO for thirteen years in several operational and corporate roles. IGO's management and board thanks Brett for his dedication and commitment, and the immeasurable contribution that he made to assist IGO to become the company that it is today. We wish Brett all the very best in his future endeavours.

## **About IGO**

IGO is a leading ASX listed diversified mining, development and exploration company, with a portfolio of high quality gold and base metals mining operations in Western Australia and a growing pipeline of belt-scale greenfields exploration projects

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