

# WAFI-GOLPU PROJECT

**A Multi-generational Greenfield Copper-Gold  
Development**

BRYAN BAILIE  
EXECUTIVE PROJECT DIRECTOR

PNG MINING & PETROLEUM INVESTMENT CONFERENCE, SYDNEY, 6 DECEMBER 2016



# Private Securities Litigation Reform Act

## Safe Harbor Statement and Competent Person's Statement

### Harmony Gold Mining Company Limited



#### Forward Looking Statements

These materials contain forward-looking statements within the meaning of the safe harbor provided by Section 21E of the Securities Exchange Act of 1934, as amended, and Section 27A of the Securities Act of 1933, as amended, with respect to our financial condition, results of operations, business strategies, operating efficiencies, competitive positions, growth opportunities for existing services, plans and objectives of management, markets for stock and other matters. These include all statements other than statements of historical fact, including, without limitation, any statements preceded by, followed by, or that include the words “targets”, “believes”, “expects”, “aims”, “intends”, “will”, “may”, “anticipates”, “would”, “should”, “could”, “estimates”, “forecast”, “predict”, “continue” or similar expressions or the negative thereof.

These forward-looking statements, including, among others, those relating to our future business prospects, revenues and income, wherever they may occur in this report and the exhibits to this report, are essentially estimates reflecting the best judgment of our senior management and involve a number of risks and uncertainties that could cause actual results to differ materially from those suggested by the forward-looking statements. As a consequence, these forward-looking statements should be considered in light of various important factors, including those set forth in this report. Important factors that could cause actual results to differ materially from estimates or projections contained in the forward-looking statements include, without limitation: overall economic and business conditions in South Africa, Papua New Guinea, Australia and elsewhere, estimates of future earnings, and the sensitivity of earnings to the gold and other metals prices, estimates of future gold and other metals production and sales, estimates of future cash costs, estimates of future cash flows, and the sensitivity of cash flows to the gold and other metals prices, statements regarding future debt repayments, estimates of future capital expenditures, the success of our business strategy, development activities and other initiatives, estimates of reserves statements regarding future exploration results and the replacement of reserves, the ability to achieve anticipated efficiencies and other cost savings in connection with past and future acquisitions, fluctuations in the market price of gold, the occurrence of hazards associated with underground and surface gold mining, the occurrence of labour disruptions, power cost increases as well as power stoppages, fluctuations and usage constraints, supply chain shortages and increases in the prices of production imports, availability, terms and deployment of capital, changes in government regulation, particularly mining rights and environmental regulation, fluctuations in exchange rates, the adequacy of the Group's insurance coverage and socio-economic or political instability in South Africa and Papua New Guinea and other countries in which we operate.

For a more detailed discussion of such risks and other factors (such as availability of credit or other sources of financing), see the Company's latest Integrated Annual Report and Form 20-F which is on file with the Securities and Exchange Commission, as well as the Company's other Securities and Exchange Commission filings. The Company undertakes no obligation to update publicly or release any revisions to these forward-looking statements to reflect events or circumstances after the date of this report or to reflect the occurrence of unanticipated events, except as required by law.

#### Competent Person's Statement

The Wafi-Golpu Joint Venture is an unincorporated joint venture between a wholly-owned subsidiary of the Company and a wholly-owned subsidiary of Newcrest Mining Limited. The information in these materials that relates to Golpu Mineral Resources is based on information compiled by the Competent Person, Mr Paul Dunham, who is a member of The Australasian Institute of Mining and Metallurgy. Mr Paul Dunham, is a full-time employee of Newcrest Mining Limited or its relevant subsidiaries, holds options and/or shares in Newcrest Mining Limited and is entitled to participate in Newcrest's executive equity long term incentive plan, details of which are included in Newcrest's 2016 Remuneration Report. Mineral Resource growth is one of the performance measures under recent long term incentive plans. Mr Paul Dunham has sufficient experience which is relevant to the styles of mineralisation and type of deposit under consideration and to the activity which he is undertaking to qualify as a Competent Person as defined in the JORC Code 2012. Mr Paul Dunham consents to the inclusion of material of the matters based on his information in the form and context in which it appears.

The information in these materials that relates to Golpu Ore Reserves is based on information compiled by the Competent Person, Mr Pasqualino Manca, who is a member of The Australasian Institute of Mining and Metallurgy. Mr Pasqualino Manca, is a full-time employee of Newcrest Mining Limited or its relevant subsidiaries, holds options and/or shares in Newcrest Mining Limited and is entitled to participate in Newcrest's executive equity long term incentive plan, details of which are included in Newcrest's 2016 Remuneration Report. Ore Reserve growth is one of the performance measures under recent long term incentive plans. Mr Pasqualino Manca has sufficient experience which is relevant to the styles of mineralisation and type of deposit under consideration and to the activity which he is undertaking to qualify as a Competent Person as defined in the JORC Code 2012. Mr Pasqualino Manca consents to the inclusion of material of the matters based on his information in the form and context in which it appears.

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This document includes forward looking statements. Often, but not always, forward looking statements can generally be identified by the use of forward looking words such as “may”, “will”, “expect”, “intend”, “plan”, “estimate”, “anticipate”, “continue”, and “guidance”, or other similar words and may include, without limitation, statements regarding plans, strategies and objectives of management, anticipated production or construction commencement dates and expected costs or production outputs. Forward looking statements inherently involve known and unknown risks, uncertainties and other factors that may cause the company’s actual results, performance and achievements to differ materially from any future results, performance or achievements. Relevant factors may include, but are not limited to, changes in commodity prices, foreign exchange fluctuations and general economic conditions, increased costs and demand for production inputs, the speculative nature of exploration and project development, including the risks of obtaining necessary licences and permits and diminishing quantities or grades of reserves, political and social risks, changes to the regulatory framework within which the company operates or may in the future operate, environmental conditions including extreme weather conditions, recruitment and retention of personnel, industrial relations issues and litigation. Forward looking statements are based on the company and its management’s good faith assumptions relating to the financial, market, regulatory and other relevant environments that will exist and affect the company’s business and operations in the future. The company does not give any assurance that the assumptions on which forward looking statements are based will prove to be correct, or that the company’s business or operations will not be affected in any material manner by these or other factors not foreseen or foreseeable by the company or management or beyond the company’s control. Although the company attempts and has attempted to identify factors that would cause actual actions, events or results to differ materially from those disclosed in forward looking statements, there may be other factors that could cause actual results, performance, achievements or events not to be as anticipated, estimated or intended, and many events are beyond the reasonable control of the company. Accordingly, readers are cautioned not to place undue reliance on forward looking statements. Forward looking statements in this document speak only at the date of issue. Subject to any continuing obligations under applicable law or any relevant stock exchange listing rules, in providing this information the company does not undertake any obligation to publicly update or revise any of the forward looking statements or to advise of any change in events, conditions or circumstances on which any such statement is based.

#### **Ore Reserves and Mineral Resources Reporting Requirements**

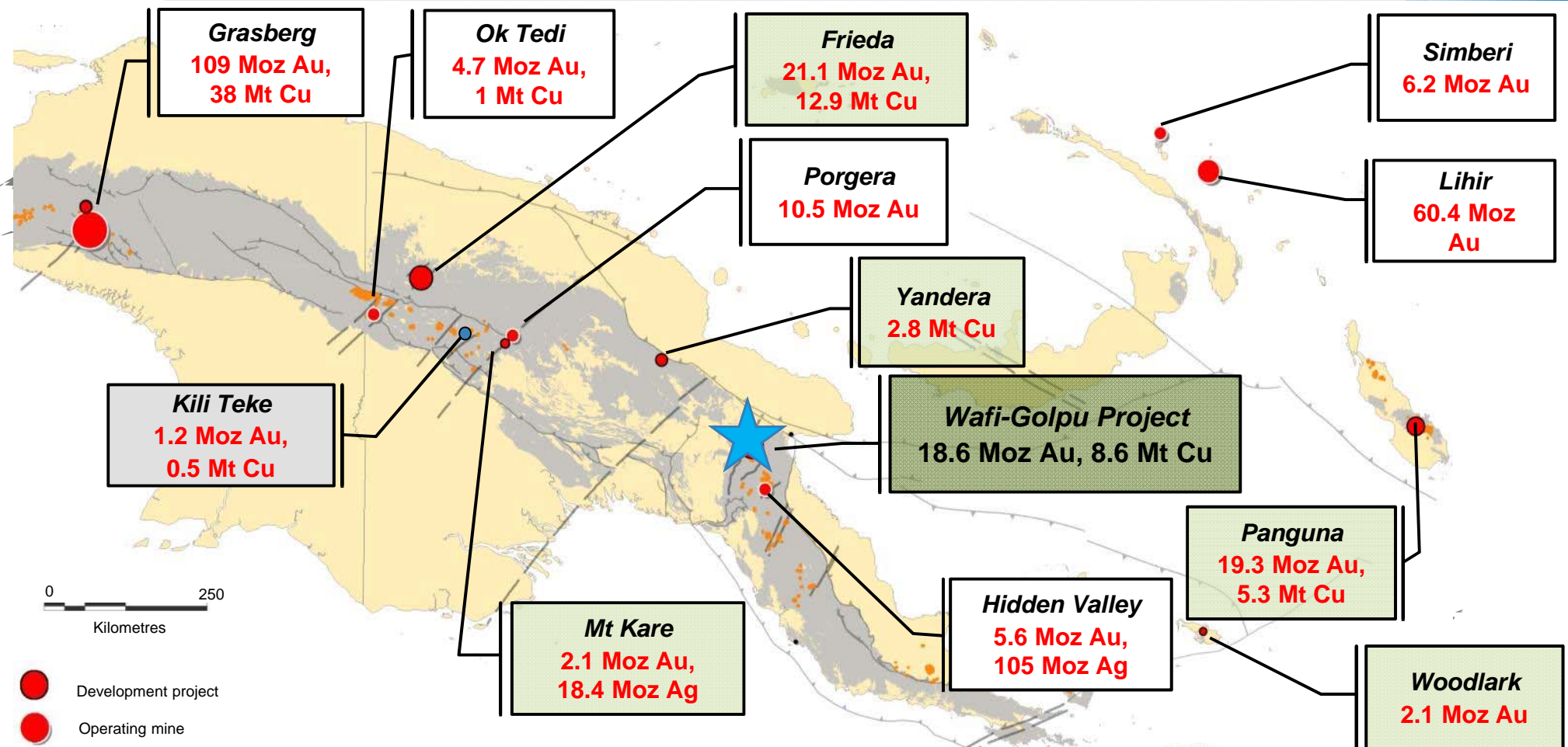
As an Australian company with securities listed on the Australian Securities Exchange (“ASX”), Newcrest is subject to Australian disclosure requirements and standards, including the requirements of the Corporations Act 2001 and the ASX. Investors should note that it is a requirement of the ASX Listing Rules that the reporting of Ore Reserves and Mineral Resources in Australia comply with the 2012 Edition of the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (“JORC Code 2012”) and that Newcrest’s Ore Reserve and Mineral Resource estimates comply with the JORC Code 2012. On 28 November 2014 Newcrest ceased to be a reporting issuer in Canada.

#### **Non-IFRS Financial Information**

Newcrest results are reported under International Financial Reporting Standards (IFRS) including EBIT (earnings before interest, tax and significant items) and EBITDA (earnings before interest, tax, depreciation and amortisation and significant items) which are used to measure segment performance. This report also includes certain non-IFRS financial information including Underlying profit (profit after tax before significant items attributable to owners of the parent company), All-In Sustaining Cost (determined in accordance with the World Gold Council Guidance Note on Non-GAAP Metrics released June 2013), AISC Margin (realised gold price less AISC per ounce sold (where expressed as USD), or realised gold price less AISC per ounce sold divided by realised gold price (where expressed as a %)) Interest Coverage Ratio (EBITDA/Interest payable for the relevant period), Free cash flow (cash flow from operating activities less cash flow related to investing activities), EBITDA margin (EBITDA expressed as a percentage of revenue) and EBIT margin (EBIT expressed as a percentage of revenue). These measures are used internally by management to assess the performance of the business and make decisions on the allocation of resources and are included in this document to provide greater understanding of the underlying performance of Newcrest’s operations. When reviewing business performance, this non-IFRS information should be used in addition to, and not as a replacement of, measures prepared in accordance with IFRS. The non-IFRS information has not been subject to audit or review by Newcrest’s external auditor. Newcrest Group All-In Sustaining Costs will vary from period to period as a result of various factors including production performance, timing of sales, the level of sustaining capital and the relative contribution of each asset.

# PNG, An Exceptional Copper-Gold Country

## Full endowment still to be realised



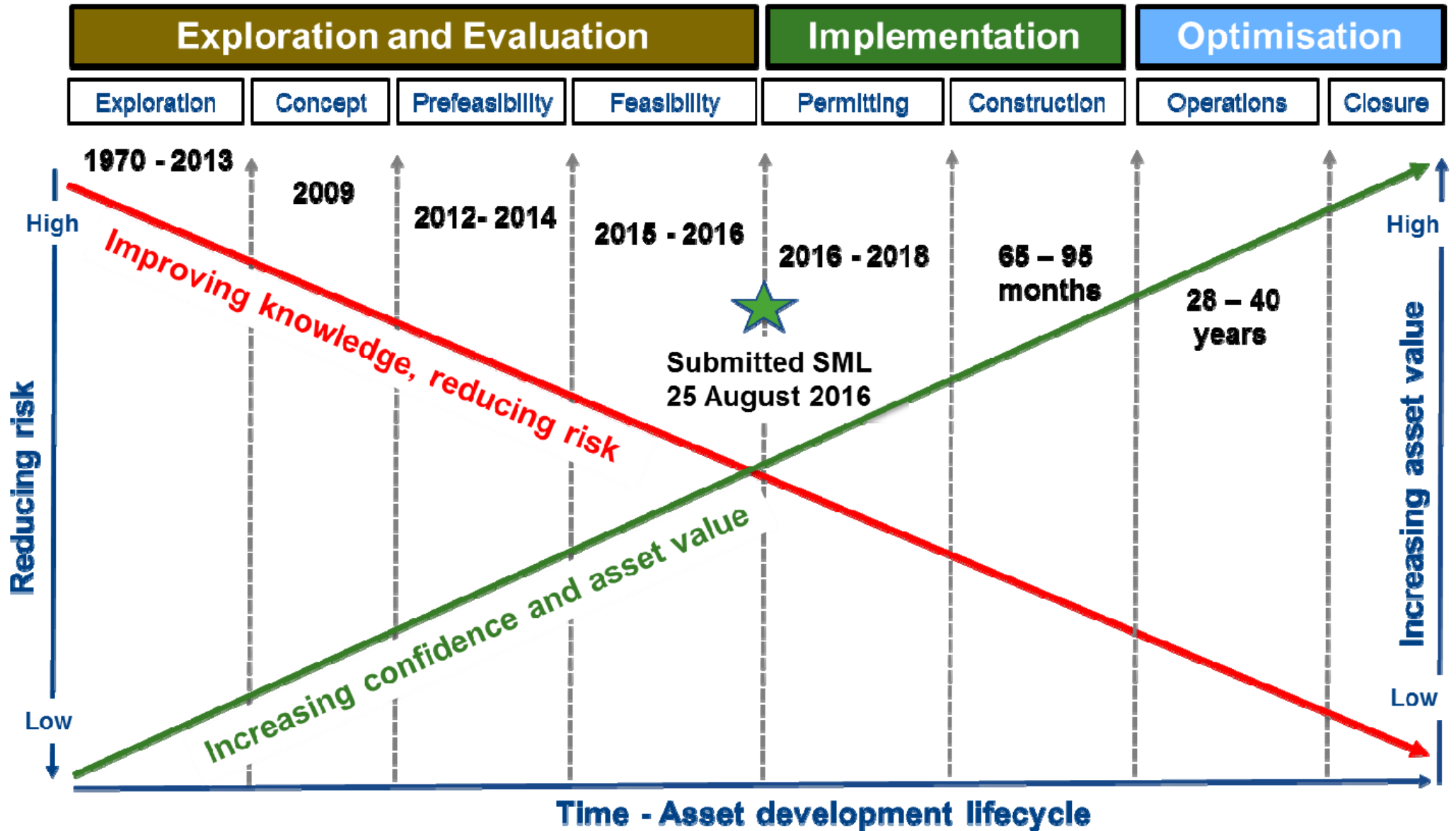
**Papua New Guinea**

- ▶ Significant historic copper and gold producer
- ▶ In excess of 30 Mt Cu and 73 Moz Au in development pipeline
- ▶ Wafi-Golpu Project is a significant component of the development pipeline



# Project Development History

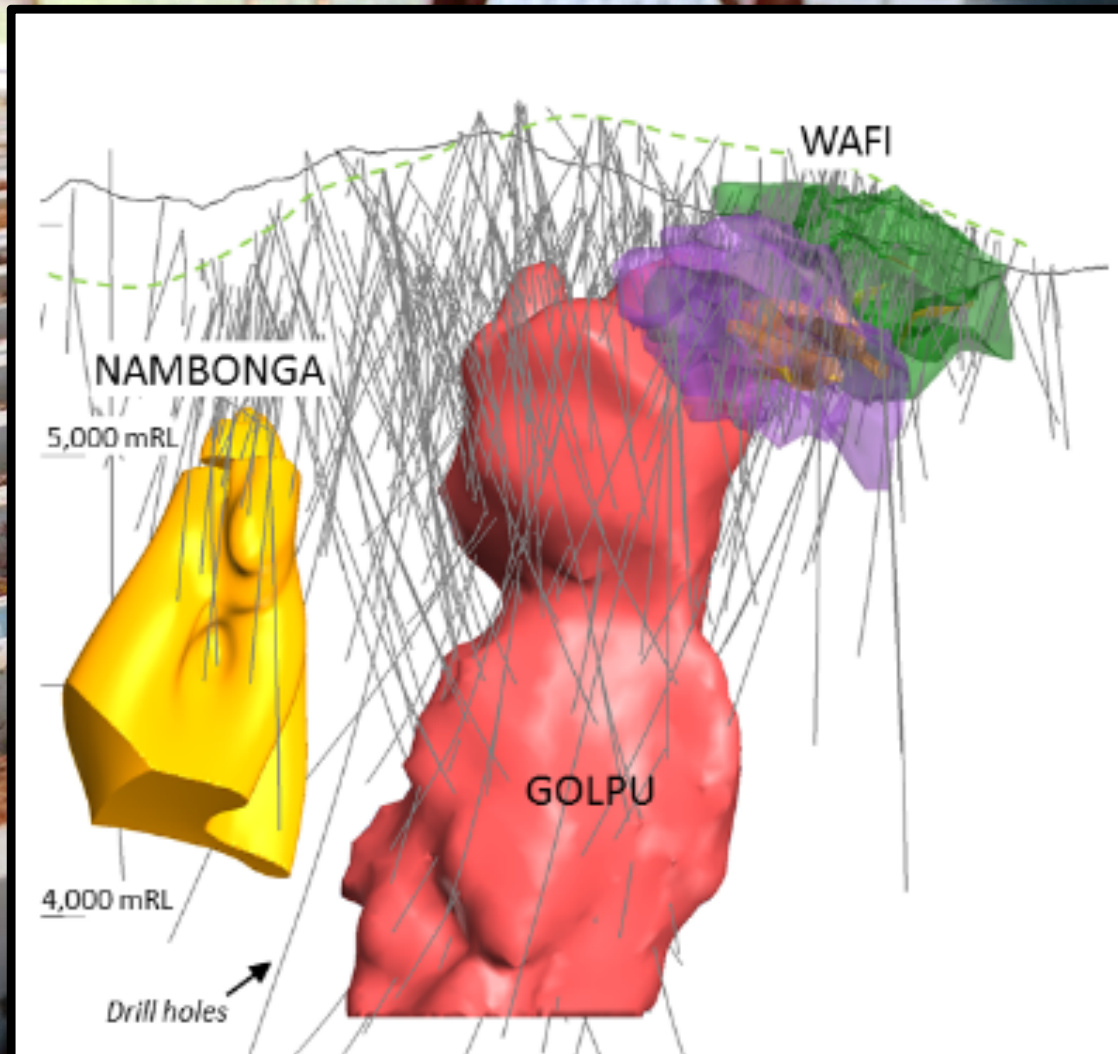
## Realising value





# Mineral Resource

## Economically significant

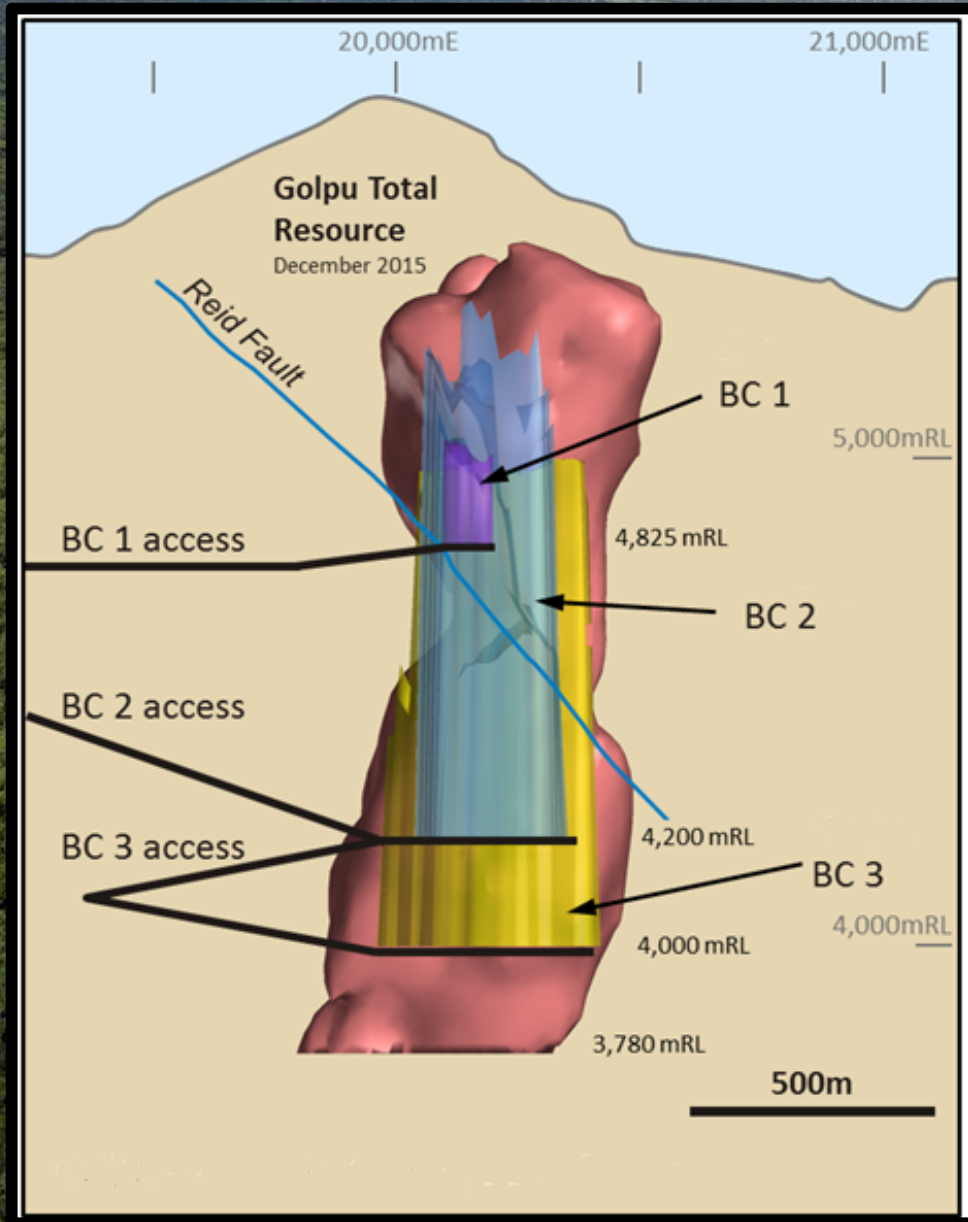


1. For full Resource and Reserve declarations please refer to either [www.harmony.co.za](http://www.harmony.co.za) or to Newcrest's Annual Statement of Mineral Resources and Ore Reserves as at 31 December 2015 at [www.newcrest.com.au](http://www.newcrest.com.au). Resource figures quoted on 100% basis. Data is reported to two significant figures to reflect appropriate precision in the estimate and this may cause some apparent discrepancies in totals.



# Value Proposition

## Multi-generational orebody



Large  
resource

18.6moz gold  
8.6Mt copper

Long mine  
life

28 to ~ 40 years

Low cost  
producer

Copper cash cost  
~US\$0.60/lb

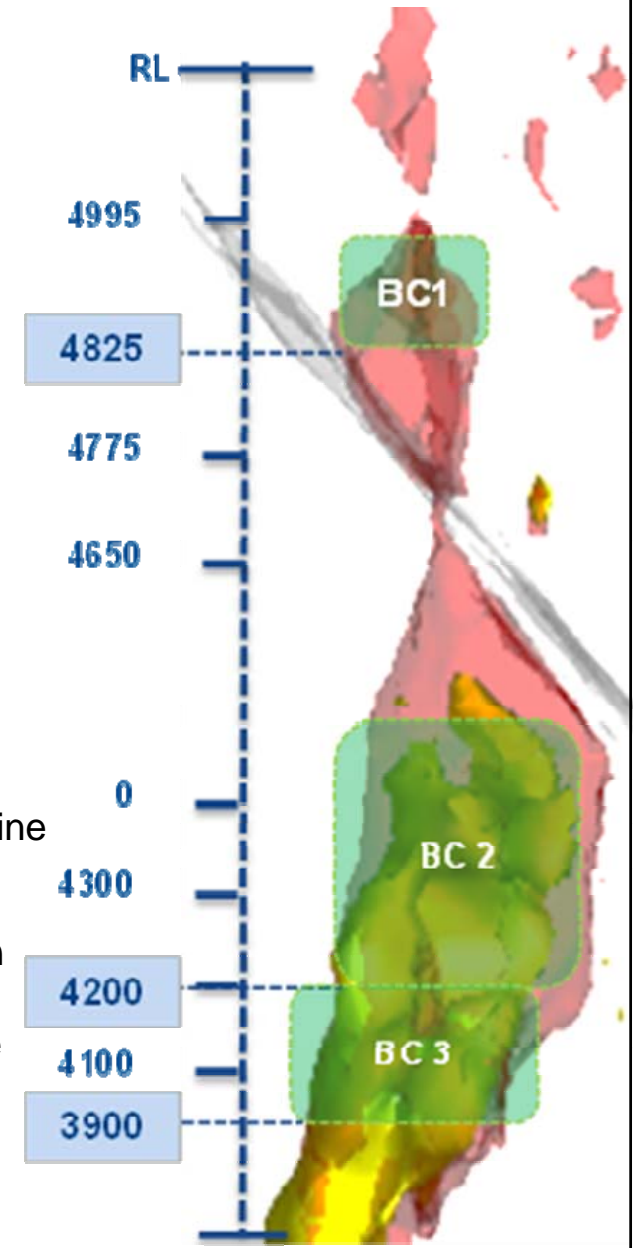
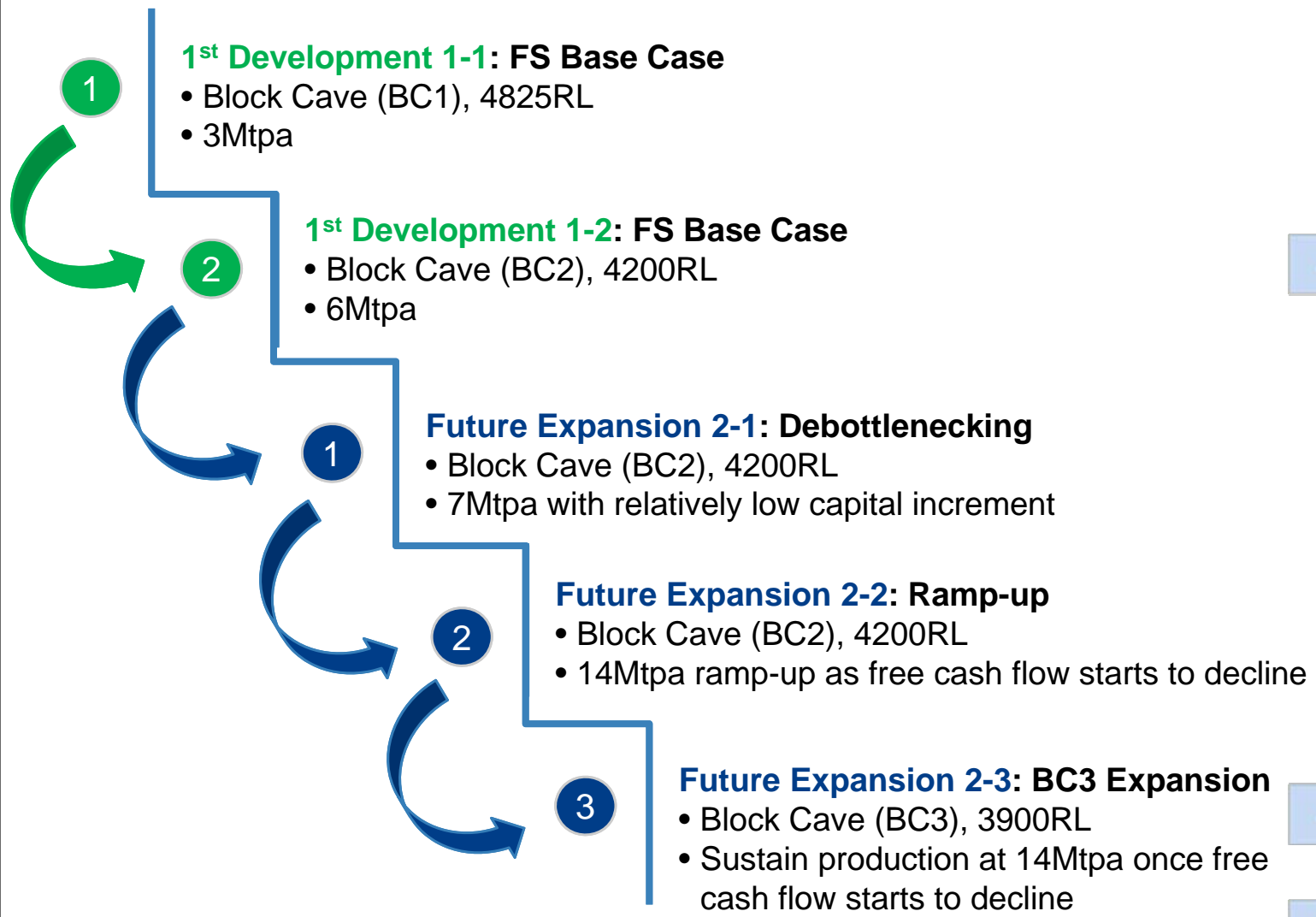
Close to  
infrastructure

65km South West of  
Lae



# Development Strategy

## Multi-staged



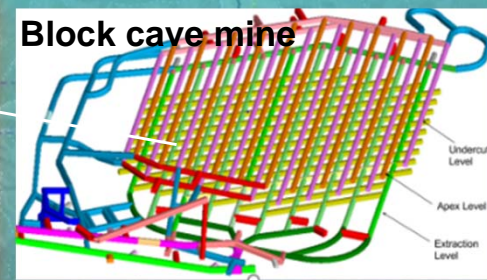
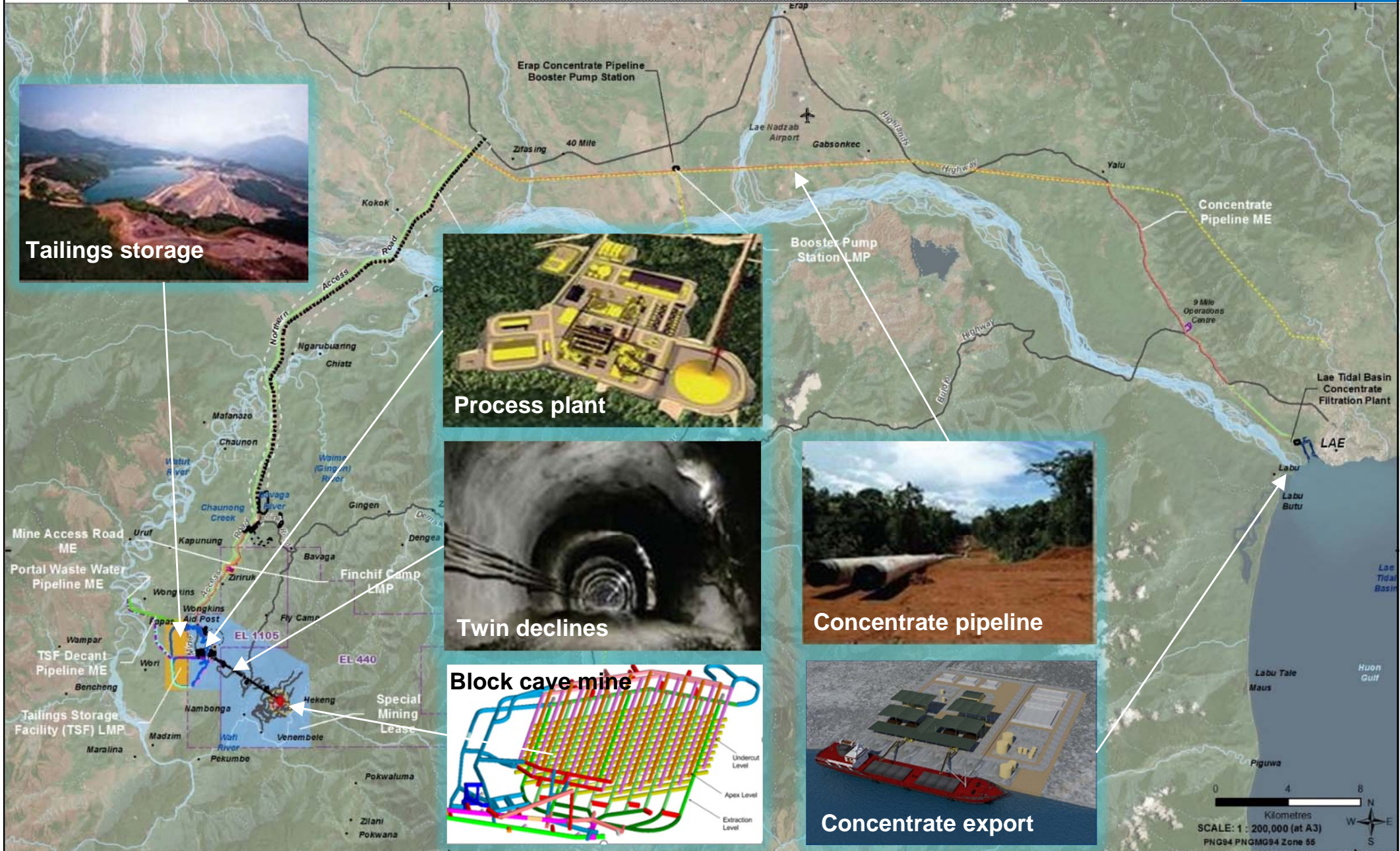
 Feasibility Study (FS)

**8**  Pre-Feasibility Study (PFS)



# Main Project Components

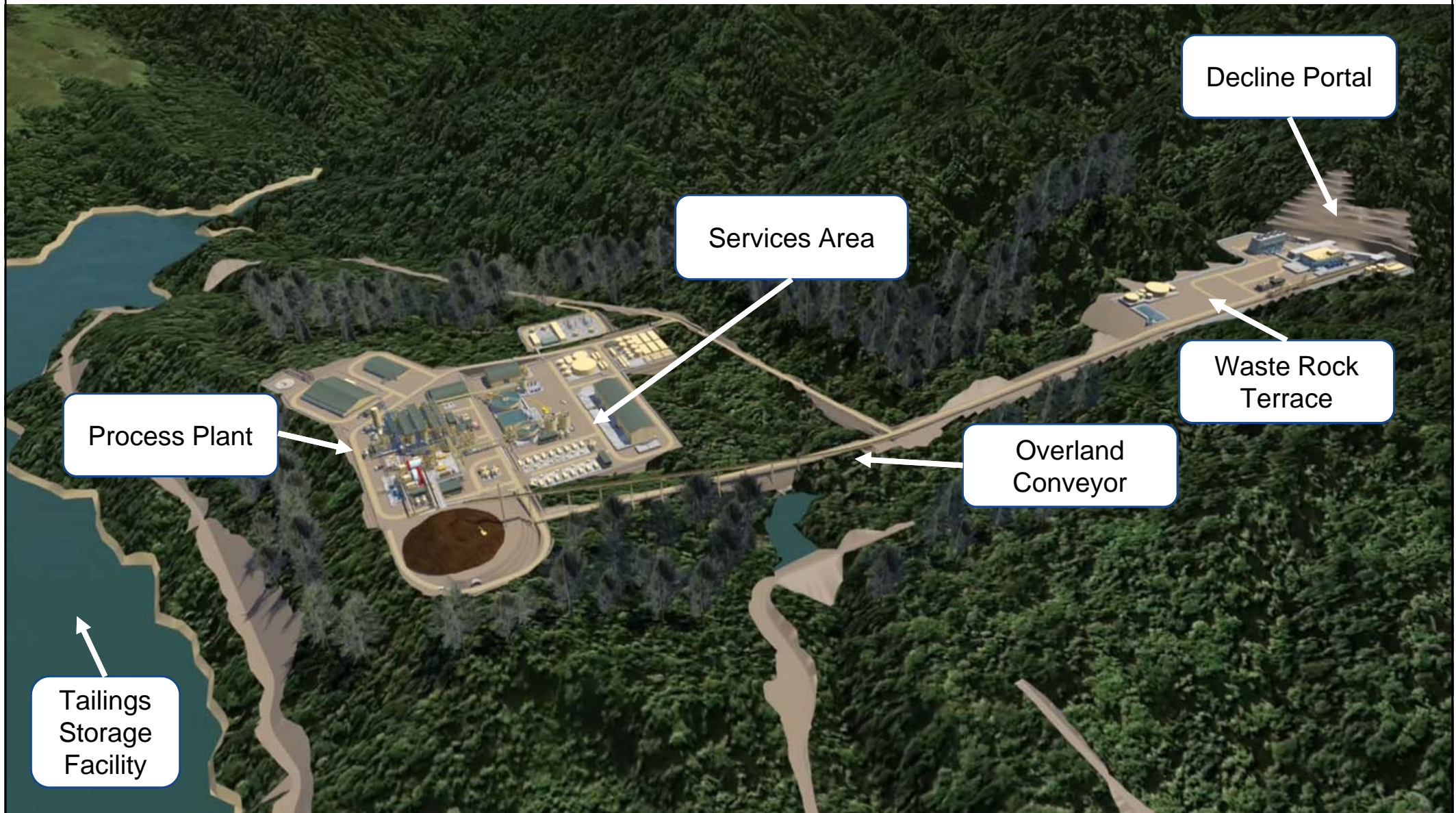
## Mine to port





# On Mine Surface Infrastructure

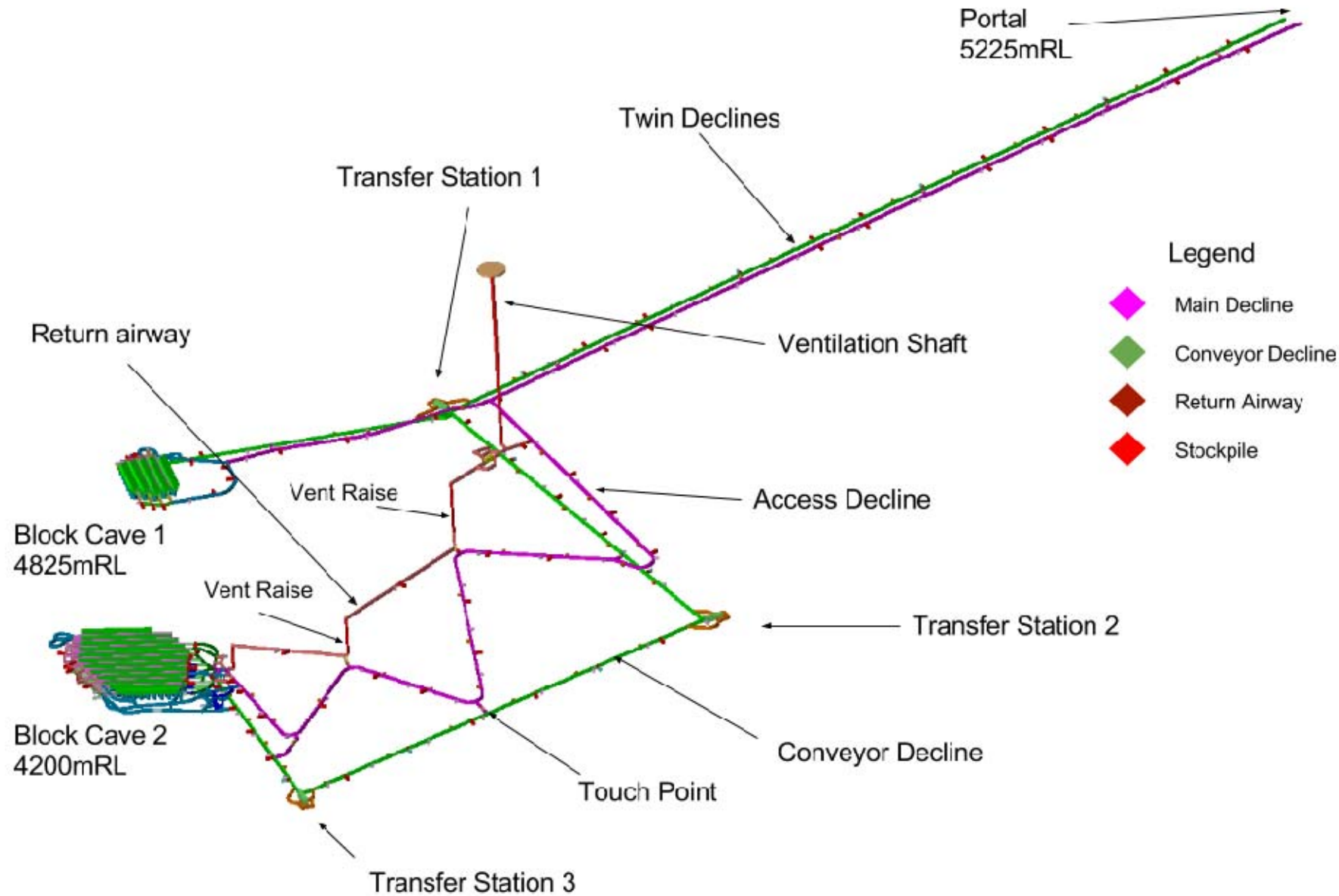
Condensed footprint, low environment impact





# Underground Mine Schematic 1<sup>st</sup> Development

Low risk, low cost, early production



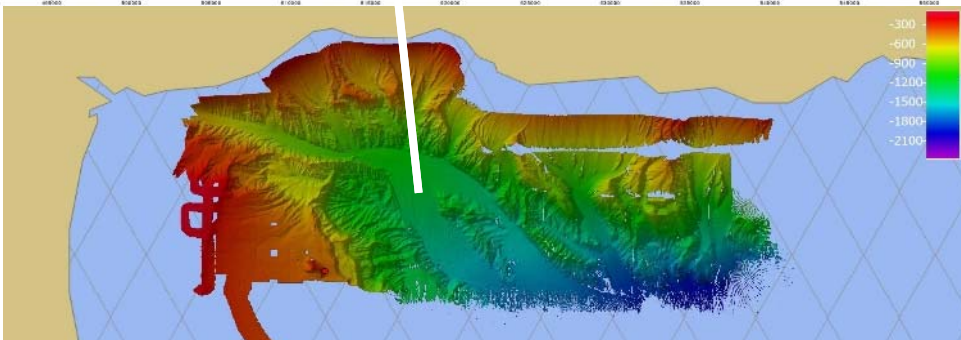
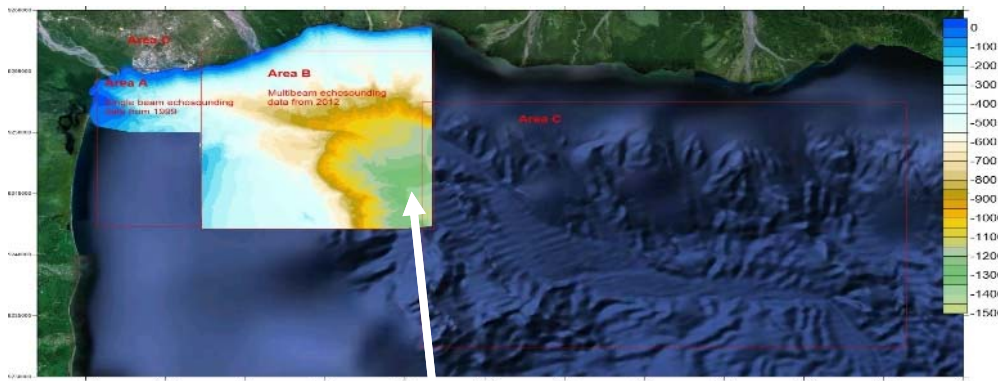


# Tailings Management

## Terrestrial vs Deep Sea Tailings Placement



- Proposed TSF solution subject to further review and ongoing studies
- Deep Sea Tailing Placement data collection and studies commenced
- Terrestrial vs Deep Sea Tailings trade off to be done





# Infrastructure Requirements

Shared use, 3<sup>rd</sup> Party funded



- **Bulk power generation** - reliable and low cost, fundamental to project cash flow forecasts
- **Stable electricity transmission** - secure and well maintained grid infrastructure
- **New access roads** - to the mine site from Highlands Highway
- **Lae airport facilities** – international status, increased volumes (people transport, direct flights)
- **Marine port facilities** – ship berthing for equipment offloading and copper concentrate export



# Ongoing Value Upliftment

Risk reduction, design improvement



**Project Permitting In Progress**

**Improving Investment Case**

**Ongoing data collection**

**Ongoing studies**

**Holistic Risk Mitigation**

**Improving Definition, Execution Planning**



# Current Focus

Risk mitigation, improving technical definition



## Geotechnical interpretation

Near term drilling program underway, followed by data interpretation

## Hydrology

Refining hydrogeological models to improve interpretation

## Tailings Management

Evaluating alternate Terrestrial Storage & Deep Sea Tailings Placement options

## Concentrate Export

Assessing multiple marine port options – Lae Tidal Basin & other

## Bulk Power

On going assessment of power generation and transmission options

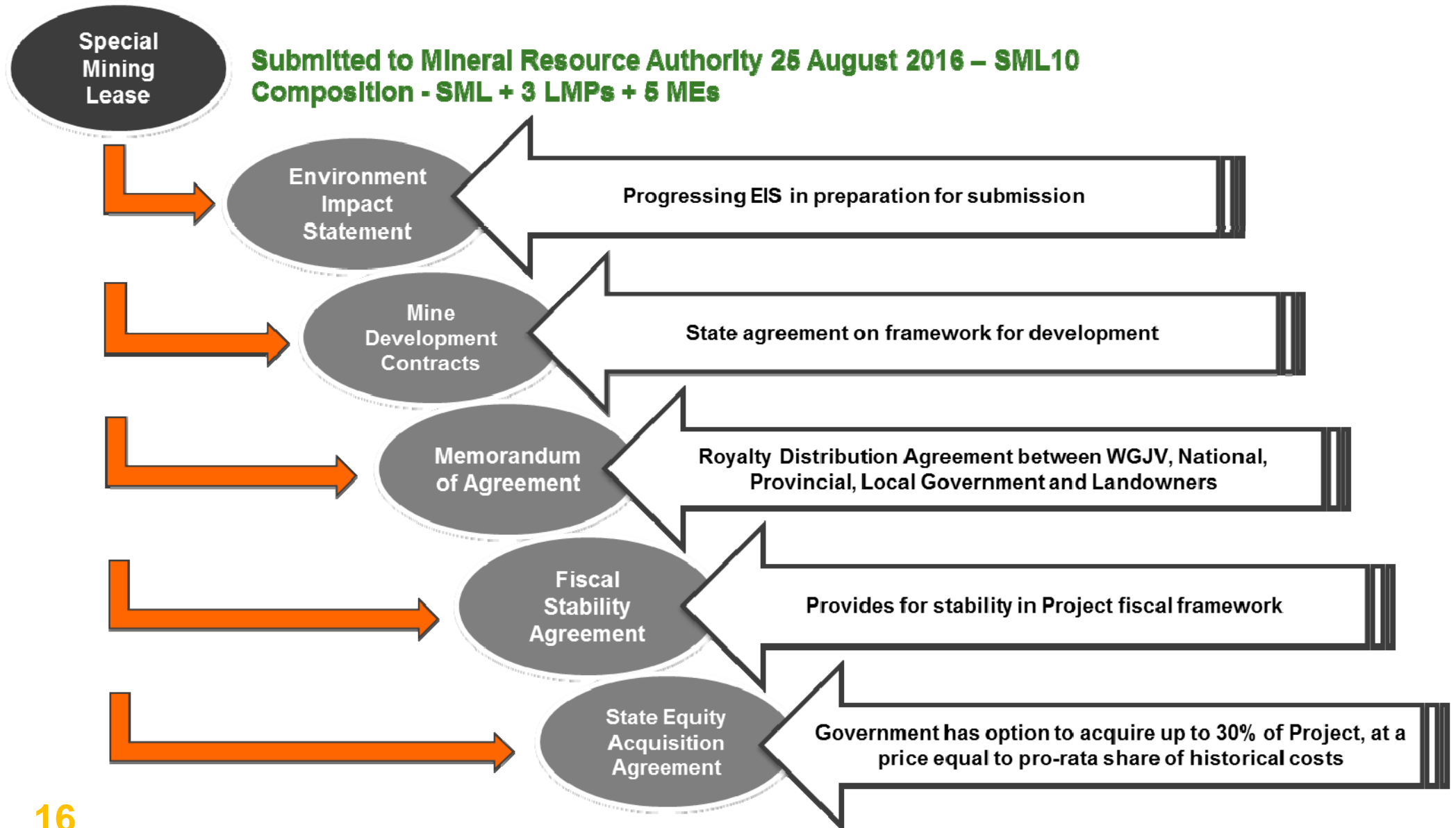
## UG Access Declines

To be progressed once Special Mining Lease, fiscal stability and board approval are obtained



# Project Permitting

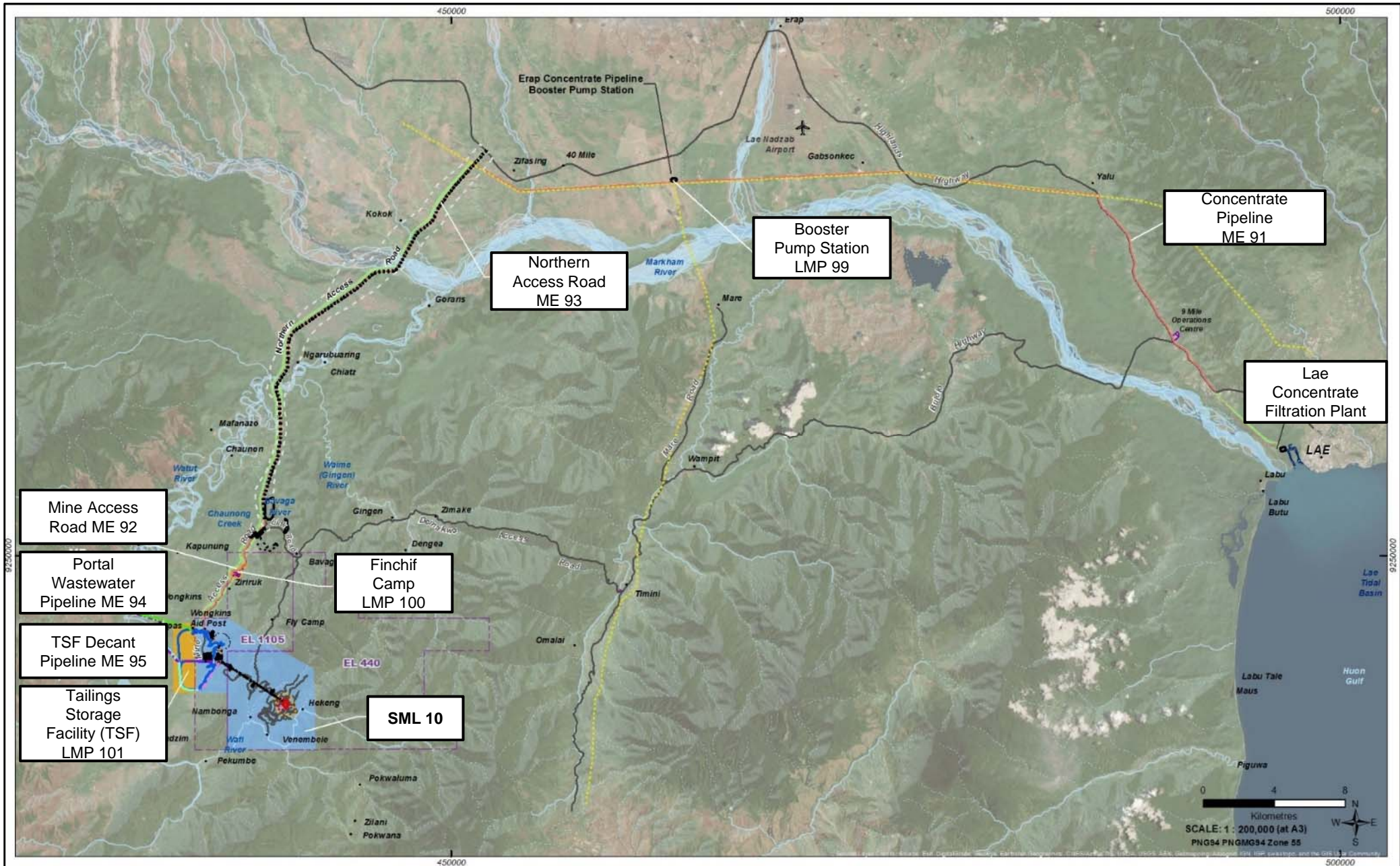
## Early, ongoing engagement





# Project Permitting

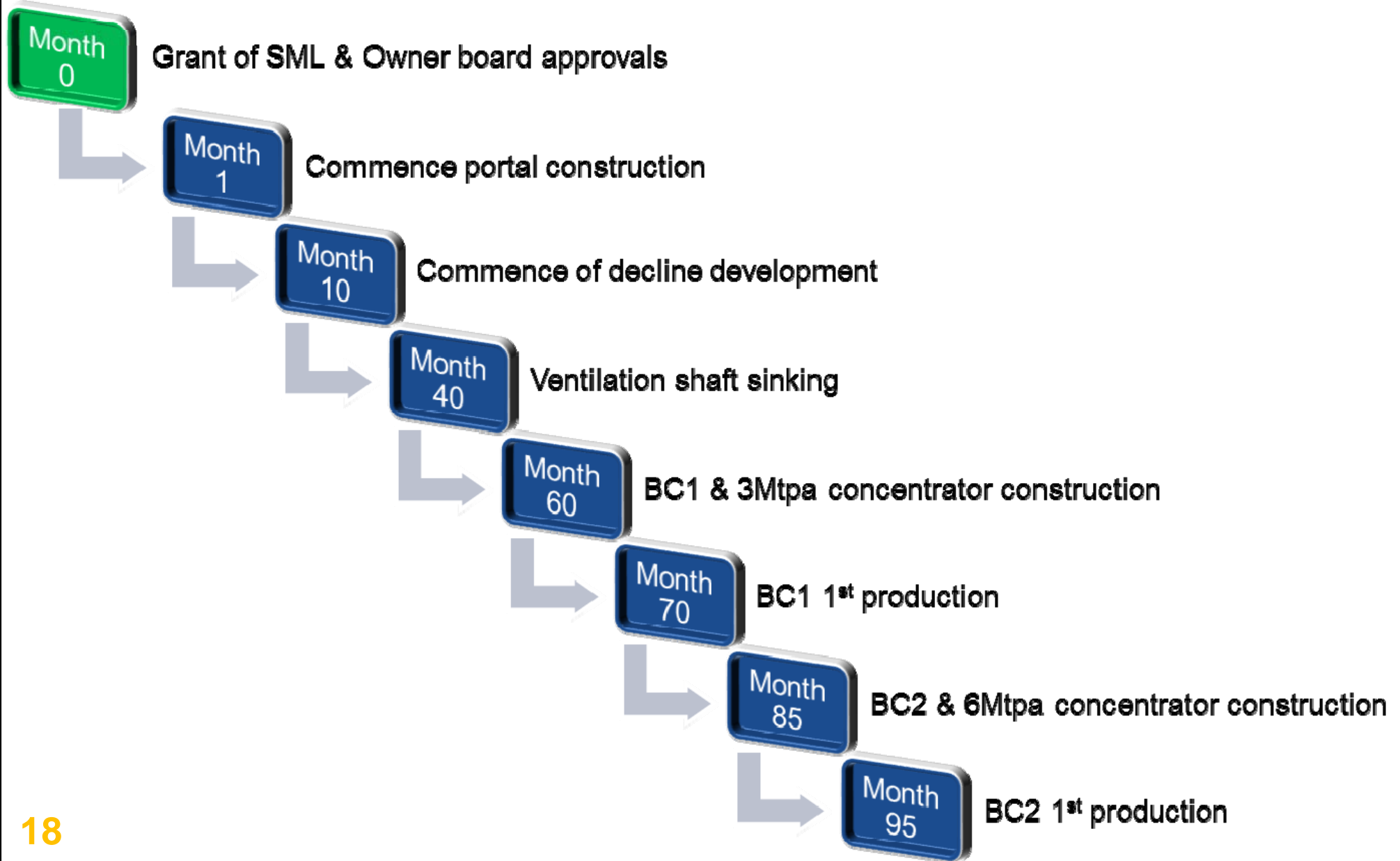
## Project development subject to approvals





# Project Development Timeline

70 months to 1<sup>st</sup> production





# National Content Plan

Critical success factor



## **Workforce Development** (preparing for operations phase)

- Training – tertiary education and trades
- Employment readiness

## **Supplier Development** (construction & operational phase)

- Optimise local procurement opportunity
- Facilitate improving landowner business acumen to increase participation potential

## **Strategic Community Investments** (construction & operational phase)

- Community capacity building – adult literacy & numeracy
- Education and health programs
- Agribusiness – commencing early with cocoa



# Engagement with Our Stakeholders

- Regular community liaison
- Government briefings – Local, Provincial and National
- Project visits by community leaders and government officials
- Regular employee briefings and updates
- Capturing and responding to stakeholder grievances
- WGJV social media presence



# Economic Benefits Summary

Substantial positive economic contribution



| <b>1<sup>st</sup> Development</b> | <b>Benefit Summary</b>                       |
|-----------------------------------|--|
| Projected GDP growth (real)       | K36 billion, equiv. to 22% of PNGs 2015 GDP  |
| GDP increase (real)               | Morobe Province - K33.7 billion              |
| Income (real)                     | Morobe Province - K5.4 billion               |
| Taxes, Royalties and Levies       | K8 billion (real), or K287 million/year      |
| Employment (total)                | 1,420 (construction), 600 (operations)       |
| GoPng 30% equity participation    | K8.2 billion post tax ungeared cashflow      |
| <b>Future Expansion</b>           | <b>Benefit Summary</b>                       |
| Taxes, Royalties and Levies       | K18.3 billion (real) ), or K469 million/year |
| GoPng 30% equity participation    | K16 billion post tax ungeared cashflow       |

Forecast dependent on – fiscal terms, commodity market, operating conditions



# Project Success Dependencies

## Regulatory and fiscal stability



- Regulatory and fiscal stability
- Sustained Landowner and community support
- Timely or earlier receipt of GoPNG Permits
- Leveraging PNG capability, service providers, local employment
- Timely provision of GoPNG/3<sup>rd</sup> party infrastructure in support of a mining operation
  - Bulk Power & Transmission
  - Port facilities for concentrate export
  - Road Access



# Closing Summary

## Next major resource project



- **Attractive orebody** – Large resource, long life & low cost
- **Subject to ongoing study** – Work continues on Feasibility Study and Prefeasibility Studies in following areas;
  - Tailings options
  - Geotechnical drilling of orebody
  - Hydrogeology
  - Port & power solutions
- **Opportunities to optimise** – Apply learnings from Newcrest block cave mines and others world wide
- **Remains work in progress** – Subject to suitable fiscal stability agreement with PNG agreement, completion of feasibility study and board approval





# EM TASOL – DANKGE FARING

Any questions?

You can email me at [bryan.bailie@wafigolpujv.com](mailto:bryan.bailie@wafigolpujv.com)