



Chapter 24

Study Team

DISCLAIMER

This disclaimer applies to and governs the disclosure and use of this Environmental Impact Statement (“EIS”), and by reading, using or relying on any part(s) of the EIS you accept this disclaimer in full.

This Environmental Impact Statement, including the Executive Summary, and all chapters of and attachments and appendices to it and all drawings, plans, models, designs, specifications, reports, photographs, surveys, calculations and other data and information in any format contained and/or referenced in it, is together with this disclaimer referred to as the “EIS”.

Purpose of EIS

The EIS has been prepared by, for and on behalf of Wafi Mining Limited and Newcrest PNG 2 Limited (together the “**WGJV Participants**”), being the participants in the Wafi-Golpu Joint Venture (“**WGJV**”) and the registered holders of exploration licences EL 440 and EL1105, for the sole purpose of an application (the “**Permit Application**”) by them for environmental approval under the Environment Act 2000 (the “**Act**”) for the proposed construction, operation and (ultimately) closure of an underground copper-gold mine and associated ore processing, concentrate transport and handling, power generation, water and tailings management, and related support facilities and services (the “**Project**”) in Morobe Province, Independent State of Papua New Guinea. The EIS was prepared with input from consultants engaged by the WGJV Participants and/or their related bodies corporate (“**Consultants**”).

The Permit Application is to be lodged with the Conservation and Environment Protection Authority (“**CEPA**”), Independent State of Papua New Guinea.

Ownership and Copyright

The EIS is the sole property of the WGJV Participants, who reserve and assert all proprietary and copyright ©2018 interests.

Reliance and Use

The EIS is intended and will be made available to CEPA, for review by CEPA and other applicable agencies of the Government of the Independent State of Papua New Guinea (“**Authorised Agencies**”), for the purpose of considering and assessing the Permit Application in accordance with the Act (“**Authorised Purpose**”), and for no other purpose whatsoever.

The EIS shall not be used or relied upon for any purpose other than the Authorised Purpose, unless express written approval is given in advance by the WGJV Participants.

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This disclaimer must accompany every copy of the EIS.

The EIS is meant to be read as a whole, and any part of it should not be read or relied upon out of context.

Limits on investigation and information

The EIS is based in part on information not within the control of either the WGJV Participants or the Consultants. While the WGJV Participants and Consultants believe that the information contained in the EIS should be reliable under the conditions and subject to the limitations set forth in the EIS, they do not guarantee the accuracy of that information.

No Representations or Warranties

While the WGJV Participants, their Related Bodies Corporate and Consultants believe that the information (including any opinions, forecasts or projections) contained in the EIS should be reliable under the conditions and subject to the limitations set out therein, and provide such information in good faith, they make no warranty, guarantee or promise, express or implied, that any of the information will be correct, accurate, complete or up to date, nor that such information will remain unchanged after the date of issue of the EIS to CEPA, nor that any forecasts or projections will be realised. Actual outcomes may vary materially and adversely from projected outcomes.

The use of the EIS shall be at the user’s sole risk absolutely and in all respects. Without limitation to the foregoing, and to the maximum extent permitted by applicable law, the WGJV Participants, their Related Bodies Corporate and Consultants:

- do not accept any responsibility, and disclaim all liability whatsoever, for any loss, cost, expense or damage (howsoever arising, including in contract, tort (including negligence) and for breach of statutory duty) that any person or entity may suffer or incur caused by or resulting from any use of or reliance on the EIS or the information contained therein, or any inaccuracies, misstatements, misrepresentations, errors or omissions in its content, or on any other document or information supplied by the WGJV Participants to any Authorised Agency at any time in connection with the Authorised Agency’s review of the EIS; and
- expressly disclaim any liability for any consequential, special, contingent or penal damages whatsoever.

The basis of the Consultants’ engagement is that the Consultants’ liability, whether under the law of contract, tort, statute, equity or otherwise, is limited as set out in the terms of their engagement with the WGJV Participants and/or their related bodies corporate.

Disclosure for Authorised Purpose

The WGJV Participants acknowledge and agree that, for the Authorised Purpose, the EIS may be:

- copied, reproduced and reprinted;
- published or disclosed in whole or in part, including being made available to the general public in accordance with section 55 of the Act. All publications and disclosures are subject to this disclaimer.

Development of Project subject to Approvals, Further Studies and Market and Operating Conditions

Any future development of the Project is subject to further studies, completion of statutory processes, receipt of all necessary or desirable Papua New Guinea Government and WGJV Participant approvals, and market and operating conditions.

Engineering design and other studies are continuing and aspects of the proposed Project design and timetable may change.

NEWCREST MINING LIMITED DISCLAIMER

Newcrest Mining Limited (“**Newcrest**”) is the ultimate holding company of Newcrest PNG 2 Limited and any reference below to “Newcrest” or the “Company” includes both Newcrest Mining Limited and Newcrest PNG 2 Limited.

Forward Looking Statements

The EIS includes forward looking statements. Forward looking statements can generally be identified by the use of words such as “may”, “will”, “expect”, “intend”, “plan”, “estimate”, “anticipate”, “continue”, “outlook” 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. The Company continues to distinguish between outlook and guidance. Guidance statements relate to the current financial year. Outlook statements relate to years subsequent to the current financial year.

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 statements in this EIS. 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’s good faith assumptions as 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 will prove to be correct. There may be other factors that could cause actual results or events not to be as anticipated, and many events are beyond the reasonable control of the Company. Readers are cautioned not to place undue reliance on forward looking statements. Forward looking statements in the EIS speak only at the date of issue. Except as required by applicable laws or regulations, 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 assumptions on which any such statement is based.

Non-IFRS Financial Information

Newcrest results are reported under International Financial Reporting Standards (IFRS) including EBIT and EBITDA. The EIS also includes non-IFRS 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 the EIS to provide greater understanding of the underlying performance of Newcrest's operations. The non-IFRS information has not been subject to audit or review by Newcrest's external auditor and should be used in addition to IFRS information.

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 (the JORC Code) and that Newcrest's Ore Reserve and Mineral Resource estimates comply with the JORC Code.

Competent Person's Statement

The information in the EIS 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 2017 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.

HARMONY GOLD MINING COMPANY LIMITED DISCLAIMER

Harmony Gold Mining Company Limited ("Harmony") is the ultimate holding company of Wafi Mining Limited and any reference below to "Harmony" or the "Company" includes both Harmony Gold Mining Company Limited and Wafi Mining 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 EIS and the exhibits to this EIS, 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 these materials. 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 EIS 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 Harmony Gold Mining Company Limited and a wholly-owned subsidiary of Newcrest Mining Limited.

The information in the EIS 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 2017 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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24. STUDY TEAM

24.1. Constitution of the Environmental Impact Statement Study Team

The preparation of this environmental impact statement (EIS) was a significant undertaking and involved a large multi-disciplinary team for a period of over four years.

The Study Team for this EIS comprised members of the WGJV Project Team, Coffey Environments Australia Pty Ltd (Coffey) and various other technical specialists and consultants.

Coffey was commissioned by the WGJV Participants to assist the WGJV Project Team in the preparation of the EIS. The EIS built on work previously completed by Advisian between 2013 and 2016. In addition, both Coffey and Advisian engaged a number of technical specialists.

The membership of the study team is listed in Table 24.1 (for the WGJV Project Team), Table 24.2 (for the Coffey and Advisian teams) and Table 24.3 (for technical specialists and consultants).

Table 24.1: The WGJV Project team

EIS Role	WGJV Project Team Member
Executive Project Director	B. Baillie
General Manager Engineering Construction	L. Cox
Head of External Affairs	D. Wissink
General Manager Social Performance and External Affairs	Dr. G. Batterham
Permitting and Compliance Manager	G. Hamilton
Environment Manager	S. Watson (current)
	M. Jones (former)
	K. Wicks (former)
Social and Cultural Heritage Manager	J. Chenery (current)
	J. Reid (former)
DSTP Studies Manager	A. Bevan
Marine Studies Adviser to WGJV	Dr D. Gwyther
Principal Hydrogeologist	A. Beaulavon
Lead Mechanical Engineer	R. Pope
Project Manager Bulk Power and Transmission	P. Hoets
Supply Chain and Logistics Manager	K. Rock
Area Manager – Surface Works	D. Brearley
Project Director Assistant	K. Wiles
Field Environmental Advisors	D. Bola
	I. Haguna
	A. Levi
Manager – Community Affairs and Lands	D. Masani

EIS Role	WGJV Project Team Member
Community Affairs and Lands representatives	A. Maie
	J. Maran
	D. Kumgi
	T. Osikore
	S. Luke
GIS Coordinator	S. Akike

Table 24.2: Coffey and Advisian teams

EIS Role	Team Member
Coffey	
Project Director	D. Moriarty
Project Manager	J. Reid
Assistant Project Manager	T. Wiltshire
Strategic Advisors	S. Jones
	B. Napier
	L. Wall
Onshore Study Managers	Dr. M. Sale
	Dr. M. Haywood
Offshore Study Manager	T. Wood
Socioeconomic Study Manager	Dr. A. Kung (current)
	C. Mahoney (former)
GIS Manager	G. Young
EIS team members	J. Caine
	R. Chaplin
	C. Choudhury
	M. Gairo
	E. Good
	L. Griffin
	G. Heath
	R. Heath
	R. Howatt
	I. Kielbaska
	T. Latham
	L. Legra
	G. Maliaki
	M. Murtagh
	J. Oram
I. Steward	
P. Vidler	

EIS Role	Team Member
	A. Yates
Advisian	
Technical Director	T. Graham
Project Director	S. Wakefield
Project Manager	B. Mitchell
EIS team members	B. Boylson
	S. Brown
	T. Judd
	D. von Rabenau
	S. Wu
GIS Manager	K. Maxwell

Table 24.3: Technical specialists

Study or Plan	Technical Specialists
Technical Studies	
Air Quality and Greenhouse Gas	SLR Consulting
Noise and Vibration	
Terrestrial Ecology	Biodiversity Assessment and Management (BAAM)
	Professor Osia Gideon (Lae University of Technology)
	Coffey
Groundwater	Coffey
	Piteau Associates South Africa
Surface Water	Piteau Associates South Africa
	BMT WBM
	EnviroGulf Consulting
	Advisian
	Hydrobiology
Freshwater Aquatic Ecology	BMT WBM
	EnviroGulf Consulting
	Waterbug Company
	Coffey
	Advisian
Mine Material Geochemistry	SRK Consulting
Water Management Assessment	Advisian
	Delta-H
	Highlands Hydrology
	Solution [H+]

Study or Plan	Technical Specialists
	Piteau Associates South Africa
Oceanography, Upwelling and Sedimentology	IHAConsult (Ian Hargreaves & Associates) GDA Consult
Riverine Sediment Input (Huon Gulf)	IHAConsult (Ian Hargreaves & Associates) GDA Consult
Physical Behaviour of Tailings and Solids in Seawater	IHAConsult (Ian Hargreaves & Associates) GDA Consult
	Commonwealth Scientific and Industrial Research Organisation (CSIRO)
Chemical and Ecotoxicology Characterisation of Tailings	IHAConsult (Ian Hargreaves & Associates) Commonwealth Scientific and Industrial Research Organisation (CSIRO)
Numerical Modelling of Tailings	TetraTech EBA
Deep Sea Tailings Placement Impact Assessment	Coffey EnviroGulf Consulting
Fisheries and Marine Resource Use	EnviroGulf Consulting
Nearshore Marine	Coffey TetraTech EBA Dr John H. Moverley Advisian
Deep Slope and Pelagic Fish	Marscco Coffey
Zooplankton and Micronekton	Marscco Dr Kerrie Swadling Coffey
Deep-Sea Benthic Video Characterisation	Coffey
Ocean Floor Sediment and Benthic Biota	IHAConsult (Ian Hargreaves & Associates) Dr John H. Moverley
Socioeconomic Impact Assessment	Coffey
Health Risk Assessment	Dempsey Toxicology and Risk Assessment Centre for Environmental Health Coffey
Cultural Heritage Baseline and Impact Assessment	Andrew Long and Associates Social Research Institute Ltd
DSTP Bioaccumulation Study	Tetra Tech
Management Plans	
Environmental Management Plan	Coffey Advisian
Social Management Plan	WGJV Coffey
Cultural Heritage Management Plan	WGJV

Study or Plan	Technical Specialists
	Coffey
Conceptual Closure and Rehabilitation Management Plan	Coffey
	SRK Consulting

24.2. Representatives of Wafi Golpu Joint Venture Participants

The WGJV Participants appointed the following persons (Table 24.4) as their representatives to liaise with the Study Team and provide WGJV Participant guidance and feedback to the Study Team during the course of the study.

These persons were employees or contractors of the parent companies (or their Related Bodies Corporate) of the WGJV Participants, and were not themselves members of the Study Team.

Table 24.4: WGJV Participants' Representatives

EIS Role	Team Member	WGJV Participant
WGJV Participants' representatives	Dr. G. Hancock	Newcrest PNG 2 Limited
	Dr. M. Fulcher	
	B. Sands	
	A. Chalmers	
	C. de Villiers	Wafi Mining Limited
	P. McLatchie	
	Dr. M. Rau	
	R. Wills	
	G. Day	