

# GLOSSARY OF TERMS



TERM	DEFINITION
\$	United States dollar
A\$	Australian dollar
ADRs	American depositary receipts
Ag	Silver
AMCU	Association of Mineworkers and Construction Union
Au	Gold
BEE	Black economic empowerment
bn	Billion
By-products	Any products emanating from the core process of producing gold, including silver and uranium in South Africa and copper, silver and molybdenum in Papua New Guinea
Cash costs	Total cash costs include site costs for all mining, processing and administration, reduced by contributions from by-products and include royalties and production taxes. Depreciation, rehabilitation, corporate administration, retrenchment, capital and exploration costs are excluded. Total cash costs per ounce are attributable total cash costs divided by attributable ounces of gold produced
CDP	A not-for-profit entity that operates a global disclosure system for investors, companies, cities, states and regions to manage their environmental impacts, particularly in relation to climate change, water and forests
CEO	Chief executive officer
CO <sub>2</sub>	Carbon dioxide: total emissions calculated as direct emissions generated from petrol and diesel consumption and indirect emissions generated from electricity consumption (expressed in tonnes)
CO <sub>2</sub> e	Carbon dioxide equivalent: measurement of the impact of greenhouse gases in terms of the equivalent amount of carbon dioxide that would create global warming
COPA	Community of Practice for Adoption: a Mining Industry Occupational Safety and Health (MOSH) initiative that brings a group of volunteers together to solve challenges in implementing a Triggered Action Response Plan (TARP) as well as continuous performance improvements
<sup>1</sup> Critical skills training	<p>The following disciplines are defined as core skills:</p> <ul style="list-style-type: none"> <li>• Mining</li> <li>• Engineering</li> <li>• Ore reserves</li> <li>• Metallurgy</li> </ul> <p>The critical skills within these disciplines are:</p> <ul style="list-style-type: none"> <li>• Mining – general manager, mine manager and mining manager</li> <li>• Engineering – engineers and junior engineers</li> <li>• Ore reserves – ore reserve management; head of department – geology, survey and planning; section geologist/senior geologist; section surveyor/mine surveyor/senior shaft surveyor; section geostatistician/senior geostatistician (geological technician); section planner/senior planner; surveyors/geotechs</li> <li>• Metallurgy – plant manager and senior metallurgist</li> </ul>
Cu	Copper
Cyanide Code	International Cyanide Management Code for the Manufacture, Transport and Use of Cyanide in the Production of Gold: aims to promote responsible management of cyanide used in gold mining, to protect human health and to reduce potential for environmental impacts
dB(A)	A-weighted decibel: unit of measurement of noise perceived by the human ear (low frequency noises underestimated)
Depletion	Decrease in quantity of ore in a deposit or property due to extraction or production
Development	Process of accessing an ore body through shafts or tunnelling in underground mining

# GLOSSARY OF TERMS CONTINUED

TERM	DEFINITION
<b>Discontinued operation</b>	A component of an entity that has been disposed of or abandoned or classified as held for sale until conditions precedent to the sale have been fulfilled
<b>EBITDA</b>	Earnings before interest, tax, depreciation and amortisation
<b>E-learning</b>	Education using technology (computers, cell phones and the Internet)
<b><sup>1</sup> Electricity purchased (kWh)</b>	Electricity purchased from the supplier during the reporting period includes all electricity purchased by source (fossil fuel, nuclear, hydroelectric, wind and solar, among others, but excludes electricity generated by an operation as well as electricity supplied to third parties (such as mine hostels/accommodation where cost is recovered from employees, communities and businesses)
<b>Employment equity in management in South Africa (%)</b>	<p>Employment equity is reported as a number and percentage of the total number of historically disadvantaged South Africans employed per band.</p> <p>For historically disadvantaged South Africans we refer to black people (African, coloured and Indian males and females) and white women. White males and foreigners (including those naturalised after the Department of Trade and Industry code date on March 1994) are excluded.</p> <p>Employment equity is measured in the bands C, D, E and F where:</p> <ul style="list-style-type: none"> <li>• Top management (F band)</li> <li>• Senior management (E band)</li> <li>• Professionally qualified and experienced specialists/middle management (D band)</li> <li>• Skilled technical and academic qualified/junior management/supervisors/foremen/superintendents (C band)</li> <li>• Core and critical (C-E management levels in core disciplines)</li> </ul>
<b>Energy consumption</b>	Energy use calculated from electricity purchased and diesel and petrol consumed during the reporting period
<b>Environmental incidents – levels 3 to 5</b>	A level 3 incident may result in either mitigation costs of between R250 000 and R500 000 or serious medium-term environmental effects, breaches in legislation and serious adverse media attention. A level 4 incident has a mitigation cost of more than R1 million with the possibility of significant fines or prosecution. A level 5 incident carries mitigation costs exceeding R3 million and a very significant impact on highly valued species, habitat or ecosystem with potential for international condemnation and possible director liability.
<b>ESCO</b>	Energy saving company
<b>ESG</b>	Environmental, social and governance
<b>FIFR</b>	Fatal injury frequency rate: a work-related injury resulting in loss of life, calculated as actual fatal injuries x 1 000 000/hours worked (calculation for hours throughout Harmony for consistency to assume every person works nine hours per shift: actual shifts worked x 9)
<b>Form 20-F</b>	Annual report filed with the United States Securities and Exchange Commission in compliance with the listing requirements of the New York Stock Exchange
<b>FTSE Russell</b>	The FTSE and Russell indexes joined to provide global benchmarking, analytics and data solutions needed for investment decisions
<b>FY</b>	Financial year
<b>g</b>	gram
<b>Gold produced</b>	Refined gold derived from the mining process, measured in ounces or kilograms in saleable form
<b>Grade</b>	Quantity of gold contained in a unit weight of gold-bearing material, generally expressed in ounces per short ton of ore (oz/t) or gram per metric tonne (g/t)
<b>GRI</b>	Global Reporting Initiative
<b>GSSA</b>	Geological Society of South Africa
<b>GWh</b>	Gigawatt hour
<b>ha</b>	Hectare
<b>Historically disadvantaged South Africans</b>	For historically disadvantaged South Africans we refer to black people (African, coloured and Indian males and females) and white women. White males and foreigners (including those naturalised after the Department of Trade and Industry code date on March 1994) are excluded.
<b>HIV/Aids</b>	Human immunodeficiency virus/Acquired immune deficiency syndrome

# GLOSSARY OF TERMS CONTINUED

TERM	DEFINITION
<b>Housing and living conditions:</b>	<p><sup>1</sup>(a) Conversion of operational hostels from sharing to single occupancy rooms: The number of employees who share a room in Harmony's company accommodation at active mining operations, and the number of employees who have single rooms in Harmony's company accommodation at active mining operations is calculated by comparing the total physical hostel design capacity (room numbers) versus the total number of hostel occupants. This gives the total average occupancy rate per hostel – an average of greater than one person for an active mining operation confirms that the occupant is sharing accommodation.</p> <p>(b) Conversion of non-operational hostels from single-sex units to family units known as community rental units (CRU): The number of family units is determined by the architectural design of the new structure, designed to create community rental units for both Harmony employees and members of the public.</p> <p>(c) Promoting home ownership: Company houses are sold to individual employees at special prices and other housing development initiatives are promoted or facilitated by Harmony.</p>
<b>Hz</b>	Hertz, measurement of the frequency of sound waves
<b>ICMM</b>	International Council on Mining and Metals
<b>Indicated mineral resource</b>	Part of a mineral resource for which tonnage, densities, shape, physical characteristics, grade and mineral content can be estimated with a reasonable level of confidence. It is based on exploration, sampling and testing information using appropriate techniques from outcrops, trenches, pits, workings and drill holes. The locations are too widely or inappropriately spaced to confirm geological and/or grade continuity but close enough for continuity to be assumed
<b>Inferred mineral resource</b>	Part of a mineral resource for which tonnage, grade resource and mineral content can be estimated with a low level of confidence. It is inferred from geological evidence and assumed but not verified geological and/or grade continuity. It is based on information gathered through appropriate techniques from outcrops, trenches, pits, workings and drill holes that may be limited or of uncertain quality and reliability
<b>Interest cover</b>	Earnings before interest and tax divided by finance costs and unwinding of obligations
<b>ISO</b>	International Organization for Standardization
<b>ISO 14001</b>	International Organization for Standardization's environmental management system specification
<b>ISO 27001</b>	International Organization for Standardization's family of standards to help keep information assets secure
<b>ISO 45001</b>	International Organization for Standardization's standard for occupational health and safety management systems
<b>ISO 9000</b>	International Organization for Standardization's family of standards for quality management systems
<b>JORC</b>	Australian Code for Reporting Exploration Results, Mineral Resources and Mineral Reserves
<b>JSE</b>	JSE Limited (Johannesburg Stock Exchange)
<b>k</b>	kina, Papua New Guinea currency
<b>kg</b>	Kilogram
<b>King IV</b>	King Report on Governance for South Africa 2016
<b>km<sup>2</sup></b>	Square kilometre
<b>KPIs</b>	Key performance indicators
<b>Ku-Riha</b>	Project Ku-Riha (Tsonga for compensation), launched by government in May 2015, is being rolled out by the Department of Health to improve compensation for mineworkers who have occupational lung disease and to ensure that valid claims are paid speedily and efficiently
<b>Land disturbed and land available for rehabilitation</b>	Total land footprint disturbed less the land footprint used for ongoing or future mining activities where the footprint of disturbed area includes all buildings, roads and mining area that needs to be rehabilitated according to the Environmental Management Programme Report (EMPR); the area rehabilitated meets the required standard of the EMPR, final land use plans and only maintenance and monitoring is needed; and the land available for rehabilitation is the area used for on-going or future mining activities

# GLOSSARY OF TERMS CONTINUED

TERM	DEFINITION
<sup>1</sup> LED spend/community spend (in South African rands)	Local economic development project spend linked to the licence of each mine categorised in terms of <ul style="list-style-type: none"> <li>• bursary students</li> <li>• bursary graduates</li> <li>• training bridging school</li> <li>• training mining</li> <li>• training engineering</li> <li>• costs related to:               <ul style="list-style-type: none"> <li>• mine community projects</li> <li>• labour-sending area, projects in community not for mine employees; and</li> <li>• conversion of hostel into family units</li> </ul> </li> <li>• Procurement spend related to:               <ul style="list-style-type: none"> <li>• contractor compliance</li> <li>• black economic empowerment (BEE) procurement</li> <li>• corporate social responsibility</li> </ul> </li> </ul>
Live Longer	Harmony's safety campaign – implemented as part of its comprehensive integrated safety risk management system – developed in terms of an exercise to benchmark best practice in the industry and an external audit of the company's safety performance and practice (a risk-based approach to safeguarding lives and saving mines, encompassing safety, health, the environment, communities and social risks, legal and regulatory risks, among others)
<sup>1</sup> LTIFR	Lost-time injury frequency rate: a lost-time injury is a work-related injury that calls for medication, treatment, medical checks, reviews and subsequent days off work when injured employees cannot perform their assigned duties on the next scheduled work day or shift – calculated as actual lost-time injuries x 1 000 000/hours worked (calculation for hours throughout Harmony for consistency to assume every person works nine hours: actual shifts worked x 9)
m	Million (Rm or US\$m) or metre
m <sup>3</sup>	Cubic metre
Masoyise iTB	Launched by the government departments of Health and Mineral Resources, the four primary mining unions – Association of Mineworkers and Construction Union (AMCU), the National Union of Mineworkers (NUM), Solidarity and UASA – as well as the Chamber of Mines in December 2015 as a major tuberculosis (TB) screening campaign within South Africa's mining sector
Measured mineral resource	Part of a mineral resource for which tonnage, densities, shape, physical characteristics, grade and mineral content can be estimated with a high level of confidence. It is based on detailed and reliable exploration, sampling and testing information gathered through appropriate techniques from outcrops, trenches, pits, workings and drill holes. Locations are spaced closely enough to confirm geological and grade continuity
Mine call factor	The ratio, expressed as a percentage, of the total quantity of recovered and unrecovered mineral product after processing with the amount estimated in the ore based on sampling
Mineral reserve	The economically mineable material derived from a measured and/or indicated mineral resource. It includes diluting and contaminating materials and allows for losses that are expected to occur when the material is mined. Appropriate assessments to a minimum of a prefeasibility study for a project, and a life-of-mine plan for an operation, must have been completed, including consideration of, and modification by, realistically assumed mining, metallurgical, economic, marketing, legal, environmental, social and governmental factors (the modifying factors). Such modifying factors must be disclosed. A probable mineral reserve is the economically mineable material derived from a measured and/or indicated mineral resource. A proved mineral reserve is the economically mineable material derived from a measured mineral resource. It is estimated with a high level of confidence.
Mineral resource	A concentration or occurrence of material of intrinsic economic interest in/on the earth's crust in such form, quality and quantity that there are reasonable prospects for eventual economic extraction. The location, quantity, grade, geological characteristics and continuity of a mineral resource are known, estimated or interpreted from specific geological evidence and knowledge. Mineral resources are subdivided, in order of increasing geological confidence, into inferred, indicated and measured categories

# GLOSSARY OF TERMS CONTINUED

TERM	DEFINITION
<b>Mining Charter</b>	Broad-based social-economic empowerment charter for the South African mining industry which aims to promote the creation of an industry that reflects the promise of a non-racial South Africa
<b>ML</b>	Megalitre
<b>Mo</b>	Molybdenum
<b>MOSH</b>	Mining Industry Occupational Safety and Health
<b>Moz</b>	Million ounces
<b>Mt</b>	Million tonnes
<b>MW</b>	Megawatt
<b>MWh</b>	Megawatt hour
<b>NERSA</b>	National Energy Regulator of South Africa
<b>NUM</b>	National Union of Mineworkers
<b>NWA</b>	National Water Act
<b>NYSE</b>	New York Stock Exchange
<b>OHSAS 18001</b>	Occupational Health and Safety Assessment Series' internationally applied standard for occupational health and safety management systems
<b>Operating margin</b>	Revenue less production costs expressed as a percentage of revenue
<b>oz</b>	Ounce
<b>Pay limit</b>	The grade of a unit of ore at which revenue from the recovered mineral content of the ore is equal to the total cash cost, including ore reserve development and stay-in-business capital. This grade is expressed as an in-situ value in grams per tonne or ounces per short ton (before dilution and mineral losses)
<b>PoPI Act</b>	Protection of Personal Information Act (No 4 of 2013)
<b><sup>1</sup> Preferential procurement – BEE total spend (ZAR)</b>	Procurement spend collected from the Harmony enterprise resource planning system's payment register, which is only the discretionary spend value spent with suppliers that hold a valid black economic empowerment (BEE) certificate, and comply with the minimum historically disadvantaged South African (HDSA) ownership of 25% or more – the reporting period for this key performance indicator was the 2017 financial year, and includes spend throughout the reporting period regardless of invoice date, aligned with the requirement of the revised Mining Charter of September 2010
<b>Probable mineral reserve</b>	Economically mineable part of an indicated, and in some cases, a measured mineral resource. It includes diluting materials and allowances for losses that may occur when the material is mined. Appropriate assessments and studies have been carried out, and include consideration of and modification by realistically assumed mining, metallurgical, economic, marketing, legal, environmental, social and governmental factors. These assessments demonstrate at the time of reporting that extraction could reasonably be justified
<b>Productivity</b>	An expression of labour productivity based on the ratio of grams of gold produced per month to the total number of employees in underground mining operations
<b>Project capital</b>	Capital expenditure to either bring a new operation into production; to materially increase production capacity; or to materially extend the productive life of an asset
<b>Proved mineral reserve</b>	Economically mineable part of a measured mineral resource. It includes diluting materials and allowances for losses that may occur when the material is mined. Appropriate assessments and studies have been carried out, and include consideration of and modification by realistically assumed mining, metallurgical, economic, marketing, legal, environmental, social and governmental factors. These assessments demonstrate at the time of reporting that extraction could reasonably be justified
<b>R</b>	rand, currency of South Africa
<b>RCF</b>	Revolving credit facility
<b>Reclamation</b>	In South Africa, reclamation describes the process of reclaiming slimes (tailings) dumps using high-pressure water cannons to form a slurry that is pumped back to metallurgical plants for processing
<b>RECONNECT</b>	An initiative, launched in collaboration with Teba and based on the Department of Health's Project Ku-Riha, to trace former employees and assist in addressing the backlog in claims for occupational lung disease at the Compensation Commission for Occupational Injuries and Diseases
<b>Reef of gold</b>	A gold-bearing sedimentary horizon, normally a conglomerate band, that may contain economic levels

# GLOSSARY OF TERMS CONTINUED

TERM	DEFINITION
SA	South Africa
SACNASP	South African Council for Natural Scientific Professions
SAIMM	South African Institute of Mining and Metallurgy
SAMREC	South African Code for Reporting Exploration Results, Mineral Resources and Mineral Reserves
SARs	Share appreciation rights
<sup>1</sup> Scope 1 carbon emissions (tCO <sub>2</sub> e)	Direct combustion of fuel by the Harmony group (explosives, diesel and petrol)
<sup>1</sup> Scope 2 carbon emissions (tCO <sub>2</sub> e)	Scope 2 emissions calculated from electricity purchased (from the power utility excluding use by third parties) multiplied by the appropriate factor as indicated by the electricity supplier
<sup>1</sup> Scope 3 carbon emissions (tCO <sub>2</sub> e)	<p>Indirect combustion by the Harmony group in line with Scope 3 emissions in the following categories as indicated by the Greenhouse Gas Protocol:</p> <ul style="list-style-type: none"> <li>• Purchased goods and services</li> <li>• Capital goods</li> <li>• Fuel- and energy-related emissions not included in scopes 1 and 2 <ul style="list-style-type: none"> <li>• Upstream transportation and distribution</li> <li>• Waste generated in operations</li> <li>• Business travel</li> <li>• Employee commuting</li> <li>• Upstream leased assets</li> </ul> </li> <li>• Downstream transportation and distribution <ul style="list-style-type: none"> <li>• Processing of sold products</li> <li>• Use of sold products</li> <li>• Downstream leased assets</li> <li>• Franchises</li> <li>• End of life treatment and</li> <li>• Investments</li> </ul> </li> </ul>
SDG	<p>Sustainable Development Goals. Developed by the United Nations, there are 17 such goals. They came into effect in January 2016 in support of the United Nations' 2030 Agenda which aims to:</p> <ul style="list-style-type: none"> <li>• end poverty and inequality</li> <li>• protect the planet</li> <li>• ensure that all people enjoy peace and prosperity</li> </ul>
<sup>1</sup> Silicosis	The number of cases of pure silicosis confirmed by the Medical Bureau of Occupational Diseases in FY15 includes all cases received by Harmony, as confirmed during FY15, regardless of the date of the Medical Bureau of Occupational Diseases letter (cases including other conditions, specifically tuberculosis, are not included in this number)
Social and labour plans	Social and labour plans aimed at promoting employment and advancing the social and economic welfare of all South Africans while ensuring economic growth and socio-economic development as stipulated in the MPRDA
t	Metric tonne
Tailings	Finely ground rock of low residual value from which valuable minerals have been extracted. Discarded tailings stored in dam facilities
TB	Tuberculosis
<sup>1</sup> TIA	Total injuries and accidents: all work-related injuries equal to the sum of all dressing cases and lost-time injuries (dressing case: work-related injury that calls for medication, treatment or medical check normally administered by a healthcare professional but does not result in lost-time from work beyond the date of injury)
Tonne/ton (t)	Metric = 1 000 kilograms / Imperial = 2 000 pounds (1 016 kilograms)

# GLOSSARY OF TERMS CONTINUED

TERM	DEFINITION
<b>UASA</b>	Formerly the United Association of South Africa, now known as UASA
<b>US</b>	Formerly the United States
<b><sup>1</sup> Volumes of mineral waste disposed (tonnes)</b>	<p>Mineral waste consists of waste rock and slimes/tailings:</p> <ul style="list-style-type: none"> <li>• Waste rock refers to the amount of waste rock produced and/or hoisted to surface and placed on a waste rock disposal site during the reporting month</li> <li>• Slimes/tailings refers to the total amount of slimes/tailings produced by the processing plant during the reporting month</li> </ul>
<b>Waste</b>	Material with insufficient mineralisation for future treatment and discarded
<b><sup>1</sup> Water used for primary activity (kilolitres)</b>	The total make-up or new water drawn into the boundaries of the operation from all sources (including surface water, groundwater and municipal water supply or water utilities) for use for mining and processing-related activities including use by contractors (excludes internally recycled water, affected fissure water, water discharged to receiving environment and supply to third parties such as communities and businesses)
<b>Weighted average number of ordinary shares</b>	Number of ordinary shares in issue at the beginning of the year, increased by shares issued during the year, weighted on a time basis for the period in which they have participated in the income of the company, and increased by share options that are virtually certain to be exercised
<b>Yield</b>	Amount of valuable mineral or metal recovered from each unit mass of ore expressed as ounces per short ton or grams per metric tonne

<sup>1</sup> Definitions applied to the Selected Sustainability Indicators which are assured by the independent auditors. See the Assurance report in the Integrated annual report 2018