



Glossary and Abbreviations

GLOSSARY AND ABBREVIATIONS

Terms

The glossary provides clarification of terms used in the Environmental Impact Statement (EIS) main report. Where necessary, further glossaries have been included in the individual specialist studies.

Glossary	Description
abundance	In biological and other sciences, the quantity or amount of something present in a particular area, volume, or sample, e.g., total numbers of individual animals or taxonomic groups of animals.
accretion	Gradual accumulation of additional soil particles, layers or matter.
access routes	Primary transport routes to, from and within the Project Area.
acidification	A chemical process by which a material or compound becomes acidic (i.e., pH of less than 7).
acid sulphate soils	Naturally occurring soils, sediments or organic substrates formed under waterlogged conditions. These soils contain iron sulphide minerals or their oxidation products. In an undisturbed state below the water table, acid sulphate soils are benign. However, if the soils are drained, excavated or exposed to air by a lowering of the water table, the sulphides react with oxygen to form sulphuric acid.
aggradation	The deposition of material by a stream or river. Also applies to shorelines, with the deposition of material by coastal processes.
aggregation	Soil aggregates are groups of soil particles that bind to each other more strongly than to adjacent particles. Aggregation is the process of this binding. The space between the aggregates provide pore space for retention and exchange of air and water.
alluvial forest	Floodplain forests that grow on nutrient rich alluvium deposited by rivers and streams.
alluvial valleys	Loose, un-consolidated soil or sediments, which have been eroded, re-shaped by water in some form, and re-deposited in a non-marine setting (usually associated with river floodplains).
alluvium	Loose, un-consolidated soil or sediments, which have been eroded, re-shaped by water in some form, and re-deposited in a non-marine setting. Alluvium usually consists of a variety of materials such as fine particles of silt and clay, and larger particles of sand and gravel.
anthropogenic events	Events originating in human activity.
aquatic macrophytes	Aquatic plants that grow in or near water.
aquifer	A layer of water-bearing permeable rock, rock fractures or unconsolidated materials (gravel, sand, or silt) which may store or transmit groundwater.
archaeological site	Any place (or group of physical sites) containing preserved evidence of human activity that has been, or may be, investigated using the discipline of archaeology. The specific nature of each site is provided in individual site descriptions, e.g., ceramic sherds, stone beater, axe-adze.
Archaeological site of low significance	Materials are found on the surface (no evident stratification) and similar material is common across the region.
Archaeological site of medium significance	Materials are found on the surface (no evident stratification) and material of this type has not been previously characterised or is rare in the region.
Archaeological site of high significance	Materials are found beneath the surface (below the topsoil); material of this type has not been previously characterised or is rare in the region; and the variety of artefacts is extensive and there is a large number of artefacts.

Glossary	Description
argillic/argillaceous	Clay-rich.
artesian	Artesian conditions occur when water in the aquifer is under positive pressure, which causes the water level in a well penetrating the aquifer to rise to a point where hydrostatic equilibrium has been reached with a corresponding potential for water to flow at the surface.
autotrophic	Getting nourishment independently. Organisms that are able to form carbohydrates and proteins from light, water, carbon dioxide and inorganic compounds.
avulsion	Where the flow of water abandons an existing river channel to form a new river channel.
background	The circumstance, situation, or level of a particular parameter prevailing at the time of assessment; natural or pre-existing level of a variable.
base case	The reference point against which the Project is managed and controlled, and against which change is assessed.
baseflow	Component of water in a stream that is derived from groundwater discharge.
bathymetry	The submarine topography of the ocean.
bedrock	Solid rock underlying surficial deposits such as soil or alluvium.
benthic	Animals and plants that live on the floor of the sea or lakes.
benthic zone	The ecological region at the lowest level of a body of water, including the sediment surface and some sub-surface layers.
benthos	Organisms that live at or associated with the seafloor.
bioaccumulation	The net accumulation of a substance by an organism as a result of uptake directly from all environmental sources, including food.
bioconcentration	A process by which there is net accumulation of a chemical directly from an exposure medium into an organism.
biomagnification	The increasing concentration of a substance, such as a chemical, in the tissues of organisms at successively higher levels in a food chain. Also known as bioamplification.
biota	The animal and plant life of a particular region, habitat, or geological period.
block caving	An underground hard rock mining method that involves undermining an ore body, allowing it to progressively collapse under its own weight as a means of breaking and extracting the ore.
borrow pit	An area where material is extracted for use at another location, typically for construction or engineering uses.
branch gleaners	Feeding strategy by birds in which they catch prey from the branches of trees.
burial site	A location containing complete or fragmented human skeletal remains.
camp	The identified location of a known hunting camp or transit camp site.
carnivorous	Animals that feed on other animals or plants that trap and digest small animals.
cemetery	Inhumations or ossuaries containing the remains of two or more named individuals.
cetacean	A widely distributed and diverse group of aquatic mammals that today consists of whales, dolphins, and porpoises. They are carnivorous and finned, and most live in the sea.
chance find	Any previously-unrecorded cultural heritage encountered during exploration, construction or operations.

Glossary	Description
Chance Find Procedure	A Project-specific procedure that outlines the actions to be taken if previously unrecorded cultural heritage is encountered.
channel sinuosity	Channel length divided by valley length.
chelex-column method	The chelex-column method measures free metal ions and metal complexes that can dissociate rapidly, and excludes metals that are strongly complexed by natural organic ligands, or inorganic ligands such as cyanide, as well as excluding those in colloidal forms (that are non-labile). Greater metal lability usually results in greater metal bioavailability.
chemicals of potential concern	Substances that are identified as being present and potentially hazardous.
closure	Final stage following the cessation of mining and processing and includes progressive rehabilitation, decommissioning, post closure monitoring and maintenance, and relinquishment.
Coastal Area	The Coastal Area includes the proposed Port Facilities Area and the proposed Outfall Area.
colluvium	Loose and fragmented deposits, usually at the foot of a slope or cliff line and brought down by gravity.
column leach test	A kinetic (rate dependent) test used to determine weathering characteristics and leachate chemistry of rocks.
commercial fishery	The capture of fish or shellfish beyond meeting personal needs and motivated by financial returns.
commercial production	The Project development strategy involves a staged construction of a 16.84Mtpa mine with a total mine commercial production life of 26 years, commencing with ramping-up production as fast as possible to extract the high-grade material from BC44. Commercial production is first achieved when 25% of the planned production rate (mining and treatment) has been achieved, broadly achieving a 3.9Mtpa rate.
community (socioeconomic)	A generic term for a set of people who interact socially, and includes villages and settlements.
CONCAWE	A noise prediction method for calculating the propagation of noise from petroleum and petrochemical complexes to neighbouring communities.
concentrate (copper-gold)	A mixed assemblage of ore minerals that is a saleable product of the proposed mine. It will be produced in the Watut Process Plant and pumped to the concentrate filtration plant at the Port Facilities Area for export.
concentrate filtration plant	Plant and equipment responsible for removing carrier water from the concentrate slurry and drying the concentrate prior to its export.
concentrate pipeline	Pipeline to deliver concentrate slurry from the Mine Area to the Port Facilities Area.
Cretaceous	A geologic period and system that extends from approximately 145 million years ago to 65 million years ago; from the end of the Jurassic period to the beginning of the Palaeocene period.
Critically Endangered	According to the IUCN Red List definitions a taxon is categorised as Critically Endangered when it is facing an extremely high risk of extinction in the wild (probability of extinction in the wild is at least 50% within 10 years or three generations).
crustacean	Freshwater or saltwater invertebrate with jointed legs and a hard shell of chitin. Includes shrimps, crabs, lobsters and crayfish.

Glossary	Description
cultural heritage	Intangible and tangible heritage that includes: <ul style="list-style-type: none"> • Oral tradition sites, which include spiritual and oral history sites of importance to landowners • Historic sites specific to World War II or associated with the early period of the Independent State of Papua New Guinea's colonial history or associated with the early history of mining in PNG • Archaeological sites, which often reveal information about past human activity in the area
cultural heritage site	An archaeological, oral tradition or historical site, the size of which is determined either by the extent of cultural material and/or historical features, or in the case of oral tradition sites, by the communities who associate with these places.
cut and fill	Cut and fill is the process of constructing a flat surface by the excavation from a slope and its emplacement downslope to create a flat area.
cumulative impacts	The interaction of elements of the Project and other projects' activities or works resulting in a spatial and/or temporal relationship.
damping	An influence upon an oscillatory system that has the effect of reducing, restricting or preventing its oscillations. In physical systems, damping is produced by processes that dissipate the energy stored in the oscillation.
Data Deficient	According to the IUCN Red List definitions a taxon is categorised as Data Deficient when there is inadequate information to make a direct, or indirect, assessment of its risk of extinction based on its distribution and/or population status. A taxon in this category may be well studied, and its biology well known, but appropriate data on abundance and/or distribution are lacking. Data Deficient is therefore not a category of threat.
decline	A sloping underground tunnel excavated for mobile equipment access from surface or from level to level.
decommission	Demolition and disposal of all mining, mineral processing and ancillary infrastructure and services that are no longer required or used.
deep-slope	Term used to describe animals associated with or living in the ocean on the continental slope.
Deep Sea Tailings Placement (DSTP)	An alternative to land-based mine-waste disposal, whereby tailings are discharged into very deep water offshore.
DSTP outfall	The end of the DSTP outfall pipelines where the tailings discharge into the Markham Canyon.
DSTP outfall pipelines	High density polyethylene pipelines from the mix/de-aeration tank to the DSTP outfall.
demersal	Found at or near the sea bottom.
dewatering	To drain, permanently or temporarily, surface water or groundwater.
diadromous fish	Fish that spend parts of their life cycle partially in fresh water and partially in salt water.
diatom	Unicellular form of alga with cell walls impregnated with silica.
diatreme	A long vertical pipe or plug of rock formed when gas-filled magma forced its way up through overlying strata.
diel	A 24-hour period usually involving a day and the adjoining night.
direct impact	An effect directly caused by or arising directly in consequence of a Project activity (often within the Project Area).
dispersive soils	Structurally unstable soils that are particularly vulnerable to erosion by water.

Glossary	Description
displacement	Physical displacement (relocation or loss of shelter) and/or economic displacement (loss of assets or access to assets that leads to loss of income sources or other means of livelihood), as a result of Project-related land acquisition and/or restrictions on land use.
disturbance of cultural heritage	To engage in an activity which results in any of the following: unearthing of cultural heritage material; displacing cultural heritage material; unauthorised collection of cultural heritage material; altering a hydrological regime which affects a cultural heritage site; working within, or in proximity to, a cultural heritage site without undertaking appropriate cultural ceremonies
diurnal	Having a 24-hour period or cycle; daily.
drainage density	Length of stream channels per unit area of the drainage basin.
drawdown	A reduction in water level and/or pressure level in an aquifer as a result of groundwater extraction.
drawpoint	An opening at the base of the block cave where descending broken rock is removed.
ecotoxicology	The integration of toxicology and ecology to study of the effects of toxic chemicals on biological organisms, particularly at the population, community and ecosystem level.
Endangered	According to the IUCN Red List definitions a taxon is categorised as Endangered when it is facing a very high risk of extinction in the wild (probability of extinction in the wild is at least 20% within 20 years or five generations).
endemism	A biological species or community restricted to a defined geographic location.
environmental impact statement (EIS)	A document that provides a comprehensive assessment of potential environmental, social and cultural heritage impacts (or benefits) associated with a project, in accordance with Section 53 of the PNG <i>Environment Act 2000</i> .
environmental approvals	Assessment of the Project by the Conservation and Environment Protection Authority (CEPA) under the <i>Environment Act 2000</i> .
Environmental and Social Management Framework	The means through which WGJV will apply its environmental, socioeconomic and cultural heritage corporate policies, standards and systems.
epibenthic	Organisms that live on or just above the surface of sediments at the bottom of the sea.
epipelagic	The surface layer of the ocean, known as the epipelagic zone that extends from the surface to 200 metres water depth, where enough light is present for photosynthesis to occur.
equilibrium	A state of physical and chemical balance.
erosion	The process by which material, such as rock or soil, is worn away or removed by wind or water.
estuarine	In relation to the area where a river meets the sea.
euphotic zone	The layer of ocean close enough to the surface that receives enough light for photosynthesis to occur.
exposure	Contact by a receptor with a substance.
exposure pathway	The course a contaminant takes from the source to the point where a person may be exposed and the route the exposure occurs.
exposure route	The way a substance comes into contact with a receptor.
fault	A planar fracture or discontinuity in a volume of rock, across which there has been significant displacement as a result of rock mass movement.

Glossary	Description
filtrate discharge pipeline	Pipeline located at the Port Facilities Area at the Port of Lae to discharge filtrate from the concentrate filtration plant.
Finite Element subsurface FLOW system (FEFLOW)	Water modelling tool for water balance assessments.
flocculants, or flocculating agents	Chemicals that promote flocculation by causing colloids and other suspended particles in liquids to aggregate.
flocculation	The process by which fine particles are caused to aggregate.
fluvaquents	A genetically young soil in alluvial deposits, and apart from river sediments, they also occur in ancient lake and marine deposits.
fluvial	A process that relates to or is produced by a river.
forb	A herbaceous plant other than a grass, especially a broadleaved herb growing in a field.
former village	The identified location of a named former or ancestral village.
flow regime	Spatial and temporal patterns in flows.
froth flotation	Froth flotation is the process of separating the valuable minerals from the waste in a slurry via the adhesion of minerals to the surface of air bubbles.
frugivorous	Fauna that feed on fruit, mostly comprising of birds and bats.
fuel pipeline	Pipeline to deliver fuel from the Port Area to the Mine Area power generation facilities.
Geochemical Abundance Index	A measure of the enrichment of elements in whole rock samples. The Geochemical Abundance Index (GAI) compares the actual concentration of an element in a sample with the median abundance for that element in the most relevant media (such as crustal abundance, soils, or a particular rock type). The main purpose of the GAI is to provide an indication of any elemental enrichment that may be of environmental importance.
geomorphology	The branch of geology dealing with the characteristics, origin, and development of landforms.
greenhouse gas	A gas that contributes to the greenhouse effect by absorbing infrared radiation. Carbon dioxide and methane are examples of greenhouse gases.
ground disturbance	Means of disturbance of the topsoil or surface layer of the ground or a waterway by machinery in the course of grading, excavating, digging, dredging or deep ripping.
grouting	A process which consists of filling pores or cavities in soil or rock with a liquid form material (such as cement-like mix) to decrease the permeability and improve the shear strength of the walls of the mine declines, tunnels and shaft linings.
Harmony Gold Mining Company Limited	The ultimate holding company of Wafi Mining Limited, a 50% participant in the Wafi-Golpu Joint Venture.
hapludolls	Soils formed mostly in Holocene or late-Pleistocene deposits, with generally gentle slopes, and often sites of cultivation.
haplustolls	Soils with vegetation mostly dominated by grasses and forbs. Often cultivated soils used for grain and feed crops.
harpacticoid	Burrowing copepods, distinguished from other copepods by the presence of only a very short pair of first antennae.
Hazard Index	The sum of more than one Hazard Quotient for multiple substances and/or multiple exposure pathways.
Hazard Quotient	The ratio of the exposure intake of a substance via a particular exposure pathway to the toxicity reference dose for that substance over similar exposure periods.

Glossary	Description
herbaceous	A plant is described as herbaceous if it shares characteristics that are similar to a herb or herb-like plant.
heterotrophic	Getting nourishment from organic substances.
historic significance	Value attributed to a place, object or practice for its association with the history of society or historical themes.
historic sites	A World War II place or object associated with Japanese or Allied military actions which preserves at least some physical remnant of that action; a place or object that preserves physical evidence in the form of equipment, structures or excavations relating to the history of exploration and mining in PNG; or any other place or object associated with the early period of PNG's colonial history.
human skeletal remains	Includes all of the bones and teeth that comprise foetal, neonate, infant, juvenile and adult humans, irrespective of their state of presentation; i.e., they include fragmentary and isolated bones and teeth as well as complete and articulated bones and teeth, unless otherwise excepted.
Holocene	The geological epoch that began after the Pleistocene approximately 11,700 years ago and continues to the present.
hydraquents	Soils that are permanently or usually wet, commonly found on river banks and tidal mudflats. This general wetness limits development of the soil.
hydraulic conductivity	The flow rate under a unit hydraulic gradient through a unit cross-sectional area of an aquifer.
hydraulic gradient	A measurement of groundwater flow.
hyporheic zone	A region beneath and alongside a river or stream bed, where there is mixing of shallow groundwater and surface water.
indirect impact	Impacts that arise from Project facilities or activities that are at least one step removed in space and/or time from Project activities in terms of the consequence/impacts.
infauna	Animals living in the substrate or sediment, especially in the soft seafloor.
Infrastructure Corridor	The area encompassing the proposed Project infrastructure linking the Mine Area and the Coastal Area, being corridors for pipelines and roads and associated laydown areas. The proposed concentrate pipeline, terrestrial tailings pipeline and fuel pipeline will connect the Mine Area to the Coastal Area. A proposed Mine Access Road and Northern Access Road will connect the Mine Area to the Highlands Highway. New single-lane bridges are proposed over the Markham, Watut and Bavaga rivers. Laydown areas will be located at key staging areas.
in-migration	The movement of people into an area in anticipation of, or in response to, economic opportunities associated with the development and/or operation of a new project.
intangible cultural heritage	Oral traditions passed down through generations that influence practices, expressions and the knowledge and skills that communities recognise as part of their cultural heritage.
insectivorous	Fauna which are adapted to feeding on insects
intake decline	Path for fresh air to enter the mine (via the declines).
isobath	Refers to a contour line of water depth of the same value.
IUCN Red List	Information source on the global conservation status of wild species and their links to livelihoods.
Joint Ore Reserve Code (JORC)	Australasian region's code for public reporting of mineral exploration results, mineral resources and ore reserves.

Glossary	Description
Jurassic	A geologic period and system that extends from approximately 201 million years ago to 145 million years ago; from the end of the Triassic period to the beginning of the Cretaceous period.
known human skeletal remains	Relatively recent burials known to the local communities (through oral traditions or recent burial).
labile concentration	Portion of the dissolved concentration that is 'free' and potentially bioavailable.
landform	Physical features which make up the surface of the earth. This includes a plain, plateau, canyon, meandering river, hills, mountains, lakes and channels.
landscape denudation	Processes that lead to loss of vegetation and subsequent erosion.
landslip	The movement of rock, debris or earth down a slope.
Leachate	Water carrying impurities which has percolated through the earth and originates from landfills or mine wastes.
LEAN	Project term which means 'appropriately considered scope, cost, specification, strategy'.
Lease for mining purposes (LMP)	Lease for mining purposes issued under the <i>Mining Act 1992</i> .
lentic	Relating to or inhabiting still waters such as swamps, ponds or lakes.
Life of Mine	The time in which, through the employment of the available capital, the ore reserves, or such reasonable extension of the ore reserves as conservative geological analysis may justify, will be extracted.
Link Road	The existing road between Bavaga and the Mine Access Road.
lithotypes	Types of rock or stone.
littoral zone	The area that is exposed at low tide and submerged at high tide.
load-haul dump vehicle	A vehicle that loads and hauls rock.
lotic	Relating to or inhabiting actively moving water.
lutjanids	A family of perciform fish, snappers, mainly found in marine waters inhabiting tropical and subtropical regions.
macrobenthos	Benthic organisms (animals or plants) whose shortest dimension is greater than or equal to 0.5mm.
macro-crustaceans	Freshwater shrimp, prawns and crayfish.
macrofauna	Multicellular animals that are of a length of 0.1-2mm and live on or in sediment, or attached to hard substrates.
mass movement	A geomorphic process by which sediment moves downslope as a mass under the force of gravity, but is frequently affected by water and water content as in submarine environments.
maximum credible earthquake (MCE)	The largest earthquake that appears capable of occurring under the known tectonic framework for a specific fault or seismic force, as based on geologic and seismological data.
meandering floodplains	A floodplain comprising a slow-moving river with loop-like bends in the river channel across the width of the floodplain.
meiofauna	Multicellular animals between 50µm and 500µm in length that live in soil and aquatic sediments.
meso-habitat	Broad scale habitat types that are roughly the same scale as the river/creek channel width and delineated by localised slope, channel shape and structure.
mesopelagic zone	The intermediate depths of the ocean which receive some sunlight but not enough for photosynthesis; extending from approximately 200m to 1,000m below sea level.

Glossary	Description
metasediment	A rock first formed through the deposition and solidification of sediment, then buried underneath subsequent rock, and subjected to high pressures and temperatures causing the rock to recrystallize.
micronekton	Very small crustacean and other free-swimming marine animals.
Mine Area	The area encompassing the proposed block cave mine, underground access declines and nearby infrastructure, including a portal terrace and waste rock dump supporting each of the Watut and Nambonga declines, the Watut Process Plant, power generation facilities, laydown areas, water treatment facilities, quarries, wastewater discharge and raw water make-up pipelines, raw water dam, sediment control structures, roads and accommodation facilities for the construction and operations workforces.
mission	The identified location of a structure or place associated with Christian missionary activities during the historic period.
mix/de-aeration tank	Provides dilution of the tailings slurry and facilitates detrainment of any air trapped in the slurry prior to discharge.
mixing zone	A term defined by the PNG Environment (Water Quality Criteria) Regulation 2002 as a discrete body of water into which waste is discharged and where the prescribed water quality criteria are not required to be met and the protection of aquatic life may not be guaranteed.
natural events	Significant seismic, weather events or other natural events that occur infrequently but have the potential to cause significant damage.
nearshore	The region of the sea or seabed relatively close to the shore.
nearshore marine environment	The area of the sea and the seafloor adjacent to the shoreline, which is generally bounded by, and inclusive of, the shoreline and beach (where one exists) on the landward side, and on the seaward side, by the inner shelf to water depths of approximately 20m.
Near Threatened	According to the IUCN Red List definitions a taxon is categorised as Near Threatened when it has been evaluated against the criteria but does not qualify for Critically Endangered, Endangered or Vulnerable now, but is close to qualifying for or is likely to qualify for a threatened category in the near future.
nectarivores	Fauna which derives its nutrient requirements from a diet of nectar.
nekton	Marine animals that swim and move independently of water currents.
nematodes	A diverse animal group inhabiting a broad range of environments, also called roundworms, and have tubular digestive systems with openings at both ends.
Newcrest Mining Limited	The ultimate holding company of Newcrest PNG 2 Limited, a 50% participant in the Wafi-Golpu Joint Venture.
non-dispersive soils	Soils that are unlikely to undergo dispersion where soils will release a cloud of fine clay particles when brought into contact with water.
non-acid forming	Chemically-stable materials that will not generate any by-products which are likely to adversely affect the environment. A sample is usually defined as non-acid forming when it has a negative NAPP and the final NAG pH is greater than or equal to 5.
non-threshold contaminant	Contaminant that exhibits effects at virtually all levels of exposure and is applicable to most carcinogens.
non-replicable cultural heritage	Cultural heritage that is related to the social, economic, cultural, environmental, and climatic conditions of past peoples, their evolving ecologies, adaptive strategies, and early forms of environmental management, where the (i) cultural heritage is unique or relatively unique for the period it represents, or (ii) cultural heritage is unique or relatively unique in linking several periods in the same site.

Glossary	Description
operating basis earthquake (OBE)	Earthquakes with a return period of 476 years (i.e., a 10% probability of exceedance in 50 years); used to inform design of on-land tailings containment structures.
oceanography	In the context of WGJV reports, oceanography refers to the physical properties of the ocean including currents, upwelling, conductivity, temperature, density and sedimentology.
offshore	Situated at sea beyond the three nautical mile coastal water limit.
operating basis earthquake	The earthquake for which a structure is designed to remain operational, with the damage being readily repairable following the event.
Oral tradition site	A cultural heritage site known by a person or people through their historical and cultural stories transmitted from one generation to another without written instruction.
organic nitrogen	Total nitrogen minus nitrite and nitrate.
Outfall Area	The area encompassing the Outfall System, pipeline laydown area, choke station, access track and parking and turnaround area.
Outfall System	Includes mix/de-aeration tank, seawater intake pipelines and DSTP outfall pipelines. Located in the Outfall Area.
oxide aquifer	A term developed and used for the Project since early exploration drilling in the 1990s to describe a variety of rock types that hold or conduct water that are variably weathered and comprise zones of moderate to high alteration.
palustrine wetland areas	Vegetated, non-riverine or non-channel systems.
partially weathered bedrock	The layer of bedrock below the weathered bedrock layer which has been only partially influenced by wind, rain and other weathering forces.
peak ground acceleration	Equals the maximum ground acceleration that occurs during earthquake shaking at a location.
pelagic	Of, or relating to, living in open oceans or seas; living at or near the surface of the ocean, far from land, especially relating to fish.
periphytic diatom	A group of algae that live on the surface of submerged plants or other underwater objects.
periphyton	All aquatic plant organisms, excluding plankton and rooted macrophytes, found on submerged materials in rivers, creeks and lakes.
peri-urban	Area of human population at the fringe of urban areas, and between urban and rural areas.
PHREEQC	A water modelling tool used for water quality assessments.
phytoplankton	The plant component of plankton; plankton consisting of microscopic plants; the photosynthesising organisms residing in the plankton.
plankton	The mass of small and microscopic animals (zooplankton) and plant (phytoplankton) organisms that float or drift in the sea or fresh water and are incapable of moving against water currents, especially at or near the surface.
plant propagules	Any plant matter used in plant reproduction; in asexual reproduction, this could be a stem, root or leaf, and in sexual reproduction, a seed.
Pleistocene	The geological epoch which lasted from about 2,588,000 to 11,700 years ago, spanning the world's recent period of repeated glaciations.
Pliocene	The geological epoch which lasted from about 5,333,000 to 2,588,000 years ago, ending with the beginning of the Pleistocene.

Glossary	Description
plume	A mass of material, typically a pollutant/contaminant, spreading from a point source. In this report, a plume refers to a suspension of sediment as it spreads from its origin, either, across the ocean surface (surface plume), or as a subsurface layer within the ocean water column (subsurface plume), or along the seafloor (bottom-attached plume) or as airborne emissions of a gases or particulates.
PNG Power transmission line corridor	Refers to the third-party (PNG Power) transmission line, which the Infrastructure Corridor will follow between Zifasing and Yalu.
porphyry	A textural term for an igneous rock consisting of large-grained crystals such as feldspar or quartz dispersed in a fine-grained feldspathic matrix or groundmass.
Port Facilities Area	Located at, or in proximity to, the Port of Lae, with a site adjacent to Berth 6 (also known as Tanker Berth) nominated as the preferred option. The proposed facilities will include the concentrate filtration plant and materials handling, storage, ship loading facilities and filtrate discharge pipeline. This area may in the future need to include fuel oil handling and storage facilities.
Port Area	Port of Lae including Lae Tidal Basin and surrounds.
portal terrace	The engineered earthen terrace adjacent to the decline portals entrance.
potential acid sulphate soils	Potential acid sulphate soils are soils that are un-oxidised as they have remained below the water table or other low oxygen environments, but are prone to oxidation when exposed to the air.
potentially acid forming	Material that contains sulphidic compounds with the potential to generate sulphuric acid under oxidising conditions.
power generation facilities	The proposed power station to be located at the existing Finchif 2 site.
process plant terrace	The engineered earthen terrace on which the Watut Process Plant is to be located.
production level	The level in block caving situated below the undercut level. This level is linked to the undercut level by drilled and blasted excavations known as draw bells (or draw points) through which the broken rock descends.
Project	The Wafi-Golpu Project.
project-affected communities	The villages or communities that are expected to be most impacted by the Project, which includes those villages in the vicinity of the Mine Area.
Project Area	The land that is the subject of the proposed Project activities and Project facilities, being: <ul style="list-style-type: none"> • The Mine Area • The Infrastructure Corridor • The Coastal Area
Project disturbance footprint	The impact that both physical disturbance (to the ground surface or the seabed) and Project-related activities will have on the biophysical environment taking into account edge effects and downstream impacts.
project-induced in-migration	The movement of people into an area in anticipation of, or in response to, economic opportunities associated with the development and/or operation of a project.
Project footprint	The area in which physical disturbance of existing features will occur due to Project facilities being built or Project activities being carried out.
Project stakeholders	Persons, groups of persons and organisations impacted by the Project or who have a pertinent interest in the Project.
receptor	A person, fauna, flora, site (e.g., village), environmental value and/or resource potentially impacted.

Glossary	Description
recharge	A hydrologic process where precipitation infiltrates into the soil and moves downward from the unsaturated zone to enter the saturated zone and become groundwater.
Redox potential	The tendency of a chemical species to acquire electrons and thereby reduce (or oxidise). An electric potential measured in volts.
relocation	In the context of resettlement, the activities undertaken by a person or group of people to move to a new site upon physical displacement.
replicable cultural heritage	Tangible forms of cultural heritage that can themselves be moved to another location or that can be replaced by a similar structure or natural features to which the cultural values can be transferred by appropriate measures. Archaeological or historical sites may be considered replicable where the particular eras and cultural values they represent are well represented by other sites and/or structures.
residual soils	Soil formed in situ by rock decay and left as a residue after the leaching out of the more soluble components.
resettlement	A process of planning and implementing activities that manage the effects of displacement.
return airway	Path for air to leave the mine. Air enters the mine via the intake decline (or shaft) and leaves either via the exhaust decline or vent shaft.
return period	An estimate of the likelihood of an event, such as an earthquake or flood to occur.
riparian	Relating to, or situated on, the banks of a river or stream.
rockshelter	A cave or rockshelter identified in local oral history as being of cultural significance.
run of mine	Ore in its natural, unprocessed state.
sand	Sediment particles between 63µm to 2,000µm.
sand wave	A large or small-scale transverse ridge of sand resembling a water wave on the upper surface of a sedimentary bed.
saturated soils	A condition in which all easily drained voids (pores) between soil particles are temporarily or permanently filled with water.
scleractinian	Hard corals that live on the seabed.
seawater intake pipelines	Pipelines sourcing seawater for the mix/de-aeration tank.
Sediment Quality Guideline Value (SQGV)	Threshold concentration level below which there is a low probability that biological effects could occur.
sedimentation	The process of soil particles settling or being deposited as a sediment.
seismicity	The occurrence or frequency of earthquakes in a region.
semi-autogenous grinding	Semi-autogenous (SAG) milling relies on a combination of grinding media (steel balls) and rock-on-rock impact to grind rock. An SAG mill is generally used as a primary or first stage of grinding.
services level	This is the lowest level that may be used for ventilation and other services in block caving.
settlement	Non-landowners living in a self-identified group of households, either under an arrangement with customary landowners (formal settlement) or with no customary arrangement or other entitlement (informal settlement).
sheetwash	Dislodgement of soil by rainfall and transport via sheet-like flow of water.
shotcrete	A concrete mixture that is sprayed from a gun over the tunnelled rock to prevent rockfalls. It may be applied straight on rock, or over/under steel reinforcing mesh.

Glossary	Description
site card report	A short (1-3 page) report which provides details of the nature of the cultural heritage site found, a description of the site and its conditions, and any associated photographs or drawings.
slake	The degradation or disintegration of fine-grained sedimentary rocks upon excavation or exposure.
slopewash soils	Soils generated by the transportation of rock and soil down a slope by rain.
social mapping	Broad term which refers to the spatial representation of social data which may include the diagrammatic representation of a community's genealogy, and its institutional and decision-making structures.
socioeconomic impact assessment	The process of analysing and managing intended and unintended consequences of planned interventions (projects or policies) and any social change processes invoked by those interventions.
soil capacity	The ability of soil to retain structure and nutrients to support ecosystem functioning.
soil dispersion potential	The likelihood that soils will release fine clay particles when brought into contact with water. These clay particles may remain suspended for an indefinite period of time, resulting in turbid, 'dirty' water which can impact on aquatic ecology in surrounding watercourses.
soil horizons	A series of distinct layers found in a vertical cross-section of any well-developed soil.
SoundPLAN	A software package used for noise and air pollution modelling.
special mining lease (SML)	A lease for large-scale mining projects issued as defined under Section 2(1) of the <i>Mining Act 1992</i> .
species richness	The number of different species represented in a sample, taxonomic group, ecological community, landscape or region.
SPRING	A numerical groundwater flow model.
State of PNG	Independent State of Papua New Guinea.
storativity	The volume of water released from storage per unit decline in hydraulic head in the aquifer, per unit area of the aquifer.
story	Any place associated with a known story derived from local oral tradition.
stripping	Preparation of the surface for construction, including removal of vegetation layer and topsoil.
sub-aerial	A technique for tailings deposition into a TSF, whereby tailings are discharged above the water line. This technique is appropriate for NAF tailings.
sub-aqueous	A technique for tailings deposition into a TSF, whereby tailings are discharged below the water line. This technique is required for PAF tailings.
subsidence zone	The area affected by the collapse of a section of the surface of the ground to create a hole, as a result of mining, or by water saturation of the soil, or by groundwater extraction from an aquifer.
subsistence/trade	A place acknowledged as significant for subsistence or trade activities, e.g., sourcing clay for the production of pots.
subsoil	The bed or stratum of earth or earthy material immediately under the surface soil. Also known as undersoil or substratum.
Sustainable Business Management System	A set of corporate policies and standards which guide WGJV's approach to sustainability.

Glossary	Description
subsidence zone / surface breakthrough	The formation of a crater at the surface above the orebody. The crater develops when the weight of the rock overlying the block caves cannot be supported leading to downward slumping of rock towards the block caves and creation of a funnel-like depression at the surface. This crater is known as the surface breakthrough or subsidence zone.
surface mixed layer	The uppermost part of the water column (between the ocean surface and a depth usually ranging between approximately 25m and 200m), which is kept well mixed by the turbulent action of wind and waves.
surge tank	A standpipe or storage reservoir to absorb sudden rises in pressure and to maintain a steady loading on the pump as well as to quickly provide extra water during a brief drop in pressure.
tailings	The fine-grained rock particles remaining after the recoverable metals and minerals have been extracted from mined ore, and any remaining process water.
tailings deposition footprint	The predicted area of tailing solids deposition on the ocean floor after discharge from the DSTP outfall.
tangible cultural heritage	The legacy of physical artefacts and objects significant to a specific culture.
terrain units	Features on the physical landscape of an area which arise through the interactions between the subsurface geology and structures, the surface (outcropping) geology, the resulting surface landforms, and the soils which form on these surfaces.
terrigenous sediment	Sediment from land that has been transported to the ocean. In this report, it refers specifically to sediment delivered by rivers to the ocean.
terrestrial tailings pipeline	Pipeline to deliver tailings from the Mine Area to the Outfall Area comprising a steel pipeline lined with high-density polyethylene (HDPE).
thalweg	The deepest part of a channel where the main current flows.
threshold contaminant	Contaminant that causes non-carcinogenic health outcomes.
topsoil	The upper, outermost layer of soil, usually the top 5cm to 20cm. It has the highest concentration of organic matter and microorganisms and is where most of the Earth's biological soil activity occurs.
trophic level	A level or position in an ecosystem consisting of organisms which occupy the same function.
tropofluent	A soil of volcanic breccias and conglomerates overlain by alluvium, often found in flat to very gently undulating valley floors.
TUFLOW FV	Numerical model used to simulate hydrodynamic, sediment transport and water quality processes in oceans, coastal waters, estuaries and rivers.
turbidity	A measure of the quality of water. In particular, the degree to which the water loses its transparency due to the presence of suspended particulates.
turbidity current	An underwater current of usually rapidly moving, sediment-laden water, which is moving down a slope.
undercut level	The level in block caving at which drilling and blasting takes place to shatter rock at the bottom of the orebody. Undercutting initiates the caving process and allows rock to flow into the drawbells and out their draw points.
upwelling	An oceanographic phenomenon that involves wind-driven motion of dense, cooler and usually nutrient-rich water towards the open surface, replacing the warmer, usually nutrient-depleted surface water.
ustorthents	Very shallow soils, commonly found in very steep, mountainous regions where erodible material is rapidly removed by erosion and a permanent deep soil covering cannot establish.

Glossary	Description
ventilation shaft	A vertical or sub-vertical passage used in an underground mine to allow the flow of air either into, or out of the mine.
village	Customary landowners living in a self-identified group of households.
vulnerable	According to the IUCN Red List definitions a taxon is categorised as Vulnerable when the best available evidence (large population decline, small population, small geographic area occupied, or if the calculated probability of extinction during the next 20 years is at least 10%) indicates that it is considered to be facing a very high risk of extinction in the wild.
vulnerable groups	Defined by the IFC Performance Standards on Environmental and Social Sustainability as people who are disadvantaged as a result of race, colour, sex, language, religion, political opinion or origin, gender, age, culture, literacy, sickness, physical or mental disability, economic status or dependence on unique natural resources.
Wafi-Golpu exploration interests	Exploration licences (EL) EL440 and EL1105.
Wafi-Golpu Joint Venture	An unincorporated joint venture between the Wafi-Golpu Joint Venture Participants.
Wafi-Golpu Joint Venture Participants	The participants in the Wafi-Golpu Joint Venture, at the date of this Environmental Impact Statement, being presently Wafi Mining Limited and Newcrest PNG 2 Limited.
Wafi-Golpu Project	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 which is the subject of this Environmental Impact Statement.
Wafi-Golpu Services Limited	The agent/operator for the Wafi-Golpu Joint Venture.
washdown	A regular practice of decontamination of field equipment to avoid cross-contamination.
wantok	A cultural group or individuals who are related to each other through family ties and who share mutual ideas of their 'tribe', social network and/or ethnic origin.
water table	The upper limit of the portion of ground saturated with water in an aquifer.
weathered bedrock	The layer of bedrock at the base of the soil profile which has been influenced by wind, rain and other weathering forces.
weep drain	A small drain in a wall that allows accumulated water to drain.
zooplankton	Small animals and the immature stages of larger animals.
zooxanthellae	A yellowish-brown symbiotic algae or cyanobacteria present in large numbers in the cytoplasm of many marine invertebrates (e.g., deep-water corals, jellyfish and anemones), which capture sunlight and convert it to energy supplying nutrients to the host invertebrates.

Abbreviations

The abbreviations and acronyms in the table below relate to the Environmental Impact Statement (EIS) main report. Where necessary, further abbreviations and acronyms have been included in the individual specialist studies appended to this EIS.

Abbreviation/Acronym	Description
%	percent
% sat	percent saturation
%w/w	percent by mass
~	approximately
°	degrees
°C	degrees Celsius
°C/m	degrees Celsius per vertical metre
°Cdb	degrees Celsius dry bulb
°Cwb	degrees Celsius wet bulb
<	less than
>	greater than
μ	microns
μg	microgram
μg/L	microgram per litre
μg/m ³	micrograms per cubic metre
μm	micrometres or microns
μPA	microPascals
μS	micro-Siemen
μS/cm	micro-Siemens per centimetre
m ² /day	square metres per day
a	A parameter used in the Hoek-Brown rock mass classification
A	ampere
A*b	Specific energy parameter of the Drop-Weight Test
ADCP	Acoustic Doppler Current Profiler
AEP	annual exceedance probability
Ag	silver
AIDS	Acquired Immune Deficiency Syndrome
Al	aluminium
ALARP	as low as reasonably practical (or practicable)
AMD	acid and metalliferous drainage
AMSE	American Society of Mechanical Engineers
AMSL	above mean sea level
ANGAU	Australian New Guinea Administrative Unit Hospital
ANZECC	Australian and New Zealand Environment and Conservation Council
ANZFA	Australia and New Zealand Food Authority

Abbreviation/Acronym	Description
APD	Asset Protection Division (refers to Wafi-Golpu Project site security)
ARI	average recurrence interval
ARMCANZ	Agriculture and Resource Management Council of Australia and New Zealand
As	arsenic
AS	Australian Standards
ASL	above sea level
AS/NZS	Australian/New Zealand Standard
ASS	acid sulphate soils
Au	gold
AUD	Australian Dollars
AUV	autonomous underwater vehicle
avg	average
B	Boron
B	billion
Ba	barium
BC	Block Cave
bcm	bank cubic metres
BDI	Baltic Dry Index
Be	beryllium
BLA	Babuaf Landowners Association
C&I	Control and Instrumentation
Ca	calcium
CaCO ₃	calcium carbonate
CAD	Computer Aided Design
Capex	Capital expenditure
CCME	Canadian Council of Ministries for the Environment
CCRP	Conceptual closure and rehabilitation plan
CCTV	closed circuit camera system
Cd	cadmium
CEPA	Conservation and Environment Protection Authority (previously Department of Environment and Conservation)
cfu	colony-forming units
CHMP	Cultural Heritage Management Plan
Ci	cavitation index
CITES	Convention on International Trade in Endangered Species of Wild Fauna and Flora
Cl	chlorine
cm	centimetre
Co	cobalt
CO	carbon monoxide

Abbreviation/Acronym	Description
CO ₂	carbon dioxide
CO ₂ -e	carbon dioxide equivalent
CO ₃	carbonate
COPC	contaminants of potential concern
Cp	centipoise
CPUE	catch per unit effort
Cr	chromium
Cr ⁶⁺	chromium VI ion
CSIRO	Commonwealth Scientific and Industrial Research Organisation
CTD	conductivity temperature density
Cu	copper
Cw	Concentration solids by weight
dB	decibel
dBA	A unit for weighted sound power level for noise that varies over time
dBA LA _{eq}	A-weighted, equivalent sound level – a unit for weighted sound power level for noise that varies over time
dBA LA _{max}	A-weighted, maximum sound level – a unit for the maximum sound level of a single noise event
dBA(L _{eg})	A unit for weighted sound power level for noise that varies over time
dB	decibels (unweighted or linear)
DEC	Department of Environment and Conservation (now CEPA)
dmt	dry metric tonne
dmean	weighted mean size
DN	diameter nominal (pipe size)
DO	dissolved oxygen
DOC	dissolved oxygen content, or dissolved organic carbon
DSTP	deep sea tailings placement
DWi	Drop Weight index
DWT	deadweight tonnes
EC	electrical conductivity
EDTA	ethylenediaminetetraacetic acid
Eh	oxidation reduction potential
EIR	environmental inception report
EIS	environmental impact statement
EL	exploration licence
EN	endangered
EPA	environment permit application
ESIA	environmental and social impact assessment
EU	European Union
EZ	euphotic zone

Abbreviation/Acronym	Description
F	fluorine
FAO	Food and Agriculture Organisation of the United Nations
Fe	iron
FEED	Front End Engineering and Design
FID	Final Investment Decision
FIFO	fly-in, fly-out
FIMS	Forest Inventory Mapping System
FM 1098	Permit for Land Disturbance
FM 1223	Chance Finds Report Form
FS	Feasibility Study
FSU	Feasibility Study Update
FSANZ	Food Standards Australia New Zealand
FTE	full time equivalent
FY	Financial Year
g	grams
G	acceleration due to Earth's gravity, equivalent to g-force
g/t	grams per tonne
GAI	Geochemical Abundance Index
GDP	Gross Domestic Product
GEL	generally expected levels
GIS	geographic information system
GJ	gigajoules
GPS	Global Positioning System
GWh	gigawatt hour
H ₂ SO ₄	sulphuric acid
ha	hectares
HAZOP	hazard and operability study
HCO ₃	bicarbonate
HDPE	high density polyethylene
HFO	heavy fuel oil
Hg	mercury
HHRA	human health risk assessment
HI	hazard index
HIV	Human Immunodeficiency Virus
HQ	hazard quotient
HV	high voltage (>1,000 V)
Hz	hertz – a unit of frequency
ICMM	International Council on Mining and Metals
ICOMOS	International Council on Monuments and Sites

Abbreviation/Acronym	Description
IFC	International Finance Corporation
IFO	intermediate fuel oil
in	inch
IPP	independent power provider
IUCN	International Union for Conservation of Nature
J	joules
JORC	Joint Ore Reserve Committee, Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves
JV	joint venture
k	kilo
k	thousand (monetary value)
K	potassium
kg	kilogram
kg/hook h ⁻¹	kilograms of fish per hook per hour
kHz	kilohertz
kJ/kg°C	kilojoules per kilogram degree Celsius
kL	kilo litre
km	kilometre
km/hr	kilometres per hour
km ²	square kilometres
kn	knots
koz	kilo ounce
kPa	kilopascals
KPIs	Key Performance Indicators
kt	Kilo tonne
kV	kilovolts
kW	kilowatt
kWh	kilowatt hour
L	litres
L/d	litres per day
L/s	litres per second
L _{A10} (dBA)	Noise level (in decibels – A-weighted) exceeded for 10% of the measurement period
L _{A90} (dBA)	Noise level (in decibels – A-weighted) exceeded for 90% of the measurement period
L _{Aeq}	Equivalent continuous noise level
L _{Aeq} (1 hour)	Equivalent continuous (or 'average') noise level (in decibels – A-weighted) over a 1 hour measurement period
L _{Amax}	Maximum A-weighted noise level associated with site activity
L _{Amax,adj T}	The average of the maximum noise levels during time period T-adjusted for tonality and impulsiveness

Abbreviation/Acronym	Description
L_{eq}	equivalent sound level
LFO	light fuel oil
LHD	load-haul-dump vehicle
LIDAR	Light Imaging, Detection and Ranging
LLG	Local Level Government
L_{max}	maximum sound level
LMP	lease for mining purposes
LNG	liquified natural gas
LOM	Life of Mine
LS	lump sum
M	million (monetary value)
m	metres
m/day	metres per day
m/month	metres per month (advance rate)
m/s	metres per second (velocity)
m^2	square metres
m^3	cubic metres
m^3/d	cubic metres per day
m^3/s	cubic metres per second (or CUMEC)
m^3/h	cubic metres per hour
mA	milliamps
mASL	metres above sea level
mbgl	metres below ground level
ME	mining easement
meq/L	milliequivalent per litre (amount of the substance multiplied by its valence)
Mg	magnesium
mg	milligrams
mg/kg	milligrams per kilograms
mg/kg/week	milligrams per kilogram per week (loading rate in estimated water quality)
mg/L	milligrams per litre
ML	mining lease
ML	megalitre
MLD	mixed layer depth
mm	millimetres
mm/a	millimetres per annum
mm/s	millimetres per second
mm/yr	millimetres per year
Mm^3	million cubic metres
MMJV	Morobe Mining Joint Ventures

Abbreviation/Acronym	Description
Mn	manganese
Mo	molybdenum
mø	metres diameter
MOA	Memorandum of Agreement
MOU	Memorandum of Understanding
Moz	million troy ounces
MRA	Mineral Resources Authority
mRL	metres reduced level
MSA	Mining Safety Act
MSL	mean sea level
mt	metric tonnes
Mt	million tonnes
Mtpa	million tonnes per annum
MW	megawatt
MZB	mixing zone boundary
N/A	Not Applicable
N ₂ O	nitrous oxide
Na	sodium
Na ⁺	sodium ion
NAF	non-acid forming
NAG	nett acid generation
NAR	Northern Access Road
NCM	National Content Measure
NEC	National Executive Council
NEPM	<i>Australian National Environment Protection (Assessment of Site Contamination) Amendment Measure 2013</i>
NFA	National Fisheries Authority
NGO	non-governmental organisations
NH ₃	ammonia
Ni	nickel
N/m ²	Newton per square metre
NCC	PNG National Cultural Commission
NMAG	PNG National Museum and Art Gallery
nmi	nautical mile
NMI	National Measurement Institute
NO ₂	nitrogen dioxide
NO ₃	nitrate
NO _x	nitrogen oxides
NOAA	National Oceanic and Atmospheric Administration

Abbreviation/Acronym	Description
NoI	notice of intention
NPC	net present cost
NSO	PNG National Statistics Office
NTU	Nephelometric Turbidity Units
O&M	operation and maintenance
O ₃	tropospheric ozone
OH&S	occupational health and safety
Opex	operational expenditure
pa	per annum
P	phosphorus
PAF	potentially acid forming
PAR	photosynthetically active radiation
PASS	potential acid sulphate soils
PAX	potassium amyl xanthate
Pb	lead
PFS	Pre-Feasibility Study
PGA	peak ground acceleration
PGK	Papua New Guinea Kina currency
pH	power of hydrogen (acidity or alkalinity of a solution)
PI	plastic index
PM ₁₀	respirable particulates less than 10µm
PM _{2.5}	respirable particulates less than 2.5µm
PMV	public motor vehicle
PNG	Independent State of Papua New Guinea
PNG ECoP	State of PNG Environmental Code of Practice for the Mining Industry
PNG ER	State of PNG Environment (Water Quality Criteria) Regulation 2002
PNG LNG	Papua New Guinea Liquefied Natural Gas Project
POM	particulate organic matter
PPA	power purchase agreement
PPL	PNG Power Limited
ppm	parts per million
ppt	parts per thousand
PQL	practical quantification limits
PS	performance standard
PSA	power supply agreement
psi	pounds per square inch
QA/QC	Quality Assurance/Quality Control
Qha	Quaternary piedmont-slope deposits
RAW	return airway

Abbreviation/Acronym	Description
RL	Reduced Level
ROM	Run of Mine
ROV	Remote Operated Vehicle
S	Parameter used in the Hoek-Brown rock mass classification (use where applicable)
S	sulphur
s.u.	standard units
SAG	semi autogenous grinding
Sb	antimony
SCADA	Supervisory Control and Data Acquisition
SCIP	strategic community investment plan
Se	selenium
SEIA	socioeconomic impact assessment
SF ₆	sulphur hexafluoride
SG	specific gravity
Si	silicon
SLC	sub level caving
SMBS	sodium metabisulphite
SML	special mining lease (abbreviated when referring to a specific lease, e.g., SML 10)
SMM	social management measure
SO ₂	sulphur dioxide
SO ₄ ²⁻	sulphate
SOP	standard operating procedure
SOW	scope of work
SPM	suspended particulate matter
SQGV	sediment quality guidelines value
Sr	strontium
SST	sea surface temperature
STD	standard
STI	sexually-transmitted infections
swl (m)	standing water level (metres)
t	tonnes (metric)
t/km ²	tonnes per square kilometre
t/m ³	tonnes per cubic metre
TARP	trigger and response plan
TDS	total dissolved solids
Th	thorium
TOC	total organic carbon
TKN	total Kjeldahl nitrogen

Abbreviation/Acronym	Description
tpa	tonnes per annum
TSF	tailings storage facility
TSS	total suspended solids
TTV	toxicity trigger value
UK	United Kingdom
UNDP	United Nations Development Program
UNESCO	United Nations Educational, Scientific and Cultural Organization
UOM	units of measure
USEPA	United States Environmental Protection Agency
USFDA	United States Food and Drug Administration
UXO	unexploded ordnance
V	volts
w/w	solids by weight
WBLA	Wale Babuaf Landowners Association
WGJV	Wafi-Golpu Joint Venture
WGSL	Wafi-Golpu Services Limited
WHO	World Health Organisation
wmt	wet metric tonne
WW I	World War I
WW II	World War II
WWF	World Wildlife Fund
YDA	Yanta Development Association
Zn	zinc

