

Glossary & Abbreviations

%	per cent
µg/m³	micrograms per cubic metre
µm	microns
<	less than
>	greater than
µg/L	micrograms per litre
µS/cm	microseconds per centimetre
°C	Degrees Celsius
AAPA	Aboriginal Areas Protection Authority
ABCC	Acid Buffering Characteristic Curve. The ABCC is determined by slowly acidifying a sample with dilute acid to around pH 3 over a 16 to 24-hour period. It typically only accounts for more readily-available carbonates such as calcite and dolomite. When present in sufficient quantity, these minerals will typically buffer a waste rock at near-neutral pH, which is essential for maintaining low metal solubilities.
ABS	Australian Bureau of Statistics
Aburri	bulk carrier designed to transport concentrate to sea-going vessels.
AC	Acid consuming
Acid-Base Accounting (ABA)	The balance between the acid-production and acid-consumption properties of a mine-waste material. Minerals in waste material (mostly sulphides and pyrite) react with water and oxygen to produce sulphuric acid. ABA consists of measuring the acid generating and acid neutralizing potentials of a rock sample.
AEP	Annual Exceedance Probability. The probability (or likelihood) that a given total rainfall accumulated over a given duration will be exceeded in any one year rainfall event
AFANT	Amateur Fishing Association of NT
AGO	Australian Greenhouse Office
AHD	Australian Height Datum
Al	Aluminium
Albion process	Process for concentrating lead and zinc ore developed by MIM
Alluvial	Of or pertaining to alluvium; sand, silt, clay, gravel, or other matter deposited by flowing water, as in a riverbed, floodplain, delta, or alluvial fan. Alluvium is generally considered a young deposit in terms of geologic time.
ALRA	Commonwealth <i>Aboriginal Land Rights Act</i>
AMD	Acid Mine Drainage. Also called acid rock water or acid rock drainage, refers to the outflow of acidic water from (usually) abandoned metal mines or coal mines. Acid mine drainage occurs naturally within most environments as part of the rock weathering process. However, this is exacerbated by large-scale earth disturbances characteristic of mining and other large construction activities, usually within rocks containing an abundance of sulphide minerals.
AMSA	Australian Maritime Safety Authority
Ambient Noise	The sum of (background) noise at a particular location

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ANC	Acid neutralising capacity
ANCOLD Guidelines	Australian National Committee on Large Dams Guidelines.
Angle of Repose	The maximum angle that a soil, sediment or other loose material can be placed or accumulate and be stable. The angle of repose varies for different types of materials and different moisture conditions
Anthropogenic	Produced by humans or human-related activity
ANZECC	Australia and New Zealand Environment Conservation Council
ANZECC 2000 Guidelines	Australian and New Zealand Guidelines for Fresh and Marine Water Quality (2000). These guidelines provide a summary of the water quality guidelines proposed to protect and manage the environmental values supported by the water resources. The guideline also provides advice on designing and implementing water quality monitoring and assessment programs.
Aquifer	A geological formation bearing groundwater that is permeable (unconfined) or impermeable (confined) to the transmission of groundwater
Aquifer (confined)	An aquifer that is bounded above and below by impermeable rock or sediment layers. There may or may not be enough pressure in the aquifer to make it an "artesian aquifer".
ARD	Acid Rock Drainage. The outflow of acidic water from mining operations including waste rock, tailings, and exposed surfaces in open pits and underground workings. ARD forms as a result of the dissolution of sulphides, mainly pyrite (FeS_2) and pyrrhotite (FeS) under oxidizing conditions in air and water
ARI	Average Recurrence Interval. The expected period between exceedances of a given rainfall total, accumulated over a given duration
AS	Australian Standard
As	Arsenic
AS/NZS	Australian Standards/New Zealand Standards
AUSRIVAS	Australian River Assessment System
Autodock	System utilised to secure the vessel in position against the wharf using a hydraulic claw and swing arm.
av	Average
BCEC	Borroloola Community Education Centre
BCGC	Borroloola Community Government Council
Bedrock	The native consolidated rock underlying the Earth's surface. Above the bedrock is usually an area of broken and weathered unconsolidated rock in the basal subsoil
Berm	Horizontal strip or shelf built into an embankment or cut to break the continuity of the slope.
Bing Bong	Bing Bong concentrate storage and ship loading facility
Bioregion	A specific geographic zone with a repeating or similar pattern biotic (flora and fauna) and abiotic (soils, terrain, geography, climate and rainfall) factors.
BoM	Bureau of Meteorology
Bonn Convention	Convention on the Conservation of Migratory Species of Wild Animals.

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Borrow Pit	An area that is excavated to provide earth / material for use in construction.
Breccias	Rock composed of sharp-angled fragments embedded in a fine-grained matrix
Bund	Also called a bund wall and bunding, is an embankment that is constructed around an area and/or structure that is designed to prevent inflow or outflow of various liquid types.
Ca	Calcium
CaCO₃	Calcium Carbonate
Calibrate	To check, adjust, or standardise a measuring instrument, usually by comparing it with an accepted model.
CAMBA	China-Australia Bird Agreement
Capillary Break	A space, or layer, between two surfaces which is purposely made wide enough to prevent the movement of moisture through the space by capillary action.
Capping	Covering the rock with material like clay to keep the water and air out
Capping material	Clay or something similar which is put on the waste rock dump to block out water and air from reaching the contaminated rock.
Catchment	A structure or land feature which collects water.
Cd	Cadmium
CEF	Clean Energy Future
CH₄	Methane
HAZOP	Control Hazard and Operability Study
Cl	Chlorine
Co	Carbon monoxide
CO₂	Carbon dioxide
CO_{2-e}	CO ₂ emissions
CO_{2-e}/y	CO ₂ equivalent per year
CO₃	Carbonate
Colloidal material	Finely divided solids which will not settle but which may be removed by coagulation
Colluvium	A loose deposit of rock debris accumulated through the action of gravity at the base of a cliff or slope.
CBT	Community Benefits Trust
Concrete Batching	The production of concrete or concrete products by mixing cement with sand, rock, aggregate or other similar materials.
Cr	Chromium
CR	Critically Endangered
CSIRO	Commonwealth Scientific and Industrial Research Organisation
Cu	Copper

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Datum	A reference location or elevation which is used as a starting point for subsequent measurements. Sea level is a datum for elevation measurements.
dB	Decibels
dB(A)	Decibel (Weighted). The measurement of sound pressure level in which the amplitude of the sound signal is negatively weighted in frequencies below 1000 Hz in accordance with a weighing scale known as the 'A' weighing scale. This scale was established to closely simulate human perception of the relative level of pure tone sounds.
DCCEE	Department of Climate Change and Energy Efficiency
dd	data deficient
Decommissioning	Close down a mine after mining has finished. This involves taking away buildings and equipment and rehabilitating the mine site area.
DIDO	Drive-In/Drive-Out
DMSO	Dimethyl sulfoxide
dmt	dry metric tonnes
dmt/y	dry metric tonnes per year
DO	Dissolved oxygen
Dolomite	a sedimentary rock resembling limestone but consisting principally of the mineral dolomite.
DR-PIFR	Department of Natural Resources – Primary Industry, Fisheries and Resources
Drawdown	A lowering of the water level of a confined or unconfined aquifer resulting from the pumping of groundwater
e.g.	for example
EC	Electrical conductivity
EDL	Energy Developments Limited
EEO	Energy Efficiency Opportunities
EET	Emissions Estimation Technique
EHS	Environment, health, and safety
EIA	Environmental Impact Assessment
EIS	Environmental Impact Statement
Embankment	A ridge constructed of earth, fill, rocks, or gravel and used most commonly to retain water. The length of an embankment exceeds both its width and its height.
EMP	Environmental Management Plan
EMS	Environmental Management System.
endemic	Native to or confined to a certain region.
Ephemeral	Watercourse flows that are short-lived, often reliant upon direct precipitation input.
EPBC Act	<i>Environmental Protection and Biodiversity Conservation Act 1999.</i>
Equivalent Persons	Unit of measurement used to determine the demand for sewerage reticulation services.
Evaporite	any sedimentary rock, such as rock salt, gypsum, or anhydrite, formed by evaporation of former seas or salt-water lakes

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Exploration	The work of identifying areas that may contain viable mineral resources. This work can include surface mapping, remote sensing, exploratory drilling, geophysical testing, geochemical testing and other activities.
Fe	Iron
FeS₂	Pyrite
FIFO	Fly-In/Fly-Out
Flood	An overflow of water onto lands that are normally above local water levels. Can be caused by stream discharge exceeding the capacity of the stream channel, storm winds and reduced pressure drawing water from a lake or ocean onto the coastline, dam failure, lake level increase, local drainage problems or other reasons.
Flotation	The process of separating different materials, especially minerals, by agitating a pulverized mixture of the materials with water, oil, and chemicals. Differential wetting of the suspended particles causes unwetted particles to be carried by air bubbles to the surface for collection
FoS	Factor-of-Safety
Freeboard	The distance between the level of the water and the upper surface of a dam or storage facility, such as the tailings storage facility.
FTE	Full Time Equivalent Employment Position
g/m²/month	grams per metre squared per month
g/t	grams per tonne
Gauging Station	A facility on a stream, lake, canal, reservoir or other water body where instruments are installed to automatically monitor the water. Measurements such as stage, discharge, water temperature and pH are automatically taken and transmitted to hydrologists via satellite, radio or telephone.
GDE	Groundwater dependent ecosystem.
GDP	Gross Domestic Product
Geology	The structure of a specific region of the earth's crust
GFU	Gulf Fall and Uplands
GHG	Greenhouse Gas
GJ	Giga Joule
GJ/y	Giga Joules per year
GL	Giga litre
GP	General Practitioner
Grey water	Non-drinkable water that can be reused for irrigation, flushing toilets, and other purposes
GRP	Gross Regional Product
GSP	Gross State Product
GWh	Gigawatt hours
H	Horizontal
H₂O	Water

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H₂SO₄	Sulphuric acid
ha	Hectares
HAZOP	Hazard and Operability Study
HCO₃	Hydrochloric acid
Heavy Media Plant	HMP
Heavy vehicle hardstands	Parking areas for heavy vehicles
Hg	Mercury
HIRARC	Hazard identification, risk assessment and risk control methodology
HSEC	Health, Safety, Environment and Community.
Humbugging	an expectation within the family structures of Indigenous people that money or other commodities will be given by those who have it in the Aboriginal community to their family members
HYC	
Hydraulic	“Here’s Your Chance” deposit
Hydraulic conductivity	of, concerned with, or employing liquids in motion symbolically represented as K, is a property of vascular plants, soil or rock, that describes the ease with which water can move through pore spaces or fractures. It depends on the intrinsic permeability of the material and on the degree of saturation. Saturated hydraulic conductivity, K _{sat} , describes water movement through saturated media
Hydrocyclones	a conical liquid separator which separates the slurry of ground ore and water according to how finely the rock has been ground.
IAP2	International Association for Public Participation
i.e.	that is,
IMETF	Indigenous Mining and Enterprise Task Force
Impermeable Layer	A layer of rock, sediment or soil that does not allow water to pass through.
Interburden	Non-ore bearing material interspersed within layers of ore
IRSA	Inter-ramp slope angle
ISO	International environmental management standard
ISP	Imperial Smelting Process
IUCN	International Union for the Conservation of Nature
JAMBA	Japan-Australia Migratory Bird Agreement
JSA	Job Safety Analysis
K	Potassium
K	Hydraulic conductivity
kg	kilogram
Kg H₂SO₄/t	kg of sulphuric acid per tonne of overburden
kg/ha	kilogram per hectare

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kL	kilolitres
kL/day	kilolitres per day
KLC	Kinetic Leach Column
km	kilometre
km/h	kilometre per hour
Km²	Square kilometre
KNAG	Kinetic Net Acid Generation
KPIs	key performance indicators
kV	kilo volts
L	Litre
Lacustrine	of or relating to lakes
L/y	litres per year
L_{A1, 10, 90}	Noise levels exceeded 1%, 10% or 90% of the time
L_{eq}	The L _{eq} is the energy average noise level containing the same acoustic energy as the actual fluctuating noise level.
Lc	least concern
LED	Light Emitting Diode
LGA	Local Government Area
LIP	Local Implementation Plan
Lithology	The physical characteristics of a rock
LOM	Life of mine
LOR	Limit of Reporting
LR	Low risk
Macroinvertebrate	An invertebrate large enough to be seen without magnification
Macropod	(large-foot) – a member of the family macropodidae, i.e. wallabies and kangaroos.
MCA	Minerals Council of Australia
m	metre
M	million
m/d	metres per day
m/s	metres per second
m²	square metre
m³	cubic metres
m³/h	cubic metres per hour
m³/s	cubic metres per second

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m³/y	cubic metres per year
MAWA	Local Aboriginal Corporation
MCA P	Test production bore
MEB	Medical Entomology Branch
mg	milligram
Mg	Magnesium
mg/L	milligrams per litre
MIM	Mt Isa Mines
ML	million litres or megalitre
ML	Mineral Lease
mm	millimetre
mm/day	millimetres per day
Mm³	million cubic metres
Mn	Manganese
MNES	Matters of National Environmental Significance
MOE	Ministry of Environment (Ontario)
MOU	Memorandum of Understanding
MPA	Maximum potential acid
MPC	Maximum permitted concentration
MRRM	McArthur River Mining
MSDSs	Material Safety Data Sheets. Contain information on the hazards associated with a chemical, along with guidance on its safe use.
Mt	million tonnes
Mtpa	million tonnes per annum
MW	megawatt
MWh	megawatt hours
N₂O	Nitrous oxide
Na	Sodium
NAF	Non-acid forming. A sample of waste rock is usually defined as NAF when it has a negative NAPP and the NAG pH ≥ 4.5. Material classified as NAF is considered unlikely to be a source of acidic drainage. Where there is significant total S (>1%), more detailed investigation may be required to confirm that the ANC measured is available at the same rates as acid production through sulphide oxidation.
NAG	Net acid generation. The NAG value measures the acidity after oxidation and is expressed as kilograms of sulphuric acid per tonne of rock.

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NAPP	Net acid producing potential. NAPP indicates if a material has potential to generate ARD. It represents the balance between the capacity of a sample to generate acid (TAPP) and its capacity to neutralise acid (ANC). The NAPP is also expressed in units of kg H ₂ SO ₄ per tonne ore and is calculated as follows: NAPP = TAPP – ANC
NATA	National association of testing authorities
NEPC	National Environment Protection Council
NEPM	National Environment Protection Measures
NES	National Environmental Significance
NGER	National Greenhouse and Energy Reporting Act
NGS	National Greenhouse Strategy
Ni	Nickel
NLC	Northern Land Council
NO	Nitric oxide
No	Number
NO₂	Nitrogen dioxide
NOHSC	National Occupational Health and Safety Commission
NOI	Notice of Intent
NO_x	Oxides of nitrogen
NLC	Northern Land Council
NPI	National Pollutant Inventory
NRETAS	Department of Natural Resources, Environment, the Arts and Sport
NRM	Natural Resource Management
NSW EPA	New South Wales Environmental Protection Agency
NT	Northern Territory
nt	near threatened
NTGS	Northern Territory Geological Survey
NZS	New Zealand standard
O₂	Oxygen
O₃	Ozone
OEF	Overburden emplacement facility
OHS	Occupational health and safety
Overburden	Non-ore bearing material overlying the ore
Oxidation	A chemical reaction in which substances combine with oxygen.
PABX	Private Automatic Branch Exchange typically hosting multiple phone extensions and a main site dial in number.

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PAF	Potentially acid forming
Palaeochannel	older river courses which were buried due to sedimentation
Peak Flow	The maximum instantaneous discharge of a stream at a specific location.
Peak Particle Velocity	A measure of ground vibration magnitude which is the maximum rate of change of ground displacement with time, usually measured in millimetres / second.
Pb	Lead
PbS	Galena
PDS / PDX	Hallprint fish tag designation
PER	Public Environment Report
Permeability	A measure of how well a material can transmit water. Materials such as gravel, that transmit water quickly, have high values of permeability. Permeability is primarily determined by the size of the pore spaces and their degree of interconnection.
pH	measure of acidity (<7) or alkalinity (>7) of a (water) sample. A relative measure of the acidity or alkalinity of a water based upon a scale that ranges between 0 and 14 with 7 being neutral. Values of pH below 7 indicate acid solutions and values of pH above 7 indicate basic solutions.
Pit dewatering	The act of removing groundwater around the edges of the area to become an underground pit progressively as the pit is dug. This process keeps groundwater out of the pit so as mining can occur; often well below the water table.
PM	Particulate matter (fine dust)
PM_{2.5} and PM₁₀	Particulate matter less than 2.5 or 10 microns
PMF	Probable Maximum Flood
PPE	Personal Protection Equipment
PPM	Parts Per Million
Proponent	McArthur River Mining Pty Ltd
PWCNT	Parks and wildlife commission of the Northern Territory
RL	Reduced level (relative height compared to Australian Height Datum)
ROM	Run of mine
ROPS	Roll-Over Protection Structure
rpm	Revolution per minute
S.L.A.M	Stop Look Assess Manage
SAG	Semi Autogenous Grinding
Sb	Antimony
Screening	Way of sizing crushed rock into different sizes by shaking them through different screens which have different sized holes or gaps. The crushed rock that passes through the screens is called the undersize.
Se	Selenium
Shale	A fissile rock composed of layers of claylike, fine-grained sediments.

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SEWPAC	Department of Sustainability, Environment, Water, Population and Communities
SiteSafe	MRM's electronic incident reporting process
SIA	Social Impact Assessment
SIMP	Social Impact Management Plan
SLA	Statistical Local Area
SMS	Safety Management System.
SO₂	sulphur dioxide
SO₄	Sulphate
SOPs	Standard Operating Procedures
Spillway	A weir, channel, conduit, tunnel, gate or other structure, designed to permit discharges from the reservoir when pondage levels rise above freeboard storage level; can include secondary, auxiliary, emergency spillways or fuse plugs.
SSD	Sub-Statistical Division
Strip ratio	The ratio of the tonnes of waste rock mined to the tonnes of ore mined
Stratigraphy	The study of rock strata, especially the distribution, deposition, and age of sedimentary rocks.
t	tonnes
t/y	tonnes per year
TAFE	Technical and Further Education
Tailings	Fine wastes from the processing operation. The solid residual material after the processing of ore.
TDS	Total dissolved solids
Ti	Titanium
TIM	Total Insoluble Matter
TOs	traditional owners
Topography	The land forms or surface configuration of a region.
tpa	Tonnes per annum
tph	tonnes per hour
TPH	Total Petroleum Hydrocarbons
TPWC Act	<i>Territory Parks and Wildlife Conservation Act 2006</i>
TSF	Tailings storage facility. An area used to confine tailings.
TSP	Total suspended particles
TSS	Total suspended solids
UNFCC COP3	Conference of the Parties to UNFCCC
UNFCCC	United Nations Framework Convention on Climate Change
URS	URS Corporation

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V	Vertical when referring to slope angle or Volts when referring to power
VOC	Volatile organic compounds
Vu	Vulnerable
Vug	A small cavity in rock, often lined with crystals
WAN	Wide Area Network, connects office for data communications like internal email
WDL	Waste Discharge License
WHO	World Health Organisation
WMD	Water Management Dam
Xstrata	Xstrata plc
Yr	year
Zn	zinc
ZnS	Sphalerite