



BARRICK

COWAL

**SECTION 8
ABBREVIATIONS, ACRONYMS
AND GLOSSARY**

COWAL GOLD MINE EXTENSION MODIFICATION

8 ABBREVIATIONS, ACRONYMS AND GLOSSARY

8.1 ABBREVIATIONS AND ACRONYMS

		DECCW	NSW Department of Environment, Climate Change and Water (now OEH and NOW)
		DP&I	NSW Department of Planning and Infrastructure
ACHA	Aboriginal Cultural Heritage Assessment	DPI	NSW Department of Primary Industries
AEMR	Annual Environmental Management Report	DPI-MR	NSW Department of Primary Industries – Mineral Resources (now DRE)
AHD	Australian Height Datum	DRE	NSW Division of Resources and Energy (within the DTIRIS)
AHIMS	Aboriginal Heritage Information Management System	DTIRIS	NSW Department of Trade and Investment, Regional Infrastructure and Services
ANZECC	Australian and New Zealand Environment and Conservation Council	DUAP	NSW Department of Urban Affairs and Planning
ARI	average recurrence interval	EA	Environmental Assessment
ARMCANZ	Agriculture and Resource Management Council of Australia and New Zealand	EC	electrical conductivity
Barrick	Barrick (Cowel) Limited	EEC	endangered ecological community
BCA	benefit cost analysis	e.g.	example
Bland LEP	<i>Bland Local Environmental Plan 2011</i>	EIS	<i>Cowel Gold Project Environmental Impact Statement</i>
CEMCC	Community Environmental Monitoring and Consultative Committee	EP&A Act	<i>NSW Environmental Planning and Assessment Act, 1979</i>
CGM	Cowel Gold Mine	EP&A Regulation	<i>NSW Environmental Planning and Assessment Regulation, 2000</i>
CMA	Catchment Management Authority	EPA	NSW Environment Protection Authority
CN _{WAD}	weak acid dissociable cyanide	EPBC Act	<i>Commonwealth Environment Protection and Biodiversity Conservation Act, 1999</i>
Coffey Environment	Coffey Environment Pty Ltd	EPL	Environment Protection Licence
Coffey Partners International	Coffey Partners International Pty Ltd	ESD	ecologically sustainable development
dB	decibel	ETL	electricity transmission line
dba	A-weighted decibel	<i>et al.</i>	and others
DEC	NSW Department of Environment and Conservation (now OEH)		
DECC	NSW Department of Environment and Climate Change (now OEH)		

FFMP Plan	Flora and Fauna Management	LMP	Land Management Plan
FHA	Final Hazard Analysis	LCCC	Lake Cowal Conservation Centre
FM Act	NSW <i>Fisheries Management Act, 1994</i>	LCF	Lake Cowal Foundation
Forbes LEP	<i>Forbes Local Environmental Plan 2013</i>	LGA	Local Government Area
GEM	Geo-Environmental Management Pty Ltd	LPBMP	Monitoring Programme for Detection of any Movement of Lake Protection Bund, Water Storage and Tailings Structures and Pit-Void Walls
GL	gigalitres	M	million
Grey Box EEC	<i>Grey Box Grassy Woodlands and Derived Native Grasslands of South-eastern Australia Endangered Ecological Community</i>	m	metre
		m/s	metres per second
		m/day	metres per day
H	horizontal	mg/L	milligram per litre
ha	hectare	Mining SEPP	<i>State Environmental Planning Policy (Mining, Petroleum Production and Extractive Industries) 2007</i>
HAPAP	Hazard Industry Planning Advisory Page		
HAZOP	Hazard and Operability Study	ML	Mining Lease
IACHMP	Indigenous Archaeology and Cultural Heritage Management Plan	ML	megalitre
		ML/annum	megalitre per annum
ICDS	Internal Catchment Drainage System	ML/day	megalitre per day
i.e.	that is	MOP	Mining Operations Plan
kg	kilogram	Moz	million ounces
kL/t	kilolitres per tonne	MREMP	Mining, Rehabilitation and Environmental Management Process
km	kilometre		
km ²	square kilometre	Myall Woodland EEC	<i>Myall Woodland in the Darling Riverine Plains, Brigalow Belt South, Cobar Peneplain, Murray-Darling Depression, Riverina and NSW South Western Slopes bioregions</i>
kV	kilovolt		
L _{Aeq}	equivalent continuous noise level		
LALC	Local Aboriginal Land Council	Mt	million tonnes
Lachlan River Catchment EEC	<i>Aquatic Ecological Community in the Natural Drainage System of the Lowland Catchment of the Lachlan River Endangered Ecological Community</i>	Mt CO ₂ -e	million tonnes of carbon dioxide equivalent
		Mtpa	million tonnes per annum

NAF	non-acid forming	SEWPaC	Commonwealth Department of Sustainability, Environment, Water, Population and Communities
NGER Act	<i>Commonwealth National Greenhouse and Energy Reporting Act, 2007</i>		
NOW	NSW Office of Water	t/ha	tonnes per hectare
NMP	Noise Management Plan	t/ha/m	tonnes per hectare per month
NSESD	National Strategy for Ecologically Sustainable Development (Commonwealth of Australia, 1992)	tph	tonnes per hour
		the Modification	Cowal Gold Mine Extension Modification
		the Agreement	Native Title Agreement
NSW	New South Wales	TSC Act	<i>NSW Threatened Species Conservation Act, 1995</i>
OEH	NSW Office of Environment and Heritage	TSP	total suspended particulate
PEL	Pacific Environment Limited	TSMP	Threatened Species Management Protocol
PEA	<i>Cowal Gold Mine Extension Modification – Modification Description and Preliminary Environmental Assessment</i>	UCDS	Up-catchment Diversion System
		V	vertical
PHA	Preliminary Hazard Analysis	WAD	weak acid dissociable
PM _{2.5}	particulate matter less than 2.5 micrometres in size	WAL	Water Access License
PM ₁₀	particulate matter less than 10 micrometres in size	WCC	Wiradjuri Condobolin Corporation
PSNL	project-specific noise limit	µS/cm	microSiemens per centimetre
		%	percent
REMP	Rehabilitation and Environmental Management Plan	°	degrees
RL	relative level		
RO	Reverse Osmosis		
ROM	run-of-mine		
ROMP	Rehabilitation and Offset Management Plan		
RVEP	Remnant Vegetation Enhancement Programme		
SEPP 33	<i>State Environmental Planning Policy No. 33 (Hazardous and Offensive Development)</i>		
SEPP 55	<i>State Environmental Planning Policy No. 55 (Remediation of Land)</i>		

8.2 GLOSSARY

Alluvial

A general term for clay, silt, sand and gravel transported by water and deposited on the bed of a floodplain, river or stream.

Amenity

Useful and enjoyable quality.

Aquifer

A sub-surface rock formation containing water in recoverable quantities.

Average recurrence interval (ARI)

The expected value or average value of the periods between exceedances of a given event magnitude. A term used in water engineering. Also known as “return period”.

Background

The condition (e.g. noise levels) already present in an area before the commencement of a specific activity.

Baseflow

The discharge of sub-surface water into a stream (i.e. groundwater seepages).

Baseline data

A body of information collected over time to define specific, characteristics of an area (e.g. species occurrence or noise levels) prior to the commencement of an activity (e.g. a mining operation).

Batter

An engineered slope of soil or rock fill on either side upslope or downslope of a road, embankment or waste rock storage; the sloping banks of cut earth separating different levels in an open pit.

Berm

A low bank or steep slope built onto a slope to improve its structural stability and reduce erosion.

Biological diversity

The diversity of different species of plants, animals and micro-organisms, including the genes they contain, in the ecosystem of which they are part.

Bund

An earth, rock or concrete wall or mound constructed to restrict the inflow or outflow of liquids or noise.

Carbon-in-leach process

Process of gold extraction where gold is leached from ore and adsorbed onto carbon in the same tanks.

Catchment

The entire land area from which water (e.g. rainfall) drains to a specific watercourse or water body.

CN_{WAD}

Weak acid dissociable cyanide; cyanide existing in complexes, generally with metal ions, which break up (dissociate) in the presence of weak acid; includes free cyanide.

Concentration

The amount of a substance per unit of mass or volume of the medium in which it occurs.

Cross-section

A two-dimensional diagram of an object presented as if the object had been cut across its length.

Crusher

That part of an ore-processing plant where the ore is mechanically crushed into smaller pieces.

Cut-off trench

Trench placed underneath and parallel to an embankment or dam wall and filled with material of low permeability (e.g. compacted clay) to prevent seepage underneath the embankment or wall.

Cyanate	A chemical species (CNO-) formed by the oxidation of cyanide.	Embankment lifts	An embankment is constructed by the placement of a series of progressively higher and narrower earth or rock layers; each separate layer is called a lift.
Cyanide	A chemical (CN-) capable of dissolving gold and used in the extraction of gold from ore.	Endemic	Native plant or animal restricted to a specific locality or geographic region.
Cyanide leaching circuit	Circuit where gold is removed from ore by dissolution in cyanide solution.	Final void	A completed (mined-out) open pit.
dB	Decibel; unit used to express sound intensity.	Freeboard	Excess water storage capacity (usually designed to contain rainwaters).
dBA	Decibels (A-weighted scale); unit used for most measurements of environmental noise; the scale is based upon typical responses of the human ear to sounds of different frequencies.	Gilgai	Irregular land surface with alternating mounds and depressions. Microrelief is formed due to clay horizons shrinking and swelling with alternate drying and wetting cycles.
Decommissioning	Removal or reuse of infrastructure.	Grade	The concentration of gold either in an individual rock sample or averaged over a specified volume of rock; gold grade is usually given in grams per tonne.
Drawdown	The localised lowering of groundwater level.	Greenhouse gases	Gases with potential to cause climate change (e.g. methane, carbon dioxide and non-methane volatile organic compounds). Usually expressed in terms of carbon dioxide equivalent.
Ecologically Sustainable Development (ESD)	Development that improves the quality of life, in a way that maintains the ecological processes on which life depends.	Groundwater	All waters occurring below the land surface; the upper surface of the soils saturated by groundwater in any particular area is called the watertable.
Ecosystem	An interacting system of animals, plants, other organisms and non-living parts of the environment.	Habitat	The particular local environment occupied by an organism.
Electrical conductivity (EC)	The ability of a substance (either solid, liquid or gas) to transmit electricity.	Hydraulic gradient	The change in static head (i.e. elevation and pressure) per unit of distance in a given direction. (Units: dimensionless).
Emission	The discharge of a substance (e.g. dust) into the environment.		

<i>ibid.</i>	In the same place.	Noxious weeds	Plants that are considered or declared a pest in a Shire or region.
<i>In situ</i>	A term used to distinguish material (e.g. soils, minerals, fossils, etc.) found in its original position of formation, deposition, or growth, as opposed to transported material.	Ore	Rock containing commercially viable quantities of metals (e.g. gold).
Inter-generational equity	The concept that the present generation should ensure that the health, diversity and productivity of the environment is maintained or enhanced for the benefit of future generations.	Orebody	A solid mass of ore (both high and low grade) that is geologically distinct from the rock that surrounds it and that is commercially extractable.
Intra-generational equity	The concept that the present generation should ensure that the health, diversity and productivity of the environment is maintained or enhanced for the benefit of their own generation.	Oxide ore	That component of the ore reserve composed of weathered (oxidised) rock.
Lacustrine	Pertaining to lakes.	Palaeochannel	An ancient stream channel that is now buried.
<i>L_{Aeq}</i>	The equivalent continuous noise level – the level of noise equivalent to the energy-average of noise levels occurring over a measurement period.	Permeability	The ability of a rock or soil to allow fluid to pass through it.
Leach	Dissolution and removal of a soluble substance from a soil or a rock, e.g. the leaching of salt (by water) from a soil or the leaching of gold (by cyanide) from a rock.	pH	A measure of the degree of acidity or alkalinity of a solution; expressed numerically (logarithmically) on a scale of 1 to 14, on which 1 is most acid, 7 is neutral, and 14 is most basic (alkaline).
Mitigation	Measures undertaken to limit the adverse impact of natural hazards, environmental degradation and technological hazards.	Population	A group of individuals of one species in an area.
Noise contours	Theoretical lines connecting points of equal noise value.	Primary crusher	The machine that crushes the excavated ore feed.
		Primary ore	The compound of the ore which is composed of unweathered rock.
		Process plant	The place where the extraction of the gold from the mined ore occurs.
		Rehabilitation	The restoration of a landscape and especially the vegetation following its disturbance.

Remnant Vegetation	Native vegetation remaining after widespread clearing has taken place.	WAD	Weak acid dissociable.
Runoff	A portion of precipitation (rain, hail and snow) that flows across the ground surface as water.	Waste rock	Uneconomic rock extracted from the ground during mining operation to gain access to the coal.
Salinity	The total content of dissolved solids in groundwater or surface water, commonly expressed as parts of dissolved solids per million parts of solution, or milligrams of dissolved solids per litre of solution (mg/L).		
Seepage	Liquid or fluid such as water, seeping or flowing from beneath the ground to the surface.		
Stakeholder	Any individual, group or organisation that can affect, be affected by, or perceive itself to be affected by the behaviour of a company or an organisation.		
Tailings	Finely ground residue from processing and extraction of product from ore.		
Terrestrial	Living or growing on the land.		
Topsoil	The upper or top layer of soil, that typical has higher levels of organic matter and associated micro-organisms.		
Total suspended particulate matter (TSP)	The mass of all particulate matter suspended in a solution (e.g. the air).		