

GLOSSARY OF TERMS

TERM	DEFINITION
Accretion	The process of coastal sediments returning to the foreshore following submersion after a storm event; the opposite of erosion.
Acid	A substance with a pH less than 7.0.
Acid base accounting	A process used for predicting net acidity that would be produced from oxidation of sulphides in soils or mine rock.
Acid mine (rock) drainage	The outflow of acidic water, usually from within rocks containing an abundance of sulphide minerals. It is most common from large-scale earth disturbances characteristic of mining and other large construction activities, but can also occur naturally as part of rock weathering processes.
Acid sulfate soils (ASS)	Naturally occurring soils, sediments or organic substrates (e.g. peat) that contain iron sulphide minerals (predominantly as the mineral pyrite) or their oxidation products. In an undisturbed state below the watertable, these soils are benign and not acidic. If the soils are drained, excavated or exposed to air by lowering of the water table, however, the sulphides can react with oxygen to form sulphuric acid.
Activity (radiation)	A measure of the level of radioactivity of a radionuclide in units called Becquerels (Bq).
Adsorption	The surface attraction between atoms or molecules on the surface of particles of colloidal size that tend to attract substances with which they come into contact.
Aeolian	Refers to sediments carried, formed, eroded or deposited by the wind. Such sediments include desert sands and dunes as well as deposits of windblown silt, called loess, carried long distances from deserts and from stream sediments derived from the melting of glaciers.
Aggregates	Granular or particulate material, either naturally occurring or produced by crushing; includes sand, gravel and crushed rock.
A-grade cathode copper	High purity copper (>99.9 % copper) as defined by the London Metal Exchange; conforms to British Standard BS EN 1978:1998 Copper Cathodes.
Algaecide	A chemical used for killing and preventing the growth of algae.
Aliphatic	Denoting, or relating to organic compounds in which carbon atoms form linear chains, not aromatic rings.

TERM	DEFINITION
Alkali	A substance with a pH greater than 7.0, also known as a base or basic material.
Alloy	A substance that has metallic properties and consists of two or more elements, usually at least one a metal.
Alluvial	Descriptive of soil deposited by river or flood water.
Ammonium diuranate	Commonly called yellowcake. An intermediate concentrated uranium product, subsequently treated in a furnace to become uranium oxide concentrate.
Amorphous	Describing a state of matter where there is no orderly arrangement of atoms, as in glass, for example.
Angle of repose	An engineering property of granular materials that describes the maximum angle of a stable slope determined by friction, cohesion and the shapes of the particles.
Anion	An ion possessing a negative electrical charge; also an ion that migrates to an anode.
Annual species (flora)	A plant that completes its life cycle and dies within one year or less.
Anode	Positively charged conductor (electrode) used to produce a chemical change in electrolysis.
Anode furnace	A furnace in which blister copper is refined.
Anoxic	Denotes an absence or deficiency of oxygen.
Anthropogenic (carbon)	Human-caused emissions of carbon, much of which is derived from burning fossil fuels.
Anti-scalant	A chemical additive used to prevent the fouling of pipes and equipment by the crystallisation of dissolved salts.
Apron feeder	A device, consisting of a series of steel flights (pans) belted to heavy-duty chains which run on sprockets, used to draw material at a regulated rate from a stockpile, storage bin or feed hopper.
Aprons	The area where aircraft are parked, loaded or unloaded, refuelled or boarded. Also called a ramp.
Aquaculture	The cultivation of aquatic organisms (including fish, shellfish and crustaceans) for the purposes of human use or to replenish wild stocks.
Aquatic	Living in or on water, or concerning water.
Aqueous	Pertaining to, or dissolved in, water.
Aquifer	A water-bearing bed of permeable rock, sand or gravel.
Aquitard	A confining bed that retards (but does not necessarily prevent) the water flow to or from an adjacent aquifer.
Arid	An area with an average annual rainfall of less than 250 mm.
Artefact	An object, such as a tool, weapon or ornament, of archaeological or historical interest.
Artesian aquifer	A confined aquifer with a potentiometric surface above ground level. Artesian aquifers are under pressure, so that if a well is drilled into the aquifer, the water will rise to the surface.
Assay	A procedure to analyse or quantify the properties of a substance.
Atom	The basic unit of matter consisting of a nucleus (made up of protons and neutrons) surrounded by a cloud of electrons; the smallest recognised division of a chemical element.
Attenuation	The breakdown or reduction in concentration of pollutants due to natural chemical, physical or biological processes.

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Attenuation zone	Refers to a defined area where waste is discharged and the concentration of pollutants is reduced by physico-chemical and microbiological processes.
Auger	A device for drilling holes. Can be used for obtaining soil sample cores for observation or analysis.
Backfill	The process of refilling a mine opening, or the waste material (e.g. sand, rock, dirt) used for that purpose.
Backwash water	Water used to remove particulate matter from media (sand) filters in the desalination plant.
Bactericide	A substance used for killing and preventing the growth of bacteria.
Baghouse	A system of air filters designed to remove dust from exhaust gases.
Bailer	Device for collecting water groundwater samples from groundwater wells and bores.
Balancing ponds	Ponds used to store process liquor for recycling.
Ball mill	A mill in which material is ground with steel or ceramic balls in a rotating horizontal cylinder.
Baseload electricity	The minimum amount of electricity that a utility or distribution company must make available to its customers.
Basin	The area drained by a river or creek and its tributaries.
Batching	Mixing ingredients (e.g. for concrete).
Bathymetry	The study of water depth, usually within oceans. A bathymetric map or chart usually shows ocean floor relief or terrain as contour lines.
Batter	The slope from the bottom to the top of the face of a retaining wall or pier.
Beaches	Area of exposed tailings between the containment wall and the central decant pond of the tailings storage facility.
Becquerel (Bq)	The Standard International (SI) unit of measurement of radioactive activity defined as one radioactive disintegration per second.
Bench	A landform consisting of a strip of level land in an otherwise sloped area.
Benchmarking	A standard against which something can be measured or assessed. Benchmarking often refers to the process of evaluating various aspects of a process in relation to 'best practice'.
Benthic	Of or pertaining to the ocean bottom, or the deepest part of a large body of water.
Best practice	Best practice is ever changing. It represents the leading management practices used to prevent or minimise health, safety, environmental, social, cultural or economic impacts.
BHP Billiton	BHP Billiton (Olympic Dam Corporation) Pty Ltd.
BHP Billiton Group	The group of companies of which the project proponent (BHP Billiton) forms a part.
Bioassay	A biological assay typically used to measure the effects of a substance on a living organism.
Biocide	A chemical compound used to kill undesirable living organisms. Includes pesticides, herbicides, algaecides and bactericides.
Biocompatibility	The property of being biologically compatible by not producing a toxic, injurious or immunological response in living tissue.
Biodiversity	The range of genetic, species and ecosystem diversity present in a given ecological community or system.

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Bioregion	An area of land or water that contains a geographically distinct grouping of natural communities.
Biota	The sum of all living organisms of an ecosystem, or of a defined area or period.
Biotic	Relating to, produced or caused by living organisms.
Blasting	Detonation of explosive charge in a mine or elsewhere to assist in the breaking up hard rock.
Blister copper	Unrefined copper, prepared from ore by a smelting or converting process, containing approximately one per cent sulphur and one per cent other impurities.
Bore	A hole drilled into the ground to intersect an aquifer and from which water may be pumped.
Borrow pits	Excavations that provide extra soil, rock, gravel, clay or sand for construction activity.
Brackish	Water that is saltier than fresh water, but not as salty as seawater. It may result from mixing of seawater with fresh water, as in estuaries.
Breakaways	Name of a spectacular formation of hills and tablelands near Coober Pedy.
Break-bulk	In shipping, break-bulk cargo denotes cargo that is loaded individually and not in shipping containers nor in bulk as with oil or grain.
Breccia	A coarse-grained clastic rock, composed principally of angular broken rock fragments (derived from pre-existing rocks or minerals that have been mechanically transported), held together either by a mineral cement or in a fine-grained matrix.
Brine	Water saturated or nearly saturated with salt.
Brownfield expansion	An expansion on a previously used site rather than a new, undisturbed site (greenfield expansion).
Bulk mining techniques	Any large scale method that brings thousands of tonnes of ore to the surface per day.
Bund	An earth, rock or concrete wall constructed to prevent the inflow or outflow of liquids used as a secondary containment for tanks or other storage vessels.
Bypass stacks	Stacks used only in emergency or abnormal conditions to protect the health and safety of personnel by sending exhaust gases directly to the atmosphere.
Cable bolt	A type of rock bolt installation in which steel cable is used instead of steel rod. Cable bolts are usually longer than rock bolts – commonly up to 50 m – and can be tensioned (with a hydraulic jack) or untensioned. Cable bolt holes are commonly filled with cement grout after installation.
Cairn	A human-made pile of stones, often in more or less conical form.
Calcareous	Refers to a sediment, sedimentary rock, or soil type which is formed from or contains a high proportion of calcium carbonate in the form of calcite or aragonite.
Calciner	A reactor where a mineral substance is heated to drive off a volatile fraction and produce an oxide.
Cambrian	The period of geological time between 500 million and 570 million years ago known as the earliest period of the Palaeozoic Era.
Carbon dioxide equivalent (CO₂-e)	The universal unit of measurement to indicate the global warming potential (GWP) of each of six greenhouse gases, expressed in terms of the GWP of one unit of carbon dioxide.
Carboxylic	The active group of carboxylic acids such as acetic acid (vinegar), with the chemical formula – C(=O)OH.
Catalyst	A substance capable of increasing the rate of a reaction without itself undergoing any chemical change.

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Catchment	The entire land area from which water (e.g. rainfall) drains to a specific water course or water body.
Cathode	A metal plate with a negative charge used in electrolytic refining. The deposited metal recovered onto this plate is called cathode metal.
Cation	An ion possessing a positive electrical charge. Also, an ion that migrates to a cathode.
Caustic	Corrosive – the property of a substance that causes corrosion. A corrosive substance can be acidic or alkaline; however the term caustic is most commonly used for alkalis such as caustic soda.
Caustic soda	Sodium hydroxide (NaOH) or lye. Forms a strongly alkaline solution in water and can be used to adjust the pH of water.
Cemented aggregate fill (CAF)	A mixture of crushed mine rock and cement used to fill voids in stopes where the ore has been extracted and where more ore is to be extracted below or beside the filled void.
Centrifuge	A piece of equipment that puts an object in rotation around a fixed axis, applying force perpendicular to the axis, in order to separate substances of different densities.
Cephalopods	A Class of molluscs that includes octopus, squid and cuttlefish.
Cetaceans	An Order of aquatic mammals that includes whales, dolphins and porpoises.
Chalcopyrite	The mineral also known as copper pyrites (CuFeS_2).
Chemical scavenging	Use of a chemical to destroy or remove another chemical such as chlorine.
Chenopod	A member of a family of plants, mainly shrubs of saline and semi-arid regions including bluebushes, saltbushes and samphires.
Chironomids	Chironomid midges are small flies that resemble mosquitoes but do not bite, whose habitat is associated with wetlands.
Cladocerans	Small crustaceans, commonly called water fleas, that live in various aquatic habitats.
Clastic	Composed of rock fragments formed from pre-existing rocks by weathering and erosion and transported some distance from their place of origin.
Clupeoids	Literally fish of the herring family, but used in a wider sense to include related families such as anchovies.
Coagulant	A chemical compound or substance that causes liquids to form solid clots.
Cogeneration	The production of electricity and useful thermal energy from a common fuel source. The waste heat from industrial processes can be used to power an electrical generator. Surplus heat from an electrical generator can be used for industrial or for heating purposes.
Coke	A solid carbonaceous material derived from destructive distillation of low-ash, low sulphur bituminous coal. The volatile constituents of the coal, including water, coal gas and coal-tar, are driven off by baking in an airless oven at temperatures as high as 1,000 °C so that the fixed carbon and residual ash are fused together.
Colloidal material	Intermediate-size solution particles that are small enough to remain suspended in solution.
Compaction	The process of close packing of individual grains in a soil or sediment as a response to pressure.
Competent rock	Rock which is capable of sustaining relatively large underground openings with minimal support apart from pillars and walls left during mining.
Concentrate	Copper-rich concentrate containing recoverable quantities of uranium oxide, gold and silver.
Concentrator	An industrial plant in which a mineral concentrate is obtained from ore.

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Conductor	A material which contains moveable electrical charges; in metallic conductors (e.g. copper or aluminium) the charged particles are electrons. When an electric field is applied to a conductor, the movement of the charged particles constitutes an electrical current.
Cone of depression	A cone-shaped draw down (or decrease) in the level of a water table caused by extraction of groundwater, usually by pumping.
Confined aquifer	An aquifer that is bound above and below by a water-resistant confining bed and may be under pressure.
Conglomerate	A coarse grained clastic rock composed of rounded fragments (derived from pre-existing rocks or mineral that have been mechanically transported) held together by either a mineral cement or in a fine-grained matrix.
Consumer price index (CPI)	Index comparing the cost over time of a standard basket of goods.
Convection currents	Currents caused by expansion of a material as it is heated. The expanded material is less dense and tends to rise while colder, denser material sinks. Material of neutral density moves laterally. Convection currents arise in the atmosphere above warm land masses or seas giving rise to sea breezes and land breezes, respectively.
Copper anode	An intermediate copper product following the smelting of copper concentrate, and containing around 99% copper. This is subsequently further purified in the electrorefinery.
Copper extractant (oxime)	Reagent used to improve the extraction of copper from the pregnant liquor solution.
Corrosion	Deterioration of essential properties in a material due to reactions with its environment. It represents the loss of an electron in a metal reacting with an electrolyte.
Countercurrent decantation (CCD)	The clarification of wash liquor and the concentration of tailings by the use of several thickeners in series. The liquor flows in the opposite direction from the solids. The final products are slurry (which is removed as fluid mud) and clarified liquor (which may be reused in the circuit).
Cover sequence	The layers of soils and rock overlying the orebody.
Craton	A major structural unit of the Earth's crust consisting of a large stable mass of rock.
Cretaceous	The period of geological time between 65 million and 135 million years ago known as the final, third period of the Mesozoic Era.
Crusher	That part of an ore-processing plant where the ore is mechanically crushed into smaller pieces.
Cumulative effects	The combined build-up of effects of multiple impacts arising from separate actions.
Current surveys	Surveys by Fatchen (1981), ongoing monitoring surveys by BHP Billiton and the SA Department for Environment and Heritage and the surveys undertaken for the Draft EIS.
Cut-off grade	The lowest grade of ore at which it is profitable to mine.
Cyanidation	The process of extracting gold and silver from ore by treatment with dilute solutions of sodium or potassium cyanide.
Cyclone	A device that generates a vortex to clear particulate matter from air or water.
Decant	Water on the surface of the tailings storage facility after the solids have settled which is recycled for mineral processing.
Decant pond	Central area of a tailings storage facility cell where supernatant liquid from tailings is collected for recycling.
Decay product	The product of the spontaneous radioactive decay of a nuclide (a type of atom). A nuclide such as uranium-238 decays through a sequence of steps and has a number of successive decay products associated with it in a decay series.

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Decline	An underground opening usually inclined at about 1 in 10 driven from the top down, and commonly used for access to underground workings from the surface.
Decommissioning	A formal process of removing the mine or infrastructure from operational status.
Demographics	The characteristics of a group of people such as age, gender, income, ethnicity, education, employment and household type.
Deposition	Laying down of particulate material (e.g. sediment in a lake or tailing solids in a tailings storage facility).
Desalination	Any of several processes (e.g. reverse osmosis) that remove salt and other minerals from water in order to obtain fresh water suitable for industrial purposes or human consumption.
Desktop study	A study undertaken in the office rather than in the field.
Desliming	The removal of very fine particles from an ore pulp, or the classification of it into relatively coarse and fine fractions.
Detrital	An area where organic matter (e.g. leaves) accumulates and decays.
Dewater	To remove water.
Diffuser	In the context of a desalination plant, a pipe with numerous ports (or exit points) from which the return water is discharged to facilitate dilution and dispersion.
Diluent	(a) Hydrocarbon used for the solvent extraction of metals (b) Sea water used to dilute simulated return water for ecotoxicity testing.
Diurnal	In the context of tidal situations is where one high tide and one low tide occur daily.
Disconnectors	A mechanical switching device that isolates part of an electrical circuit used in electrical substations.
Distillate	Commonly called diesel, a specific fractional distillate of fuel oil used as a fuel.
Dodge tide	A term used to indicate a diminished tidal sequence usually producing only one low tide and one high tide per 24 hours. Dodge tides occur over periods of three or more days, often following the first and last quarters of the moon.
Dog Fence	A dingo-proof fence in the Australian outback, extending from the Great Australian Bight to the east coast of Australia.
Dolomitic	Refers to a type of limestone containing magnesium ($\text{CaMg}(\text{CO}_3)_2$).
Doré anode	An anode made of an alloy of silver and gold; used in the process of refining silver and gold.
Dose equivalent	A measure of the radiation dose to tissue where an attempt has been made to allow for the different relative biological effects of different types of ionising radiation. Units are Sieverts (Sv).
Dose (radiation)	The radiation energy absorbed in a unit mass of material.
Draft EIS	For the purpose of the proposed Olympic Dam expansion, this term refers to the Executive Summary, Main Report volumes 1 and 2 and the Appendices A to U.
Drawdown	The fall of water-level in a natural reservoir such as an aquifer due to pumping or artesian flow.
Drive (or drift)	A horizontal underground opening, usually running above the strike of the ore body.

TERM	DEFINITION
Dwelling	For census purposes, a dwelling is a structure which is intended to have people live in it, and is habitable on census night. Examples of dwellings are houses, motels, flats, caravans, prisons, tents, humpies and houseboats. Dwellings are classified as occupied private dwellings, unoccupied private dwellings or non-private dwellings. Non-private dwellings provide a communal or transitory type of accommodation, such as hotels, motels, guest houses, prisons, religious and charitable institutions, defence establishments, hospitals and other communal dwellings. All occupied dwellings are counted in the census.
Dyke	A body of igneous rock (a rock or mineral formed from the cooling of molten or partly molten material, such as rocks of volcanic origin) with a flat surface that forms a vein of mineral deposits located between other rocks.
Easement	A right to make use of the land of another for the installation and operation of linear infrastructure such as a road, pipeline or transmission line. Also referred to as a right of way.
Echolocation	The use of echoes from emitted sounds for the purpose of navigation and distance perception, used by animals such as bats, dolphins and whales.
Ecology	The science dealing with the relationships between organisms and their environments.
Economic welfare	A comprehensive measure of the general state of well being and standard of living.
Ecosystem	The biotic (living) and abiotic (non-living) environment within a specified location in space and time.
Ecotone	A transition area between two adjacent ecological communities.
Ecotoxicology	The branch of toxicology concerned with the study of toxic effects caused by natural or synthetic pollutants to the constituents of ecosystems, animal (including human), plant and microbial, in an integral context.
EIS Guidelines	The joint Australian and South Australian Government Guidelines for an Environmental Impact Statement on the proposed expansion of the Olympic Dam operations at Roxby Downs, the Second Declaration by the South Australian Government and the NT Government Guidelines for the Preparation of an Environmental Impact Statement, Olympic Dam Expansion (NT Transport Option).
Electrical conductivity	A measure of the amount of salts (i.e. salinity) in a solution, measured in millisiemens per metre (mS/m). Can be used to estimate the total dissolved solids or salinity in soil or water.
Electrode	A conductor through which electric current enters or leaves.
Electrolysis	The process by which an electric current produces a chemical change. In mining, an electric current is passed through a solution which contains dissolved metals, causing the metals to be deposited onto the negatively charged cathode.
Electrolyte	A substance containing free ions which behaves as an electrically conductive medium.
Electron	A negatively charged particle that rotates around the nucleus of the atom, and is a component of all atoms.
Electrophoresis	A means of detecting genetic differences among populations of a species. It is performed by sampling proteins from members of the populations and analysing the movement of these protein particles in a medium through which an electrical charge is passed.
Electrorefining	The process of using electricity to dissolve a metal from an impure anode and depositing it in a more pure state at the cathode.

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Electrostatic precipitator (ESP)	An air pollution control device used to remove fine particulate matter from industrial waste gases. In the device, very high voltage is imparted between sets of electrodes. One set of electrodes induces a charge on the particles which are attracted to and collected on the other set of electrodes.
Electrowinning	An electrochemical process used to recover precious metals from a solution by passing an electric current through an electrowinning cell or circuit.
Emission	A discharge of a substance (e.g. dust) into the environment.
Empirical	Based or acting on observation or experiment, not on theory.
Employed person	For census purposes, this refers to people aged 15 years and over who, during the week before census night, worked for payment or profit for 35 hours or more (full time) or less than 35 hours in all jobs (part-time) or as unpaid workers in a family business, or who had a job from which they were on leave or otherwise temporarily absent.
Enclose	With reference to the rock storage facility, indicates using controlled placement of potentially reactive rock so that it is surrounded by rock with low potential for metal mobilisation and/or rock with neutralising potential and further reducing exposure to oxygen and water by compacting surfaces where possible.
Endemic	Refers to the ecological states of being unique to a place. Endemic species are not naturally found elsewhere.
Enrichment	Refers to the process of increasing the percentage of Uranium-235 in uranium above that found naturally.
Entrainment	The in-taking of free-floating organisms through the desalination plant water intake.
Environmental management system	A set of policies, procedures and practices detailing the approach required to protect and enhance environmental values at a site.
Ephemeral	Not permanent, for example a stream that flows only seasonally or after rainfall, or a lake that periodically dries out, or a plant that is present seasonally.
Epibenthic	The area on top of the sea floor. Epibenthic organisms can be freely moving or sessile (permanently attached to a surface).
Epifauna	The animal life which lives on the surface of the ocean floor, a river bed etc., or attached to submerged objects or to aquatic plants or animals.
Epiphyte	A plant growing but not parasitic on another.
Erosion	Wearing away and transforming the Earth's crust by water (rain, sea), ice and other atmospheric agents (wind).
Escarpment	A transition zone between different physiogeographic provinces that involves a difference in elevation, often involving high cliffs. Most commonly, an escarpment, also called a scarp (from the German word scharf meaning sharp), is a transition from one series of sedimentary rocks to another series of a different age and composition.
Estimated residential population (ERP)	The official Australian Bureau of Statistics estimate of the number of people who usually reside in an area. The ERP is adjusted from the most recent population census to take account of births, deaths, interstate and overseas migration.
Estuary	The wide tidal part of a coastal river, close to the mouth, where freshwater mixes with ocean water.
Ethnography	The scientific description of societies and cultures of humankind.
Evapoconcentration	The increase in salinity of a solution due to evaporation of water.

TERM	DEFINITION
Family	For census purposes, a family is defined as two or more persons, one of whom is at least 15 years of age, who are related by blood, marriage (registered or de facto), adoption, step or fostering, and who are usually resident in the same household. A family can be a couple family with children, a couple family without children, a one parent family or other family.
Fault	Fracture of the Earth's crust caused by the relative movement of rock masses.
Fauna	The animal life of a region or geological period.
Fecundity	Fruitfulness, fertility.
Feed	In mining, a material being fed into a process.
Feral	An organism that has escaped from domestication and returned, partly or wholly, to its wild state.
Ferrous sulphate	FeSO ₄ . Can be used in water treatment or as a corrosion inhibitor.
Filter cake	Filter cake is formed from particulate matter that is retained in or on a filter.
Fines	Fine particles.
First flush testing	First flow of water through the pipeline that will remove debris contained in the pipe.
Flaked artefacts	Stone tool shaped by removing flakes from a fine grained rock core.
Flash furnace	A type of furnace in which the metal sulphide concentrate is reacted with oxygen creating enough heat for the smelting process.
Flocculant	Chemical substance used to aid the precipitation of a solute from a solution.
Flora	The plants of a particular region, geological period, or environment.
Flotation	A milling process in which valuable mineral particles are induced to become attached to bubbles and float away from the waste particles in a solid/solution pulp.
Flow-on effects	To derive from something as a result or series of results. In economics terms, the effects on other areas of an economy as a result of a change in activity in a particular industry sector.
Flux	Intentionally added component of a slag which lowers its melting point or viscosity, or modifies its chemical properties.
Fly ash	The fine mineral residues remaining after the combustion of coal, used in place of cement in concrete.
Fly rock	Airborne rock generated during blasting activities.
Footprint	The land area taken up by a development.
Fossil	The remains or impression of a prehistoric animal or plant, usually petrified while embedded in rock, amber etc.
Fossil fuels	A natural fuel such as coal or gas formed in the geological past from the remains of living organisms.
Fouling	The accumulation of unwanted material on solid surfaces by living organisms (biofouling) or by formation of deposits of organic or inorganic substances.
Fractionation	A separation process in which a mixture is divided into a number of portions or fractions with different properties, used to produce various petrochemical products.
Freeboard	The vertical distance between the design water-level and the top of the containing structure.
Friable	Easily crumbled or reduced to powder.
Frother	A reagent used in the flotation process to extract copper-bearing sulphide particles.

TERM	DEFINITION
Fugitive emissions	Substances that escape to air from sources not associated with a specific process (e.g. leaks from equipment; dust blown from stockpiles).
Furans	A minor product of fuel burning. It is a heterocyclic compound with the formula C ₄ H ₄ O.
Gamma radiation	A form of electromagnetic radiation similar to light or x-rays, distinguished by its high energy and penetrating power.
Geochemistry	The study of the chemical composition of the Earth or of the chemical interaction of elements, molecules, or particles derived from the Earth.
Geometrical spreading (noise)	Refers to the spreading of sound energy as a result of the expansion of a sound wave.
Geomorphology	The study of the physical features of the surface of the Earth and their relation to its geological structures.
Geosyncline	A large, generally linear trough, which has subsided deeply over a long time interval and in which thick sequences of sedimentary and volcanic rocks have accumulated.
Geotechnical	A term employed to cover the fields of soil mechanics, rock mechanics, and engineering geology.
Geothermal energy	Energy generated by converting hot water or steam from deep beneath the Earth's surface into electricity.
Gibber	Fragments of stone found on the soil surface in arid areas of Australia, formed by weathering of the top layer of rock.
Gilgai	The micro relief of soils produced by expansion and contraction with changes in soil moisture, found in high-clay soils. It is characterised by an undulating surface with mounds and depressions.
Grade	The concentration of metal (e.g. copper), either in an individual rock sample or averaged over a specified volume of rock; copper grade is usually given in per cent.
Grader	Vehicle used to smooth a soil or rock surface.
Gradient	Rate of change of a given variable (such as temperature or elevation) with distance.
Granulator	A plant designed to crush materials into small particles for use in other processes.
Great Artesian Basin	A groundwater basin which contains one of the world's largest artesian aquifers. The Great Artesian Basin underlies approximately one-fifth of Australia. Groundwater discharges naturally in some areas (largely along the south-western margin) and forms mound springs.
Greenhouse gases	The six gases listed in the Kyoto Protocol, capable of trapping heat within the Earth's atmosphere: carbon dioxide (CO ₂); methane (CH ₄); nitrous oxide (N ₂ O); hydrofluorocarbons (HFCs); perfluorocarbons (PFCs); and sulphur hexafluoride (SF ₆).
Grey water	Non-industrial wastewater generated from domestic processes such as dishwashing, laundry and bathing.
Grinding circuit	One or more ball mills, rod mills or autogenous mills used to grind ore to an appropriate size for extracting metals.
Grizzly	A heavy grid used for the screening of large rocks.
Gross Domestic Product (GDP)	The total market value of goods and services produced in Australia within a given period after deducting the cost of goods and services used in production but before deducting allowances for the consumption of fixed capital. Thus gross domestic product is 'at market prices'. It is equivalent to gross national expenditure plus exports of goods and services less imports of goods and services.
Gross Regional Product (GRP)	Defined equivalently to gross domestic product but refers to production within a particular region rather than within the nation as a whole.

TERM	DEFINITION
Gross State Product (GSP)	Defined equivalently to gross domestic product but refers to production within a state or territory rather than within the nation as a whole.
Ground level concentration	Measured or estimated concentrations of a pollutant at ground level, estimated values are derived from pollutant dispersion models.
Groundwater	Water that exists beneath the Earth's surface in the pores and spaces of rock and soil.
Groundwater mound	The local rise of the water table above its natural level resulting from a localised source such as infiltration from the tailings storage facility.
Group household	For census purposes, a group household is defined as a household consisting of two or more unrelated people where all persons are aged 15 years or over. There are no reported couple relationships, parent-child relationships or other blood relationships in these households.
Grubbed	Digging out stumps and root systems of shrubs and trees.
Gypseous	Containing or consisting of gypsum.
Gyratory crusher	Commonly called a cone crusher, uses an inverted cone to crush rock materials.
Gyre	Any manner of swirling vortex particularly of large-scale wind and ocean currents.
Habitat	A specific place or natural conditions in which a plant or animal lives.
Haematitic	Containing the mineral haematite, Fe ₂ O ₃ .
Halogenated	Organic compounds containing one of the halogen elements:– fluorine, chlorine, bromine, iodine or astatine.
Hardstand areas	A hard surfaced area.
Haul trucks	Heavy vehicles used to transport ore or waste rock.
Hazard	A source of potential harm, or a situation with a potential to cause loss or adverse effect.
Heavy metals	Any metal that has a specific gravity greater than about 5. Generally used to describe the following metals: arsenic, iron, manganese, silver, mercury, chromium, lead, zinc, copper, nickel, selenium and cadmium.
Heterogeneous	Consisting of a diverse range of different items.
Host (rock)	As it pertains to mining, refers to rock or geological formation that contains (or surrounds) the ore body.
Household	For census purposes, a household is defined as a group of two or more related or unrelated people who usually reside in the same dwelling, who regard themselves as a household and make common provision for food and other essentials for living. A household can also be a person living alone (single person household).
Household income	For census purposes, household income is defined as the sum of the individual incomes of each resident member of the household 15 years and over who is present in the household on census night.
Household size	For census purposes, household size is defined as the number of persons usually resident in occupied private dwellings and includes partners, children, and co-tenants. In group occupied private dwellings, it includes partners, children, and co-tenants (in group households) who were temporarily absent on census night. A maximum of three temporary absentees can be counted in each household.
Housing loan repayment	For census purposes, this refers to the housing loan repayment being paid by household to purchase the dwelling in which they were counted on census night (and also applies to caravans).
Hydraulic gradient	The change in static head or hydraulic potential per unit of distance in a given direction.

TERM	DEFINITION
Hydrocarbons	Pertaining to oil or natural gas.
Hydrocyclone	A conically shaped device which uses centrifugal force (the force that impels a material outward from a centre of rotation) to separate particles by density or size. The coarse or heavy material is collected at the bottom of the cone (underflow), while lighter material passes through the top of the cone (overflow).
Hydrodynamic modelling	Simulating water movement, speeds and directions on a computer to develop a representation of how estuary processes work and to make predictions about the effects of changes such as sea level rise or the introduction of infrastructure such as a desalination plant.
Hydrogeology	The study of groundwater with particular reference to geology and including its origin, occurrence, movement and quality.
Hydrology	The study of water, particularly its movement in streams, rivers, or underground.
Hydrolysis	The chemical reaction of a substance with water, usually resulting in decomposition.
Hydrometallurgical plant	A plant that uses relatively low temperature liquid-based processes to extract minerals from ore or concentrate.
Hydrostatic	Relating to the pressure exerted or transmitted by a fluid.
Hydrostatic testing	The testing of piping or tubing by filling with water and pressurising to test for integrity.
Hydrothermal	Of or relating to hot water, usually originating from heat within the Earth's crust.
Hypersaline	A level of salinity much higher than that of seawater. In a groundwater context this is defined as >100,000 mg/L, but in a marine context may be much lower (45,000 mg/L or 45 g/L).
Igneous rock	Rock formed when molten (melted) material hardens.
Immiscible	Refers to liquids that will not mix with each other such as oil and water.
Income	For census purposes, people are asked to state their usual gross weekly income, which is the income before tax, superannuation, health insurance, or other deductions are made. Gross income includes family payments, additional family payments, pensions, unemployment benefits, student allowances, maintenance (child support), superannuation, wages, salary, overtime, dividends, rents received, interest received, business or farm income (less operating expenses) and workers' compensation received. People are not asked to state their exact income, only to indicate the range into which their income falls.
Indenture	A legal agreement or written contract between two or more parties, often referring to land. The Roxby Downs (Indenture Ratification) Act 1982 (the Indenture), which was passed by the South Australian Parliament, sets the legal framework for the terms and conditions of existing and future operations at Olympic Dam, and defines the roles and responsibilities of the state government and BHP Billiton.
Indicator	Any physical, chemical, biological, social or economic characteristic of the environment used to assess (i.e. indicate) environmental condition.
Indigenous	Belonging to, or found naturally in, a particular environment. Indigenous refers to people of Aboriginal and Torres Strait Islander origin. For census purposes, this includes people who identify themselves as being of Indigenous origin.
Individual income	For census purposes, this includes the income level of people aged 15 years and over.
Industry	For census purposes, this refers to the industries in which employed people aged 15 years and over work and is an indication of the main job only.
Infauna	The animal life which lives within the sediments of the ocean floor, a river bed, etc.

TERM	DEFINITION
Infrastructure	A set of interconnected structural elements that provide the framework supporting an entire structure including utilities and transport. It may include buildings, gas pipes, water lines, sewage and water systems, telephone cables and reservoirs, roads, railways, airports and bridges, transmission lines, electrical cables, pylons and transformers.
Insectivorous	A type of carnivore with a diet consisting mainly of insects.
In situ	In the natural or original position, or place.
Insulators	Non-conducting supports that are used to attach electrical transmission cables to poles or pylons.
Intermodal	Involves the use of more than one form of transport for a journey.
Intertidal	The area between the high and low water marks of tidal waters.
Inversion (conditions)	A deviation from normal atmospheric conditions when cold air near the surface is trapped by a layer of warm air above it.
Ionising radiation	Radiation which interacts with matter to add or remove electrons from the atoms of the material absorbing it (i.e. ionise), producing electrically charged (positive or negative) particles called ions.
Isokinetic	In sampling of pollutants in ducts or stacks, it refers to the gas velocity entering the sampler being the same as the velocity in the duct or stack. This method is important to ensure that testing provides an accurate representation of a stack or a duct.
Isotope	Forms of a chemical element having the same number of protons but a different number of neutrons. All isotopes of the same element have the same chemical properties and therefore cannot be separated by chemical means.
Jarosite	A yellowish or brownish mineral, a hydrous sulphate of potassium and iron, $KFe_3(SO_4)_2(OH)_6$.
Jurassic	The second period of the Mesozoic Era. It spanned the geological time between 135 million and 190 million years ago.
Karstic	Descriptive of uneven limestone topography, characterised by depressions, fissures, etc., created by percolating waters.
Kinetic testing	Time-based laboratory testing of the rock by types to assess sulphide reactivity, weathering rates, metal solubility, metal loads and potential leachate composition.
Knapping floors	Dense concentrations of flaked material associated with stone artefact manufacture.
Kyoto Protocol	The Kyoto Protocol to the United Nations Framework Convention on Climate Change is an amendment to the international treaty on climate change, assigning mandatory targets for the reduction of greenhouse gas emissions to signatory nations. It was opened for signing on 11 December 1997 in Kyoto, Japan.
L₉₀ or LA₉₀	The ambient (or existing background) noise level present 90 per cent of the time.
Labour force	Persons who are employed or unemployed. For census purposes, the labour force includes people aged 15 years and over who work for payment or profit, or as an unpaid helper in a family business, during the week prior to census night; have a job from which they are on leave or otherwise temporarily absent; are on strike or stood down temporarily; or do not have a job but are actively looking for work and available to start work.
Labour force participation rate	The number of persons in the labour force expressed as a percentage of the number of persons aged 15 years and over.
Lagooning	The use of artificial shallow pools for the treatment of effluent.
Land system	An area or group of areas where there is a recurring pattern of topography, vegetation and soils.

TERM	DEFINITION
Landfill	Waste material used to landscape or reclaim areas of ground; the process of disposing of rubbish in this way.
Landform	A specific feature of a landscape (such as a hill) or the general shape of the land.
Launder	An inclined channel for conveying molten metal from the furnace taphole.
Laydown area	An area where construction material is temporarily stored prior to use.
Leach	Dissolution and removal of a soluble substance from a substrate.
Leachate	The fluid in which a leached substance is dissolved or transported.
Leaching	A chemical process for the extraction of valuable minerals from ore.
Lift	Each separate layer placed in the construction of an embankment or waste rock emplacement.
Limnological	Pertaining to the study of the physical phenomena of lakes and other fresh waters.
Liquor	Typically refers to an aqueous solution, emulsion or suspension.
Lithology	The description of rocks on the basis of colour, mineralogical composition, and grain size.
Loam	A fertile soil of clay, silt and sand containing humus.
Locality	The Australian Bureau of Statistics defines a locality as a population cluster of between 200 and 999 people. People living in localities are classified as rural (i.e. non-urban). Each locality has a defined boundary, which are defined for each census.
London Metal Exchange (LME)	A leading global non-ferrous metals market (including aluminium, copper, nickel, tin, zinc and lead). The LME provides a transparent forum for all trading activity and as a results helps to 'discover' what the price of material will be months and years ahead.
Lone person household	For census purposes, a lone person household is a person who makes provision for his/her own food and other essentials in living, without combining with any other person to form part of a multi-person household is classified as a lone person household. He/she may live in a dwelling on his/her own, or share a dwelling with another individual or family.
Lunette dune	A crescent shaped sand dune formed by wind.
Macroinvertebrate	Animals without backbones that are large enough to be seen with the naked eye.
Manuports	An archaeological or anthropological term meaning a natural object which has been moved from its original context by human action but otherwise is unmodified.
Median age	The age that divides a population group into exactly two equal halves.
Median income	For census purposes, median income is the estimated midpoint of the distribution of individual responses for a given income range. As individual income data are collected in ranges for the census, a uniform distribution of responses within each range is assumed, in order to calculate the median value.
Mesa	An elevated area of land with a flat top and steep sides.
Mesozoic	The geological time between 251 and 65.5 million years ago. It comprises the Triassic, Jurassic and Cretaceous Periods.
Metalliferous	Bearing or producing metal.
Metallurgical	Pertaining to metals, particularly their extraction from ore.
Metamorphic (geology)	Metamorphic rocks are sedimentary or igneous rocks that have been altered by heat and/or pressure.
Meteorology	The interdisciplinary scientific study of the atmosphere that focuses on weather processes and forecasting.
Microchiropteran	One of two suborders of bats in the world (i.e. insectivorous bats).

TERM	DEFINITION
Mill	Ore processing plant.
Mine rock	Overburden and mineralised rock that is currently uneconomic to process.
Mine water	All water used in mining and processing.
Mineral resource	A concentration or occurrence of material of intrinsic economic interest in or on the Earth's crust in such form, quality and quantity that there are reasonable prospects for eventual economic extraction.
Mineralisation	The occurrence of metals or minerals within a rock sequence that may potentially constitute ore.
Mineralogy	The scientific study of minerals.
Mitigation measure	Action taken to minimise or lessen the impact of activity on the environment or surrounding communities.
Mixer settlers	Mineral processing equipment used in solvent extraction of metals.
Model	A simplified representation (usually mathematical) of some complex system or event.
Modelling	The process of creating and using a model.
Monosulphide	A salt containing one sulphide ion such as FeS (iron monosulphide).
Morphology	The form and structure of an organism.
Mound spring	An artesian spring, usually associated with the Great Artesian Basin, that has formed a mound or low hill as a result of ongoing evaporation of artesian water and the deposition of salt that sometimes supports unique ecosystems.
Mullock	Waste rock (generally unmineralised - containing a limited amount of minerals or metals) which is extracted during mine development and production.
Nameplate capacity	The maximum production of a mine or mineral processing facility based on its current design.
Nanotechnology	The branch of technology that deals with dimensions and tolerances of less than 100 nanometres, especially the manipulation of individual atoms and molecules.
Native Title	A concept in the law of Australia that recognises the continued ownership of land by local Indigenous Australians.
Neap tide	A tide just after the first and third quarters of the moon when there is least difference between high and low water.
Nektonic	Pertaining to aquatic animals that are able to swim and move independently.
Net present value (NPV)	Quantifies the present value of future revenues and expected costs associated with an investment. To determine the present value of a project or investment, future cash outlays or revenues are discounted back at a social discount rate.
Neutral	Neither acidic nor basic (e.g. a pH equal to 7.0).
Nitric acid	A strong mineral acid (HNO ₃) used to dissolve metals.
Noise contours	Lines connecting areas of equal sound (noise) level.
Nomenclature	A method of assigning (unique) names.
Occupation	The Australian Bureau of Statistics uses the Australian Standard Classification of Occupations to classify employed people according to their occupation and the tasks they perform. For census purposes, this refers to the main job of all employed people aged 15 years.
Oceanography	The study of the oceans.
Off-gases	Gases released during metallurgical treatment processes.

TERM	DEFINITION
Offsets	Actions taken outside the development area to 'compensate' for environmental impacts created within the development area that relate directly to the conservation values affected by the development.
Operations	Mining and ore processing activities.
Operation phase	That period of the mining project, after construction and prior to decommissioning, during which pit excavation and metal extraction takes place.
Ore	A mineral or mixture of minerals containing a metal in sufficient amounts for its extraction to be profitable.
Ore body	A solid mass of ore (both high and low grade) that is geologically distinct from the rock that surrounds it; the portion of a mineral deposit that can be mined profitably.
Ore drawpoints	The point of a stope from which ore is extracted.
Ore pass	A large shaft extending from the upper levels of the mine to the lower levels, which directs ore to one of a number of crushers.
Ore reserve	The part of a mineral resource which can be mined and forms valuable or useful minerals that can be recovered economically.
Organophosphonate	Substance used at a low concentration to inhibit the development of scale in the desalination plant.
Ortho-photography (maps)	Aerial photography combined with geometrical correction (ortho-rectification) to make the scale uniform. An ortho-photograph is the equivalent of a map.
Osmoregulation	The maintenance of constant osmotic pressure in the fluids of an organism by control of water and salt levels.
Ostracods	A class of Crustacean sometimes known as seed shrimp, typically about 1 mm long. Various species are found in fresh and saline water.
Other family	ABS defines other family as a family of other related individuals residing in the same household. These individuals do not form a couple or parent-child relationship with any other person in the household and are not attached to a couple or one parent family in the household.
Overburden	Material that is located above a deposit of ore (e.g. soil, rock or vegetation) which must be removed for the ore to be mined.
Oxidation	The process by which an element or compound undergoes a chemical reaction involving the removal of electrons (negatively charged sub-atomic particles); often involves reaction with oxygen to form an oxide (a combination of oxygen and another chemical element).
Oxygen scavenger	A substance added to a mixture in order to remove or inactivate oxygen to prevent corrosion.
Panamax vessel	A vessel built with the maximum draft and beam able to transit the Panama Canal.
Particulate	Also referred to as particulate matter (PM), aerosols or fine particles. Particulates are tiny particles of solid (smoke) or liquid (aerosol) suspended in a gas. They range in size from less than 10 nanometres to more than 100 micrometres in diameter.
Pasquill stability classes	Classes of atmospheric stability which are indicators of the degree of turbulent mixing in the atmosphere, ranging from Class A (the most unstable condition, with rapid mixing) to Class F (the most stable, with very limited mixing).
Perched water table	Unconfined groundwater separated from an underlying main body of groundwater by an unsaturated zone.
Percolate	Filter or ooze gradually, especially through a porous surface.
Perennial	(a) A plant living for at least several years, and usually flowering each year; (b) Waters or streams lasting throughout the year.

TERM	DEFINITION
Permeability	The capacity of a material to allow fluid(s) to pass through it.
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 acidic, 7 is neutral and 14 is most basic (alkaline).
Phase shift	A change in the phase relationship between two quantities of electrical voltage or current.
Phosphates	A salt of phosphoric acid used in water treatment to prevent scale or to maintain a desired pH.
Photovoltaic	Solar power technology that uses solar cells or solar photovoltaic arrays to convert energy from the sun into electricity.
Physiography	A description of the surface features of the Earth, with an emphasis on the origin of landforms.
Piezometer	An instrument for measuring the magnitude or direction of pressure.
Piles	Long slender columns that may be of timber, steel, reinforced concrete or other material driven into the ground or sea bed to carry a vertical load.
Pilot plant	A small version of a planned industrial plant, built to gain operational experience and determine performance characteristics.
Playa	A flat area or basin at the lowest part of an undrained desert basin, underlain by clays, silts, sands and commonly by soluble salts.
Plume (dispersion)	Refers to a column of one fluid moving through another. The term may be used in the context of air or water.
Pollutants	Contaminants. May be in the form of chemical substances or energy such as noise, heat or light.
Polyamide	A polymer (a large molecule composed of repeating structural units) composed of monomers of amides jointed by peptide bonds. Examples of polyamides include nylon and proteins such as wool and silk.
Polymer	A compound composed of one or more large molecules that are formed from repeated units of smaller molecules.
Polymetallic	Containing multiple types of metals.
Ponding	Forming a pond on the surface.
Population	A geographically or socially distinct group of interacting organisms of the same species that occupy a definable area.
Potable water	Water of quality suitable for human consumption.
Potentiometric surface	A hypothetical water surface representing the total pressure head of groundwater for a particular locality, and defined by the level to which water will rise in a well.
Precipitation	(a) The process of changing from a dissolved compound into a solid, insoluble compound; (b) Rain, hail and snow.
Pregnant liquor solution (PLS)	An acidic solution containing valuable mineral components (i.e. dissolved copper and uranium) extracted during the leaching process in the hydrometallurgical plant.
Pre-strip	Removal of vegetation, sand dunes and topsoil from the open-pit footprint.
Prill	In the form of pellets.
Processing plant	Where metals are extracted from a mined ore.
Process water	Water used during the processing of ore.
Progeny	In the context of mining, the isotopes or elements formed by the nuclei of radionuclides during radioactive decay. Also known as 'decay chain products' and 'daughter products'.

TERM	DEFINITION
Promoter	Reagent used to improve extraction of metals in the floatation process.
Prototype	A sample or model used to test a concept, process or product.
Pulse columns	Used to transfer uranium from aqueous solution to a barren solvent solution.
Putrescible	Predisposed to decompose, decay or spoil, especially by bacterial action.
Pyrite	A mineral also known as iron pyrite (FeS ₂) or fool's gold.
Pyrolysis	Chemical decomposition brought about by heat.
Quality factor	Also called relative biological effectiveness, it is used to compare the effect of different types of radiation (beta, gamma, alpha particles, neutrons) when calculating dose equivalent.
Quarry	An open pit from which stones, rocks and other materials are excavated.
Quaternary	A geologic time period from approximately 2,588 million years ago to the present.
Quench-venturi	A scrubbing system for removing pollutants from stack gases.
Rabbit haemorrhagic disease	Also known as rabbit calicivirus disease. A disease which only affects rabbits, used in Australia to control rabbit infestations.
Radioisotope	See radionuclide.
Radionuclide	Any nuclide (isotope of an element) which is unstable and undergoes natural radioactive decay.
Radon	Radon is the heaviest of the 'noble' or inert gases. The predominant isotope, radon-222, is the decay product of radium-226. It has a half-life of 3.82 days and decays to polonium-218 by the emission of an alpha particle.
Raffinate	The aqueous (water-based) leaching solution remaining after a valuable mineral, such as copper or uranium, has been removed by solvent extraction.
Rail spur	A relatively short railway line often built to serve a specific location or industry.
Raise	A vertical or inclined underground working that has been excavated from the bottom upward (i.e. a raise bore).
Ramsar Convention	An international treaty for the conservation and sustainable use of wetlands. The convention was developed and adopted by participating nations at a meeting in Ramsar, Iran on February 2, 1971 and came into force on December 21, 1975.
Reagents (processing)	The chemicals and solutions used in extracting metals from ore.
Receiver	A designated place at which an impact (e.g. pollution) may occur.
Receptor	A designated place at which an impact (e.g. pollution) may occur.
Recharge	The addition of water to an aquifer, directly from the surface, indirectly from the unsaturated zone, or by discharge from overlying or underlying aquifer systems.
Redox potential	Short for reduction-oxidation potential and refers to a substance's ability to cause reduction or oxidation reactions under standard conditions.
Reductant	Also called a reducing agent, a reductant is an element or compound in a redox reaction that reduces another species, and itself becomes oxidised in the process.
Refinery	A plant in which electrolytic processes (i.e. involving an electric current) are used to remove impurities from metals.
Refining	Purifying an impure metal to obtain a pure metal or mixture with specific properties.
Refugia	Location of an isolated or relict population of a once widespread animal or plant species.
Regional SA	That part of South Australia which is outside metropolitan Adelaide (defined by the Australian Bureau of Statistics as the Adelaide Statistical Division).

TERM	DEFINITION
Rehabilitation	The process of restoring land to its previous natural state or to another use (e.g. industrial or recreational) after mining has been completed.
Relict	In biology, a species or population that at earlier times was abundant in a large area, but now occurs at only one or a few small areas.
Reserve	In the context of a mineral reserve, it is the economically mineable part of a measured or indicated mineral resource.
Resource	A concentration or occurrence of natural, solid, inorganic or fossilised organic material in or on the Earth's crust in such form, quantity and quality that its extraction is likely to have economic benefit.
Reverse osmosis	Purification of water by forcing it under pressure through a membrane that is semi-permeable in order to remove the impurities.
Rhizomatous	Having a horizontal, usually underground stem, that often sends out roots and shoots from its nodes.
Rhodamine	A fluorescent dye used for tracing and quantifying water flow.
Richter scale	A logarithmic scale of 0 to 10 for representing the strength of an earthquake.
Risk	A concept that denotes a potential negative impact to an asset or some characteristic of value, including objectives, that may arise from some present process or future event. Risk is measured in terms of 'consequence' and 'likelihood'.
Risk assessment	The process of measuring risk, including both the likelihood and consequences of a risk (also known as risk analysis and risk evaluation).
Risk management	The process of measuring, or assessing, risk and developing strategies to manage it. The culture, processes and structures that are directed towards effective management of potential opportunities and adverse effects.
Rock armouring	Stabilisation of a surface with rock to reduce wind and water erosion.
Rock storage facility (RSF)	A structure designed for the long-term storage of non-mineralised rock and non-economic ore.
Rotary furnace	A furnace consisting of a refractory-lined chamber that rotates about a horizontal axis.
Rotifers	Microscopic, multicellular, aquatic animals found mostly in freshwater habitats with a few species found in saline waters.
Run-off	That portion of precipitation (rain, hail and snow) that flows from a specific area as water.
Run-of-mine	The raw ore as it is delivered by conveyors or skips, before treatment of any sort.
Salina	A salt lake.
Saline	Salty, with reference to sodium chloride. May refer to water containing a specific amount of total dissolved solids (e.g. 10,000 to 100,000 mg/L).
Scraper station	Permanent above-ground facility that allows the insertion and/or retrieval of devices (called pigs) to clean the internal surfaces of the pipe or to detect damage or metal loss within the pipe.
Scrubbers	Air pollution control devices used to remove particulate and/or gaseous pollutants from exhaust streams.
Sedentary	Organisms and species that are not migratory but rather remain at a single location (permanently fixed or otherwise). Examples include barnacles, corals and mussels.
Sedimentary rock	Rock formed when fragments of eroded rock, organic remains or other solids (called sediment) are deposited by water, wind, or ice and pressed or cemented together.

TERM	DEFINITION
Sedimentation	The deposition of particles (e.g. soil or organic material) from a state of suspension in water or air.
Seepage	The flow of a fluid through soil pores.
Seine nets	A fishing net that is caused to hang vertically in the water by attaching weights to the bottom edge and is flat along the top.
Seismic	Of or relating to an earthquake or earthquakes or similar vibrations.
Seismographs	An instrument that records the force, direction, etc., of earthquakes.
Semelparity	The occurrence of a single act of reproduction during an organism's lifetime. Most semelparous species produce very large numbers of young when they do produce. They normally die soon afterwards.
Semi-autogenous grinding (SAG) mill	A mill in which a given material is ground by tumbling it in a rotating cylinder (without the assistance of balls or bars).
Semi-diurnal	Refers to tides where two high tides and two low tides occur daily at approximately six-hour intervals.
Sensitive receiver	A non-occupational area or group of people likely to be affected by potential impacts.
Sequence (geological)	Layers of (predominantly) sedimentary rocks sourced from a common geological environment or period.
Shear strength	The maximum resistance of a material to applied stress.
Shotcrete	Fine concrete applied with a pressure gun.
Sievert (Sv)	The SI derived unit of dose equivalent. It attempts to reflect the biological effects of radiation as opposed to the physical aspects, which are characterised by the absorbed dose, measured in grays. One sievert is equal to the product of the absorbed dose and the quality factor and any modifying factor(s). It allows a comparison of the relatively greater biological damage caused by some particles such as alpha particles and fast neutrons. For most beta and gamma radiation, one sievert is equal to an absorbed dose of one joule per kilogram of biological matter.
Silcrete	Surface sand cemented into a hard mass by silica.
Silica flux	Material, such as sand, used to separate iron as a low copper slag from copper concentrate.
Silicified	Converted into or impregnated with silica.
Silt	Granular material made up of fragments of soil or rock between 3.9 and 62.5 µm, smaller than a sand grain and larger than coarse clay.
Single person household	For census purposes, this refers to a household where one person was at home on census night and no members of the household were temporarily absent.
Siwertell	A Siwertell-style ship unloader is a totally enclosed, continuous, screw-type unloader used for bulk materials.
Slag	Materials containing impurities from the ore and forming on the surface of molten materials.
Slimes	Particles of crushed ore which are so small that they settle very slowly in water. Primary slimes are naturally weathered ores, or associated clays. Secondary slimes are produced during crushing. The impurity residue remaining following the electrorefining of copper, usually containing gold, silver and selenium.
Slurry	A thin paste produced by mixing certain materials with water, sufficiently fluid to flow viscously.
Smelter	A facility for producing metal by the reduction of ore at high temperatures.
Soda ash	Sodium carbonate (Na ₂ CO ₃); a reagent used in metal processing.

TERM	DEFINITION
Sodicity	Refers to soil containing levels of sodium that affect its stability.
Sodium chlorate	NaClO_3 – an oxidising agent used in ore processing.
Sodium cyanide	NaCN – used to leach gold and silver in slimes into solution for refining.
Solar power	Power obtained by harnessing energy from the sun.
Solvent extraction	A separation process in which two immiscible solvents (water-based and organic-based) are brought into contact for the transfer or recovery of a component. At Olympic Dam, the term refers to transfer and recovery of copper and uranium.
Solvent extraction modifier	An alcohol such as isodecanol that is used to improve the extraction of uranium from the leach liquor.
Sorption	The physical or chemical linkage of substances whether by absorption or adsorption.
Special Mining Lease (SML)	Granted under the Indenture, the SML defines the area of land which BHP Billiton is exclusively entitled to occupy and mine and from which it is entitled to sell the minerals.
Speciation	The conversion of one ion to another such as sulphide to sulphate.
Specific activity	The activity per unit mass of a radionuclide or combination of radionuclides in a material.
Spigots	Small discharge pipes off the main tailings pipeline.
Stack	A vertical tube or hollow column used to emit gaseous by-products from various processes.
Standing water	Water that is pooled and still.
Static head	A measure of water pressure in an aquifer.
Statistical local area (SLA)	An Australian Standard Geographical Classification defined area. SLAs are based on the boundaries of incorporated bodies of local government where these exist. These bodies are the local government councils and the geographical areas which they administer are known as local government areas. For those parts of Australia which are not administered by incorporated local government bodies, an SLA is an unincorporated area.
Statistical subdivision	A statistical subdivision is an Australian Standard Geographical Classification defined area and consists of one or more Statistical Local Areas.
Statutory	Related to or required by legislation or prescribed in regulation.
Stemming	The actual material used to stem (plug) a hole in order to direct the blast energy to fragmenting rock, rather than ejecting material out of the top of the blast hole. It is usually crushed rock or drill cuttings. Some engineered plugs can achieve the same outcome, but are not usually referred to as stemming.
Stope	Area of a mine from which ore is or has been extracted.
Stoping	The excavation of ore from a reef, vein or lode.
Strata (geology)	A single bed of sedimentary rock, generally consisting of one kind of matter representing continuous deposition.
Stratigraphy	A branch of geology, it is basically the study of rock layers and layering (stratification).
Strike	In geology, a term used to describe the orientation of tilted layers of rock.
Stripping	Removal of vegetation and topsoil.
Stromatolite	Layered structures formed in certain warm shallow waters by mats of cyanobacteria (blue-green algae). Fossils of similar structure have been found in Precambrian rocks, indicating the presence of life at that time.

TERM	DEFINITION
Strumming	Noise generated by vibration of electrical transmission lines in the wind.
Stub roads	Non-through roads.
Stygofauna	Fauna that live within groundwater systems, such as caves and aquifers.
Substation	A subsidiary station of an electrical generation, transmission and distribution system that generally includes one or more transformers and switching, protection and control equipment.
Sump	A hollow or pit into which liquid drains.
Superconductor	A substance having zero electrical resistance.
Supernatant	Descriptive of the liquid that lies above settled solids or sediment.
Supratidal	Area above the spring high tide, regularly splashed by, but not submerged by sea water; sometimes called the splash or spray zone.
Surfactant	A substance that lowers the surface tension of a liquid.
Surficial	Pertaining to or occurring on or near the Earth's surface.
Sustainable development	Development that meets the needs of the present without compromising the ability of future generations to meet their own needs.
Swale	A hollow or low tract of land lying between sand ridges.
Syngnathid	A family of fish that includes the sea horses, pipefish and the weedy and leafy sea dragons.
Tailings	Crushed or finely ground mine rock suspended in water from which valuable minerals or metals have been extracted.
Tailings storage facility (TSF)	A retaining structure for tailings where the solids settle out and the tailings liquor is reclaimed for reuse or sent to evaporation ponds.
Tamping	Packing railway track ballast under the tracks to make the tracks more durable.
Tapping	The process of pouring molten metal from a furnace into ladles, pots or launders.
Taxa	Plural of taxon which is a name designating an organism or group of organisms. In this document it is used to designate species.
Taxonomic	Relating to the science of classification, especially of living and extinct organisms.
Tectonic	Relating to major Earth forces and movement producing large scale geological structures or events including folding, faulting and earthquakes.
Telemetry	A technology that allows measurements to be made and reported to an operator at a remote site.
Temporal	Of or relating to time.
Tenure (of land)	The terms by which land is held, owned or occupied.
Terrestrial	Pertaining to land.
Tertiary (geology)	The Tertiary was once one of the major divisions of the geologic timescale, lasting from the end of the Cretaceous, about 65 million years ago, to the start of the Quaternary, about 1.6 million years ago.
Thermal conductivity	The property of a material that indicates its ability to conduct heat.
Thermohaline current	A current driven by differences in the density of seawater caused by variations in temperature and/or salinity.
Thickening	The process of increasing the viscosity of concentrate and tailings by reducing the water content.

TERM	DEFINITION
Throughput	Quantity of material (ore, chemicals, etc.) moving through a system (e.g. an ore-processing plant).
Tip-head	A point on a stockpile at which material is tipped from a conveyor or truck.
Topography	The study of the Earth's surface features. It is concerned with local detail in general, including not only relief but also vegetative and human-made features.
Toxic	Poisonous to a specific organism, sometimes resulting in death.
Toxicity	Effect of any substance that produces a harmful effect on living organisms; described as acute (short term) or chronic (long term).
Transect	A line across a study area along which observations are made and changes can be observed (e.g. changes in vegetation).
Transformer	A device that changes the voltage of an alternating current. Used to modify the high voltage received from power lines.
Transmissivity	The rate at which groundwater is transmitted through rock of a specific dimension and at a specified hydraulic gradient.
Transverse	Perpendicular.
Trophic	Refers to an organism's position in the food chain or food web.
Turbidity	The amount of fine solid particles, such as clay or organic matter, that are suspended in water and that prevent light from being transmitted. This results in a loss of transparency, or 'cloudiness'.
Turbine	A rotary engine that converts energy from the flow of a fluid such as steam, gases, or water to another form of energy such as electricity.
Turgor	The rigidity of cells due to the absorption of water.
Ultra-class haul trucks	Very large haul trucks that can carry up to 400 tonnes of material in one load.
Underflow	A concentrated slurry from a thickener that results when suspended solids are allowed to settle producing a clarified water overflow and the slurry.
Understorey	The vegetative cover beneath taller trees and shrubs.
Uranium (decay) series	A series of radionuclides (unstable radioactive elements) produced in the decay of radioactive uranium to stable lead. The most important steps of this series are uranium-238 to uranium-234 to thorium-230 to radium-226 to radon-222 (and its decay products) to lead-210 and finally to lead-206, the stable non-radioactive end product.
Uranium extractant (amine)	Reagent used to separate uranium from other dissolved metals in the acidic leach solution.
Usual residence	For census purposes, the address at which the person has lived or intends to live for a total of six months or more.
Vein	A fissure, fault or crack in a rock filled by minerals that have travelled upwards from a deeper source.
Visual amenity	The visual attractiveness of an area.
Vouchered (unvouchered)	Substantiated (unsubstantiated); vouchered species are usually substantiated by collection and preservation of specimens in herbaria or museums.
Water balance	The sum of the inputs and outputs and changes in storage levels of water in a given locality.
Water column	The body of water overlying the bed of a stream, lake, swamp, or ocean.
Water table	The surface of the groundwater, below which soil and rock are saturated.
Watercourse	A natural channel conveying water, such as a creek or river.

TERM

DEFINITION

Weekly rent

For census purposes, this refers to the amount of rent paid by a household on a weekly basis for the dwelling in which they were counted on census night, and includes caravans in caravan parks. Weekly rent is applicable to occupied private dwellings being rented. It excludes dwellings being occupied rent free, visitor only households and non-classifiable households.

Wet mess

Bar or other facility where alcohol is served.

Windrow

A linear heap of material. It may be on the edge of earthworks, roads or at a tip-head to provide a safety barrier.

WMC

Western Mining Corporation Ltd.

Xanthate

Chemical reagent used in the floatation process to separate base or precious metals from waste materials.

Yellowcake

Historically, the name given to the bright yellow substance ammonium diuranate (ADU). ADU is calcined at high temperature to produce a mixture of uranium oxides, principally U_3O_8 , which is dark green in colour and is also called uranium oxide concentrate (UOC). UOC is sometimes (incorrectly) referred to as yellowcake.

Zero Harm approach

Integrating sound principles to govern safety, business conduct, social, environmental and economic activities into business management to support the aspiration to achieve leading industry practice through zero harm to its people, the communities in which it operates, and the environment.

