

# 34 GLOSSARY

## GLOSSARY OF TERMS\*

### TERM

**Abatement**

### DEFINITION

Reducing the level of greenhouse gas emissions.

**Abrasive blasting**

An operation in which materials are cleaned by the abrasive action of any metal shot or mineral particulate propelled within a gas or liquid.

**Acclimation**

The process of an organism adjusting to physical changes in its environment.

**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 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.

**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.

**Algaecide**

A chemical used for killing and preventing the growth of algae.

**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.

**Altimeter**

An instrument for measuring elevation from sea level.

**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.

**Anode**

Positively charged conductor (electrode) used to produce a chemical change in electrolysis (q.v.).

**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.

**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.

**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 (q.v.).

**Arid**

An area with an average annual rainfall of less than 250 mm.

\*Note: (q.v.) is an abbreviation for quod vide, which is used to indicate a cross-reference to another word in the glossary.

TERM	DEFINITION
<b>Armouring</b>	A covering of rock over pipelines to protect the pipeline from erosion by currents.
<b>Artefact</b>	An object, such as a tool, weapon or ornament, of archaeological or historical interest.
<b>Artesian aquifer</b>	A confined aquifer with a potentiometric (q.v.) 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.
<b>Artesian Eromanga Basin</b>	That part of the Eromanga Basin where groundwater pressures are artesian.
<b>Artesian Eromanga (GAB)</b>	The aquifers of the artesian Eromanga Basin.
<b>Assay</b>	A procedure to analyse or quantify the properties of a substance.
<b>At grade crossing</b>	An at-grade crossing (or level crossing) is where road(s) cross railway(s) at the same level (or on one level) without using a bridge or tunnel to separate the path of each.
<b>Attenuation</b>	The breakdown or reduction in concentration of pollutants due to natural chemical, physical or biological processes.
<b>Attenuation zone</b>	Refers to a defined area where waste is discharged and the concentration of pollutants is reduced by physico-chemical and microbiological processes.
<b>Backfill</b>	The process of refilling a mine opening, or the waste material (e.g. sand, rock, dirt) used for that purpose.
<b>Balancing ponds</b>	Ponds used to store process liquor for recycling.
<b>Ballast water</b>	Water taken onboard ships as ballast to improve seaworthiness, particularly when no cargo is onboard. It is carried within dedicated ballast water compartments in the ship's hull, and can be used to balance the load. Ballast water is taken onboard from the sea when cargo from the ship is unloaded, and emptied from the ship when cargo is taken aboard.
<b>Baseload electricity</b>	The minimum amount of electricity that a utility or distribution company must make available to its customers.
<b>Basin</b>	The area drained by a river or creek and its tributaries.
<b>Bathymetry</b>	The study of water depth, usually within oceans. A bathymetric map or chart usually shows ocean floor relief or terrain as contour lines.
<b>Batter</b>	The slope from the bottom to the top of the face of a retaining wall or pier.
<b>Beaches</b>	Area of exposed tailings between the containment wall and the central decant pond of the TSF.
<b>Becquerel (Bq)</b>	The Standard International (SI) unit of measurement of radioactive activity defined as one radioactive disintegration per second.
<b>Bench</b>	A landform consisting of a strip of level land in an otherwise sloped area.
<b>Benchmarking</b>	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'.
<b>Benthic</b>	Of or pertaining to the ocean bottom, or the deepest part of a large body of water.
<b>Best practice</b>	Best practice is ever changing. It represents the leading management practices used to prevent or minimise health, safety, environmental, social, cultural or economic impacts.
<b>BHP Billiton</b>	BHP Billiton (Olympic Dam Corporation) Pty Ltd.
<b>BHP Billiton Group</b>	The project proponent (BHP Billiton) and the group of companies of which it forms a part.

TERM	DEFINITION
<b>Bilateral assessment agreement</b>	Under the <i>Environment Protection and Biodiversity Conservation Act 1999</i> (C'wlth) a written agreement between the Australian Government and a state or territory, which relates to virtually any matter connected with the environment. A key purpose is to allow accreditation of state/territory environmental processes and systems by the Australian Government.
<b>Bioaccumulation</b>	The retention and gradual build-up of contaminants ingested or absorbed from the environment by an organism.
<b>Bioassay</b>	A biological assay typically used to measure the effects of a substance on a living organism.
<b>Bioavailable</b>	The state of a substance whereby it can enter an organism and affect its metabolism.
<b>Biocide</b>	A chemical compound used to kill undesirable living organisms. Includes pesticides, herbicides, algacides and bactericides.
<b>Biodiversity</b>	The range of genetic, species and ecosystem diversity present in a given ecological community or system.
<b>Biofouling</b>	The growth of marine organisms on substrates such as pylons, ships' hulls, fish nets etc, sometimes with adverse effects on the performance of the substrate.
<b>Biomass</b>	The total mass of biological (living) material, usually expressed as dry or wet weight.
<b>Biota</b>	The sum of all living organisms of an ecosystem, or of a defined area or period.
<b>Blasting</b>	Detonation of explosive charge in a mine or elsewhere to assist in breaking up hard rock.
<b>Bore</b>	A hole drilled into the ground to intersect an aquifer (q.v), and from which water may be pumped.
<b>Borrow pits</b>	Excavations that provide extra soil, rock, gravel, clay or sand for construction activity.
<b>Brackish</b>	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.
<b>Breccia</b>	A coarse-grained clastic (q.v.) 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.
<b>Brine</b>	Water saturated or nearly saturated with salt.
<b>Bund</b>	An earth, rock or concrete wall constructed to prevent the inflow or outflow of liquids and used as a secondary containment for tanks or other storage vessels.
<b>Calcareous</b>	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.
<b>Calciner</b>	A reactor where a mineral substance is heated to drive off a volatile fraction and produce an oxide.
<b>Cambrian</b>	The period of geological time between 500 million and 570 million years ago known as the earliest period of the Palaeozoic Era.
<b>Carbon dioxide equivalents (CO<sub>2</sub>e)</b>	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.
<b>Catalyst</b>	A substance capable of increasing the rate of a reaction without itself undergoing any chemical change.
<b>Catchment</b>	The entire land area from which water (e.g. rainfall) drains to a specific watercourse or water body.
<b>Cathode</b>	A metal plate with a negative charge used in electrolytic refining. The deposited metal recovered onto this plate is called cathode metal.

TERM	DEFINITION
<b>Cation</b>	A positively charged ion.
<b>Centrifuge</b>	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.
<b>Cephalopods</b>	A class of molluscs that includes the octopus, squid and cuttlefish.
<b>Cetaceans</b>	An order of aquatic mammals that includes whales, dolphins and porpoises.
<b>Chalcopyrite</b>	The mineral also known as copper pyrites (CuFeS <sub>2</sub> ).
<b>Chenopod</b>	A member of a family of plants, mainly shrubs of saline and semi-arid regions including bluebushes, saltbushes and samphires.
<b>Cladocerans</b>	Small crustaceans, commonly called water fleas, that live in various aquatic habitats.
<b>Claimant</b>	<i>Under the Native Title Act 1993 (C'wlth)</i> , a registered native title claimant, in relation to land or waters, means a person or persons whose name or names appear in an entry on the Register of Native Title Claims as the applicant in relation to a claim to hold native title in relation to the land or waters.
<b>Clarifier</b>	Equipment used in the process of removing contaminants from waste stream (i.e. washdown water) to produce a clean source of water suitable for returning to the system for reuse.
<b>Clay</b>	A naturally occurring material in soil and sedimentary rock that is composed primarily of fine-grained minerals, which may show plasticity, and can be hardened when dried and/or fired.
<b>Coagulant</b>	A chemical compound or substance that causes liquids to form solid clots.
<b>Cogeneration</b>	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.
<b>Coke</b>	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.
<b>Compaction</b>	The process of close packing of individual grains in a soil or sediment as a response to pressure.
<b>Comprehensive Safeguards Agreement</b>	An Agreement between a state and the IAEA for the application of safeguards to all of the state's current and future nuclear activities based on IAEA document INFCIRC/153 (taken from the ASNO annual report 2009). Also, Comprehensive safeguards agreement (CSA) an agreement that applies safeguards on all nuclear material in all nuclear activities in a State (taken from the IAEA Safeguards Glossary (2001) page 8, s1.19).
<b>Concentrate</b>	Copper-rich concentrate derived from lower-grade ore and containing recoverable quantities of uranium oxide, gold and silver.
<b>Concentrator</b>	An industrial plant in which a mineral concentrate is obtained from ore.
<b>Cone of depression</b>	A cone-shaped drawdown (or decrease) in the level of a water table caused by extraction of groundwater, usually by pumping.
<b>Confined aquifer</b>	An aquifer that is bound above and below by a water-resistant confining bed and may be under pressure.
<b>Conglomerate</b>	A coarse grained clastic (q.v.) 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-gained matrix.
<b>Contra-flow</b>	Water flowing in opposite directions at different levels in the water column.

TERM	DEFINITION
<b>Convection currents</b>	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.
<b>Copepod</b>	A group of small crustaceans found in the sea and freshwater habitats.
<b>Corrosion</b>	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.
<b>Council</b>	Roxby Downs Municipal Council.
<b>Cover sequence</b>	The layers of soils and rock overlying the orebody.
<b>Craton</b>	A major structural unit of Earth's crust consisting of a large stable mass of rock.
<b>Creep</b>	Surface creep is a form of wind erosion where particles too large to bounce along the surface, as in saltation, are rolled along the surface, either directly by the wind or by the impact of other particles.
<b>Cumulative effects</b>	The combined build-up of effects of multiple impacts arising from separate actions.
<b>Cupric</b>	A copper ion with two positive charges.
<b>Cyclone</b>	A device that generates a vortex to clear particulate matter from air or water.
<b>Dataset</b>	A collection of logically related data, recording the geographic and temporal attributes of particular entities arranged in a prescribed (usually tabular) manner.
<b>dB LAeq</b>	Noise level in decibals on the A-weighted scale (that mimics the response of the human ear) expressed as the equivalent continuous (or average) level.
<b>Decant</b>	Water on the surface of the TSF after the solids have settled and which is recycled for mineral processing.
<b>Decant pond</b>	Central area of TSF cell where supernatant liquid from tailings is collected for recycling.
<b>Decay product</b>	The product of the spontaneous radioactive decay of a nuclide (a type of atom) (q.v.). 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.
<b>Decline</b>	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.
<b>Decommissioning</b>	A formal process of removing the mine or infrastructure from operational status.
<b>Demographics</b>	The characteristics of a group of people such as age, gender, income, ethnicity, education, employment and household type.
<b>Deposition</b>	Laying down of particulate material (e.g. sediment in a lake or tailing solids in a tailings storage facility).
<b>Desalination</b>	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.
<b>Dewater</b>	To remove water.
<b>Diffuser</b>	In the context of a desalination plant, a pipe with numerous ports (or exit points) from which the brine is discharged to facilitate its dilution and dispersion.
<b>Diluent</b>	(a) Hydrocarbon used in solvent extraction of metals (b) Sea water used to dilute simulated return water for ecotoxicity testing.
<b>Dilution contour</b>	A line representing the outermost extent of a particular dilution of the return water.
<b>Diurnal</b>	Refers to situations where one high tide and one low tide occur daily.

<b>TERM</b>	<b>DEFINITION</b>
<b>Diurnal</b>	Occurring twice per day. Diurnal tides occur twice per 24 hours (i.e. two 'high' and two 'low' tides).
<b>Disturbance area</b>	The area of land directly affected by the construction of infrastructure.
<b>Dodge tide</b>	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.
<b>Dose (radiation)</b>	The radiation energy absorbed in a unit mass of material.
<b>Drawdown</b>	The fall of water-level in a natural reservoir such as an aquifer (q.v.) due to pumping or artesian (q.v.) flow.
<b>Drive (or drift)</b>	A horizontal underground opening, usually running above the strike (q.v.) of the ore body.
<b>Dwelling</b>	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.
<b>Duckbill valve</b>	A rubber valve shaped like a duck's bill. It has a flattened end, which opens to permit water to be discharged under pressure. If water pressure decreases the valve contracts, thereby maintaining exit velocity, or completely shuts to prevent seawater entering the discharge pipe.
<b>Dyke</b>	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.
<b>Easement</b>	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.
<b>Ecology</b>	The science of dealing with the relationships between organisms and their environments.
<b>Economic welfare</b>	A comprehensive measure of the general state of well-being and standard of living.
<b>Ecosystem</b>	The biotic (living) and abiotic (non-living) environment within a specified location in space and time.
<b>Ecotone</b>	A transition area between two adjacent ecological communities.
<b>Ecotoxicology</b>	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.
<b>E-folding</b>	A mathematical term used to define the time to flush or exchange 63.2% of the volume of a body of water.
<b>EIS Guidelines</b>	The SA Government Guidelines for an Environmental Impact Statement on the proposed expansion of the Olympic Dam operations at Roxby Downs, the Guidelines for an Environmental Impact Statement on the proposed expansion of the Olympic Dam operations at Roxby Downs, Second Declaration, and the NT Government Guidelines for the Preparation of an Environmental Impact Statement, Olympic Dam Expansion (NT Transport Option).
<b>Electrical conductivity</b>	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.

TERM	DEFINITION
<b>Electron</b>	A negatively charged particle that rotates around the nucleus of the atom, and is a component of all atoms.
<b>Emission</b>	A discharge of a substance (e.g. dust) into the environment.
<b>Empirical</b>	Based or acting on observation or experiment, not on theory.
<b>Employed person</b>	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.
<b>Endemic</b>	Refers to the ecological states of being unique to a place. Endemic species are not naturally found elsewhere.
<b>Enrichment</b>	Refers to the process of increasing the percentage of <sup>235</sup> U in uranium above that found naturally.
<b>Entrainment</b>	The in-take of free-floating organisms through the water intake screens.
<b>Environmental management system</b>	A set of policies, procedures and practices detailing the approach required to protect and enhance environmental values at a site.
<b>Ephemeral</b>	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.
<b>Epibenthic</b>	Refers to the area on top of the seafloor. Epibenthic organisms can be freely moving or sessile (permanently attached to a surface).
<b>Epifauna</b>	The animal life which lives on the surface of the ocean floor, a river bed etc., or is attached to submerged objects or to aquatic plants or animals.
<b>Erosion</b>	Wearing away and transforming Earth's crust by water (rain, sea), ice and other atmospheric agents (wind).
<b>Estimated residential population (ERP)</b>	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 and interstate and overseas migration.
<b>Estuary</b>	The wide tidal part of a coastal river, close to the mouth, where freshwater mixes with ocean water.
<b>Eutrophication</b>	The increase in the supply of organic matter to an ecosystem usually from anthropogenic activities, resulting in the over-enrichment of nutrients with the system.
<b>Evapoconcentration</b>	The increase in salinity of a solution due to evaporation of water.
<b>Family</b>	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.
<b>Fault</b>	Fracture of Earth's crust caused by the relative movement of rock masses.
<b>Fauna</b>	The animal life of a region or geological period.
<b>Fecundity</b>	Fruitfulness, fertility.
<b>Feed</b>	In mining, a material being fed into a process.
<b>Feral</b>	Refers to an organism that has escaped from domestication and returned, partly or wholly, to its wild state.
<b>Fissile</b>	A fissile material is one that is capable of sustaining a chain reaction of nuclear fission and can be used as nuclear fuel.

TERM	DEFINITION
<b>Flora</b>	The plants of a particular region, geological period, or environment.
<b>Flotation</b>	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.
<b>Flow-on effects</b>	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.
<b>Flux</b>	Intentionally added component of a slag which lowers its melting point or viscosity, or modifies its chemical properties.
<b>Footprint</b>	The land area taken up by a development.
<b>Fossil</b>	The remains or impression of a prehistoric animal or plant, usually petrified while embedded in rock, amber etc.
<b>Fossil fuels</b>	A natural fuel such as coal or gas formed in the geological past from the remains of living organisms.
<b>Fouling</b>	The accumulation of unwanted material on solid surfaces by living organisms (biofouling) or by formation of deposits of organic or inorganic substances.
<b>Full Scope Safeguards</b>	The application of IAEA safeguards to all of a state's present and future nuclear activities. Now more commonly referred to as comprehensive safeguards.
<b>Fungible</b>	Equal or identical.
<b>Fungibility</b>	The property of a good or a commodity whose individual units are capable of mutual substitution, i.e. interchangeable.
<b>Gamma radiation</b>	A form of electromagnetic radiation similar to light or x-rays, distinguished by its high energy and penetrating power.
<b>Gantry</b>	A type of crane, rail-mounted that can move horizontally along the wharf to at any point of the ship hold for shore-to-ship or ship-to-shore movement of freight (i.e. copper concentrate containing uranium).
<b>Gaussian plume modelling</b>	A mathematical technique used to estimate air or ground-level concentrations of pollutants at various distances from a point source based on height of release, wind speed and direction and other atmospheric factors.
<b>Geochemistry</b>	The study of the chemical composition of Earth or of the chemical interaction of elements, molecules, or particles derived from Earth.
<b>Geosyncline</b>	A large, generally linear trough, which has subsided deeply over a long time and in which thick sequences of sedimentary and volcanic rocks have accumulated.
<b>Geotechnical</b>	A term employed to cover the fields of soil mechanics, rock mechanics, and engineering geology.
<b>Geothermal energy</b>	Energy generated by converting hot water or steam from deep beneath Earth's surface into electricity.
<b>Gibber</b>	Fragments of stone found on the soil surface in arid areas of Australia, formed by weathering of the top layer of rock.
<b>Grade</b>	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.
<b>Gradient</b>	Rate of change of a given variable (such as temperature or elevation) with distance.
<b>Gravity current</b>	Flow of dense hypersaline seawater along a sloping seafloor in response to gravity.
<b>Great Artesian Basin (GAB)</b>	A groundwater basin, which contains one of the world's largest artesian aquifers (q.v.). The GAB underlies approximately one-fifth of Australia. Groundwater discharges naturally in some areas (largely along the south-western margin) and forms mound springs (q.v.). In the SEIS document the term refers to the "artesian Eromanga Basin".

TERM	DEFINITION
<b>Greenhouse gases</b>	The six gases listed in the Kyoto Protocol, capable of trapping heat within Earth's atmosphere: carbon dioxide (CO <sub>2</sub> ); methane (CH <sub>4</sub> ); nitrous oxide (N <sub>2</sub> O); hydrofluorocarbons (HFCs); perfluorocarbons (PFCs); and sulphur hexafluoride (SF <sub>6</sub> ).
<b>Grey water</b>	Non-industrial wastewater generated from domestic processes such as dishwashing, laundry and bathing.
<b>Grizzly</b>	A heavy grid used for the screening of large rocks.
<b>Gross Regional Product (GRP)</b>	Defined equivalently to gross domestic product but refers to production within a particular region rather than within the nation as a whole.
<b>Gross State Product (GSP)</b>	Defined equivalently to gross domestic product but refers to production within a state or territory rather than within the nation as a whole.
<b>Ground-level concentration</b>	Measured or estimated concentrations of a pollutant at ground level, estimated values are derived from pollutant dispersion models.
<b>Ground truth</b>	To test a model or concept by monitoring the natural environment.
<b>Groundwater</b>	Water that exists beneath Earth's surface in the pores and spaces of rock and soil.
<b>Groundwater mound</b>	The local rise of the water table above its natural level resulting from a localised source such as infiltration from the tailings storage facility.
<b>Gyre</b>	Any manner of swirling vortex particularly of large-scale wind and ocean currents.
<b>Habitat</b>	A specific place or natural conditions in which a plant or animal lives.
<b>Halogenated</b>	Organic compounds containing one of the halogen elements: fluorine, chlorine, bromine, iodine or astatine.
<b>Hardstand areas</b>	A hard surfaced area for parking vehicles.
<b>Haul trucks</b>	Heavy vehicles used to transport ore or waste rock.
<b>Hazard</b>	A source of potential harm, or a situation with a potential to cause loss or adverse effect.
<b>Heavy metals</b>	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.
<b>Heterogeneous</b>	Consisting of a diverse range of different items.
<b>Host (rock)</b>	As it pertains to mining, refers to rock or geological formation that contains (or surrounds) and ore body.
<b>Household</b>	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).
<b>Household income</b>	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.
<b>Household size</b>	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.
<b>Hydraulic gradient</b>	The change in static head (q.v.) or hydraulic potential per unit of distance in a given direction.
<b>Hydrocarbons</b>	Pertaining to oil or natural gas.

TERM	DEFINITION
<b>Hydrodynamic modelling</b>	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.
<b>Hydrogeology</b>	The study of groundwater with particular reference to geology and including its origin, occurrence, movement and quality.
<b>Hydrology</b>	The study of water, particularly its movement in streams, rivers, or underground.
<b>Hydrometallurgical plant</b>	A plant that uses relatively low temperature liquid-based processes to extract minerals from ore or concentrate.
<b>Hydrostatic</b>	Relating to the pressure exerted or transmitted by a fluid.
<b>Hypersaline</b>	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).
<b>IAEA Safeguards</b>	An agreement designed to complement a state's Safeguards Agreement with the IAEA in order to strengthen the effectiveness and improve the efficiency of the safeguards system.
<b>Igneous rock</b>	Rock formed when molten (melted) material hardens.
<b>Impeller</b>	Rotating bladed device within a pipe used to pump water.
<b>Income</b>	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.
<b>Indenture</b>	A legal agreement or written contract between two or more parties, often referring to land. The <i>Roxby Downs (Indenture Ratification) Act 1982</i> (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.
<b>Indicative site</b>	A place under the Commonwealth Heritage List that data has been provided to, or obtained, by the Heritage Division. However, a formal nomination has not been made and the Roxby Downs Council has not received the data for assessment.
<b>Indicator</b>	Any physical, chemical, biological, social or economic characteristic of the environment used to assess (i.e. indicate) environmental condition.
<b>Indigenous</b>	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.
<b>Industry</b>	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.
<b>Infauna</b>	The animal life which lives within the sediments of the ocean floor, a river bed, etc.
<b>Infrastructure</b>	A set of interconnected structural elements that provide the framework supporting an entire structure including utilities and transport. It may include buildings, gas pipes, sewage and water systems, telephone cables and reservoirs, roads, railways, airports and bridges, transmission lines, electrical cables, pylons and transformers.
<b>Ingress</b>	The entry of a substance (in this case the entry of seawater into the outfall tunnel during construction).
<b>Intermodal</b>	Involves the use of more than one form of transport for a journey.

TERM	DEFINITION
<b>Intertidal</b>	The area between the high and low water marks of tidal waters.
<b>Inverse estuary</b>	A marine inlet where evaporation exceeds freshwater inflow, resulting in the formation of a salinity gradient along the inlet.
<b>Inversion (conditions)</b>	A deviation from normal atmospheric conditions when cold air near the surface is trapped by a layer of warm air above it.
<b>Ions</b>	An atom or a group of atoms that has acquired a net electric charge by gaining or losing one or more electrons.
<b>Ionising radiation</b>	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.
<b>Isokinetic</b>	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.
<b>Isotope</b>	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.
<b>Jarosite</b>	A yellowish or brownish mineral, a hydrous sulfate of potassium and iron, $KFe_3(SO_4)_2(OH)_6$ .
<b>Jurassic</b>	The second period of the Mesozoic Era. It spanned the geological time between 135 million and 190 million years ago.
<b>Karstic</b>	Descriptive of uneven limestone topography, characterised by depressions, fissures, etc., created by percolating waters.
<b>Kibble</b>	A small steel container which may or may not be covered and used for transporting ore.
<b>Kinetic testing</b>	Time-based laboratory testing of the rock by types to assess sulphide reactivity, weathering rates, metal solubility, metal loads and potential leachate composition.
<b>Labour force</b>	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.
<b>Land system</b>	An area or group of areas where there is a recurring pattern of topography, vegetation and soils.
<b>Landfill</b>	Waste material used to landscape or reclaim areas of ground; the process of disposing of rubbish in this way.
<b>Landform</b>	A specific feature of a landscape (such as a hill) or the general shape of the land.
<b>Launder</b>	An inclined channel for conveying molten metal from the furnace taphole.
<b>Laydown area</b>	An area where construction material is temporarily stored prior to use.
<b>Leach</b>	Dissolution and removal of a soluble substance from a substrate.
<b>Leachate</b>	The fluid in which a leached substance is dissolved or transported.
<b>Leaching</b>	A chemical process for the extraction of valuable minerals from ore.
<b>Lee</b>	The side of a structure that provides shelter from current or wind.
<b>Lift</b>	Each separate layer placed in the construction of an embankment or waste rock emplacement.
<b>Limnological</b>	Pertaining to the study of the physical phenomena of lakes and other fresh waters.

TERM	DEFINITION
<b>Liquor</b>	Typically refers to an aqueous solution, emulsion or suspension.
<b>Lithology</b>	The description of rocks on the basis of colour, mineralogical composition, and grain size.
<b>Locality</b>	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.
<b>Macroalga</b>	Large algae (often termed seaweed) that is easily seen by the naked eye.
<b>Mantle length</b>	The length of the cuttlebone (visible through the mantle or skin), which can be measured to determine the length of the cuttlefish.
<b>Median age</b>	The age that divides a population group into exactly two equal halves.
<b>Meiobenthos</b>	Marine organisms measuring 0.1 and 1 mm in length that live on, in or near the seabed.
<b>Mesa</b>	An elevated area of land with a flat top and steep sides.
<b>Mesozoic</b>	The geological time between 251 and 65.5 million years ago. It comprises the Triassic, Jurassic and Cretaceous Periods.
<b>Metalliferous</b>	Bearing or producing metal.
<b>Metallurgical</b>	Pertaining to metals, particularly their extraction from ore.
<b>Metamorphic (geology)</b>	Metamorphic rocks are sedimentary or igneous rocks that have been altered by heat and/or pressure.
<b>Meteorology</b>	The interdisciplinary scientific study of the atmosphere that focuses on weather processes and forecasting.
<b>Micro-alga</b>	Algae that cannot be seen without the aid of a microscope. Phytoplankton are a form of microalgae.
<b>Mill</b>	Ore processing plant.
<b>Mine rock</b>	Refers to overburden and mineralised rock that is currently uneconomic to process.
<b>Mine water</b>	All water used in mining and processing.
<b>Mineral resource</b>	A concentration or occurrence of material of intrinsic economic interest in or on Earth's crust in such form, quality and quantity that there are reasonable prospects for eventual economic extraction.
<b>Mineralisation</b>	The occurrence of metals or minerals within a rock sequence that may potentially constitute ore.
<b>Mineralogy</b>	The scientific study of minerals.
<b>Mitigation measure</b>	Action taken to minimise or lessen the impact of activity on the environment or surrounding communities.
<b>Mixer settlers</b>	Mineral processing equipment used in solvent extraction of metals.
<b>Model</b>	A simplified representation (usually mathematic) of some complex system or event.
<b>Modelling</b>	The process of creating and using a model (q.v.).
<b>Morphology</b>	The form and structure of an organism.
<b>Native Title</b>	A concept in the law of Australia that recognises the continued ownership of land by local Indigenous Australians.
<b>Natal homing</b>	The return of an adult to the region from which it was spawned or hatched.
<b>Neap tide</b>	A tide just after the first and third quarters of the moon when there is least difference between high and low water.

TERM	DEFINITION
<b>Net present value (NPV)</b>	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.
<b>Neutral</b>	Neither acidic nor basic (e.g. a pH equal to 7.0).
<b>Nitrification</b>	The biological oxidation of ammonia into nitrite and nitrate.
<b>Noise contours</b>	Lines connecting areas of equal sound (noise) level.
<b>Nomenclature</b>	A method of assigning (unique) names.
<b>Non-artesian Eromanga aquifers</b>	The aquifers of the non-artesian Eromanga Basin, i.e. groundwater pressures may be sub-artesian or the aquifers host the watertable.
<b>Non-artesian Eromanga Basin</b>	That part of the Eromanga Basin where groundwater pressures are non-artesian.
<b>Occupation</b>	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 and over.
<b>Oceanographic phenomena</b>	Pertaining to physical and chemical aspects of oceans, such as currents, temperature, circulation patterns, waves and seawater chemistry.
<b>Oceanography</b>	The study of the oceans.
<b>Offsets</b>	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.
<b>Operations</b>	Mining and ore processing activities.
<b>Operation phase</b>	That period of the mining project, after construction and prior to decommissioning, during which pit excavation and metal extraction takes place.
<b>Ore</b>	A mineral or mixture of minerals containing a metal in sufficient amounts for its extraction to be profitable.
<b>Ore body</b>	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.
<b>Organophosphonate</b>	Substance used at a low concentration to inhibit the development of scale in a desalination plant.
<b>Osmoregulation</b>	The maintenance of constant osmotic pressure in the fluids of an organism by control of water and salt levels.
<b>Osmotic</b>	Relating to the process of osmosis, which is the diffusion of a solvent through a semi permeable membrane from a dilute to a more concentrated solution.
<b>Other family</b>	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.
<b>Otter trawls</b>	A type of trawl net with wooden or steel 'boards' (termed otter boards) that hold the net on the seafloor and maintain the opening of the mouth of the net. The otter boards enable the net to sweep along the seafloor.
<b>Overburden</b>	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.
<b>Over-dimensional</b>	Over-dimensional is where either the load and/or the vehicle combination itself exceeds a length of 19.0 m and/or a width of 2.5 m and/or a height of 4.3 m.
<b>Oxidation</b>	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).

TERM	DEFINITION
<b>Particulate</b>	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.
<b>Passive surveillance</b>	Passive surveillance (also known as casual or informal surveillance) provides for the natural observation of public space and the people in it. It involves the design and location of public facilities and areas to maximise visibility (for example, from passing traffic, pedestrians, and surrounding homes or buildings). Passive surveillance is an important crime deterrent because it increases the opportunity for a criminal act or inappropriate behaviour to be observed and makes people feel safer using the public realm.
<b>Pelagic</b>	Of, relating to, or living in open oceans or seas rather than waters adjacent to land or the seafloor.
<b>Percolate</b>	Filter or ooze gradually, especially through a porous surface.
<b>Permeability</b>	The capacity of a material to allow fluid(s) to pass through it.
<b>pH</b>	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).
<b>Phosphate</b>	A salt of phosphoric acid used in water treatment to prevent scale or to maintain correct pH.
<b>Photovoltaic</b>	Solar power technology that uses solar cells or solar photovoltaic arrays to convert energy from the sun into electricity.
<b>Piezometer</b>	An instrument for measuring the magnitude or direction of pressure.
<b>Piles</b>	Long, slender columns which may be of timber, steel, reinforced concrete or other material driven into the ground or seabed to carry a vertical load.
<b>Pilot plant</b>	A small version of a planned industrial plant, built to gain operational experience and determine performance characteristics.
<b>Plume (dispersion)</b>	Refers to a column of one fluid moving through another. The term may be used in the context of air or of water.
<b>Pollutants</b>	Contaminants. May be in the form of chemical substances or energy such as noise, heat or light.
<b>Ponding</b>	Forming a pond on the surface.
<b>Population</b>	A geographically or socially distinct group of interacting organisms of the same species that occupy a definable area.
<b>Potable water</b>	Water of quality suitable for human consumption.
<b>Pore water</b>	Pore water is the water filling the spaces between grains of sediment.
<b>Precipitation</b>	The process of changing from a dissolved compound into a solid, insoluble compound. Rain, hail and snow.
<b>Pre-strip</b>	Removal of vegetation, sand dunes and topsoil from the open-pit footprint.
<b>Prill</b>	A pelletised form of elemental sulphur designed to reduce the potential for dusting and combustion.
<b>Processing plant</b>	Where metals are extracted from a mined ore.
<b>Process water</b>	Water used during the processing of ore.
<b>Project area</b>	The area studied for regional groundwater assessment as shown in Figure 12.2.
<b>Putrescible</b>	Predisposed to decompose, decay or spoil, especially by bacterial action.
<b>Pyrite</b>	A mineral also known as iron pyrite (FeS <sub>2</sub> ) or fool's gold.

TERM	DEFINITION
<b>Quality factor</b>	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.
<b>Quaternary</b>	A geologic time period from approximately 2,588 million years ago to the present.
<b>Radioisotope</b>	See radionuclide.
<b>Radionuclide</b>	Any nuclide (isotope of an element) which is unstable and undergoes natural radioactive decay.
<b>Radon</b>	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.
<b>Raffinate</b>	The aqueous (water-based) leaching solution remaining after a valuable mineral, such as copper or uranium, has been removed by solvent extraction.
<b>Rail spur</b>	A relatively short railway line often built to serve a specific location or industry.
<b>Rangeland</b>	Areas of native pasture or other vegetation grazed by animal stock, which can include grassland, shrubland, savannah and woodlands. Approximately 75% of Australia is covered by (mostly arid or semi-arid) rangelands.
<b>Raise</b>	A vertical or inclined underground working that has been excavated from the bottom upward (i.e. a raise bore).
<b>Ramsar Convention</b>	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 2 February 1971 and came into force on 21 December 1975.
<b>Reagents (processing)</b>	The chemicals and solutions used in extracting metals from ore.
<b>Receiver</b>	A designated place at which an impact (e.g. pollution) may occur.
<b>Receptor</b>	A designated place at which an impact (e.g. pollution) may occur.
<b>Recharge</b>	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.
<b>Refinery</b>	A plant in which electrolytic processes (i.e. involving an electric current) are used to remove impurities from metals.
<b>Refining</b>	Purifying an impure metal to obtain a pure metal or mixture with specific properties.
<b>Refugia</b>	Location of an isolated or relict population of a once widespread animal or plant species.
<b>Rehabilitation</b>	The process of restoring land to its previous natural state or to another use (e.g. industrial or recreational) after mining has been completed.
<b>Reserve</b>	In the context of a mineral reserve, it is the economically mineable part of a measured or indicated mineral resource.
<b>Resource</b>	A concentration or occurrence of natural, solid, inorganic or fossilised organic material in or on Earth's crust in such form, quantity and quality that its extraction is likely to have economic benefit.
<b>Respirable particles</b>	Dust particles of any substances that are less than or equal to 10 micrometres (PM <sub>10</sub> ) diameter. It is important to note that PM <sub>10</sub> is not one particular substance but a classification of dust by size rather than by chemical properties.
<b>Return water</b>	Water returned to the ocean with the salt removed from the water the water that has passed through the reverse osmosis membranes.
<b>Reverse osmosis</b>	Purification of water by forcing it under pressure through a membrane that is semi-permeable in order to remove the impurities.
<b>Rhodamine</b>	A red, fluorescent dye used for tracing and quantifying water flow.

TERM	DEFINITION
<b>Richter scale</b>	A logarithmic scale of 0 to 10 for representing the strength of an earthquake.
<b>Risk</b>	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'.
<b>Risk assessment</b>	The process of measuring risk, including both the likelihood and consequences of a risk (also known as risk analysis and risk evaluation).
<b>Risk management</b>	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.
<b>Rock armouring</b>	Stabilisation of a surface with rock to reduce wind and water erosion.
<b>Rock pad</b>	flat, level, rock structure on the seafloor on which to 'ground' barges during unloading.
<b>Rock storage facility (RSF)</b>	A landform built using waste rock to provide a long-term repository for overburden; built with selective placement of rock so that potential acid-forming rock is enclosed within benign or neutralising rock to minimise the risk of acid seepage.
<b>Rosette</b>	Circular arrangement of diffuser outlets through which return water is discharge to the marine environment.
<b>Run-off</b>	That portion of precipitation (rain, hail and snow) that flows from a specific area as water.
<b>Saltation</b>	A form of wind erosion caused by direct pressure of the wind on the soil surface where particles are detached and bounced along the surface.
<b>Saline</b>	Salty, with reference to sodium chloride. May refer to water containing a specific amount of total dissolved solids (eg 10,000 to 100,000 mg/L).
<b>Salinometer</b>	An instrument used to measure salinity with a high degree of precision.
<b>Scouring</b>	Weathering and erosion (principally from currents) resulting in the partial removal of sediments from around a structure.
<b>Scrubbers</b>	Air pollution control devices used to remove particulate and/or gaseous pollutants from exhaust streams.
<b>Scuttle pond</b>	A lined, bunded pond to which solvent may be pumped in case of fire in the solvent extraction area to remove the fuel source thus extinguishing or limiting the fire.
<b>Sedentary</b>	Organisms and species that are not migratory but rather remain at a single location (permanently fixed or otherwise). Examples include barnacles, corals and mussels.
<b>Sedimentary rock</b>	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.
<b>Seepage</b>	The flow of a fluid through soil pores.
<b>Seismic</b>	Of or relating to an earthquake or earthquakes or similar vibrations.
<b>Semi-diurnal</b>	Refers to tides where two high tides and two low tides occur daily at approximately six hour intervals.
<b>Sensitive receiver</b>	A non-occupational area or group of people likely to be affected by potential impacts.
<b>Sequence (geological)</b>	Layers of (predominantly) sedimentary rocks sourced from a common geological environment or period.
<b>Sessile</b>	The inability to move (such as a sponge).
<b>Shear strength</b>	The maximum resistance of a material to applied stress.

TERM	DEFINITION
<b>Sievert (Sv)</b>	The SI derived unit of dose equivalent (q.v.). 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 (q.v.) 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.
<b>Silt</b>	Granular material made up of fragments of soil or rock between 3.9 and 62.5 µmm, smaller than a sand grain and larger than coarse clay.
<b>Slag</b>	Materials containing impurities from the ore and forming on the surface of molten materials.
<b>Slimes</b>	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 (q.v.) of copper, usually containing gold, silver and selenium.
<b>Slip lane</b>	A road lane provided at an intersection to allow vehicles to turn at the intersection without actually entering it and interfering with through traffic. Usually vehicles exiting a slip lane must give way to all other traffic.
<b>Slurry</b>	A thin paste produced by mixing certain materials with water, sufficiently fluid to flow viscously.
<b>Smelter</b>	A facility for producing metal by the reduction of ore at high temperatures.
<b>Solvent extraction</b>	A separation process in which two immiscible (q.v.) 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.
<b>Sorption</b>	The physical or chemical linkage of substances whether by absorption or adsorption.
<b>Special Mining Lease (SML)</b>	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.
<b>Speciation</b>	The conversion of one ion to another such as sulphide to sulphate.
<b>Specific activity</b>	The activity (q.v.) per unit mass of a radionuclide or combination of radionuclides in a material.
<b>Spigots</b>	Small discharge pipes off the main tailings pipeline.
<b>Stack</b>	A vertical tube or hollow column used to emit gaseous by-products from various processes.
<b>Staggered T</b>	An intersection with two T intersections in close proximity to each other on either side of the same road.
<b>Statistical local area (SLA)</b>	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.
<b>Statutory</b>	Related to or required by legislation or prescribed in regulation.
<b>Strata (geology)</b>	A single bed of sedimentary rock, generally consisting of one kind of matter representing continuous deposition.
<b>Stratigraphy</b>	A branch of geology, it is basically the study of rock layers and layering (stratification).
<b>Stripping</b>	Removal of vegetation and topsoil.

TERM	DEFINITION
<b>Stromatolite</b>	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.
<b>Substation</b>	A subsidiary station of an electrical generation, transmission and distribution system that generally includes one or more transformers and switching, protection and control equipment.
<b>Substrate</b>	The material on which an organism lives or is attached.
<b>Sump</b>	A hollow or pit into which liquid drains.
<b>Supernatant</b>	Descriptive of the liquid that lies above settled solids or sediment.
<b>Supratidal</b>	Area above the spring high tide, regularly splashed by, but not submerged by, seawater; sometimes called the splash or spray zone.
<b>Surfactant</b>	A substance that lowers the surface tension of a liquid.
<b>Surficial</b>	Pertaining to or occurring on or near Earth's surface.
<b>Sustainable development</b>	Development that meets the needs of the present without compromising the ability of future generations to meet their own needs.
<b>Swale</b>	A hollow or low tract of land lying between sand ridges.
<b>Synergistic</b>	When the combined effect of two or more agents is greater than the sum of the effects of exposure to the agents separately, the interaction is said to be synergistic.
<b>Tailings</b>	Crushed or finely ground waste rock from which valuable minerals or metals have been extracted.
<b>Tailings storage facility</b>	A retaining structure for tailings where the solids settle out and the tailings liquor is reclaimed for reuse or sent to evaporation ponds.
<b>Tap hole</b>	A hole that allows tapping, or pouring, molten metal from a furnace into ladles, pots or launders.
<b>Tapping</b>	The process of pouring molten metal from a furnace into ladles, pots or launders.
<b>Taxa</b>	Plural of taxon, which is a name designating an organism or group of organisms. In this document it is used to designate species.
<b>Taxonomic</b>	Relating to the science of classification, especially of living and extinct organisms.
<b>Tectonic</b>	Relating to major Earth forces and movement producing large-scale geological structures or events including folding, faulting and earthquakes.
<b>Telemetry</b>	A technology that allows measurements to be made and reported to an operator at a remote site.
<b>Temporal</b>	Of or relating to time.
<b>Tenure (of land)</b>	The terms by which land is held, owned or occupied.
<b>Terrestrial</b>	Pertaining to land.
<b>Tertiary (geology)</b>	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.
<b>Thermo luminescent dosimeter</b>	A type of radiation dosimeter that records exposure to ionising by measuring the amount of light emitted from a crystal in the detector when the crystal is heated. The amount of light emitted is dependent upon the radiation exposure.
<b>Thickening</b>	The process of increasing the viscosity of concentrate and tailings by reducing the water content.
<b>Throughput</b>	Quantity of material (ore, chemicals, etc.) moving through a system (e.g. an ore-processing plant).

TERM	DEFINITION
<b>Topography</b>	The study of Earth's surface features. It is concerned with local detail in general, including not only relief but also vegetative and human-made features.
<b>Toxic</b>	Poisonous to a specific organism, sometimes resulting in death.
<b>Toxicity</b>	Effect of any substance that produces a harmful effect on living organisms; described as acute (short-term) or chronic (long-term).
<b>Transmissivity</b>	The rate at which groundwater is transmitted through rock of a specific dimension and at a specified hydraulic gradient (q.v.).
<b>Transuranic</b>	Chemical elements with an atomic number greater than that of uranium (92).
<b>Tributyltin</b>	Biocide painted onto the hulls of ships to prevent the growth of fouling organisms. Tributyltin is a persistent organic pollutant that bio-accumulates through the food chain. It is now banned.
<b>Trihalomethanes</b>	Chemicals resulting from the disinfection of water with chlorine. In reverse osmosis systems, various trihalomethanes are produced in small quantities as a byproduct of the reaction of chlorine with sodium metabisulphite.
<b>Tritium</b>	A radioactive isotope of hydrogen. Its nucleus contains one proton and two neutrons. The nucleus of ordinary hydrogen contains one proton and no neutrons.
<b>Trophic</b>	Refers to an organism's position in the food chain or food web.
<b>Turbidity</b>	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'.
<b>Turbine</b>	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.
<b>Understorey</b>	The vegetative cover beneath taller trees and shrubs.
<b>Uranium (decay) series</b>	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.
<b>Usual residence</b>	For census purposes, the address at which the person has lived or intends to live for a total of six months or more.
<b>Visual amenity</b>	The visual attractiveness of an area.
<b>Volcanic</b>	Refers to association with volcanic activity; a volcano is an opening or rupture in a planet's surface or crust that allows hot molten rock, ash and gasses to escape from below the surface.
<b>Water balance</b>	The sum of the inputs and outputs and changes in storage levels of water in a given locality.
<b>Water column</b>	The body of water overlying the bed of a stream, lake, swamp, or ocean.
<b>Watercourse</b>	A natural channel conveying water, such as a stream or river.
<b>Wet mess</b>	Bar or other facility where alcohol is served.
<b>Winnowing</b>	Re-suspension and/or movement of sediments resulting from the passage of vessels above a shallow seabed.
<b>WMC</b>	Western Mining Corporation Ltd.