



# **Section 9**

## **Glossary of Technical Terms, Acronyms, Symbols and Units**



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## Technical Terms

**ABS** - Australian Bureau of Statistics.

**acid** – substance with a pH less than 7.0; the lower the pH, the higher the corrosive ability of the substance.

**acidic** – having a pH less than 7.0.

**acoustics** – the science of sound and vibration.

**ADGC** – Australian Code for the Transport of Dangerous Goods by Road and Rail.

**adverse weather conditions (in respect of noise and dust)** – conditions, such as high wind, that assist the movement of dust or propagation of noise away from the mine towards receptors.

**AEP** – Annual Exceedance Probability. The probability of exceedance of a given discharge within a period of one year.

**aesthetic significance** – an item/area having visual or sensory appeal, landmark qualities and/or creative or technical excellence.

**aggregates** – fragments of crushed rock with a defined size.

**agricultural resources** – the land on which agriculture is dependent and the associated water resources (quality and quantity) that are linked to that land.

**AHD** - Australian height datum (in metres).

**airblast overpressure** – a shock wave from the blast transmitted through the air, normally measured in dB(Linear).

**air pollutant** - a substance in ambient atmosphere, resulting from the activity of man or from natural processes, causing adverse effects to man and the environment (also called "air contaminant").

**air pollution** - presence of air pollutants.

**air pollution emissions inventory** – all information, collection and processing system containing data on emissions of, and sources of, air pollution from both man-made and natural causes.

**air quality criteria** – quantitative relationship between a pollutant's dose, concentration, deposition rate or any other air quality-related factors, and the related effects on receptors, e.g. humans, animals, plants, or materials. Air quality criteria serve as the scientific basis for formulating ambient air quality standards or objectives.

**algorithm** – a mathematical equation devised to solve a particular type of problem.

**alkaline** – having a pH greater than 7.0.

**alkalinity** – in water analysis a measure of the carbonates, bicarbonates, hydroxides and occasionally the borates, silicates and phosphates in the water.

**alluvial** – pertaining to material, such as sand or silt, deposited by running water (e.g. a creek or river).

**alluvium** – a general term for stream-deposited sediment (sand, silt, gravel, etc.) within stream beds or on flood plains or alluvial fans.

**amenity** – the desirability of an area.

**ANFO** – mixture of ammonium nitrate and fuel oil (diesel) used as an explosive.

**ANZECC** – Australian and New Zealand Environment and Conservation Council.

**Applicant** – person, organisation or company proposing to carry out an activity / seeking development consent (i.e. Argent (Kempfield) Pty Ltd).

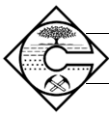
**approx.** – approximately.

**aquatic** – pertaining to water.

**aquatic** – living in or on water, or concerning water.

**aquifer** – rock or sediment capable of holding and transmitting groundwater.

**archaeology** – the scientific study of human history, particularly the relics and cultural remains of the distant past.



**artefact** – anything made by human workmanship, particularly by previous cultures (such as chipped and modified stones used as tools).

**AS** – Australian Standard.

**atmospheric stability** – a measure of turbulence which determines the rate at which the effluent is dispersed as it is transported by the wind.

**attenuation** – reduction in sound pressure levels between two locations.

**Average Recurrence Interval (ARI)** - statistical period in years for a design storm event.

**background** – the conditions (e.g. noise levels, bird populations) already present in an area before the commencement of a specific activity (e.g. a mining operation).

**background level** – the concentration (deposition) level of a pollutant which must be added to the concentration (deposition) level of the modelled sources in order to obtain a total.

**background dust level** – dust level in the absence of mining and processing activities.

**background noise level** – noise level in the absence of mining and processing activity.

**background noise levels** – the level of the ambient sound indicated on a sound level meter in the absence of the sound under investigation (e.g. sound from a particular noise source; or sound generated for test purposes).

**biodiversity** – the full range of living things and the ecosystem in which they live.

**biological diversity/biodiversity** – a concept encompassing the diversity of indigenous species and communities occurring in a given region; biological diversity includes genetic diversity, which is the diversity of genes and genotypes within each species; species diversity, which is the variety of living species; and ecosystem diversity which is the diversity of the different types of communities formed by living organisms and the relations between them.

**blasting** – the operation of breaking rock by means of explosives.

**bore** – a well, usually of less than 20cm diameter, sunk into the ground and from which water is pumped.

**buffer** – a physical barrier / structure or width of land that encloses, partially encloses, or defines a particular environment. A buffer serves to minimise the impacts of non-desirable external influences on the adjoining environment.

**bulldozer** – an item of tracked mobile earth moving equipment fitted with a front blade and with rear rippers used for pushing and ripping soil and rock.

**catch drains** – drains used to intercept and redirect runoff.

**catchment** – the entire land area from which water (e.g. rainfall) drains to a specific water course or waterbody.

**catchment area** – the area determined by topographic features within which rainfall will contribute to runoff at a particular point.

**community** – a combination of plants that are dependent on their environment and influence one another and modify their own environment. They form together, with their common habitat and other associated organisms, an ecosystem, which is also related to neighbouring ecosystems and to the macroclimate of the region.

**concentration** – the amount of a substance, expressed as mass or volume, in a unit volume of air.

**concrete products** – products manufactured primarily from Portland Cement concrete, these include bricks, blocks, pavers, pipes and box culverts and other precast concrete sections.

**cone crusher** – a type of crusher for reducing rock fragment size by means of appropriately positioned and spaced rotating or oscillating cones.

**conservation** – the management of human use of the biosphere so that it may yield the greatest sustainable benefit to present generations, while maintaining its potential to meet the needs as aspirations of future generations.



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**contaminant** – a chemical compound or element which has been introduced as a result of human activity. It is noted, however, that some chemical compounds and elements also occur naturally in water and sediments.

**crusher** – that part of an ore-processing plant where the ore is mechanically crushed into smaller pieces.

**crushing** – the mechanical process of reducing rock size usually by pressure or impact.

**culvert** – large pipe or channel carrying water underneath a structure (e.g. a road or railway track) or underneath the ground.

**cumulative** – increasing by successive additions.

**day time period** – the period from 7:00am to 6:00pm Monday to Saturday and 8:00am on Sundays and Public Holidays (where relating to noise).

**dB** – decibel, unit used to express sound intensity.

**dB(A)** – decibels, A-weighted scale; unit used for most measurements of environmental noise; the scale is based upon typical responses of the human ear to sounds of different frequencies.

**decibel** - unit expressing difference in power between acoustic signals.

**density** – 1. The mass of a substance (e.g. sediment) divided by its volume; water has a density of exactly 1 kilogram per litre; gold has a density of 19.3 kilograms per cubic metre. 2. The coverage of vegetation (e.g. trees) per unit of distance (along a linear transect) or unit of area (in an area transect).

**development application** – an application to the local council for approval of an activity deemed to require an approval prior to commencement.

**Devonian** - a period of geological time from 395 to 345 million years before present.

**dispersibility** – a characteristic of soils relating to their structural breakdown in water into individual particles.

**dispersion/diffusion** – a mixing process in which air motions mix a pollutant plume over an ever increasing volume, thereby diluting the concentration of the pollutant in the ambient air.

**dispersion model** – a set of mathematical equations relating to the release of air pollutant to the corresponding concentrations in the ambient atmosphere or deposition on the surface.

**dispersion parameters** – the parameters which describe the growth of the dimensions of a Gaussian plume as a function of travel distance of travel time. The dispersion parameters are classified according to diffusion turbulence conditions in the atmospheric boundary layer on the dispersion.

**disseminated** – spread widely, diffused.

**drilling** – the action of boring holes (usually less than 30cm in diameter and up to several kilometres deep) into the ground, typically to establish a water bore or to investigate the geology found at depth.

**dust** – particles of mostly mineral origin generated by erosion of surfaces and the mining and handling of materials.

**dust concentration** – the amount of a substance, expressed as mass or volume, in a unit volume of air.

**dust deposition** – dust particles that settle out from the air – measured in grams per square metre per unit month (g/m<sup>2</sup>/month).

**ecology** – the relationship between living things and their environment.

**ecologically sustainable development (ESD)** – using, conserving and enhancing the community's resources so that ecological processes on which life depends are maintained and the total quality of life, now and in the future can be increased.

**ecosystem** – the totality of biological processes and interactions within a specified physical environment.

**emission** – a discharge of a substance (e.g. dust) into the environment.



**emission factor** – an expression for the rate at which a pollutant is generated as a result of some activity, divided by the level of that activity.

**emissions inventory** – an information, collection and processing system containing data on emissions of, and sources of, air pollution from both man-made and natural causes.

**environment** – a general term for all the conditions (physical, chemical, biological and social) in which an organism or group of organisms (including human beings) exists.

**Environmental Impact Statement (EIS)** – a formal description of a project and an assessment of its likely impact on the physical, social and economic environment. It includes an evaluation of alternatives and an overall justification of the project. The EIS is used as a vehicle to facilitate public comment and as the basis for analysing the project with respect to granting approval under relevant legislation.

**EPA** – Environment Protection Authority – the successor to the SPCC.

**EP&A Act** – Environmental Planning and Assessment Act 1979.

**ephemeral** – lasting only a short time.

**ephemeral** – not permanent, e.g. a stream that flows only seasonally or after rainfall or a lake that periodically dries out.

**ephemeral stream** – a water course that flows intermittently.

**erosion** – the wearing away of the land surface (whether natural or artificial) by the action of water, wind and ice.

**evening period** – the period from 6:00pm to 10:00pm (when relating to noise).

**excavate** – to dig into natural material or fill using an excavator or other machinery.

**excavator** – item of earth moving equipment fitted with a bucket on an articulated boom and used for digging material from a face in front of, or below the machine. An excavator would be used around the perimeter of the lakes.

**exceedance probability** – statistical probability that a given value will be exceeded by sample values.

**existing air quality** – the quality of the ambient air near ground level, expressed as concentrations or deposition rates or air pollutants – also expressed as ambient air quality.

**exotic** – introduced or foreign, not native.

**extraction** – a term synonymous with quarrying.

**face** – sub-vertical quarry feature generally forming limits of benches.

**fauna** – a general term for animals (birds, reptiles, marsupials, fish etc.) particularly in a defined area or over a defined time period.

**finer** – material such as clay or silt sized particles.

**flora** – a general term for plant, particularly those found in a defined area or characteristic of a defined time period.

**fluvial** – pertaining to or produced by a river.

**formation** – a large stratigraphic sequence of rock beds (sandstone, shale, limestone, etc.) generally deposited over a distinct geological period (e.g. during a glacial period).

**fragmentation** – the extent to which rock is broken into small pieces by primary blasting.

**front-end loader** – machine used to lift and place soil, earth, rocks, etc. on a construction site.

**Geographic Information System (GIS)** – computer technology that can store, manipulate and display information in a spatial context.

**geological time** – the time periods over which geological processes such as sedimentation or erosion occur (generally from tens of thousands to hundreds of millions of years).



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**gradient** – rate of change of a given variable (such as temperature or elevation) with distance.

**Greenhouse effect** – the heating of the earth's surface because outgoing long-wavelength radiation from the earth is absorbed and re-emitted by the carbon dioxide and water vapour in the lower atmosphere and eventually returns to the surface.

**ground vibration** – oscillatory motion of the ground caused by the passage of seismic waves originating from a blast.

**groundwater** – all waters occurring below the land surface; the upper surface of the soils saturated by groundwater in any particular area is called the water table.

**groundwater dependent ecosystems** – ecosystems that use groundwater as part of survival, and can potentially include wetlands, vegetation, springs, base flows, cave ecosystems, river pools and hanging swamps.

**habitat** – the place where an organism normally lives; habitats can be described by their floristic and physical characteristics.

**heavy vehicle** – a motor vehicle or trailer that has a gross vehicle mass greater than 4.5 tonnes. Also includes motor vehicles with seats for more than 12 adults.

**heritage** – the things of value which are inherited.

**heritage significance** – of aesthetic, historic, scientific, cultural, social, archaeological, natural or aesthetic value for past, present or future generations.

**heritage study** – a conservation study of an area. The study usually includes historical context report, an inventory of heritage items within the area and recommendations for conserving their significance.

**infrastructure** – the necessary buildings, roads and equipment associated with a quarrying operation.

**inter-generational equity** – the principle that the present generation should ensure that the health, diversity and productivity of the environment is maintained or enhanced for the benefit of future generations.

**interbedded** – two or more types of sediment rock deposited alternately to build up a sequence.

**inversion** – generally used in meteorology with respect to an increase of temperature with height in contrast with the usual decrease of temperature with height in the troposphere. An inversion layer is distinguished by its large stability, which limits the turbulence and therefore the dispersion of pollutants.

**invertebrates** – commonly, animals without a backbone (jellyfish, worms, molluscs, etc.).

**jaw crusher** – a crusher which uses the pressure applied to the rock between the fixed and moving plate to reduce rock size.

**landform** – a specific feature of a landscape (such as a hill) or the general shape of the land.

**LEP** – local environmental plan.

**light vehicle** – a vehicle that has a gross vehicle mass of 4.5 tonnes or less.

**lithology** – refers to the general characteristics of sediments.

**Local Environmental Plan (LEP)** – a plan developed by a council to control development in part or all of their shire or municipality.

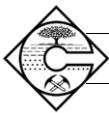
**long-term** – a period of time associated with annual air quality standards. Long-term models usually address pollutant concentrations over several seasons to one year.

**mammal** – animal of the class mammalia, distinguished by the presence of hair and mammary glands.

**maximum instantaneous charge (MIC)** – the maximum amount of explosives detonated during each delay during a blast.

**metamorphic rock** – rock type such as shale changed to rock type such as slate and phyllite by earth forces (heat, pressure, fluids, etc.).

**migratory** – passing, usually predictably (based on aquatic species), from one region or climate to another, for purposes of feeding, breeding, or other biological purposes.



**mitigation measures** – measures employed to reduce (mitigate) an impact (such as the construction of a perimeter bund to reduce sound emissions).

**mobile equipment** – wheeled or tracked self-propelled equipment such as trucks and front-end loaders.

**monitoring** – the regular measurement of components of the environment to establish environmental standards are being met.

**native title** – Aboriginal land title which has survived European settlement.

**natural** – existing in, or formed by, nature (generally excludes anything obviously modified by human beings).

**night-time period** – the period from 10:00pm to 7:00am Monday to Saturday and 10:00pm to 8:00am on Sundays and Public Holidays (when relating to noise).

**overburden** – subsoil and decomposed rock overlying the main rock body that is not suitable for use in the final product.

**particulate matter** – small solid or liquid particles suspended in or falling through the atmosphere - sometimes expressed by the term particulates.

**passive** – performing a function without electrical or mechanical action or movement (e.g. a jar-and-funnel rain gauge).

**perennial** – refers to stream which has flow throughout the year.

**perimeter safety bund** – embankment constructed from soil and/or weathered rock to surround the Project Site or extraction area.

**permeability** – a material property relating to the ability of the material to transmit water.

**pH** – a measure of the degree of acidity or alkalinity of a solution; expressed numerically (logarithmically) on a scale of 1 to 14, on which 1 is most acid, 7 is neutral acid, and 14 is most basic (alkaline).

**plant communities** – groupings of plants that inhabit the same area.

**pollution** – the alteration of air, soil, or water as a result of human activities such that it is less suitable for any purpose for which it could be used in its natural state.

**population** – a group of organisms all of the same species occupying a particular area.

**potable** – water suitable for human consumption.

**precautionary principle** – a principle of ESD which states that decisions about any proposed development should be guided by careful management to avoid serious and irreversible damage to the environment.

**precipitation** – natural water phenomena producing quantities of water measurable by standard methods (e.g. rainfall, snow).

**primary crusher** – the first crusher through which the rock passes in the processing plant.

**privately-owned residence** – an occupied dwelling not owned or under an option to purchase by the Applicant or another resource company, or the subject of a purchase or lease agreement with the Applicant or by any other resource company – referred to as receptors when considered with the predicted noise and/or air quality impacts.

**proactive** – anticipating a situation and reacting to it before it occurs.

**processing plant** – a group of equipment used to clean and grade sand.

**processing screen** – the screen used for separate various sizes of material for further crushing or product screening.

**product truck** – a registered truck used for the delivery of products from the quarry to the customer.

**progressive rehabilitation** – rehabilitation of mine or disturbed areas as soon as practicable after they are released during the life of the mine.

**Quarry Site** – the area of land which corresponds with the area of application for development consent and containing the Mining Lease Application area.

**quantify** – to determine the quantity or amount of a component in a substance.

**quarry** – an open pit from which construction materials are excavated.





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**Receptor** – A privately-owned residence, community facility or enterprise at which noise and/or air quality is predicted as a result of modelling of the Proposal.

**rehabilitation** – the preparation of a final landform after quarrying and its stabilisation with grasses, trees and shrubs.

**residual environmental impacts** – impacts from an activity (e.g. mining) that remain after mitigation measures.

**revegetated** – an area that has been planted with trees, bushes and grasses after being disturbed.

**revegetation** – replacement of vegetation, principally grasses and legumes on areas disturbed by quarrying activities.

**riparian** – pertaining to or situated on the bank of a river or creek.

**road base** – road pavement usually made up of densely graded crushed rock in varying

**runoff** – that portion of the rainfall falling on a catchment area that flows from the catchment past a specified point.

**runoff pond** – containment structure for water which runs off the leach heaps.

**run-of-mine (ROM)** – ore or overburden in condition as loaded from open cut.

**rutile** – a mineral of composition  $TiO_2$ .

**saline** – water with elevated salt concentrations.

**saline seep** – a place where saline groundwater has reached the surface.

**salinity** – the dissolved content of water expressed in terms of milligrams per litre.

**salinity** – the total content of dissolved solids in groundwater, commonly expressed as parts of dissolved solids per million parts of solution, or milligrams of dissolved solids per litre of solution (mg/L); the significance of salinity depends on the nature as well as the amount of the dissolved solids.

**sandstone** – general term for sedimentary rock with grain size from 0.063mm to 2mm - grains may be minerals or rock fragments.

**satellite imagery** – computer-generated information obtained from orbiting satellites produced as photo-like mosaics (e.g. infra-red response, magnetic intensity).

**scarify** – to stir the soil without altering its form, or disturbing its sequence of layers.

**screening** – a process which separates crushed rock into various size fractions – this usually involves a mechanical vibration of the rock over a series of decks fitted with steel mesh, steel plate or polyurethane or rubber mats with fixed sized apertures.

**secondary crusher** – the second crusher from which rock passes to be further reduced in size.

**sediment basin** – a small excavation designed to trap the coarse material washed from disturbed areas.

**sedimentary rocks** – rocks formed from material derived from pre-existing rocks or by chemical precipitation.

**sedimentation** – process or rate of depositing of sediment.

**settling velocity** – speed at which particles settle out of a solution.

**sight distance** – the distance along the road visible to the driver. It is measured along the normal travelled path of a roadway from the driver's location (such as at an intersection) to a specified height above the roadway when the view is unobstructed by traffic.

**silica** – silicon dioxide ( $SiO_2$ ).

**social capital** – the expected collective or economic benefits derived from the preferential treatment and cooperation between individuals and groups.

**social cohesion** – the bonds and relationships people have with their family, friends and the wider community.

**social infrastructure** – community facilities, services and networks which help individuals, families, groups and communities meet their social needs, maximise their potential for development and enhance community wellbeing.



**source** – the place where pollutants are emitted into the atmosphere. Sources may be point, area or line sources. Often the term “source” is used for a whole plant or an installation. In air pollution modelling, the terms “continuous source” and “instantaneous source” are used:

continuous source: source which emits pollution continuously over a time period much larger than the travel time to a point where the concentration is considered. Usually it is assumed that during this time period the emission is constant.

instantaneous source: source which emits pollution over a time period much short than the travel time of the emission to a point where its concentration is considered.

**spatial** – related to areal extent.

**species** – a taxonomic grouping of organisms that are able to interbreed with each other but not with members of other species.

**specific gravity** – the weight of any body or substance considered with regard to the weight of an equal bulk of pure water.

**stable** – used with respect to the atmospheric boundary layer, when the vertical temperature gradient is greater than the adiabatic lapse rate. Vertical air motions are suppressed. The turbulence intensity is low resulting in poor dispersion conditions.

**stakeholder** – person, group or organisation or company with an interest in an activity or outcome.

**storage capacity** – the maximum volume of liquid able to be retained in a container (e.g. a reservoir or lake).

**stratigraphy** – the succession and age of strata of rock and unconsolidated material.

**stream order** – defined by the Strahler stream order used to define stream size based upon a hierarchy of tributaries.

- **first order streams** – the smallest streams in a drainage network that have no tributary streams.
- **second order streams** – two first order streams unite to form a second order stream.
- **third order streams** – have second and first order streams as tributaries.

- **fourth, fifth, sixth, etc. orders** – reflect a similar approach to second or third order streams.

As the order of the stream increases, the discharge increases, the gradient decreases and the channel dimensions increase to accommodate discharge.

**stripping** – removal of vegetation and topsoil.

**structure (soil)** – the physical texture of the soil arising from the interrelationship between the grain size, composition, and organic nature of a soil.

**Study Area** – a defined area for the purposes of a specific area of environmental study.

**stygo fauna** – aquatic invertebrates living within the groundwater systems. This includes ‘obligate stygo fauna’ that represent endemic species that relate to particular regions or ecosystems only.

**subsoil** – the layer of soil lying below the topsoil; usually contains less organic matter and is less fertile.

**temperature inversion** – an increase in air temperature with height.

**terrestrial** – of or relating to the land, as distinct from air or water.

**tertiary crusher** – the third crusher through which rock passes to be reduced in size.

**throughput** – quantity of material (ore, chemicals, etc.) moving through a system (e.g. an ore processing plant).

**topography** – landform.

**topography** – the physical relief and contour of a region.

**topsoil** – the upper layer of soil, usually containing more organic material and nutrients than the subsoil beneath it.

**total suspended particulates (TSP)** – the mass of all particulate matter suspended in air.

**transect** – a line across a study area along which observations are made and changes can be observed (e.g. changes in vegetation).



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**unconsolidated** – loose or soft, not compacted (particularly soil or sediment).

**undulation** – the gentle rise and fall or wave-like structure of a landscape.

**uniform** – similar or unvarying.

**variability** – degree or amount of change.

**variable** – not constant, subject to change (e.g. temperature, rainfall or population).

**variance** – statistical measure of the variation within a set of data, equal to the square of the standard deviation.

**vegetated** – covered with plants.

**vehicle movement** – a one-way trip.

**vibration** – oscillating movement.

**visual amenity** – attractiveness to the eye.

**watercourse** – stream or river, running water.

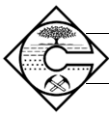
**weed** – any plant (in particular an herbaceous one) that survives in an area where it is harmful or troublesome to the desired land use.

**wetland** – swamp of damp area of land.

**wind direction** – the direction from which the wind, averaged over a certain period of time, is blowing.

**wind erosion** – wearing away of exposed soil, earth, or rock surfaces by the abrasive action of wind-blown particles (e.g. grains of sand).

**wind rose** – diagrammatic representation of wind direction, strength, and frequency of occurrence over a specified period.



## Acronyms, Symbols and Units

~ – approximately	<b>ARI</b> – average recurrence interval
°C – degrees Celsius	<b>AS</b> – Australian Standard
µg/g – micrograms per gram	<b>BOM</b> – Bureau of Meteorology
µg/L – micrograms per litre	<b>cm</b> – centimetre (unit of measure)
µg/m <sup>3</sup> – micrograms per cubic metre	<b>CO<sub>2</sub></b> – carbon dioxide
µm – micron, one millionth of a metre (one thousandth of a millimetre)	<b>dB</b> – decibel, unit used to express sound intensity.
µS/cm – microsiemens per centimetre; a measure of conductivity	<b>dB(A)</b> – decibels, A-weighted scale; unit used for most measurements of environmental noise; the scale is based upon typical responses of the human ear to sounds of different frequencies.
% – percentage	<b>dB(Linear)</b> – the measurement of sound pressure level in which the amplitudes of the sound signal, though all frequencies of the signal, are treated equally, i.e. not weighted.
<b>24-hour air quality standard</b> – value of an air quality variable not to be exceeded when averaged over 24 hours	<b>DPIE</b> – Department of Planning, Industry and Environment (NSW)
<b>72-hour rainstorm</b> – total rainfall recorded over a 72-hour period.	<b>DP</b> – Deposited Plan
<b>100-year flood limit</b> – predicted extent of a 1 in 100 year flood occurrence.	<b>DPI</b> – Department of Primary Industries (NSW)
'000 t – multiples of one thousand tonnes	<b>EIS</b> – Environmental Impact Statement
< – less than	<b>EP&amp;A Act</b> – <i>Environmental Planning and Assessment Act 1979</i> (NSW)
≤ – less than or equal to	<b>EP&amp;A Regulation</b> – Environmental Assessment and Planning Regulation 2000
> – greater than	<b>EPA</b> – Environment Protection Authority (NSW)
≥ – greater than or equal to	<b>EPL</b> – Environment Protection Licence
<b>95% exceedance</b> – a value that is exceeded by 95% of sample values	<b>g</b> – gram (= 0.001 kilogram)
<b>ABS</b> – Australian Bureau of Statistics	<b>g/m<sup>2</sup>/month</b> – grams per square metre per month unit for deposited dust
<b>AEP</b> – Annual Exceedance Probability	<b>GHG</b> – greenhouse gas
<b>AHD</b> – Australian Height Data; in metres above mean sea level	<b>ha</b> – hectare (100 m x 100 m)
<b>AHIMS</b> – Aboriginal Heritage Information Management System	<b>kg</b> – kilogram (weight measure)
<b>ANFO</b> – mixture of ammonium nitrate and fuel oil (diesel) used as an explosive	<b>kL</b> – kilolitre (thousand litre)
<b>ANZECC</b> – Australian and New Zealand Environment and Conservation Council	



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**km** – kilometre (= 1 000 metres)

**km<sup>2</sup>** – square kilometres

**km/h** – kilometres per hour

**L** – litre

**LEP** – Local Environmental Plan

**L<sub>A10</sub>** – sound level exceeded 10 per cent of the sampling time

**L<sub>A90</sub>** – sound level exceeded 90 per cent of the sampling time

**L<sub>Aeq</sub>** – the **L<sub>Aeq</sub>** is the “equal energy” average noise levels, and is used in some instances for the assessment of traffic noise effects or the risk of hearing impairment due to noise exposures

**L<sub>Aeq 1 hour</sub>** – the “equal energy” average noise level over 60 minutes – used for assessing impacts of motor vehicles

**L<sub>Aeq T</sub>** – Sound level of continuous noise which emits the same energy as the fluctuation sound over a given time period (T)

**L<sub>Amax</sub>** – the absolute maximum noise level measured in a given time interval

**L<sub>AN</sub>** – the A-weighted sound pressure level exceeded by N% of a given measured period

**LEP** – Local Environmental Plan

**LGA** – Local Government Area

**m** – metre

**m AHD** – metres Australian Height Datum

**m BGL** – metres below ground level

**m<sup>2</sup>** – square metre

**m<sup>3</sup>** – cubic metre

**mg** – milligram (weight unit)

**mg/L** – milligrams per litre (parts per million)

**mg TSS/L** – milligrams of total suspended solids per litre

**mg Zn/kg** – milligrams of zinc per kilogram

**MIC** – Maximum Instantaneous Charge

**ML** – megalitre

**mm** – millimetre (= 0.001 metres)

**pH** – measurement indicating whether water or soil is acid or alkaline

**PM<sub>10</sub>** – particulate matter <10µm in diameter

**PM<sub>2.5</sub>** - particulate matter <2.5µm in diameter

**ppm** – parts per million

**SEPP** – State Environmental Planning Policy

**t** – tonnes

**t/m<sup>3</sup>** – tonnes per cubic metre

**tpa** – tonnes per annum

**tpd** – tonnes per day

**tph** – tonnes per hour

**µg/m<sup>3</sup>** – micrograms per cubic metre

**µm** – micron (1 micron=0.001 millimetre)

**µS/cm** – micro siemens per centimetre

**V:H** – vertical to horizontal ratio

**WSP** – Water Sharing Plan



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