

Section 8

Glossary of Terms, Acronyms and Symbols

PREAMBLE

This section provides a glossary technical terms and acronyms, symbols or units used throughout the EIS

This page has intentionally been left blank

GLOSSARY OF TERMS

A-weighted – an electronic filter having the frequency response corresponding approximately to that of human hearing.

Annual Review – a report submitted to the Director-General of DP&I identifying environmental performance for the previous period including activities, monitoring results (with evaluation), compliance, non-compliances and responses, discrepancies between actual and predicted impacts and measures to improve performance over the ensuing reporting period.

aerial survey – survey of a landscape from an aeroplane, typically involving aerial photography, to determine specific characteristics (e.g. mineral potential or land use).

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

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

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.

ambient – relating to conditions outside the proposed area of activity.

amenity – the desirability of an area.

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

aquifer – rock or sediment in a formation, group of formations, or part of a formation which is saturated and sufficiently permeable to transmit economic quantities of water to wells and springs.

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).

backfill – material used to fill a created void.

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.

basin – the drainage area of a river and its tributaries or of a groundwater system.

bedrock – unweathered rock lying below the soil and weathering profile.

bench – a step in the face of an open cut which could be up to 30 m high.

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

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

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

catchment – drainage area of a reservoir, river, creek, etc.

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

channel – natural or man-made structure to convey water – displays a bed and a bank.

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.

cross-section – a two-dimensional representation of an area presented as if the area had been cut along its length.

cumulative – increasing by successive additions.

Development Application - an application a local council or other Authority for approval of an activity deemed to require an approval prior to commencement.

drainage line – a longitudinal depression in the landscape often without a bed or bank that intermittently carries runoff.

drilling – the action of boring holes (usually less than 30 centimetres in diameter) into the ground, typically to establish a water bore to investigate the geology found at depth or to allow explosives to be placed for blasting.

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

dust deposition – dust particles that settle out from the air – measured in grams per square metre per unit month ($\text{g/m}^2/\text{month}$).

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 – a functional unit of energy transfer and nutrient cycling in a given place. Includes all the relationships within the biotic community and between the biotic components of the system.

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

environmental constraints – limitations on a project by components of the environment.

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.

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

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

evaporation – the loss of water as vapour from the surface of a liquid that has a temperature lower than its boiling point.

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

excavator – item of earthmoving equipment fitted with a bucket on an articulated boom and used for digging material from a face in front of, or below the machine.

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

feral – domesticated animals that have become wild.

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

flyrock – rock that is propelled into the air by the force of an explosion beyond the defined blast envelope. Usually originates from pre-broken material on the surface or upper open blast face.

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

fugitive emissions – emissions not entering the atmosphere from a stationary vent (stack). Examples of fugitive dust sources include vehicular traffic on unpaved roads, handling of raw materials, wind erosion of dusty surfaces.

geological reserves – the measured total quantity of in-situ resource in a deposit, prior to consideration of mining parameters.

grader – an item of earthmoving equipment, rubber tyred and fitted with a centrally mounted blade and rippers used to shape and trim the ground surface, particularly unsealed roads

ENVIRONMENTAL IMPACT STATEMENT

Section 8 – Glossary of Terms, Acronyms and Symbols

DARRYL McCARTHY CONSTRUCTIONS PTY LTD

Dowe's Quarry

Report No. 896/01

ground vibration – oscillatory motion of the ground caused by the passage of seismic waves originating from a blast (or other force).

groundwater – the water contained in interconnected pores located below the water table in an unconfined aquifer or located in a confined aquifer.

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; can be described by their floristic and physical characteristics.

heavy metals – normally trace metals which occur in ore deposits which, depending on their concentration may be environmentally hazardous e.g. copper, lead and zinc.

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.

indigenous – belonging to, or found naturally in, a particular environment.

infiltration – the process of surface water soaking into the soil.

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.

intermittent – flows periodically, irregularly.

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.

land condition – the present (compared with the historical) capacity of the land to support vegetation or agriculture.

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

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

Local Environmental Plan (LEP) – a plan developed by a council to control development in part or all of their local government area.

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

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

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

National Park – an area set aside for the protection of flora and fauna and for public recreation.

offset strategy – a method of providing for disturbance of native vegetation attributable to the project through additional or compensatory measures.

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

pavement deformation – the change in road surface from the intended construction profile. This may include corrugations, depressions, wheel rutting or shoving.

peak airblast – the maximum level of the airborne shockwave resulting from the detonation of explosives.

peak particle velocity (ppv) – a measure of ground vibration reported in millimetres per second (mm/sec).

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).



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.

precautionary principle – the principle that, if a threat of serious or irreversible environmental damage exists, lack of full scientific certainty that the damage will occur should not be used as a reason to postpone measures to prevent that environmental damage.

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.

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

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 mining and related activities and its stabilisation with grasses, trees and shrubs.

remnant vegetation – native vegetation

resource – an estimate of potentially usable mineral solution in a defined area based on preliminary information.

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

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

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);

sedimentation – process or rate of depositing of sediment.

sediment trap – structure designed to trap silt and sediment close to its source.

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.

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

species diversity – a measure of the number of different species in a given area.

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

stockpile – a pile used to store material for future use.

storage capacity – the maximum volume of liquid able to be retained in a dam.

stormwater – surface water runoff immediately after rainfall.

subsoil – the layer of soil lying below the topsoil; usually contains less organic matter and is less fertile but is essential for retention of moisture for plant growth. Also referred to as the 'B Horizon'.

surface waters – all water flowing over, or contained on, a landscape (e.g. runoff, streams, etc.).

suspended solids – analytical term applicable to water samples referring to material recoverable from the sample by filtration.

temperature inversion – an increase in air temperature with height (see inversion).

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

threatened species – a species specified in Part 1 or 4 of Schedule 1, Part 1 of Schedule 1A or Part 1 of Schedule 2 of the TSC Act 1995 or listed in the categories as defined in Section 179 of the EPBC Act 1999.

topography – the physical relief and contour of a region.

topsoil – the surface layer soil profile containing the main percentage of organic material. Also referred to as the 'A Horizon'.

turbidity – the optical property of water that prevents light from being transmitted. Caused by the presence of very fine suspended matter such as clay or organic matter.

vehicle movement – a one-way trip.

visual amenity – attractiveness to the eye.

watercourse – stream or river invariably with 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.

wildlife corridor – a strip of vegetation that has a design purpose of allowing animals to pass from one area to another and acting as an undisturbed area for wildlife preservation.

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

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

waste rock – non-economic material to be removed from the mine to allow access to the resource.

waste rock emplacement – structure to hold rock, formed by the placement of rock in a random and/or structured manner.

water quality criteria – generally refers to numeric levels specified for key water quality variables, such as electrical conductivity or pH, which can be measured to determine the suitability of water for human consumption, supporting aquatic life, etc.

GLOSSARY OF ACRONYMS, SYMBOLS AND UNITS

~ – approximately.

° – degrees.

$\mu\text{g}/\text{m}^3$ – micrograms per cubic metre.

% – percentage.

95% exceedance – a value that is exceeded by 95% of sample values.

AADT – Average Annual Daily Traffic.

ABS – Australian Bureau of Statistics.

AHD – Australian Height Datum; in metres (similar to metres above mean sea level).

AHIMS – Aboriginal Heritage Information Management System.

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

ANZECC – Australian and New Zealand Environment and Conservation Council.

AS – Australian Standard.

A-Scale – a sound level measurement scale. It discriminates against low frequencies and approximates the human ear.

BOM – Bureau of Meteorology.

dB – decibel. The unit used to express sound intensity.

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

DECCW – Department of Environment, Climate Change and Water (NSW). Now OEH.

DP&E – Department of Planning and Environment (NSW).

DPI – Department of Primary Industries (NSW)

EIS – Environmental Impact Statement.

EPA – Environment Protection Authority (NSW).

EP&A Act – Environmental Planning and Assessment Act 1979 (NSW).

EP&A Regulation – Environmental Assessment and Planning Regulation 2000.

EPL – Environment Protection Licence.

ESD – Ecologically Sustainable Development.

$\text{g}/\text{m}^2/\text{month}$ – grams per square metre per month unit for deposited dust.

GHG – greenhouse gas.

ha – hectare (100 m x 100 m).

INP – Industrial Noise Policy.

km – kilometre (= 1 000 metres).

km/hr – kilometres per hour.

90 per cent of the sampling time.

L_{Aeq} – the L_{Aeq} is the energy average of the varying noise over the sample period and is equivalent to the level of a certain noise which contains the same energy as the varying environment. It is a common measure of environmental and traffic noise.

L_{Amax} – the absolute maximum noise level measured in a given time interval.

LALC – Local Aboriginal Land Council.

LEP – Local Environmental Plan.

LGA – Local Government Area

m AHD – metres Australian Height Datum.

m^2 – square metre.

m^3 – cubic metre.

MIC – Maximum Instantaneous Charge.

ML – Megalitre (1 million litres) – typically of water.

NP&W Act – National Parks and Wildlife Act 1974 (NSW).

PM₁₀ – particulate matter <10µm in diameter.

PM_{2.5} - particulate matter <2.5µm in diameter.

RAPs - Registered Aboriginal Parties

RMS – Roads and Maritime Services

RTA – Roads and Traffic Authority (NSW) –
now RMS.

SEPP – State Environmental Planning Policy.

t – tonnes.

TAPM – The Air Pollution Model.

tpa – tonnes per annum.

TSC Act – Threatened Species Conservation
Act 1995 (NSW).

TSP – Total Suspended Particulate.

µg/m³ – micrograms per cubic metre.

µm – micron (1 micron=0.001 millimetre).

V:H – vertical to horizontal ratio.

WSP – Water Sharing Plan.

This page has intentionally been left blank