



# Appendix 5

Glossary

## 1. GLOSSARY

Glossary Term	Definition
$\mu\text{S/cm}$	Micro-siemens per centimetre. A measure of the electrical conductivity of a sample
Acoustic Background Level (ABL)	The single-figure background level representing each assessment period—day, evening and night (i.e. three ABLs are determined for each 24 hour period of the monitoring period). ABL is a measure of background noise level in the absence of noise from the source. Determination of the ABL is by the tenth percentile method, i.e. sort the recorded hourly LA90's into ascending order and select the lowest ten percentile level.
Acoustic Day Period	Refers to the period between 6 am and 6 pm.
Acoustic Evening Period	Refers to the period between 6 pm and 10 pm.
Acoustic Night Period	Refers to the period between after 10 pm and before 6 pm.
Acoustic Rating Background Level (RBL)	The overall single-figure background level representing each assessment period (day/evening/night) over the whole monitoring period (as opposed to over each 24 hour period used for the ABL). It is the median value of the ABL's.
Peak particle velocity (ppv)	A measure of ground vibration magnitude and is the maximum instantaneous particle velocity at a point during a given time interval in mms-1. (Peak particle velocity can be taken as the vector sum of the three component particle velocities in mutually perpendicular directions).
Acid	A measure of hydrogen ion (H <sup>+</sup> ) concentration; generally expressed as pH.
Acid-Base Account	Evaluation of the balance between acid generation and acid neutralisation processes. Generally determines the maximum potential acidity (MPA) and the inherent acid neutralising capacity (ANC), as defined below.
Alluvial	Alluvial deposits are sediments composed of gravel, sand, silt or clay deposited in river channels or on floodplains. Alluvial aquifers are generally shallower than sedimentary and fractured rock aquifers and water levels often fluctuate due to varying recharge and pumping rates. Due to their shallow and unconfined nature, alluvial aquifers are susceptible to contamination and pollution.
Acid and Metalliferous Drainage	Acid and Metalliferous Drainage (AMD) from mining waste materials characterised by low pH, elevated metal concentrations, high sulfate concentrations and high salinity. The term AMD is used more recently to replace the term Acid Rock Drainage (ARD) (see below) as metalliferous and saline drainage can occur under pH-neutral conditions.
Acid Neutralising Capacity	Ratio of the acid neutralising capacity to the maximum potential acidity of a sample. Used to assess the risk of a sample generating acid conditions.
ANC/MPA Ratio	Acid Neutralising Capacity, expressed as kg H <sub>2</sub> SO <sub>4</sub> per tonne of sample. A measure of a sample's maximum potential ability to neutralise acid. See also ABCC.
Ambient noise	The all-encompassing noise associated within a given environment. It is the composite of sounds from many sources, both near and far.

Glossary Term	Definition
Aquifer	A formation, group of formations, or part of a formation that contains sufficient saturated permeable material to yield economic quantities of water to wells and springs.
Acid Rock Drainage	Acid rock drainage from mining waste materials characterised by low pH, elevated metal concentrations, high sulfate concentrations and high salinity.
Average Recurrence Interval (ARI)	The average or expected value of the periods between exceedances of a given rainfall total accumulated over a given duration.
Australian Water Balance Model (AWBM)	A widely applied hydrological model based on partial area saturation overland flow.
Biodiversity Convention	The Convention on Biological Diversity
Biodiversity Status	The Biodiversity Status refers to DEHP's Biodiversity Planning Assessment Status for Regional Ecosystems.
Bonn Convention	The Convention on the Conservation of Migratory Species of Wild Animals
Brigalow Belt Reptile Guidelines	Refers to <i>Draft Referral guidelines for the nationally listed Brigalow Belt reptiles</i> (DSEWPaC 2011b).
Byerwen Coal	Byerwen Coal Pty Ltd
China Australia Migratory Bird Agreement (CAMBA)	Agreement between the Government of Australia and the Government of the People's Republic of China for the Protection of Migratory Birds and their Environment (1986)
Chemocline	A separation between two layers in a water body brought about by differences in chemical properties (salinity, oxygen etc).
Clean water	Water from undisturbed catchments, suitable for discharge without treatment
Coarse Reject	Coarse mineral waste material (at the Project, greater than 12 mm diameter) produced from the CHPP as part of the processing of coal. Coarse reject usually comprises the carbonaceous mudstone, siltstone and fine-grained sandstone located immediately above and below the 'economic' coal, which is mined during coal extraction. See also "Mid-Sized Reject" and "Fine Reject".
Commonwealth Minister for the Environment	Commonwealth Minister for Sustainability Environment, Water, Population and Communities
Confined Aquifer	An aquifer that lies below a low permeability material. The piezometric surface in confined aquifers is above the base of the confining material e.g. artesian aquifers
CORVEG	Queensland Herbarium's site-based floristic dataset
Cosmopolitan Species	Species with very large distribution in many, or all, parts of the world and ecosystems.
Critically Endangered	A listing category for individual native species and ecological communities as defined under the <i>EPBC Act</i> . Refer to definition of 'EPBC Act conservation status' for meaning of 'Critically Endangered' under the Act.

Glossary Term	Definition
Cultural Landscape	<p>Cultural landscapes derive their significance from the connection between culture and history and the natural features and systems. Cultural landscapes as referred to in this chapter consist of a geographic area including both cultural and natural resources associated with a historical event, activity, person or place. There are generally four types of cultural landscapes (not mutually exclusive):</p> <ul style="list-style-type: none"> <li>▪ sites,</li> <li>▪ designed landscapes,</li> <li>▪ vernacular landscapes and</li> <li>▪ ethnographic landscapes.</li> </ul> <p>A cultural landscape does not remain static but continues to be sculpted as cultures change. The value and significance assigned to them and criteria used to identify them will also change through time as society changes.</p>
dB (linear) peak	The maximum reading in decibels (dB) obtained using the “P” time – weighting characteristic as specified in AS 1259.1 – 1990 with all frequency-weighted networks inoperative.
Data drill (Datadrill)	A service provided by the Queensland Government that produces continuous patched-point meteorological datasets for any given location in Australia
Drawdown	The distance between the static water level and the surface of the cone of depression.
Dynamic Reservoir Simulation Model (DYRESM)	Model commonly used to predict the vertical distribution of the key stratification indicators being temperature, salinity and density.
‘Early wet’ season	From October to December, when flow has been established for at least four weeks.
Ecological community	An assemblage of species occupying in a particular area.
Ecosystem	A functional unit consisting of all the living organisms (plants, animals and microbes) in a given area, and all the non-living physical and chemical factors of their environment, linked together through nutrient cycling and energy flow.
Ecotone	A transitional zone between two communities containing the characteristic species of each.
Ecozone	A broad geographic area in which there are distinctive climate patterns, ocean conditions, types of landscapes and species of plants and animals.
Edaphobites	Deep soil dwelling (or endogean) species that frequently display troglomorphisms and may sometimes occur in caves.
Emerson Class	A measure of the dispersive characteristics of a soil when exposed to water.
Endangered	A listing category as defined under the <i>EPBC Act</i> or <i>NC Act</i> . Refer to definitions of ‘ <i>EPBC Act</i> conservation status’ and ‘ <i>NC Act</i> conservation status’ for meaning of ‘Endangered’ under each Act.
Endemic	Pertaining to organisms in a specific geographical region or ecological habitat; organisms native to a region and not introduced.

Glossary Term	Definition
<p><i>EPBC Act</i> conservation status</p>	<p>Under the <i>EPBC Act</i>, listed threatened species and ecological communities are assigned a conservation status of either ‘Extinct in the Wild’, ‘Critically Endangered’, ‘Endangered’ or ‘Vulnerable’. Definitions for these terms under the <i>EPBC Act</i> are as follows:</p> <ul style="list-style-type: none"> <li>▪ Extinct in the Wild:           <ul style="list-style-type: none"> <li>▫ It is known only to survive in cultivation, in captivity, or as a naturalized population well outside its past range</li> <li>▫ It has not been recorded in its known and/or expected habitat, at appropriate seasons, anywhere in its past range, despite exhaustive surveys over a time frame appropriate to its life cycle and form.</li> </ul> </li> <li>▪ Critically Endangered:           <ul style="list-style-type: none"> <li>▫ It is facing an extremely high risk of extinction in the wild in the immediate future, as determined in accordance with the prescribed criteria.</li> </ul> </li> <li>▪ Endangered:           <ul style="list-style-type: none"> <li>▫ It is not Critically Endangered</li> <li>▫ It is facing a very high risk of extinction in the wild in the near future, as determined in accordance with the prescribed criteria.</li> </ul> </li> <li>▪ Vulnerable:           <ul style="list-style-type: none"> <li>▫ It is not Critically Endangered or Endangered</li> <li>▫ It is facing a high risk of extinction in the wild in the medium-term future, as determined in accordance with the prescribed criteria.</li> </ul> </li> </ul>
<p>Epilimnium</p>	<p>The less dense upper layer of a water body under stratified conditions.</p>
<p>Essential Habitat</p>	<p>Essential habitat is an area of remnant vegetation where species listed as endangered, vulnerable, or near threatened under the <i>NC Act</i> have been recorded and are mapped by DEHP.</p>
<p>Eutrophic</p>	<p>A eutrophic lake is a lake with high nutrient content. These lakes are subject to excessive algal blooms, resulting in poor water quality.</p>
<p>Extinct</p>	<p>A taxon is extinct when there is no reasonable doubt that the last living individual has died.</p>
<p>Facultative GDE</p>	<p>A GDE that is not entirely dependent on groundwater but may rely on groundwater on a seasonal basis or only during extended drought periods. At other times water requirements may be met by soil or surface water.</p>
<p>Fine Reject</p>	<p>Fine-grained mineral waste material (at the Project, less than 1 mm diameter) produced from the CHPP as part of the processing and washing of coal. Fine reject (also called ‘tailings’) typically comprise very fine-grained mudstone, claystone and sand present in CHPP wastewater. See also “Coarse Reject” and Mid-Sized Reject”.</p>
<p>Free field</p>	<p>A position where there are no reflecting surfaces, other than the ground, close enough to influence the sound pressure level. Taken as a minimum of 1.2m above ground level and 4m from the closest building façade.</p>

Glossary Term	Definition
Goldsim	A generic, dynamic simulation program, widely used for water and mass transport modelling.
Groundwater Dependent Ecosystem or GDE	Is a broad overarching term encompassing all ecosystems that use groundwater either permanently or occasionally to survive. In this context the term covers a vast majority of terrestrial and aquatic ecosystems.
Habitat	An area or areas, permanently, periodically, or occasionally occupied by a species, population, or ecological community, including any and all biotic and abiotic features of the area or areas occupied.
High value regrowth	High value regrowth is mature native vegetation that has not been cleared since 31 December 1989, is not currently recognised as remnant vegetation and appears on a map certified by the Chief Executive of DNRM.
Hectares	A metric unit of area =10,000 square metres =100 m by 100 m=100m <sup>2</sup> .
Heritage Values	An object, site, area, or landscape that holds aesthetic, historic, scientific, social or spiritual value for past, present or future generations. (This definition is based on the Australia ICOMOS Burra Charter, 1999.) All heritage values mentioned in this report are identified for their historical cultural heritage value(s)
Historical Cultural Heritage	For the purpose of this report, historical cultural heritage is taken to include specifically non-Indigenous as well as shared Indigenous and non-Indigenous cultural heritage values. Examples of the latter might include mission and settlement sites, examples of trade between cultures, exploration activities, etc.
Hydraulic Conductivity	A coefficient of proportionality describing the rate at which water can move through a permeable medium. Horizontal hydraulic conductivity (Kh) refers to the coefficient of proportionality in the horizontal direction, whereas vertical hydraulic conductivity (Kv) refers to the coefficient of proportionality in the vertical direction.
Hydrogeologic	Those factors that deal with subsurface waters and related geologic aspects of surface waters.
Hypogean	Located under the earth's surface; underground.
Hypolimnium	The dense bottom layer of a water body under stratified conditions.
Hyporheic Zone	The ecotonal zone below and within the porous sand and gravel substrate of a river bed. This ecotonal zone often connects the surface running water system to that of the deep subterranean.
Hyporheos	The assemblage of organisms which inhabit the hyporheic zone.
Incident rainfall	Water that falls directly onto a water body or surface without passing through any land phase of the runoff cycle.
Interburden	Waste rock material between mined coal seams. See also "Parting" and "Spoil".
Japan-Australia Migratory Bird Agreement (JAMBA)	Agreement between the Government of Australia and the Government of Japan for the Protection of Migratory Birds in Danger of Extinction and their Environment (1974).
Karst	Terrain with special landforms and drainage characteristics on account of greater solubility of certain rocks in natural waters than is common.

Glossary Term	Definition
Known heritage values	Heritage values known to exist and documented in the historical record.
Kyoto Protocol	The Kyoto Protocol to the United Nations Framework Convention on Climate Change
$L_{A10,t}$	The LA10 is the “A”-weighted statistical noise level exceeded 10% of the time. Commonly accepted time periods (t) include 10 minutes, 15 minutes, 30 minutes, 60 minutes and 24 hours. It is sometimes referred to as the average maximum noise level.
$L_{A90,t}$	The LA90 is the “A”-weighted statistical noise level exceeded 90% of the time. Commonly accepted time periods (t) include 10 minutes, 15 minutes, 30 minutes, 60 minutes and 24 hours. It is commonly referred to as the background noise level.
$L_{Aeq,t}$	The LAeq is the “A”-weighted energy average noise level over the time in question. It is the constant noise level containing the same energy as the actual fluctuating noise level. Commonly accepted time periods (t) include 10 minutes, 15 minutes, 30 minutes, 60 minutes and 24 hours.
Landscape character assessment area	The project area under the six mining leases and the immediate boundaries.
Landscape character impact	Indicates the overall level of likely impact on the landscape character, and considers the relationship between ‘visual sensitivity’ and ‘magnitude of visual change’.
Landscape units	Identify areas with a common landscape character, based on features such as land use, vegetation cover and landform.
‘Late wet’ season	From May to July, when watercourses are in a state of recessional base flow, i.e., without significant flood peaks.
Least Concern	Listing category as defined under the <i>NC Act</i> . Refer to definition of <i>NC Act</i> conservation status for meaning of ‘Least Concern’ under the Act.
Limnology	The scientific study of the life and phenomena of inland waters.
Magnitude of visual change	Describes the visual changes to the landscape or a viewpoint that would result from the project and categorises the level of such change.
Matters of Environmental Significance	Matters protected under the <i>EPBC Act</i> including, world heritage properties, national heritage properties, wetlands of international importance, listed threatened species and ecological communities, migratory species, Commonwealth marine species, the Great Barrier Reef Marine Park, and nuclear actions (including uranium mines).
Maximum instantaneous charge (MIC)	The maximum amount of explosive in kg on any one specific delay detonator in any one blast hole.
Mesotrophic	An intermediate system with respect to biological production.
Mid-Sized Reject	Mineral waste material produced from the CHPP with a size range (at the Project) between 1 and 12 mm (i.e. Between coarse reject and fine reject size fractions). See also “Coarse Reject” and “Fine Reject”.

Glossary Term	Definition
Migratory species	Species listed as 'Migratory' under the <i>EPBC Act</i> . Migratory species are those animals that migrate to Australia and its external territories, or, pass through or over Australian waters during their annual migrations. All species on the list of migratory species are matters of national environmental significance under the <i>EPBC Act</i> .
Mine-affected water	Water from disturbed catchments, potentially unsuitable for direct discharge due to salt concentration. It may also contain sediment that requires removal prior to release to the environment.
Mitigation (for the purpose of Chapter 28 – Indigenous Cultural Heritage)	Taken to have the same meaning as management with regards to cultural heritage values: to appropriately protect and maintain heritage values in accordance with relevant legislation and industry management principles.
Monte Carlo	A class of computational algorithms used in Goldsim that rely on repeated random sampling to compute their results. Monte Carlo analysis is used when there is uncertainty in defining the system or the system inherently varies.
Maximum Potential Acidity	Calculated by multiplying the total Sulphid or Sulphide-sulfur (Scr) content of a sample by 30.6 (stoichiometric factor) and expressed as kg H <sub>2</sub> SO <sub>4</sub> per tonne.
Non Acid Forming (NAF)	Geochemical classification criterion for a sample that will not generate acid conditions.
Net Acid Producing Potential (NAPP)	Net Acid Producing Potential, expressed as kg H <sub>2</sub> SO <sub>4</sub> per tonne. Calculated by subtracting the ANC from the MPA.



Glossary Term	Definition
<p><i>NC Act</i> conservation status</p>	<p>Under the <i>NC Act</i> (and the subordinate Nature Conservation (Wildlife) Regulation (Qld) 2006), protected species are assigned a conservation status of either 'Extinct in the wild', 'Endangered', 'Vulnerable', 'Near Threatened', or 'Least Concern'. Definitions of these terms under the <i>NC Act</i> are as follows:</p> <p>Under the <i>NC Act</i> (and the subordinate Nature Conservation (Wildlife) Regulation (Qld) 2006), protected species are assigned a conservation status of either 'Extinct in the wild', 'Endangered', 'Vulnerable', 'Near Threatened', or 'Least Concern'. Definitions of these terms under the <i>NC Act</i> are as follows:</p> <ul style="list-style-type: none"> <li>■ Extinct in the Wild:           <ul style="list-style-type: none"> <li>□ There have been thorough searches conducted for the wildlife, and the wildlife has not been seen in the wild over a period of time appropriate for the life cycle or form of the wildlife.</li> </ul> </li> <li>■ Endangered:           <ul style="list-style-type: none"> <li>□ There have not been thorough searches conducted for the wildlife, and the wildlife has not been seen in the wild over a period that is appropriate for the life cycle or form of the wildlife, or</li> <li>□ The habitat, or distribution of the wildlife has been reduced to an extent that the wildlife may be in danger of extinction, or</li> <li>□ The population size of the wildlife has declined, or is likely to decline, to an extent that the wildlife may be in danger of extinction, or</li> <li>□ The survival of the wildlife in the wild is unlikely if threatening processes continue.</li> </ul> </li> <li>■ Vulnerable:           <ul style="list-style-type: none"> <li>□ Its population is decreasing because of threatening processes, or</li> <li>- Its population has been seriously depleted and its protection is not secured, or</li> <li>□ Its population, while abundant, is at risk because of threatening processes, or</li> <li>□ Its population is low, localised, or depends on limited habitat that is at risk because of threatening processes.</li> </ul> </li> <li>■ Near Threatened:           <ul style="list-style-type: none"> <li>□ The population size or distribution of the wildlife is small and may become smaller, or</li> <li>□ The population size of the wildlife has declined, or is likely to decline, at a rate higher than the usual rate for population changes for the wildlife, or</li> <li>□ The survival of the wildlife in the wild is affected to an extent that the wildlife is in danger of becoming vulnerable.</li> </ul> </li> <li>■ Least Concern:           <ul style="list-style-type: none"> <li>□ The wildlife is common, or abundant, and is likely to survive in the wild. Native wildlife may be prescribed as Least Concern wildlife even if:</li> <li>□ The wildlife is the subject of a threatening process; or</li> <li>□ The population size or distribution of the wildlife has declined; or</li> <li>□ There is insufficient information about the wildlife to conclude whether the wildlife is common or abundant or likely to survive in the wild.</li> </ul> </li> </ul>

Glossary Term	Definition
Near Threatened	Listing category as defined under the <i>NC Act</i> . Refer to definition of ‘ <i>NC Act</i> conservation status’ for meaning of ‘Near Threatened’ under the <i>NC Act</i> .
Non-Remnant Vegetation	Vegetation that is not mapped as remnant vegetation in the certified Regional Ecosystem mapping for Queensland and/ or which fails to meet the criteria for ‘remnant vegetation’ (see definition of ‘remnant vegetation’ below). This includes regrowth, heavily thinned or logged vegetation and significantly disturbed vegetation that fails to meet the structural and/or floristic characteristics of remnant vegetation. It also includes urban and cropping land. Non-remnant vegetation may retain significant biodiversity values (Neldner <i>et al</i> 2005).
Nephelometric Turbidity Units (NTU)	Nephelometric Turbidity Units. A common measurement of turbidity.
Noise floor	The noise floor, inherent or ‘self-noise’ of sound level measuring equipment is the combination of the preamplifier’s electrical noise and thermal noise from the microphone.
Obligate Groundwater Dependant Ecosystem (GDE)	A GDE that is entirely dependent on groundwater. Typically most karst, wetland and hypogean/aquifer GDE’s, all baseflow and some terrestrial GDE’s will be obligate.
Octas	A rating system describing cloud cover. A clear sky is zero octas while full cloud cover is 8 octas.
Oligotrophic	A system with limited biological production.
Overburden	Waste rock material overlying the uppermost mined coal seam. See also “Spoil”.
Pan evaporation	Evaporation measured in a Class A pan
Pan factor	Relationship between pan evaporation and evaporation observed from a large open waterbody.
Parting	Thin band (nominally less than 0.5m thick) of non-coal material (typically siltstone/claystone) between economic coal seams. The parting is mined as part of the coal seam and typically reports as coarse or fine reject from the CHPP. Parting is interburden, but due to its low thickness it is not practical to selectively mine parting as “spoil”, therefore it is mined with coal. See also “Interburden”.
Pasquil Stability Classes	Categorized atmospheric turbulence according to six stability classes named A, B, C, D, E and F with class A being the most unstable or most turbulent class, and class F the most stable or least turbulent class.
Patched Point	Continuous climate record developed by interpolated (using splining and kriging techniques) point observations from the Bureau of Meteorology
Permeability	The property or capacity of a porous rock, sediment or soil for transmitting a fluid. It is a measure of the relative ease of fluid flow under unequal pressure.
Photomontages	Simulations of the project on photographs of the existing project area from surrounding key viewpoints.
Phreatic Water	Water below the level at which all voids in the rock are completely filled with water.
Phreatic Zone	Zone where voids in the rock are completely filled with water. Also refers to deep groundwater.

Glossary Term	Definition
Phreatobite	Stygobites that are restricted to the deep groundwater substrata of alluvial aquifers (phreatic waters). All species within this classification have specialised morphological and physiological adaptations.
PHREEQC	A geochemical modelling package produced by the USGS.
Piezometer	A narrow tube, pipe or borehole for measuring the moisture in a soil or water level in an aquifer.
PM <sub>01</sub>	Particles in the air environment with an equivalent aerodynamic diameter of not more than 1 microns.
PM <sub>2.5</sub>	Particles in the air environment with an equivalent aerodynamic diameter of not more than 2.5 microns.
PM <sub>10</sub>	Particles in the air environment with an equivalent aerodynamic diameter of not more than 10 microns.
Potential heritage values	Heritage values that have not been identified or recorded but have the potential to be discovered during proposed development.
Potentially Acid Forming (PAF)	Geochemical classification criterion for a sample that has the potential to generate acid conditions.
Priority species	<p>Either:</p> <ul style="list-style-type: none"> <li>•Species listed as ‘Critical Priority’, ‘High Priority’, or ‘Medium Priority’ under the Back on Track Actions for Biodiversity in the Burdekin Natural Resource Management Plan (DERM, 2010), or</li> <li>•Species listed under the Aquatic Conservation Assessments, Using AquaBAMM, for the riverine wetlands of the Great Barrier Reef catchment: Burdekin region (Inglis and Howell 2009a).</li> <li>•Species listed under the Aquatic Conservation Assessments, Using AquaBAMM, for the non-riverine wetlands of the Great Barrier Reef catchment: Burdekin region (Inglis and Howell 2009b).</li> </ul>
Project area	<p>The project area for this report, which is bounded by the following Mining Lease Application (MLA) areas:</p> <ul style="list-style-type: none"> <li>▪ MLA 10355</li> <li>▪ MLA 10356</li> <li>▪ MLA 10357</li> <li>▪ MLA 70434</li> <li>▪ MLA 70435</li> <li>▪ MLA 70436</li> </ul>
Pycnocline	The layer that separates water of two different densities.
QCoal	QCoal Pty Ltd
Ramsar Convention	The Convention on Wetlands of International Importance Especially as Waterfowl Habitat (1975)
Recharge Area	An area that allows water to enter the aquifer. The area is particularly vulnerable to any pollutants that could be in the water.

Glossary Term	Definition
Redfield ratio	A widely used indicator of the algal species composition in lakes
Realisation	A single model run, which represents one possible path the system could follow through time
Regional Ecosystem	A vegetation community, within a bioregion, that is consistently associated with a particular combination of geology, landform and soil. Regional Ecosystems may be classified under the Vegetation Management Regulation 2012 as endangered, of concern or least Concern. Refer to 'VM Act conservation status' for meaning of endangered, of concern or least concern as defined under the VM Act.
Regionally Significant	Refer to taxa not listed as threatened or near threatened species under the EPBC Act and/or NC Act, but have been listed as non-threatened priority taxa for the Brigalow Belt North Bioregion.
Remnant Vegetation	Vegetation where the dominant canopy has >70% of the height and >50% of the cover relative to the undisturbed height and cover of that stratum and is dominated by species characteristic of the vegetation's undisturbed canopy (Neldner <i>et al</i> 2005).
Residual effects	Final look of the mine site at conclusion of rehabilitation.
Run of Mine (ROM)	Coal as it comes from the mine prior to screening or processing.
Saturated Zone	The zone in which the voids in the rock or soil are filled with water. Sometimes referred to as the phreatic zone.
Scr	Chromium reducible Sulphide. Analytical procedure to determine the Sulphide-sulfur concentration in a sample.
Sediment-affected water	Water from disturbed catchments, suitable for discharge after sediment removal.
Sedimentation dam	A structure that is designed to settle suspended sediment
sp	Species (singular)
Spoil	Waste rock material overlying and between coal seams. Spoil overlying a mined coal seam is called overburden. Spoil between mined coal seams is called interburden.
Static test	Procedure for characterising the geochemical nature of a sample at one point in time. Static tests may include measurements of mineral and chemical composition of a sample and the Acid Base Account.
Stygobite	Organisms that are specialised subterranean forms, obligatory hypogea. Some are ubiquitous, widely distributed in all types of groundwater systems (both karst and alluvia).
Stygofauna	An all encompassing term for all animals that occur in subsurface waters.

Glossary Term	Definition
Stygophile	Having greater affinities with the groundwater environment than stygoxenes because they appear to actively exploit resources in the groundwater system and/or actively seek protection from favourable situations in the surface environment resulting from biotic or stochastic processes. Stygophiles can be divided into (1) occasional or temporary hyporheos, and (2) permanent hyporheos. The occasional or temporary hyporheos include individuals of the same species that could either spend their lives in the surface environment or spend a part of their lives in the surface environment and a part in groundwater. The permanent hyporheos is present during all life stages in either groundwater or in benthic habitats and possess specialist adaptations for living in this environment.
Stygoxenes	Organisms that have no affinities with groundwater systems but occur accidentally in caves and alluvial sediments. Some planktonic groups and a variety of benthic crustacean and insect species may passively infiltrate alluvial sediments.
Total Suspended Particles	Particles in the air environment with an equivalent aerodynamic diameter of not more than 50 microns
The epilimnion	The surface layer of a lake
The Guide	Guide for Assessment of Road Impacts of Development (DTMR)
The Manual	Manual for Assessing Hazard Categories and Hydraulic Performance of Dams
The project	Byerwen Coal Project
Thermocline	A separation between two layers in a water body brought about by differences in temperature.
Threatened	A term used for: <ul style="list-style-type: none"> <li>▪ Flora and fauna species which have been designated as 'Extinct in the Wild', 'Endangered', or 'Vulnerable' under the <i>NC Act</i></li> <li>▪ Flora and fauna species which have been designated as 'Extinct in the Wild', 'Endangered' or 'Vulnerable' under the <i>EPBC Act</i></li> <li>▪ 'Ecological Communities' designated as 'Critically Endangered', 'Endangered', or 'Vulnerable' under the <i>EPBC Act</i></li> <li>▪ Regional Ecosystems designated as 'Endangered' or 'Of Concern' under the <i>VM Act</i>.</li> </ul>
Threatened Ecological Community (TEC)	An ecological community listed as a critically endangered or endangered under the <i>EPBC Act</i> .
Total Sulfur	Total sulfur content of a sample generally measured using a 'LECO' analyser expressed as % S.
Unconfined Aquifer	A water table aquifer or an aquifer that does not have an impermeable bed between the water table and the lands surface e.g. Alluvial and Coastal Sand Bed aquifers.
Viewshed	Describes and/or illustrates the approximate main areas from where parts of the project may be seen during operation and/or following mine closure and rehabilitation.

Glossary Term	Definition
Visual amenity assessment	Examines any potential changes to the main identified viewpoints from surrounding properties, public roads and any other sensitive receptors.
Visual amenity assessment area	Focuses on an approximate area within a 5 km radius of the outer boundary of the project area. The area used for the lighting impact assessment covers approximately the same area.
Visual impact	An overall indication of potential visual impact for each identified viewpoint, by combining a ranking given for 'visual sensitivity' with a ranking given for 'magnitude of visual change'.
Visual sensitivity (landscape character)	The visual sensitivity of different landscape characters in regional areas such as the project area can be largely defined by considering aspects such as the degree of naturalness and uniqueness. The more disturbed or common a landscape is, generally the less it is valued, and the less 'visually sensitive' it is.
Visual sensitivity (visual amenity)	Visual sensitivity related to visual amenity specifically defines the likely visual sensitivity of particular viewpoints that may be affected. Viewpoints are generally more sensitive the closer they are and the clearer the view of any changes. Also, the numbers of viewers affected is considered (such as views from roads with high traffic volumes) and whether viewers are permanent (such as residential viewers) or transient (such as roads).

Glossary Term	Definition
<p>VM Act Conservation Status</p>	<p>Under the <i>VM Act</i>, REs may be classified as either ‘endangered’, ‘of concern’ or ‘least concern’. Definitions of these terms under the <i>VM Act</i> are provided below.</p> <p>Endangered</p> <ul style="list-style-type: none"> <li>▪ Less than 10% of pre-clearing extent of remnant vegetation (see following definition) exists in the bioregion, or 10–30 % of pre-clearing extent remains and the remnant vegetation is less than 10 000 ha.</li> </ul> <p>In addition, for biodiversity planning purposes DEHP also classifies a regional ecosystem as Endangered if:</p> <ul style="list-style-type: none"> <li>▪ Less than 10% of its pre-clearing extent remains unaffected by severe degradation and/or biodiversity loss, or</li> <li>▪ 10–30% of its pre-clearing extent remains unaffected by severe degradation and/or biodiversity loss and the remnant vegetation is less than 10 000 ha; or it is a rare regional ecosystem subject to a threatening process.</li> </ul> <p>Of Concern</p> <ul style="list-style-type: none"> <li>▪ 10–30% of pre-clearing extent of remnant vegetation exists in the bioregion, or more than 30% of pre-clearing extent remains and the remnant vegetation is less than 10 000 ha.</li> </ul> <p>In addition, for biodiversity planning purposes DEHP also classifies a regional ecosystem as Of Concern if:</p> <ul style="list-style-type: none"> <li>• 10–30% of its pre-clearing extent remains unaffected by moderate degradation and/or biodiversity loss.</li> </ul> <p>Least Concern</p> <ul style="list-style-type: none"> <li>▪ More than 30% of pre-clearing extent of remnant vegetation exists in the bioregion, and it is greater than 10 000 hectares.</li> </ul> <p>In addition, for biodiversity planning purposes DEHP also classifies a regional ecosystem as least concern if the degradation criteria listed above for endangered or of concern regional ecosystems are not met.</p>
<p>Volumetric Runoff Coefficient</p>	<p>Defines the proportion of rainfall appearing as runoff over the long term.</p>
<p>Vulnerable</p>	<p>Listing category as defined under the <i>EPBC Act</i> and/or <i>NC Act</i>. Refer to definitions of ‘<i>EPBC Act</i> conservation status’ and ‘<i>NC Act</i> conservation status’ for meaning of ‘Vulnerable’ under these Acts.</p>
<p>Whoa boy</p>	<p>Low profile, trafficable earth banks which intercept runoff flowing down a road/track and allow it to continue its natural flow direction down the landscape.</p>
<p>World Heritage Convention</p>	<p>The Convention Concerning the Protection of the World Cultural and Natural Heritage</p>