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99.5th Percentile	The modelled concentration at a selected point that is exceeded in a given hour with a probability less than or equal to 1.0 – 0.995. For one year of meteorological data, this is interpreted as the concentration that is exceeded for no more than 44 hours.
99.9th Percentile	The modelled concentration at a selected point that is exceeded in a given hour with a probability less than or equal to 1.0 – 0.999. For one year of meteorological data, this is interpreted as the concentration that is exceeded for no more than 9 hours.
Abstraction	In relation to water, the process of taking water from the environment.
Acidic	A substance which contains hydrogen and which dissolves in water to produce one or more hydrogen ions. Acidity is commonly measured using the pH scale. Acids have a pH lower than 7
Alkaline	An alkali is a specific type of base, formed as a carbonate, hydroxide or other ionic salt of an alkali metal or alkali earth metal element. The adjective alkaline is frequently used to refer to all bases, since most common bases are alkalis.
Alluvial	Relating to sediment deposited by flowing water, such as in a riverbed.
Alluvium	Sediment deposited by a flowing stream, consisting of unconsolidated material including gravel, clay, silt and sand.
Ambient noise	The level of acoustic noise existing at a given location as measured with a sound level metre.
Andesite	An igneous, volcanic rock, of intermediate composition, with aphanitic to porphyritic texture. Its mineral assembly is usually quartz and plagioclase.
Aquatic	Living or growing in, on or near the water, not terrestrial.
Aquifer	A geological formation, group of formations or part of the formation that is saturated and is capable of providing significant quantity of water.
Arboreal	Inhabiting trees.
Arithmetic average	The generally understood 'average' or mean, where the sum of the values is divided by the number of values.
Ash	Inorganic residue after incineration of coal.
Averaging time	Modelling results are calculated as the average value over one hour. Other averaging times (such as the 24-hour average) are calculated as the average of the 1-hour values over the total period (for example 24 hours or one day).
Background creep	Phenomenon whereby background noise levels progressively creep higher and higher over time with the establishment of new developments in an area.
Backplain	Large flat resulting from aggradation by over-bank stream flow at some distance from the stream channel; often characterised by high water table and the presence of swamps or lakes and in some cases by biological (peat) accumulation.
Basalt	A hard, dense, dark volcanic rock composed chiefly of plagioclase, pyroxene, and olivine, and often having a glassy appearance.
Biological Integrity	The ability of an ecosystem to support and maintain a balanced, integrated, adaptive community of organisms having a species composition, diversity, and functional organisation comparable to that of the natural habitats within a region.
Bioregion	An area constituting a natural ecological community with characteristic flora, fauna, and environmental conditions and bounded by natural rather than artificial borders.
Blast furnace	The receptacle for iron ore, coke and other raw materials used in the processing of iron ore into pig iron. Pig iron is subsequently processed into steel.
Blends	A mixture of two or more coal types or brands. In the case of coke making, blending provides the manufacturer with the potential to mix lower cost poorer coking coals with higher cost hard coking coals and thereby reduce the overall cost of the coke oven feed.
Blowdown	Process water used to dissipate heat in power stations/plants.

Glossary

Breeze	Coke fines generated during handling and screening, generally less than 5 mm.
By-product coke oven	Oven that produces coke, liquid and gaseous by-products, typically used in integrated steel production.
Carbon content	The amount of carbon in coal.
Carboniferous	A major division of the geologic timescale that extends from the end of the Devonian period, about 359.2 million years ago (Ma), to the beginning of the Permian period, about 299.0 Ma.
Carbonisation	The process of converting coking coal into coke.
Coal Seam	A stratum or seam of coal.
Coke	The end product of the carbonisation of coal. Coke products can be categorised as sized coke (includes coke of 25 x 100 mm for blast furnace use and foundry coke at plus 100 mm) and coke fines (breeze), produced from the screening and handling of coke.
Coke making	<p>Coke is produced by heating coal in the absence of air resulting in the “carbonisation” of the coal. During the process the volatile components of the coal(s) are driven off. The strength of coke produced is influenced by the proportion of reactives and inerts in the coal and the rank of the coal. Coke making technology can be categorised into the following:</p> <ul style="list-style-type: none">• Non-recovery coke ovens where the only product is coke. Typically these are based on the original beehive configuration but modern versions are generally cleaner and more efficient;• Heat recovery coke ovens which produce coke and utilise waste heat for steam raising for power and industrial applications; and• By-product ovens which produce coke and a range of chemical and gaseous products. This type of coke production is generally associated with an integrated steel plant and comprise slot oven configuration.
Coke oven	Compartments into which coking coal is charged and subsequently heated to about 1,100 to 1,200 degrees Celsius.
Coke strength indices	The cold strength of metallurgical coke is traditionally determined by subjecting a standard sample of coke to a standard mechanical action in a rotating drum. The strength indices quoted reflect the degree to which the coke is degraded by this mechanical action.
Coking coal	Coal that is used in the production of metallurgical coke.
Colluvium	Loose and incoherent deposits, usually at the foot of a slope or cliff line and brought by gravity.
Cooling towers	A heat rejection device, which extracts waste heat to the atmosphere through the cooling of a water stream to a lower temperature.
Cretaceous	A major division of the geologic timescale, reaching from the end of the Jurassic period, about 146 million years ago (Ma), to the beginning of the Paleocene epoch of the Tertiary period (65.5 Ma).
Crude Steel	The molten end product after the processing of pig iron in steel making furnaces to remove excess carbon. Steel making furnaces comprise basic oxygen furnaces, electric arc furnaces and open-hearth furnaces.
CSR	Mechanical test conducted on coke lumps in a heated environment designed to simulate the blast furnace environments. Coke is sized after tumbling and an index determined based on amount of coke retained at a specified screen size. The higher the index, the stronger the coke.
Curing Index	Indicates the percentage of fuel (grass) that is fully cured/dead.
Cyanobacteria	The blue green algae, prokaryotic cells that use chlorophyll on intracytoplasmic membranes for photosynthesis.
Deaerate	The process of removing air.
Demineralisation	The removal of minerals and mineral salts from a liquid (especially from water).
Dispersion Class	A test that classifies the behaviour of soil aggregates, when immersed, on their coherence in

Rating (Emerson Test)	water.
Dissolved oxygen	The volume of oxygen that is contained in water.
Downstream	Direction of flow of water, or location of a place, away from the source of the water, towards the receptor (such as the ocean). Can also mean following on from.
Ecosystem function	A measure of the functioning of a system formed by the interaction of a community of organisms with their physical environment.
Effective capacity	The maximum production possible under normal working conditions.
Electrical Conductivity	A measure of how well a material accommodates the transport of electric charge.
Elementary Clerical, Sales and Service Workers	Australian Bureau Statistics classification for workers performing a range of clerical, sales and service tasks, usually under supervision, within established routines and procedures.
Emission	A substance discharged into the air.
Ephemeral	Enduring only for a short time.
<i>Escherichia coli</i>	A bacillus normally found in the human and one of the main species of bacteria that live in the lower intestines of warm-blooded animals.
Eutrophication	The gradual increase and enrichment of an ecosystem by nutrients such as nitrogen and phosphorus.
Evaporation	The process by which any substance is converted from a liquid state into, and carried off in, vapour.
Explosion relief	Involves implementing systems to mitigate the effects of a gas or vapour explosion in an enclosure in which a flammable mixture may be present.
Fault	In relation to geology, a break in continuity of a body of rock or of a vein, with dislocation along the plane of the fracture.
Fauna	Animals, especially the animals of a particular place and time.
Ferruginous	Partaking of iron; containing particles of iron.
FGD plant	Flue gas desulphurisation utilising lime slurry. The slurry is atomised and reacts with SO ₂ . Fabric filters remove the FGD dust. By-products include calcium sulphite, calcium sulphate and un-reacted lime.
Flora	Plants, especially the plants of a particular place and time.
Flow Regimes	Relates bedforms in alluvial channels to flow velocity.
Fouling	To make physically impure.
Gabbro	A usually coarse-grained igneous rock composed chiefly of calcic plagioclase and pyroxene.
Genera	Plural of genus - a taxonomic category ranking below a family and above a species and generally consisting of a group of species exhibiting similar characteristics.
Geological	Relating to the earth, the rocks of which it is composed, and the changes which has undergone or is undergoing.
Geomorphology	The study of the characteristics, origin, and development of land forms.
Greenhouse gases	The atmospheric gases that contribute to the greenhouse effect.
Habitat	The area or environment where an organism or ecological community normally lives or occurs.
Habitat connectivity	The connectedness of areas or environments where an organism or ecological community normally lives or occurs.
Hard coking coal	Coals which make hard coke when carbonised in the coke oven.
Heat recovery coke oven	Process for making coke and collecting heat to generate steam for power generation and other industrial applications. By-products from the carbonisation process are combusted in

	the top of the ovens.
Heavy Metal	A metal with a specific gravity greater than about 5.0, especially one that is poisonous, such as lead or mercury.
Holding Pond	A pond used to retain polluted or sediment laden water until it can be treated to meet water quality standards or be recycled.
Hydrology	Science dealing with the properties, distribution and circulation of the earth's water.
<i>in situ</i>	In the original or actual place/position.
Infilling	The process of sediment build up.
Integrated steel making	The steel making process ranging from the production of pig iron in a blast furnace through to the making of steel in a basic oxygen furnace. It is normally assumed that coke production forms part of an integrated process.
Interfluve	The ridge between two adjacent river valleys.
Intermediate Clerical, Sales and Service Workers	Australian Bureau Statistics classification for workers performing a range of clerical, sales, and service tasks requiring a limited degree of discretion and judgement.
Intermediate Transport and Production workers	Australian Bureau Statistics classification for workers operating plant, machinery, vehicles and other equipment to transport passengers and goods, to move materials, to generate power and to perform various agricultural, manufacturing and construction functions.
Intertidal	Of or being the region between the high tide mark and the low tide mark.
Invertebrate	An animal, such as an insect or mollusc that lacks a backbone or spinal column.
Kyoto protocol	An agreement on global warming reached by the United Nations Conference on Climate Change in Kyoto, Japan, in 1997.
Labourers and Related Workers	Australian Bureau of Statistics description of workers that have a level of skill commensurate with completion of compulsory secondary education or higher qualification.
Landfall	The act/occurrence of reaching land.
Legumes	The common name for plant species in the Family Fabaceae, noteworthy for their ability to fix atmospheric nitrogen, an accomplishment attributable to a symbiotic relationship with certain bacteria known as rhizobia found in root nodules of these plants.
Lentic	Of, relating to, or living in still water.
Macroinvertebrate	Refers to aquatic invertebrates including insects (e.g. larval Ephemeroptera and Trichoptera), crustaceans (e.g. amphipods), molluscs (e.g. aquatic snails) and worms (e.g. Platyhelminthes), which inhabit a river channel, pond, lake, wetland or ocean. Historically, their abundance and diversity have been used as an indicator of ecosystem health and of local biodiversity.
Mean	The average value of a set of numbers.
Merchant Coke Works	A coke works which sells its products to a variety of markets unlike an integrated coke works which is attached to a steel plant and produces coke mainly for its own use.
Metallurgical coal	Coals which are consumed in the production of pig iron, either via the coke oven process, direct injection or by direct reduction.
Migratory species	Species that move from one habitat to another on a seasonal basis.
Non-recovery coke oven	As for heat recovery coke oven but without the facility to collect and utilise waste heat.
Octave band	Groups of frequencies defined by standards where the upper frequency of each band is equal to twice the lower frequency of the next higher band. Octave bands are usually named by their geometric centre frequency.
Odour threshold	Lowest concentration at which 50% of the population can detect the presence of a given compound in air.
ou	Odour unit. One ou is equivalent to the odour threshold of the contaminant.

Outcrop	Exposed or emerging bedrock at the ground surface.
Oxidise	The process through which a molecule or atom loses an electron.
Palaeozoic	A period from 230 million to about 544 million years ago, characterised by the appearance of marine invertebrates, primitive fishes, land plants, and primitive reptiles.
Panamax vessel	Vessel able to cross the Panama canal and with a carrying capacity of about 60,000 t of coal or about 45,000 t of coke.
PCI coal	Coals, which are suitable for direct injection into the blast furnace in a pulverised state. PCI replaces oil and displaces some quantity of coke. Traditionally, the PCI coal price is closely linked to thermal coal which will allow the blast furnace operator to reduce the overall cost of raw material by reducing the volume of coke needed to produce each tonne of hot metal.
Permeability	The ability of a solid substance to allow fluids to pass through it
Permian	The geologic period that extends from about 299.0 million years ago (Ma) to 248.0 Ma and the last period of the Palaeozoic Era.
pH	A measure of acidity on a scale of 0-14. Acidic materials have a value less than 7 while alkaline materials have a value above 7.
Plume	A space in air containing pollutants released from a point source in a form that is like a long feather.
Polynuclear Aromatic Hydrocarbons	Hydrocarbon compounds with multiple benzene rings that are typical components of asphalts, fuels, oils, and greases.
Post Panamax vessel	Vessels larger than a Panamax vessel.
Quantitative	Expressed or expressible as a quantity/capable of being measured.
Quenching	Cooling of hot coke by soaking with water.
Ramsar wetland	The Convention on Wetlands, signed in Ramsar, Iran, in 1971, is an intergovernmental treaty which provides the framework for national action and international cooperation for the conservation and wise use of wetlands and their resources. There are presently 144 Contracting Parties to the Convention, with 1421 wetland sites, totalling 123.9 million hectares, designated for inclusion in the Ramsar List of Wetlands of International Importance.
Refractory Bricks	Brick that can withstand high temperatures.
Regional Ecosystem	Vegetation communities in a bioregion that are consistently associated with a particular combination of geology, landform and soil.
Relative humidity	The ratio of the amount of water vapor in the air at a specific temperature to the maximum amount that the air could hold at that temperature, expressed as a percentage.
Remnant	Part of something that is leftover.
Remote Integrated Multiplexer	A device used for the provision of telephone services in replacement of standard copper phone line infrastructure.
Riparian	Of, on, or relating to the banks of a natural watercourse.
Salinity	A measure of the concentration of dissolved salts.
Sandstone	A sedimentary rock formed by the consolidation and compaction of sand and held together by a natural cement, such as silica.
Sedimentation Dam	A dam or pond used to settle out suspended solids present in the water column. Sediment accumulates at the bottom of the dam.
Sensible Heat	The heat energy stored in a substance as a result of an increase in temperature.
Sound power level	A logarithmic measure of the sound power (a measure of sonic energy per time unit) in comparison to the reference level of 0 dB (decibels).
Specific energy	The energy in kilocalories released per kilogram of coal burned.
Stacker/ Reclaimer	Conveyor machine used to transfer coke to the stockpile

Stamp charged	Mechanically or hydraulically compacted. Loose coal is compacted into a regular block shape which provides a denser coal charge and consequent stronger coke from the same coal quality. The charging procedure is enhanced environmentally as the coal charge is inserted into the oven as a large brick through a minimal door opening thus maintaining the ovens negative pressure.
Statistical Local Area	Australian Bureau of Statistics defined spatial units used to collect and disseminate statistics
Sulphur	A chemical impurity which carries over into blast furnace hot metal and results in deleterious mechanical properties of steel.
Temperature inversion	The condition in which the temperature of the atmosphere increases with altitude in contrast to the normal decrease with altitude. When temperature inversion occurs, cold air underlies warmer air at higher altitudes.
Terrain	The character, natural features, and configuration of land.
Terrestrial	Living or growing on land, not aquatic.
Total Dissolved Solids	A measure of the amount of minerals dissolved into the water body.
Total Dry Standing Matter	A measure of the amount of dead, standing vegetation in kilograms per hectare.
Total Nitrogen	The sum of the nitrogen components of nitrate (NO ₃), nitrite (NO ₂), organic nitrogen and ammonia.
Total Phosphorous	A measure of all the various forms of phosphorus (orthophosphate, metaphosphate (or polyphosphate) and organically bound phosphate) found in water.
Total Suspended Solids	The total suspended matter in a liquid as a measure of water quality.
Triassic	A geologic period that extends from about 245 to 202 million years ago. As the first period of the Mesozoic Era, the Triassic follows the Permian and is followed by the Jurassic.
Turbidity	The cloudiness or haziness of water or other liquid caused by very small individual particles and is a key measure of water quality.
Understorey	An underlying layer of vegetation, especially the plants that grow beneath a forest's canopy.
Upstream	Direction of flow of water, or location of a place, toward the source of the water, and away from the receptor (eg, the ocean). Can also mean leading to, prior to, running into.
Vertebrate	Any animal having a backbone or spinal column.
Volatile Matter/Gases	The percentage of coal which is lost as volatile matter (gases) when coal is incinerated under standard conditions.
Wet coal	Coal as delivered from mining operations containing in situ moisture and moisture added during the coal washing processes.