

SECTION 8

ABBREVIATIONS, ACRONYMS AND GLOSSARY



Snapper Mineral Sands Project Environmental Assessment

TABLE OF CONTENTS

<u>Section</u>		<u>Page</u>
8	ABBREVIATIONS, ACRONYMS AND GLOSSARY	8-1
8.1	ABBREVIATIONS AND ACRONYMS	8-1
8.2	GLOSSARY	8-4

8 ABBREVIATIONS, ACRONYMS AND GLOSSARY

8.1 ABBREVIATIONS AND ACRONYMS

AADT	Annual Average Daily Traffic	CO ₂	carbon dioxide
AAWT	Annual Average Weekday Traffic	CO _{2-e}	carbon dioxide equivalent
ACHMP	Aboriginal Cultural Heritage Management Plan	CO _{2-e} pa	carbon dioxide equivalent per annum
ADG Code	<i>Australian Code for the Transport of Dangerous Goods by Road and Rail</i>	CSIRO	Commonwealth Scientific and Industrial Research Organisation
AEMR	Annual Environmental Management Report	DA	Development Application
AGO	Australian Greenhouse Office	dBA	A-weighted decibel
AHD	Australian Height Datum	DEC	Department of Environment and Conservation
AHIMS	Aboriginal Heritage Information Management System	DEH	Department of Environment and Heritage
ANZECC	Australian and New Zealand Environment and Conservation Council	DGRs	Director-General's Requirements
ANZECC guideline	<i>Guidelines for Fresh and Marine Water Quality</i>	DLWC	Department of Land and Water Conservation
AQMP	Air Quality Management Plan	DME	Department of Minerals and Energy
ARPANSA	Australian Radiation Protection and Nuclear Safety Agency	DNR	Department of Natural Resources
AS	Australian Standard	DOCS	Department of Community Service
BEC	Barkindji Elders Committee	DoP	Department of Planning
BEMAX	BEMAX Resources Limited	DPI	Department of Primary Industries
BHCC	Broken Hill City Council	DPI-Agriculture	Department of Primary Industries – Agriculture
BIMP	Borefield Impact Management Plan	DPI-MR	Department of Primary Industries – Mineral Resources
BioBanking	Biodiversity Banking Scheme	DUAP	Department of Urban Affairs and Planning
BOM	Bureau of Meteorology	EA	Environmental Assessment
Bq/g	becquerel per gram	EC	electrical conductivity
Ca	calcium	ECRTN	Environmental Criteria for Road Traffic Noise
CCP	Community Consultation Plan	e.g.	for example
CIE	Centre for International Economics	EIS	Environmental Impact Statement
cm	centimetre	EL	exploration licence
CMA	Catchment Management Authority	EPA	Environment Protection Authority

EP&A Act	<i>Environmental Planning and Assessment Act, 1979</i>	km	kilometre
		km ²	square kilometre
EP&A Regulation	<i>Environmental Planning and Assessment Regulation, 2000</i>	kV	kilovolt
EPBC Act	<i>Environment Protection and Biodiversity Conservation Act, 1999</i>	L	litre
		L/s	litre per second
EPL	Environment Protection Licence	L _{Aeq}	equivalent continuous noise level
ERP	Emergency Response Plan	L _{AN}	statistical noise exceedance levels
ESD	Ecologically Sustainable Development	LEMP	Landfill Environmental Management Plan
ESP	Exchangeable Sodium Percentage	LEP	Local Environmental Plan
ETL	electricity transmission line	LGA	local government area
Fe	iron	m	metre
FFMP	Flora and Fauna Management Plan	M	million
		m ²	square metre
g/m ² /month	grams per square metre per month	m ³	cubic metre
General Overview	General Overview of Environmental Impacts	m/s	metres per second
Ginkgo Mine	Ginkgo Mineral Sands Project	Major Projects SEPP	State Environmental Planning Policy (Major Projects) 2005
Ginkgo Mine and MSP TCC	<i>Ginkgo Mineral Sands Mine and Broken Hill Mineral Separation Plant Traffic Code of Conduct</i>	MDD	Murray-Darling Depression
		Mg	magnesium
Ginkgo Mine and MSP THMP	<i>Ginkgo Mineral Sands Mine and Broken Hill Mineral Separation Plant Transport of Hazardous Materials Plan</i>	mg/L	milligrams per litre
		Mining and Minerals Processing Code	<i>Code of Practice and Safety Guide for Radiation Protection and Radioactive Waste Management in Mining and Mineral Processing</i>
GRP	gross regional product		
ha	hectare	ML	mining lease
HAR	highway access road	MLA	Mining Lease Application
HMC	heavy mineral concentrate	mm	millimetre
IBRA	Interim Biogeographic Regionalisation of Australia	Mm ³	million cubic metres
i.e.	that is	Mn	manganese
INP	Industrial Noise Policy	MOP	Mining Operations Plan
JORC Code	Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves	MREMP	Mining, Rehabilitation and Environmental Management Process
K	potassium	MSDS	Material Safety Data Sheet
kg	kilogram	MSP	Mineral Separation Plant

Mt	million tonnes	SEPP	State Environmental Planning Policy
Mtpa	million tonnes per annum	SLA	statistical local area
Na	sodium	Snapper Mine	Snapper Mineral Sands Project
NEPM	National Environment Protection Measure	SR	State Road
NHMRC	National Health and Medical Research Council	SWMP	Site Water Management Plan
NMP	Noise Management Plan	t	tonne
NPV	Net Present Value	TAFE	Technical and Further Education
NPWS	National Parks and Wildlife Service	TCC	Traffic Code of Conduct
NSESD	<i>National Strategy for Ecologically Sustainable Development, 1992</i>	TDS	total dissolved solids
NSW	New South Wales	THMP	Transport of Hazardous Materials Plan
NZS	New Zealand Standard	tpa	tonnes per annum
P	phosphorus	tph	tonnes per hour
Pb	lead	TSC Act	<i>Threatened Species Conservation Act, 1995</i>
PFM	Planning Focus Meeting	TSMP	Threatened Species Management Protocol
pH	measure of acid/alkaline condition	TSP	total suspended particulates
PHA	Preliminary Hazard Analysis	VCP	Vegetation Clearance Protocol
PM ₁₀	particulate matter less than 10 microns in size	viz.	namely
POEO Act	<i>Protection of the Environment Operations Act, 1997</i>	Wentworth LEP	<i>Wentworth Local Environment Plan, 1993</i>
PRZ	primary root zone	Western Division REP No. 1	Western Division Regional Environmental Plan No. 1
RBL	rating background level	WHIMS	Wet High Intensity Magnetic Separators
RC	Rural City	WSC	Wentworth Shire Council
RC Act	<i>Radiation Control Act, 1990</i>	µm	micrometre
REP	Regional Environmental Plan	µg/m ³	micrograms per cubic metre
RL	Relative Level	µS	microSieverts
RMP	Radiation Management Plan	µS/cm	microSieverts per centimetre
RO	reverse osmosis	°	degrees
RTA	Roads and Traffic Authority	°C	degrees Celsius

8.2 GLOSSARY

Alluvial	A general term for clay, silt, sand and gravel transported by water and deposited, on the bed of a flood plain, river or stream.	Cross-section	A two-dimensional diagram of an object presented as if the object had been cut along its length.
Amenity	Useful and enjoyable quality.	Cyclone	A conical vessel that uses centrifugal action to separate particulate matter of differing specific gravity.
Aquatic	Living in or on water, or concerning water.	dBA	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.
Aquifer	A sub-surface rock formation containing water in recoverable quantities.	Drawdown	The lowering of groundwater level as a result of water extraction.
Background	The condition (e.g. noise levels) already present in an area before the commencement of a specific activity (e.g. the Snapper Mine).	Dredge	Barge or pontoon carrying underwater excavation equipment used to work alluvial mineral deposits.
Backfilling	The refilling of mined areas.	Ecologically Sustainable Development (ESD)	Development that improves the quality of life, in a way that maintains the ecological processes on which life depends.
Batter	A constructed soil slope.	Ecosystem	An interacting system of animals, plants, other organisms and non-living parts of the environment.
Biological diversity	The diversity of different species of plants, animals and micro-organisms, including the genes they contain, in the ecosystem of which they are part.	Embankment	An embankment is constructed by the placement of a series of progressively higher and narrower earth layers.
Brackish	Water that is salty but less so than typical seawater.	Endemic	Native plant or animal restricted to a specific locality or geographic region.
Catchment	The entire land area from which water (e.g. rainfall) drains to a specific watercourse or water body.		
Conductivity	The measurement of the ability of a substance (either a measure of solid, liquid or gas) to transmit electricity; used to determine the amount of salt in a soil sample.		

Equivalent standard axle loading	Conversion of different types of vehicles to a standard load based on the amount of damage caused to pavement.	Hydraulic Conductivity	A measure of the rate at which water moves through a soil mass. It is the volume of water that moves within a unit of time under a unit hydraulic gradient through a unit cross-sectional area that is perpendicular to the direction of flow.
Fines	Fine particles (generally below 53 microns) that naturally occur within mineral sand orebodies, which are well below the economic mineral particle size.	<i>ibid.</i>	In the same place.
Foundry	The process of casting metals.	Ilmenite	A titaniferous mineral derived from mineral sands, typically containing 35% to 64% of TiO ₂ .
Freeboard	Excess water storage capacity or height that a floatation device sits above the surface of the water.	Income	The amount of money or its equivalent received during a period of time in exchange for labour or services, from the sale of goods or property, or as profit from financial investments.
Greenhouse gases	Gases with potential to cause climate change (e.g. methane, carbon dioxide and non-methane volatile organic compounds). Usually expressed in terms of global warming potential carbon dioxide equivalent.	Infrastructure	The supporting installations and services that supply the needs of the Project.
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.	<i>in situ</i>	A term used to distinguish material (e.g. soils, minerals, fossils, etc.) found in its original position of formation, deposition, or growth, as opposed to transported material.
Habitat	The particular local environment occupied by an organism.	Inter-generational equity	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.
Hardstand areas	Flat or gently sloping surface that has been engineered such that it is suitable for trafficking by vehicles and/or for the construction of structures on it.	Intra-generational equity	The concept that the present generation should ensure that the health, diversity and productivity of the environment is maintained or enhanced for the benefit of their own generation.
Heavy Mineral Concentrate	Mineral sands concentrate from the primary gravity separation unit.		

<p>L_{Aeq}</p> <p>The equivalent continuous noise level – the level of noise equivalent to the energy-average of noise levels occurring over a measurement period.</p>	<p>Primary root zone</p> <p>Zone in which roots of vegetation primarily occur.</p>
<p>Land capability</p> <p>A method of land use assessment used to estimate the ability of the land to support a particular land use. Classification is based on an assessment of the land's biophysical characteristics.</p>	<p>Process water</p> <p>Waters that are not necessarily suitable for human consumption that can be utilised by the mining process.</p>
<p>Leucoxene</p> <p>A titaniferous mineral derived from mineral sands, typically containing 65% to 91% of TiO_2.</p>	<p>Pumping Test</p> <p>A test made by pumping a well for a period of time and observing the response/change in hydraulic head in the aquifer.</p>
<p>Lithology</p> <p>Characteristics of rock including mineral composition, structure, grain-size and arrangement.</p>	<p>Quartz</p> <p>The most abundant and common mineral, consisting of crystalline silica (silicon dioxide, SiO_2), crystallizing in the trigonal system.</p>
<p>microGray per hour</p> <p>Measure of radiation exposure over time.</p>	<p>Rating Background Level (RBL)</p> <p>The overall single-figure sound background level representing each assessment period (day/evening/night) over the whole monitoring period, and is the level used for assessment purposes.</p>
<p>Overburden</p> <p>Overburden material overlying target minerals that must be removed prior to mining of the target minerals.</p>	<p>Reagents</p> <p>Chemicals used as part of an industrial/mining process.</p>
<p>Permeability</p> <p>The ability of a rock or soil to allow fluid to pass through it.</p>	<p>Recharge</p> <p>The addition of water to an aquifer, directly from the surface, indirectly from the unsaturated zone, or by discharge from overlying or underlying aquifer systems.</p>
<p>pH</p> <p>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).</p>	<p>Rehabilitation</p> <p>The restoration of a landscape and especially the vegetation following its disturbance.</p>
<p>Population</p> <p>A group of individuals of one species In an area.</p>	<p>Relative humidity</p> <p>The ratio of actual moisture in the air to the amount the air could hold if saturated, at a given temperature.</p>
<p>Potable water</p> <p>Water of quality suitable for human consumption.</p>	

Remnant vegetation	Native vegetation remaining after widespread clearing has taken place.	Terrestrial	Living or growing on the land.
Runoff	That portion of precipitation (rain, hail and snow) that flows across the ground surface as water.	Total suspended particulates (TSP)	Particulate matter suspended in solution of air.
Rutile	A titaniferous mineral derived from mineral sands typically containing 92% or more of TiO ₂ .	Tracking Fidelity	The measure of differential lateral movement of a trailer or a group of trailers from that of the prime-mover.
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.	Transmissivity	A measure of the rate at which water moves through an aquifer of unit width under a unit hydraulic gradient.
Sand residues	Waste materials which occur in mineral ore that are removed from the mineral concentrate stream during primary separation in the floating plant.	Value-added	The difference between the value of a firm's output and the cost of the inputs of raw materials, components or services brought in to produce that output.
Tailings	Finely ground residue from processing and extraction of product from ore.	Wet concentrator	Plant item floating in the dredge pond that performs the preliminary separation of minerals from the mined ore. Produces a heavy mineral concentrate stream for further treatment and a sand residue stream.
Temperature inversion	An atmosphere phenomenon in which air temperature increases with height over a particular interval.	Zircon	A mineral containing silica and zirconia derived from mineral sands.