



PEMBROKE

Olive Downs Coking Coal Project
Draft Environmental Impact Statement

Section 8

**Abbreviations, Acronyms,
Glossary and Definitions**

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8	ABBREVIATIONS, ACRONYMS, GLOSSARY AND DEFINITIONS	m	metre
		M	million
8.1	ABBREVIATIONS	m ²	square metre
B	billion	m ³	cubic metre
cm	centimetre	m/m	metres per metre
CO	carbon monoxide	m/s	metres per second
CO ₂ -e	carbon dioxide equivalent	m ³ /s	cubic metres per second
dBA	A-weighted decibel	Mbcm	million bank cubic metres
dBL	linear decibel	mbgl	metres below ground level
H	horizontal	mg/kg	milligrams per kilogram
ha	hectare	mg/L	milligrams per litre
kL	kilolitre	mg/m ² /day	milligrams per square metre per day
km	kilometre	ML	megalitre
km ²	square kilometres	ML/day	megalitres per day
kt CO ₂ -e/	kilotonnes carbon dioxide equivalent	ML/year	megalitres per year
kV	kilovolt	mm	millimetres
L/s	litres per second	Mm ³	million cubic metres
L _{A1} , adj, 1 mins	A-weighted sound pressure level (adjusted for tonal character and impulsiveness of the sound) exceeded for 1% of any 10 minute measurement period, using fast response	mm/s	millimetres per second
		mm/year	millimetres per year
		Mt	million tonnes
		Mtpa	million tonnes per annum
L _{A10} , adj, 10 mins	A-weighted sound pressure level (adjusted for tonal character and impulsiveness of the sound) exceeded for 10% of any 10 minute measurement period, using fast response	MW	megawatt
		newtons/m ²	newtons per square metre
		NO _x	oxides of nitrogen
L _{A max adj, T}	Average maximum A-weighted sound pressure level (adjusted for noise character) and measured over any time period, using fast response	PM _{2.5}	particulate matter less than 2.5 micrometres in size
		PM ₁₀	particulate matter less than 10 micrometres in size
L _{Aeq}	equivalent continuous noise level	SO ₂	sulphur dioxide
L _{AN}	statistical noise exceedance level	t	tonne
Local Laws	<i>Local Government Act 2009</i>	tph	tonnes per hour

Project	Olive Downs Coking Coal Project	BACI	Before-After, Control-Intervention
$\mu\text{g}/\text{m}^3$	microgram per cubic metre	BG	background noise level
μm	micrometre	BoM	Bureau of Meteorology
$\mu\text{S}/\text{cm}$	microSiemens per cm	Brigalow TEC	<i>Brigalow (Acacia harpophylla Dominant and Co-dominant) Threatened Ecological Community</i>
%	percent		
°	degrees	CGE	computer general equilibrium
°C	degrees Celsius	CLR	Contaminated Land Register
8.2	ACRONYMS	CHMP	Cultural Heritage Management Plan
ACARP	Australian Coal Association Research Program	CHPP	Coal Handling and Preparation Plant
ACH Act	<i>Aboriginal Cultural Heritage Act 2003</i>	CRG	Community Reference Group
ADWG	Australian Drinking Water Guidelines	CSIRO	Commonwealth Scientific and Industrial Research Organisation
AEP	annual exceedance probability	CV	critical value
AES	aggregate environmental scores	DAF	Department of Agriculture and Fisheries
AHD	Australian height datum	DATSIMA	Department of Aboriginal and Torres Strait Islander and Multicultural Affairs
ALARP	as low as reasonably practicable		
ALC	Agricultural Land Class	DATSIP	Department of Aboriginal and Torres Strait Island Partnerships
ANC	acid neutralising capacity		
ANFO	ammonium nitrate and fuel oil	DBCT	Dalrymple Bay Coal Terminal
ANZECC	Australian and New Zealand Environment and Conservation Council	DEE	Department of the Environment and Energy
ARI	average recurrence interval	DEHP	Department of Environment and Heritage Protection
ARMCANZ	Agriculture and Resource Management Council of Australia and New Zealand	DERM	Department of Environment and Resource Management
AS/NZS	Australian Standard/New Zealand Standard	DES	Department of Environment and Science
ASS	Acid Sulfate Soils	DEWHA	Department of the Environment, Water Heritage and the Arts
ATP	Authorities to Prospect	DG Class	Dangerous Goods Class
AUSRIVAS	Australian River Assessment System	DNRME	Department of Natural Resources, Mines and Energy
AV	adjustment value	DotE	Department of the Environment

DSA	Design Storage Allowance	EVNT	endangered, vulnerable or near threatened
DSD	Department of State Development	FIFO	fly-in-fly-out
DSDIP	Department of State Development, Infrastructure and Planning	FTE	full time equivalent
DSITIA	Department of Science, Information Technology, Innovation and the Arts	GDE	groundwater dependent ecosystems
DTMR	Department of Transport and Main Roads	GHG	greenhouse gas
EA	environmental authority	GMA	Groundwater Management Area
EC	electrical conductivity	GMMP	Groundwater Monitoring and Management Program
EIS	Environmental Impact Statement	HES	high ecological significance
EMR	Environmental Management Register	IAS	Initial Advice Statement
EO Act	<i>Environmental Offsets Act 2014</i>	IBRA	Interim Biogeographic Regionalisation for Australia
EP	equivalent persons	IE Aust	Institute of Engineers Australia
EP Act	<i>Environmental Protection Act 1994</i>	IEC	International Electrotechnical Commission
EP Regulation	<i>Environmental Protection Regulation 2008</i>	IECA	International Erosion Control Association
EPBC Act	<i>Environment Protection and Biodiversity Conservation Act 1999</i>	IESC	Commonwealth Independent Expert Scientific Committee on Coal Seam Gas and Large Mining Development
EPC	Exploration Permit for Coal	ILF cells	In-Line Flocculation Cells
EPP (Air)	Environmental Protection (Air) Policy 2008	ILUA	Indigenous Land Use Agreement
EPP (Noise)	Environmental Protection (Noise) Policy 2008	IRC	Isaac Regional Council
EPP (water)	Environmental Protection Policy (Water)	ISO	International Standards Organization
EPR Waste	<i>Environmental Protection (Waste Management) Regulation 2000</i>	JORC	Joint Ore Reserve Committee
ERA	Environmentally Relevant Activity	JV	Joint Venture
ERP	estimated resident population	LGA	Local Government Area
ESA	Environmentally Sensitive Areas	LL2	Leichardt Lower 2
ETL	electricity transmission line	LNG	liquefied natural gas
EV	environmental values	LOR	limit of reporting
		LOS	Level of Service

LSAT	Land Suitability Assessment Technique	PCI	pulverized coal injection
MIC	maximum instantaneous charge	PL	Petroleum Lease
MDL	mineral development licence	PLA	Petroleum Lease Application
MERCP Act	<i>Mineral and Energy Resources (Common Provisions) Act 2014</i>	PMF	probable maximum flood
MERFP Bill	<i>Mineral and Energy Resources (Financial Provisioning) Bill 2018</i>	PMP	probable maximum precipitation
MIA	mine infrastructure area	PPE	personal protective equipment
MIW	Mackay Isaac Whitsunday	PRC Plan	Progressive Rehabilitation and Closure Plan
ML	Mining Lease	QH Act	<i>Queensland Heritage Act 1992</i>
MLA	Mining Lease Application	Qld	Queensland
MNES	Matters of National Environmental Significance	QR	Queensland Rail
MR Act	<i>Mineral Resources Act 1989</i>	QWRC	Queensland Water Resources Commission
MRL	Mandatory Reporting Level	RE	regional ecosystems
MSES	Matters of State Environmental Significance	REMP	Receiving Environment Monitoring Program
MW Region	Mackay Regional Council and the Whitsundays Regional Council region	RIDA	Regional Interest Development Approval
NAF	non-acid forming	ROM	run-of-mine
NC Act	<i>Nature Conservation Act 1992</i>	RPI Act	<i>Regional Planning Interests Act 2014</i>
NGA	National Greenhouse Accounts	SA	Statistical Area
NGER Act	<i>National Greenhouse and Energy Reporting Act 2007</i>	SCL	strategic cropping land
NHMRC	National Health and Medical Research Council	SDPWO Act	<i>State Development and Public Works Organisation Act 1971</i>
NNTT	National Native Title Tribunal	SDS	safety data sheet
NT Act	<i>Native Title Act 1993</i>	SEWPaC	Department of Sustainability, Environment, Water Population and Communities
NTU	nephelometric turbidity unit	SIA	Social Impact Assessment
ODS	Olive Downs South	SMD	slightly moderately disturbed level of protection
OHLE	overhead line equipment	SMU	soil mapping units
PAA	Priority Agricultural Area	SSRC Act	<i>Strong and Sustainable Resource Communities Act 2017</i>
PASS	potential acid sulphate soils	TDS	total dissolved solids

TEM	transient electromagnetic	Annual Exceedance Probability (AEP)	The probability that a flood of a defined magnitude or larger will occur in any year
TOV	target operating volume		
TSP	total suspended particulates	Aquatic	Living in or on water, or concerning water.
TSS	total suspended solids		
VM Act	<i>Vegetation Management Act 1999</i>	Aquifer	A sub-surface rock formation containing water in recoverable quantities.
VWP	vibrating wire piezometer		
WIL	Willunga	Average Recurrence Interval (ARI)	The expected value or average value of the periods between exceedances of a given event magnitude. A term used in water engineering. Also known as “return period”.
WMP	Water Management Plan		
WoNS	weeds of national significance		
WQOs	Water Quality Objectives		
WRR Act	<i>Waste Reduction and Recycling Act 2011</i>	Baseline Monitoring	Monitoring conducted over time to collect a body of information to define specific characteristics of an area (e.g. species occurrence or noise levels) prior to commencement of a specific activity.

8.3 GLOSSARY

Acid rock drainage

Means any contaminated discharge emanating from a mining activity formed through a series of chemical and biological reactions, when geological strata is disturbed and exposed to oxygen and moisture as a result of mining activity.

Bilateral agreement

An agreement between the Commonwealth and the State of Qld under section 45 of the EPBC Act relating to environmental assessment.

Alluvial

A general term for clay, silt, sand and gravel transported by water and deposited on the bed of a floodplain, river or stream.

Critical habitat

As defined in the EPBC Regulations and NC Act (refer Section 7.4).

Ambient air quality

The all-encompassing air quality associated with a given environment. It is the cumulative result of emissions (e.g. dust, particulates and gases) from many sources, both near and far.

Drawdown

The localised lowering of groundwater level.

Electrical Conductivity (EC)

The ability of a substance (either solid, liquid or gas) to transmit electricity.

Ambient noise

At a place, means a level of noise at the place from all sources (near and far), measured as the LAeq for an appropriate time interval.

Essential habitat

As defined in the VMA (refer Section 7.4).

Amenity

Useful and enjoyable quality.

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.

High Value Regrowth	All woody vegetation that fails to meet the structural and/or floristic characteristics of remnant vegetation. It may include regrowth, heavily thinned or logged and significantly disturbed vegetation.
Known habitat	An area of land where the species is known to occur.
Pembroke	Pembroke Olive Downs Pty. Ltd.
Potential habitat	An area of land where the species is not known to occur but where the species could potentially occur.
Recharge	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.
Rehabilitation	The restoration of a landscape and especially the vegetation following its disturbance.
Remnant Vegetation	Woody vegetation is mapped as remnant where the dominant canopy has greater than 70% of the height and greater than 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.
Runoff	A portion of precipitation (rain, hail and snow that flows across the ground surface as water.
The Project	The Olive Downs Coking Coal Project.
Waters	Includes river, stream, lake, lagoon, pond, swamp, wetland, unconfined surface water, unconfined natural or artificial watercourse, bed and bank of any waters, dams, non-tidal or tidal waters (including the sea), stormwater channel, stormwater drain, and groundwater and any part thereof.

8.4 DEFINITIONS

Administering authority

As defined in Schedule 4 of the EP Act, means:

- (a) for a matter, the administration and enforcement of which has been devolved to a local government under section 514—the local government; or
- (b) for another matter—the chief executive.

Critical habitat

As defined in section 7.09 of the EPBC Regulations, matters the Commonwealth Minister may consider when identifying include:

- (a) *whether the habitat is used during periods of stress ...*
- (b) *whether the habitat is used to meet essential life cycle requirements; ...*
- (c) *the extent to which the habitat is used by important populations;*
- (d) *whether the habitat is necessary to maintain genetic diversity and long-term evolutionary development;*
- (e) *whether the habitat is necessary for use as corridors to allow the species to move freely between sites used to meet essential life cycle requirements;*
- (f) *whether the habitat is necessary to ensure the long-term future of the species or ecological community through reintroduction or re-colonisation;*
- (g) *any other way in which habitat may be critical to the survival of a listed threatened species or a listed threatened ecological community.*

As defined in section 13 of the NC Act:

- (1) *Critical habitat is habitat that is essential for the conservation of a viable population of protected wildlife or community of native wildlife, whether or not special management considerations and protection are required.*
- (2) *A critical habitat may include an area of land that is considered essential for the conservation of protected wildlife, even though the area is not presently occupied by the wildlife.*

Environment

As defined in section 8 of the EP Act, includes:

- (a) *ecosystems and their constituent parts, including people and communities; and*
- (b) *all natural and physical resources; and*
- (c) *the qualities and characteristics of locations, places and areas, however large or small, that contribute to their biological diversity and integrity, intrinsic or attributed scientific value or interest, amenity, harmony and sense of community; and*
- (d) *the social, economic, aesthetic and cultural conditions that affect, or are affected by, things mentioned in paragraphs (a) to (c).*

Environmental Authority

As defined in Schedule 4 of the EP Act, means:

- (a) *generally—*
 - (i) *an environmental authority issued under section 195 that approves an environmentally relevant activity applied for in an application; or*
 - (ii) *if a replacement environmental authority is issued for an environmental authority—the replacement environmental authority; or*
- (b) *for chapter 5, part 12, division 2, subdivision 3, see section 297*

Environmental nuisance

As defined in section 15 of the EP Act:

Environmental nuisance is unreasonable interference or likely interference with an environmental value caused by—

- (a) *aerosols, fumes, light, noise, odour, particles or smoke; or*
- (b) *an unhealthy, offensive or unsightly condition because of contamination; or*
- (c) *another way prescribed by regulation.*

Environmental value

As defined in section 9 of the EP Act, is:

- (a) *a quality or physical characteristic of the environment that is conducive to ecological health or public amenity or safety; or*
- (b) *another quality of the environment identified and declared to be an environmental value under an environmental protection policy or regulation.*

Environmentally relevant activity

As defined in Schedule 4 of the EP Act, means:

- (b) *a resource activity as defined under section 107;*
- (c) *an activity prescribed under section 19 as an environmentally relevant activity.*

Essential habitat

As defined in sections 20AC(2)-(4) of the VMA:

- (2) *Essential habitat, for protected wildlife, is a category A area, a category B area or category C area shown on the regulated vegetation management map*
 - (a) *that has at least 3 essential habitat factors for the protected wildlife that must include any essential habitat factors that are stated as mandatory for the protected wildlife in the essential habitat database; or*
 - (b) *in which the protected wildlife, at any stage of its life cycle, is located.*
- (3) *Essential habitat database is a database, listing essential habitat factors for protected wildlife, certified by the chief executive as an essential habitat database.*
- (4) *An essential habitat factor, for protected wildlife, is a component of the wildlife's habitat, including, for example, a landform, pollinator, regional ecosystem, soil and water, that is necessary or desirable for the wildlife at any stage of its lifecycle.*

Material environmental harm

As defined in section 16(1)-(2) of the EP Act:

- (1) *Material environmental harm is environmental harm (other than environmental nuisance)—*
 - (a) *that is not trivial or negligible in nature, extent or context; or*
 - (b) *that causes actual or potential loss or damage to property of an amount of, or amounts totalling, more than the threshold amount but less than the maximum amount; or*
 - (c) *that results in costs of more than the threshold amount but less than the maximum amount being incurred in taking appropriate action to—*
 - (i) *prevent or minimise the harm; and*

- (ii) *rehabilitate or restore the environment to its condition before the harm.*
- (2) *In this section—*
maximum amount means the threshold amount for serious environmental harm.
threshold amount means \$5000 or, if a greater amount is prescribed by regulation, the greater amount.

Serious environmental harm

As defined in sections 17(1)-(2) of the EP Act:

- (1) *Serious environmental harm is environmental harm (other than environmental nuisance)—*
 - (a) *that is irreversible, of a high impact or widespread; or*
 - (b) *caused to*
 - (i) *an area of high conservation value*
 - (ii) *or an area of special significance; such as the Great Barrier Reef World Heritage Area; or*
 - (c) *that causes actual or potential loss or damage to property of an amount of, or amounts totalling, more than the threshold amount; or*
 - (d) *that results in costs of more than the threshold amount being incurred in taking appropriate action to—*
 - (i) *prevent or minimise the harm; and*
 - (ii) *rehabilitate or restore the environment to its condition before the harm.*
- (2) *In this section—*
threshold amount means \$50000 or, if a greater amount is prescribed by regulation, the greater amount.

- (2) *Waste can be a gas, liquid, solid or a combination of any of them.*
- (3) *A thing can be waste whether or not it is of value.*
- (4) *For subsection (1), if the approval of a resource under the Waste Reduction Act, chapter 8, is a specific approval, the resource stops being waste only in relation to the holder of the approval.*
- (5) *Despite subsection (1), a resource approved under the Waste Reduction Act, chapter 8, becomes waste—*
 - (a) *when it is disposed of at a waste disposal site; or*
 - (b) *if it is deposited at a place in a way that would, apart from its approval under that chapter, constitute a contravention of the general littering provision or the illegal dumping of waste provision under that Act—when the depositing starts.*
- (6) *In this section—*
 - (a) *for waste disposal site see the Waste Reduction Act, section 8A.*
 - (b) *Waste Reduction Act means the Waste Reduction and Recycling Act 2011.*

Waste

As defined in section 13 of the EP Act:

- (1) *Waste includes anything, other than a resource approved under the Waste Reduction Act, Chapter 8, that is -*
 - (a) *left over, or an unwanted by-product, from an industrial, commercial, domestic or other activity; or*
 - (b) *surplus to the industrial, commercial, domestic or other activity generating the waste.*