



Jellinbah Group



LAKE VERMONT RESOURCES ENVIRONMENTAL IMPACT STATEMENT

CHAPTER 25 ABBREVIATIONS, ACRONYMS AND GLOSSARY



ENVIRONMENTAL SOLUTIONS



Table of Contents

25	Abbreviations, Acronyms and Glossary	1
25.1	Abbreviations and Acronyms.....	1
25.2	Units	4
25.3	Glossary	5



25 Abbreviations, Acronyms and Glossary

25.1 Abbreviations and Acronyms

ACH	Aboriginal Cultural Heritage	DNRME	Department of Regional Development, Manufacturing and Water
ADG	Australian Dangerous Goods		
AEC	AEC Group Pty Ltd	DoR	Department of Resources
AEP	Annual Exceedance Probability	DRDMW	Department of Regional Development, Manufacturing and Water
AHD	Australian Height Datum		
ALC	Agricultural Land Class	DSA	Design Storage Allowance
ANC	Acid Neutralising Capacity	DSDILGP	Department of State Development, Infrastructure, Local Government and Planning
ANFO	Ammonium nitrate and fuel oil		
API	Australian Plant Name Index	DSDSATSIP	Department of Seniors, Disability Services and Aboriginal and Torres Strait Islander Partnerships
AR&R	Australian Rainfall & Runoff		
ARI	Average Recurrence Interval	DSITI	Department of Science, Information Technology and Innovation
ATP	Authority to prospect		
BMP	Bushfire Management Plan	DTMR	Department of Transport and Main Roads
CALMET	Computer Aided Learning in Meteorology	EA	Environmental Authority
CDA	Co-Disposal Area	EC	Electrical Conductivity
CHMP	Cultural Heritage Management Plan	EIA	Economic Impact Assessment
CHPP	Coal Handling and Preparation Plant	EIS	Environmental Impact Statement
CLR	Contaminated Land Register	ELAM	Emergency and Long-term Accommodation
CMSH	Coal Mining Safety and Health Act	EMP	Environmental Management Plan
CSIRO	Commonwealth Scientific and Industrial Research Organisation	EMR	Environmental Register
DA	Development Approval	EMS	Environmental Management System
DAF	Department of Agriculture and Fisheries	EO	Environmental Offsets
DEPW	Department of Energy and Public Works	EOI	Expression of Interest
DES	Department of Environment and Science	EP	Environmental Protection Act
DIDO	Drive-in drive-out	EPBC	Environmental Protection and Biodiversity Conservation Act
		EPP (Air)	Environmental Protection Policies (Air) Policy 2019



EPP (Noise)	Environmental Protection Policies (Noise) Policy 2019	MDL	Mineral Development Licence
EPP	Environmental Protection Policies	MEDLI	Model for Effluent Disposal Using Land Irrigation
EQuIP	Enterprise Queensland Indigenous Program	MERCP	Mineral and Energy Resources (Common Provisions) Act
ERA	Environmentally Relevant Activities	MERFP	Mineral and Energy Resources (Financial Provisioning) Act
ERP	Emergency Response Plan	MIA	Mine Infrastructure Area
ESD	Ecologically sustainable development	ML	Mining Lease
ESS	Extreme Storm Storage	MLA	Mining lease application
ETL	Electricity Transmission Line	MLES	Matters of Local Environmental Significance
EV	Environmental Values	MNES	Matters of National Environmental Significance
FFA	Flood Frequency Analysis	MR	Mining Resources Act
FIFO	Fly-in fly-out	MRL	Mandatory Reporting Level
FTE	Full-Time Equivalent	MSES	Matters of State Environmental Significance
GDE	Groundwater Dependent Ecosystems	NAF	Non-Acid Forming
GGPL	Gordon Geotechniques Pty Ltd	NAIDOC	National Aboriginal and Islanders Day observance Committee
GHG	Greenhouse Gas	NAPP	Net Acid Producing Potential
GRP	Gross Regional Product	NC	Nature Conservation Act
GST	Goods and Services Tax	NEPM	National Environmental Protection Measure
GVA	Gross Value Added	NGA	National Greenhouse Accounts
HES	High Ecological Significance	NGER	National Greenhouse and Energy Reporting Act
IAA	Important Agricultural Area	NNTT	Native Title Act
IAHT	Isaac Affordable Housing Trust	NPI	National Pollutant Inventory
ICN	Industry Capability Network	NPV	Net Present Values
IRC	Isaac Regional Council	NRC	Nearby Regional Communities
ISQG	Interim Sediment Quality Guideline	NUMA	Non-Use Management Areas
LGA	Local Government Areas	OCG	Office of the Coordinator General
LHD	Load Haul Dump	OHS	Occupational Health and Safety
LULUCF	Land use, land use change and forestry	PAA	Priority Agricultural Area
LVM	Lake Vermont Mine		
LVR	Lake Vermont Resources Pty Ltd		



PCI	Pulverised Coal Injection	STP	Sewage Treatment Plant
PMF	Probable Maximum Flood	TAPM	The Air Pollution Model
PMLU	Post-Mining Land Use	TDS	Total Dissolved Salts
PPV	Peak Particle Velocity	TEC	Threatened Ecological Community
PRCP	Progressive Rehabilitation and Closure Plan	ToR	Terms of Reference
QFES	Queensland Fire and Emergency Service	TPH	Total Petroleum Hydrocarbons
RE	Regional Ecosystem	TSS	Total Suspended Solids
REMP	Receiving Environmental Monitoring Program	UCL	Urban Centre and Locality
ROM	Run Of Mine	UIS	Underground in-seam
RPEQ	Registered Professional Engineer of Queensland	VM	Vegetation Management Act
RPI	Regional Planning Interest Act	WAV	Workforce Accommodation Villages
SCL	Strategic Cropping Land	WHS	Workplace Health and Safety
SEIFA	Socio-Economic Indices for Areas	WoNS	Weeds of National Significance
SHMS	Safety and Health Management System	WQO	Water Quality Objectives
SIA	Social Impact Assessment	WRD	Waste Rock Dump
SILO	Scientific Information for Landowners		
SIMP	Social Impact Management Plan		
SIS	Surface to in seam		
SLSA	Soil and Land Suitability Assessment		
SMART	Specific, Measurable, Achievable, Realistic and Timely		
SMP	Subsidence Management Plan		
SMU	Soil management units		
SR	Sensitive Receptors		
STEM	Science, Technology, Engineering and Math		



25.2 Units

CO ₂ -e	Carbon Dioxide Equivalent	L _{eq,adj,1hr}	A-weighted sound pressure level of a continuous, steady sound adjusted for tonal character that, within a one-hour period, has the same mean square sound. pressure of a sound that varies with time.
dB	Decibel, unit used to express sound intensity		
dB(A)	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.	m	meter
		m ²	square metre
		m ³	cubic metre
dB(L)	Linear decibels; measurable effect of event (e.g. blast) on air pressure including measurement of generated energy which is below the limit of human hearing.	Mbcm	million bank cubic metre
		mm	millimetre
		min.	minimum
dB(Z)	no weighting applied to the decibel BB	max	maximum
dB(lin)	decibel measurement without adjustment	mg	milligram
		mg/L	milligram per litre
ha	hectare	mbgl	metres below ground level
Hz	Hertz	ML	megalitre
kg	kilogram	Mt	million tonnes
kl	kilolitre	Mtpa	million tonnes per annum
km ²	square kilometres	NTU	Nephelometric Turbidity Unit
km/hr	kilometre per hour	N/m ²	newtons per square metre
kV	kilovolt	tph	tonnes per hour
kW	kilowatt	W/m ²	Watts per square metre
L	litre	°	degrees
L _{Aeq}	The equivalent continuous noise level – the level of noise equivalent to the energy-average of noise levels occurring over a measurement period.	°C	degrees Celsius
		%	percentage
		% sat.	percentage saturation
L _{eq,adj}	A-weighted sound pressure level of a continuous steady sound and adjusted for tonal character.	µg/cm	micrograms/centimetre
		µg/L	micrograms/litre
		µS/cm	microSiemens/centimetre



25.3 Glossary

Acid mine drainage – Also termed acid rock water or acid rock drainage, refers to the outflow of acidic water from metal mines or coal mines. Acid mine drainage occurs naturally within most environments as part of the rock weathering process. However, this is exacerbated by large-scale earth disturbances characteristic of mining and other large construction activities, usually within rocks containing an abundance of sulphide minerals.

Administering Authority – As defined in section 4 of the EP Act:

- a) for a matter, the administration and enforcement of which has been developed to local government under section 514 – the local government: or
- b) for another matter – the chief executive.

Alluvial – Sand, silt, clay, gravel, or other matter deposited by flowing water, as in a riverbed, floodplain, delta, or alluvial fan.

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.

Ambient noise – The existing noise level experienced at a specific location.

Amenity – Useful and enjoyable quality

Annual Exceedance Probability - The probability that a flood of a defined magnitude or larger will occur in any year.

Aquatic – Living in or on water or concerning water.

Aquifer – A geological formation bearing groundwater that is permeable (unconfined) or impermeable (confined) to the transmission of groundwater.

Baseline monitoring – Monitoring conducted over a specified period to collect data to define a specific characteristic of an area before the commencement of a specific activity.

Bilateral agreement - An agreement between the Commonwealth of Australia and the State of Queensland relating to an environmental assessment that allows the Commonwealth Minister for the Environment to rely on specified environmental impact assessment processes of the State of Queensland in assessing actions under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act).

Biosecurity – procedures and measures designed to prevent and respond to pests and diseases that threaten Australia's economy and environment.

Blasting – The use of explosives to fracture rock, coal or other materials for later recovery.

Bund – Also termed a bund wall or bunding, is an embankment that is constructed around an area and / or structure that is designed to prevent inflow or outflow of water or can be used to reduce the impact of noise to the surrounding environment.

Catchment – The entire land area from which water (e.g. rainfall) drains to a specific watercourse or water body.

Clean water – Water from undisturbed catchments, suitable for discharge without treatment.

Coal seam – A bed or stratum of coal.

Coal reject – Solid waste produced during the processing of coal, typically from a CHPP. Coal reject typically comprises crushed siltstone, mudstone and fine-grained sandstone, which is mined as coal seam roof, parting



or floor material during the extraction of ROM coal. Coal reject is commonly produced in different size fractions (fine and coarse reject).

Coarse reject – Coarse solid waste materials produced from the CHPP as part of the processing of coal.

Controlled action – If a proposed action is considered likely to have a significant impact on a Matter of National Environmental Significance, the action requires assessment and approval under the EPBC Act before it can proceed.

Critical habitat – As defined by 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. (NC Act)
- 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.

Critical habitat – As defined by the EPBC Regulations 2000:

7.09 Identification of critical habitat

- 1) For subsection 207A(1) of the Act, the Minister may, in identifying habitat, take into account the following matters:
 - a) whether the habitat is used during periods of stress; Examples of period of stress: Flood, drought or fire.
 - b) whether the habitat is used to meet essential life cycle requirements; Examples: Foraging, breeding, nesting, roosting, social behaviour patterns or seed dispersal processes.
 - 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.

Cumulative impacts - The impacts on the environment which results from the incremental impact of the action when added to other past, present and reasonably foreseeable future actions.

Drawdown – The localised lowering of the groundwater level.

Ecologically sustainable development – 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 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.



Electrical conductivity – The measure of water’s capability to pass electrical flow, which is directly relation to the concentration of ions in the water.

Environment – As defined in section 8 of the EP Act:

- 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 section 4 of the EP Act:

- 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 14, division 3, see section 316 A.

Environmentally relevant activities – As defined in subdivision 4, section 18 of the EP Act:

Each of the following is an environmentally relevant activity

- a) an agricultural ERA as defined under section 79;
- b) a resource activity as defined under section 109; and
- c) an activity prescribed under section 19 as an environmentally relevant activity.

Environmental value – As defined in section 9 of the EP Act:

- d) A quality or physical characteristic of the environment that is conducive to ecological health or public amenity or safety; or
- e) Another quality of the environment identified and declared to be an environmental value under an environmental protection policy or regulation.

Ephemeral stream – a stream that flows only briefly during and following rainfall in the immediate locality.

Essential habitat – As defined in section 20AC of The VM Act:

- 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.*



Fine reject - Fine-grained mining waste materials produced from a CHPP as part of the processing and washing of coal.

Full-time equivalent (FTE) – a unit of measurement equal to one employee working a full-time job over a specified time period.

Greenhouse gas – 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.

Gross regional product – Gross regional product is a monetary measure of the market value of all final goods and services produced in a region or subdivision of a country in a given period of time.

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.

Groundwater Dependent Ecosystems (GDE) – Ecosystems that are reliant on either the subsurface presence or surface expression of groundwater.

Interburden – is the rock material between the targeted coal seams.

Macroinvertebrate – Larger invertebrates (animals without backbones) which can be studied without a microscope.

Material environmental harm – As defined in subdivision 3, section 16 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.

Mineral waste - Overburden, interburden and similar 'waste rock' (spoil) material mined and disposed during extraction of coal. In this EIS, the definition of Mineral Waste also extends to coal reject from the CHPP.

Non-acid forming (NAF) – Considered unlikely to be a source of acidic drainage.

Offset – An action that balances, counteracts, or compensates for the adverse impacts of another action.

Overburden – is rock that is required to be removed to access the uppermost coal seam.

Permeability – The ability of a rock or soil to allow fluid to pass through it.

pH – A relative measure of the acidity or alkalinity of a water based upon a scale that ranges between 0 and 14 with 7 being neutral.



PM₁₀ – Fine airborne particles with a diameter of less than 10 µm are small enough to be breathed into the lungs

PM_{2.5} – Particles with an aerodynamic diameter of less than 2.5 µm.

Potential habitat - An area of land where the species is not known to occur but where the species could potentially occur.

Potentially acid forming (PAF) – Material that has a significant sulphur content and is likely to generate acid in excess of its inherent neutralising capacity.

Regional ecosystem – A vegetation community in a bioregion that are consistently associated with a particular combination of geology, landform and soil.

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.

Sediment dam – A structure that is designed to settle suspended sediment.

Serious environmental harm – As defined in subdivision 3, section 17 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.

Stakeholder – A person, group or organisation that has an interest in the Project.

Stratigraphy – A branch of geology concerned with the order and relative position of strata and their relationship to geological time.



Stygofauna – Aquatic fauna that live part or all of their lives in groundwater systems such as aquifers or underground caves.

Subsidence – A lowering of ground surface resulting from compaction of unsupported overlying stratum into the underground mined area.

Terrestrial – Living on land or on the ground.

Tonnes of carbon dioxide equivalent – Concentration of CO₂ that would cause the same level of radiative forcing as a given type and concentration of greenhouse gas.

Topsoil – The upper most layer of soil where the highest concentration of organic matter and micro-organisms are found.

Total suspended particulate – Tiny airborne particles that are less than 100 µm in diameter.

Waste – as defined in subdivision 2, 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.

(2) Waste can be a gas, liquid, solid or energy, 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 rock emplacement – The area where mine waste (overburden or other waste material removed in mining, quarrying, dredging, or excavating) are disposed of or piled.