Permit

Environmental Protection Act 1994

Environmental authority EPML00335713

This environmental authority is issued by the administering authority under Chapter 5 of the Environmental Protection Act 1994.

Environmental authority number: EPML00335713

Environmental authority takes effect on grant of ML50232 and ML700002.

*The anniversary date of this environmental authority is the same day each year and remains **27 May**.*

The payment of the annual fee will be due each year on this day.

*An annual return will be due each year on **1 April**.*

Environmental authority holder

Name(s)	Registered address
NEW ACLAND COAL PTY. LTD.	New Hope Group Level 16/175 Eagle Street BRISBANE CITY QLD 4000

Environmentally relevant activity and location details

Environmentally relevant activity/activities	Location(s)
Schedule 3 - 13 - Mining black coal	ML50170 ML50216 ML50232 ML700002
Ancillary 8 – Chemical Storage 3: storing more than 500m^3 of chemicals of class C1 or C2 combustible liquids under AS 1940 or dangerous goods class 3 under subsection (1) (c)	
Ancillary 31 - Mineral processing - 2(b) - Processing, in a year, the following quantities of mineral products, other than coke - more than 100,000t	
Ancillary 60 – Waste disposal, 1: operating a facility for disposing of, in a year, the following quantity of waste mentioned in subsection (1) (a) less than 50,000t.	
Ancillary 63 – Sewage Treatment, 1: operating sewage treatment works, other than no-release works, with a total daily peak design capacity of – (b) more than 100 but not more than 1,500EP – (ii) otherwise.	

Additional information for applicants

Environmentally relevant activities

The description of any environmentally relevant activity (ERA) for which an environmental authority (EA) is issued is a restatement of the ERA as defined by legislation at the time the EA is issued. Where there is any inconsistency between that description of an ERA and the conditions stated by an EA as to the scale, intensity or manner of carrying out an ERA, the conditions prevail to the extent of the inconsistency.

An EA authorises the carrying out of an ERA and does not authorise any environmental harm unless a condition stated by the EA specifically authorises environmental harm.

A person carrying out an ERA must also be a registered suitable operator under the *Environmental Protection Act 1994* (EP Act).

Contaminated land

It is a requirement of the EP Act that an owner or occupier of contaminated land give written notice to the administering authority if they become aware of the following:

- the happening of an event involving a hazardous contaminant on the contaminated land (notice must be given within 24 hours); or
- a change in the condition of the contaminated land (notice must be given within 24 hours); or
- a notifiable activity (as defined in Schedule 3) having been carried out, or is being carried out, on the contaminated land (notice must be given within 20 business days)

that is causing, or is reasonably likely to cause, serious or material environmental harm.

For further information, including the form for giving written notice, refer to the Queensland Government website www.qld.gov.au, using the search term 'duty to notify'.

Take effect

Please note that, in accordance with section 200 of the EP Act, an EA has effect:

a) if the authority is for a prescribed ERA and it states that it takes effect on the day nominated by the holder of the authority in a written notice given to the administering authority - on the nominated day; or

b) if the authority states a day or an event for it to take effect-on the stated day or when the stated event happens; or

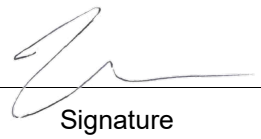
c) otherwise on the day the authority is issued.

However, if the EA is authorising an activity that requires an additional authorisation (a relevant tenure for a resource activity, a development permit under the *Planning Act 2016* or an SDA Approval under the *State Development and Public Works Organisation Act 1971*), this EA will not take effect until the additional authorisation has taken effect.

If this EA takes effect when the additional authorisation takes effect, you must provide the administering authority written notice within 5 business days of receiving notification of the related additional authorisation taking effect.

The anniversary day of this environmental authority is the same day each year as the original take effect date unless you apply to change the anniversary day. The payment of the annual fee will be due each year on this day. An annual return will be due each year on 1 April.

If you have incorrectly claimed that an additional authorisation is not required, carrying out the ERA without the additional authorisation is not legal and could result in your prosecution for providing false or misleading information or operating without a valid environmental authority.

	6 July 2022
Signature	Date

Juliana McCosker
Department of Environment and Science
Delegate of the administering authority
Environmental Protection Act 1994

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Privacy statement

Pursuant to section 540 of the EP Act, the Department is required to maintain a register of certain documents and information authorised under the EP Act. A copy of this document will be kept on the public register. The register is available for inspection by members of the public who are able take extracts, or copies of the documents from the register. Documents that are required to be kept on the register are published in their entirety, unless alteration is required by the EP Act. There is no general discretion allowing the Department to withhold documents or information required to be kept on the public register. For more information on the Department's public register, search 'public register' at www.qld.gov.au. For queries about privacy matters please email privacy@des.qld.gov.au or telephone 13 74 68.

Obligations under the *Environmental Protection Act 1994*

In addition to the requirements found in the conditions of this environmental authority, the holder must also meet their obligations under the EP Act, and the regulations made under the EP Act. For example, the holder must comply with the following provisions of the Act:

- general environmental duty (section 319)
- duty to notify environmental harm (section 320-320G)
- offence of causing serious or material environmental harm (sections 437-439)
- offence of causing environmental nuisance (section 440)
- offence of depositing prescribed water contaminants in waters and related matters (section 440ZG)
- offence to place contaminant where environmental harm or nuisance may be caused (section 443)

Other permits required

This permit only provides an approval under the *Environmental Protection Act 1994*. In order to lawfully operate you may also require permits / approvals from your local government authority, other business units within the department and other State Government agencies prior to commencing any activity at the site. For example, this may include permits / approvals with your local Council (for planning approval), the Department of Transport and Main Roads (to access state controlled roads), the Department of Resources (to clear vegetation), and the Department of Agriculture and Fisheries (to clear marine plants or to obtain a quarry material allocation).

Schedules of conditions

A: General
B: Air
C: Water
D: Groundwater
E: Sewage Treatment
F: Noise
G: Waste Management
H: Land and Rehabilitation
I: Biodiversity
J: Regulated Structures
K: Light
Definitions
Figures

- A1: Project overview
- B1: Air quality monitoring locations
- C1: Surface water monitoring points
- D1: Groundwater monitoring points (ML50216 and ML50170)
- F1: Noise monitoring locations and sensitive places
- H1: Post-Mine Land Suitability for Improved Pastures for ML50170 and ML50216
- H2: Post Mine Land Suitability for ML50232
- H3: Lagoon Creek, buffer and levee

Schedule A: General	
A1	This environmental authority authorises environmental harm referred to in the conditions. Where there is no condition or this environmental authority is silent on a matter, the lack of a condition or silence does not authorise environmental harm.
A2	a) The mining activities authorised under this environmental authority are those (subject to the limits in this condition and other conditions in this environmental authority): (i) Generally in accordance with **Figure A1 – Project overview**; or (ii) Authorised by conditions **A2(b)**, **A2(c)** or **A2(d)**. b) The environmental authority holder must not: (i) Disturb for pits, slope batters and out of pit dumps, more than 1,446ha (approximately) on ML50232 and 123ha (approximately) on ML50216; or (ii) Disturb any land other than for minor infrastructure in the 'exclusion' zones depicted on **Figure A1 – Project overview**; or (iii) Disturb any land other than for minor infrastructure and infrastructure represented on **Figure A1 – Project overview** unless: (1) Authorised in another condition of this environmental authority; or (2) Such disturbance is within ML50216 or ML50170 on land lawfully disturbed before commencement of this environmental authority and which, as at 11 **May 2022**, had not been rehabilitated. c) Disturbance of land for minor infrastructure is authorised only if: (i) The environmental authority holder has submitted to the administering authority information showing the nature, location and extent of such disturbance and associated infrastructure; and (ii) The administering authority: (1) Has informed the environmental authority holder that it does not regard the impacts require an amendment to this environmental authority; or (2) Has informed the environmental authority holder that the administering authority requires the environmental authority holder to make an application pursuant to Chapter 5, Part 7, *Environmental Protection Act 1994* and such application is made and approved by the administering authority; or (3) Has otherwise amended this environmental authority to authorise the disturbance. d) Despite condition **A2(b)(iii)**, the environmental authority holder may disturb land for the construction of the haul road and Lagoon Creek crossing represented on **Figure A1 – Project overview.**
A3	The environmental authority holder is approved to extract coal at a rate of up to **7.5 million tonnes per annum** (Mtpa) of product coal in accordance with this environmental authority.
A4	All plans, reports and programs referred to, or collected under, a condition of this environmental authority must be published on the environmental authority holder's website within **one (1) month** of completion.
Maintenance of measures, plant, and equipment	
A5	The environmental authority holder must: a) install all measures, plant, and equipment necessary to ensure compliance with the conditions of this environmental authority; and b) maintain such measures, plant, and equipment in a proper and efficient condition; c) operate such measures, plant, and equipment in a proper and efficient manner; and d) ensure all instruments and devices used for the measurement or monitoring of any parameter under any condition of this environmental authority are properly calibrated.
Monitoring	
A6	Except where specified otherwise in another condition of this environmental authority, all monitoring data, records or reports required by this environmental authority must be kept for a period of not less than **five (5) years**.

Schedule A: General	
A7	Upon request from the administering authority, copies of all monitoring data, records and reports will be made available and provided to the administering authority's nominated office within **ten (10) business days** or an alternative timeframe agreed between the administering authority and the holder.
A8	Any management or monitoring plans, systems or programs required to be developed and implemented by a condition of this environmental authority should be reviewed for effectiveness in minimising the likelihood of environmental harm on an annual basis, and amended promptly if required, unless a particular review date and amendment program is specified in the plan, system or program.
A9	Where monitoring is a requirement of this environmental authority, ensure that all monitoring required under a condition of this environmental authority is performed by a suitably qualified person(s).
A10	A monitoring program which includes monitoring locations, frequency, parameters, monitoring techniques and quality assurance protocols must be developed, implemented and made available to the administering authority on request.
Risk management	
A11	The environmental authority holder must develop and implement a risk management system for mining activities which mirrors the content requirement of the *Standards Australia Risk management – Principles and guidelines (AS/NZS ISO 31000:2009)*, or the latest edition of a Standards Australia for risk management, to the extent relevant to environmental management, prior to the commencement of mining activities on ML50232.
Notification of emergencies, incidents and exceptions	
A12	The environmental authority holder must notify the administering authority by written notification within **twenty-four (24) hours** after becoming aware of any emergency or incident which results in the release of contaminants not in accordance with, the conditions of this environmental authority.
A13	Within **ten (10) business days** following the initial notification of an emergency or incident, or receipt of monitoring results, whichever is the latter, further written advice must be provided to the administering authority, including the following: a) results and interpretations of any samples taken and analysed b) outcomes of actions taken at the time to prevent or minimise unlawful environmental harm c) proposed actions to prevent a recurrence of the emergency or incident.
Complaints	
A14	The environmental authority holder must record all environmental complaints received about the mining activities including: a) name, address and contact number of the complaint b) time and date of complaint c) reasons for the complaint d) investigations undertaken e) conclusions formed f) actions taken to resolve the complaint g) any abatement measures implemented h) person responsible for resolving the complaint; and i) records of any referrals to an independent counselling service. The information as outlined in condition **A14(a) to (i)** with the consent of the complainant must be sent to the administering authority (and the complainant) within **twenty-eight (28) days** of the action.

Schedule A: General	
A15	The environmental authority holder must, when requested by the administering authority, undertake relevant specified monitoring within a reasonable timeframe nominated or agreed to by the administering authority to investigate any complaint of environmental harm. The results of the investigation (including an analysis and interpretation of the monitoring results) and abatement measures, where implemented, must be provided to the administering authority within **ten (10) business days** of completion of the investigation, or no later than **ten (10) business days** after the end of the timeframe nominated by the administering authority to undertake the investigation.
Third-party reporting	
A16	The environmental authority holder must: a) within **one (1) year** of the commencement of this environmental authority, obtain from an appropriately qualified person a report on compliance with the conditions of this environmental authority; and b) obtain further such reports at regular intervals; not exceeding **three (3) yearly intervals**, from the completion of the report referred to above; and c) provide each report to the administering authority within **ninety (90) days** of its completion.
A17	Where a condition of this environmental authority requires compliance with a standard, policy or guideline and the standard is amended or changed subsequent to the issue of this environmental authority, the environmental authority holder must: a) comply with the amended or changed standard, policy or guideline within **two (2) years** of the amendment or change being made, unless a different period is specified in the amended standard or relevant legislation, or where the amendment or change relates specifically to regulated structures referred to in conditions **J1 to J36**, the time specified in that condition. b) Until compliance with the amended or changed standard, policy or guideline is achieved, continue to remain in compliance with the corresponding provision that was current immediately prior to the relevant amendment or change.
Storage and handling of flammable and combustible liquids	
A18	Spillage of all chemicals and fuels must be contained within an on-site containment system and controlled in a manner that prevents environmental harm (other than trivial harm) and maintained in accordance with Section 5.9 of *AS1940 - Storage and Handling of Flammable and Combustible Liquids of 2004* (or more recent editions).
A19	No environmentally relevant activities are authorised on ML700002.

Schedule B: Air	
Dust and particulate matter monitoring	
B1	The environmental authority holder must ensure that air emissions generated by the mining activities do not cause the criteria in **Table B1 – Air quality monitoring requirements** to be exceeded at a sensitive place or commercial place. The measurement of air emissions for a sensitive place or commercial place is either: a) At that place (if measured there); or b) At the monitoring location representative (whether by reason of correlation or otherwise) of the sensitive place or commercial place (where there is no measure at the sensitive place or commercial place).
B2	All air quality indicators listed in **Table B1 – Air quality monitoring requirements**, must be monitoring at the locations and at the frequency listed in **Table B1 – Air quality monitoring requirements** in accordance with the following methodologies: a) For dust deposition of 120 milligrams per square metre per day, averaged over 1-month, when monitored in accordance with the most recent version of *Standards Australia AS/NZS 350.10.1 Methods for sampling and analysis of ambient air – Determination of particulate matter – Deposited matter – Gravimetric method*; b) For a concentration of particulate matter with an aerodynamic diameter of less than 10 micrometres (PM_{10}) suspended in the atmosphere of 50 micrograms per cubic metre e over a 24-hour averaging time[1] and 25 micrograms per cubic metre over a 1-year averaging time[1], when monitored in accordance with the most recent version of either: (i) *Standards Australia AS/NZS 3580.9.6 Methods for sampling and analysis of ambient air – Determination of suspended particulate matter – PM_{10} high volume sampler with size-selective inlet – Gravimetric method*; or (ii) *Standards Australia AS/NZS 3580.9.9* M*ethods for sampling and analysis of ambient air – Determination of suspended particulate matter – PM_{10} low volume sampler – Gravimetric method*; or (iii) *Standards Australia AS 3580.9.8 Methods for sampling and analysis of ambient air – Determination of suspended particulate matter – PM_{10} continuous direct mass method using tapered element oscillating microbalance analyser*. c) For a concentration of particulate matter suspended in the atmosphere of 90 micrograms per cubic metre over a 24-hour averaging time and 90 micrograms per cubic metre over a 1-year averaging time[1], when monitored in accordance with the most recent version of *AS/NZS 3580.9.3 Methods for sampling and analysis of ambient air – Determination of suspended particulate matter – Total suspended particulate matter (TSP) – High volume sampler gravimetric method*. d) For a concentration of particulate matter with an aerodynamic diameter of less than 2.5 micrometres ($PM_{2.5}$) suspended in the atmosphere of 25 micrograms per cubic meter over a 24-hour averaging time[1] and 8 micrograms per cubic meter over a 1-year averaging time[1] when monitored in accordance with: (i) The most recent version of *Standards Australia AS/NZS 3580.9.12 Methods for sampling and analysis of ambient air, Determination of suspended particulate matter – $PM_{2.5}$ beta attenuation monitors*; or (ii) The most recent version of *Standards Australia AS/NZS 3580.9.13 Methods of sampling and analysis of ambient air, Determination of suspended particulate matter – $PM_{2.5}$ continuous direct mass method using a tapered element oscillating microbalance monitor*; or (iii) Another method as agreed to in writing by the administering authority. NOTE: [1] These limits are based upon relevant air quality objectives contained in the Environmental Protection (Air) Policy 2019 and may be automatically amended to reflect any amendment or replacement of the relevant air quality objective in the Environmental Protection (Air) Policy 2019.
B3	If monitoring indicates the potential for exceedance of the relevant limits in conditions **B1** and **B2** then the environmental authority holder must immediately implement dust abatement measures to avoid exceeding the relevant limits.

Schedule B: Air	
Air Emissions Management Plan	
B4	An Air Emissions Management Plan must be developed by a suitably qualified and experienced person in relation to air emissions and implemented for all stages of mining. The Air Emissions Management Plan must be submitted to the administering authority for review and approval: a) Within **three (3) months** of the grant of ML50232 and ML700002, and at intervals not exceeding **two (2) years** thereafter; and b) Prior to the environmental authority holder producing more than 5.1 million tonnes (Mt) of product coal per calendar year.
B5	The Air Emissions Management Plan must incorporate a program of continuous improvements for the management of dust resulting from mining operations with respect to, but not limited to: a) Monitoring locations acting as and continuing to act as suitable representative sites for sensitive places (if there is no monitor at a particular sensitive receptor); b) The collection of air quality and meteorological data in accordance with **Table B1 – Air quality monitoring requirements**; c) Monitoring $PM_{2.5}$ at sensitive places 16 and either 38 or 39 for a duration of 12 months to establish background $PM_{2.5}$ levels; d) Monitor meteorological conditions at locations representative of the terrain to understand the local background meteorological conditions for a duration of 12 months; e) Monitoring PM_{10} trends at two (2) locations[1]; f) A trigger action response plan that requires the environmental authority holder to investigate, mitigate and manage TSP caused by mining activities at any sensitive place or commercial place when monitoring indicates exceedance of 80 micrograms per cubic metre over a 24-hour averaging time; g) A forecasting system that provides daily prediction of upcoming meteorological conditions in order to identify adverse meteorological conditions likely to produce elevated levels of dust including PM_{10} at a sensitive place or commercial place due to the mining activities; h) A dust control strategy which activates a timely implementation of dust control management actions aimed to avoid or minimise elevated levels of dust including PM_{10} at a sensitive place or commercial place due to mining activities; i) Annual review of the Air Emissions Management Plan including its adequacy and effectiveness in avoiding and minimising air emissions and dust at a sensitive place or commercial place; j) A protocol and register for the recording of requests and installation of first flush diverter systems; and k) A protocol for the transport of basalt material. NOTE: [1] Trend monitoring as required by condition **B5(c)** can be undertaken using different instruments and methods from those specified in **Table B1 – Air quality monitoring requirements.**

Air quality monitoring program	
B6	The air quality monitoring program listed in **Table B1 – Air quality monitoring requirements** must be reviewed by a suitable qualified and experienced person(s) as part of the review of the Air Emissions Management Plan and a report must be provided to the administering authority: a) Within **two (2) years and three (3) months** of the grant of ML50232 and ML700002, and at intervals not exceeding **two (2) years** thereafter; and b) Prior to the environmental authority holder producing more than 5.1Mt of product coal per calendar year. The review must include: a) The effectiveness of the monitoring network including the appropriateness of the monitoring locations to act as suitable representative sites for sensitive places (if there is no monitor at a particular sensitive place); b) The frequency and cause of any exceedances of air quality objectives measured by the monitoring program over a period of at least **two (2) years**; c) Dust complaints; d) Future progression of the mining activities; e) Locations of sensitive places relative to the mining activities; f) Mining operating modes; and g) The suitability of the locations, types and parameters for the monitoring network.
B7	The air quality monitoring program in **Table B1 – Air quality monitoring requirements** may be revised where recommended in a revised Air Emissions Management Plan provided pursuant to condition **B4** or as a result of the review in condition **B6** and with the approval of the administering authority. Any additional monitors recommended in a revised Air Emissions Management Plan must be installed and must be operational as soon as practicable after receiving approval and, in the case of an approval following a revised Air Emissions Management Plan pursuant to conditions **B4(b)** and **B6(b)**, prior to the environmental authority holder producing more than 5.1Mt of product coal per calendar year.
B8	All continuously monitored parameters required by **Table B1 – Air quality monitoring requirements** and the forecasting system required by condition **B5** must be made publicly available online and in real-time, presented: a) Spatially; and b) Real-time rolling over 1-hour average across all sites that can be drilled into for each location to provide: (i) Real-time rolling over 1-hour average data on 24-hour basis; (ii) Links to historical data on one hour basis; and (iii) Links to historical 24-hour data.
B9	The environmental authority holder must provide and install 'first-flush' diverter systems within **three (3) months** of a request for such a system being made from a residence within five (5) km of the mine boundary.
B10	All sealed traffic areas must be cleaned as necessary to minimise the release of dust and particulate matter to the atmosphere.
B11	Trafficable areas must be sealed with bitumen or an equivalent hard surface, or otherwise maintained to the satisfaction of the administering authority, in a condition which minimises the release of wind-blown or traffic generated dust.
B12	Temporary roads used for material haulage must be watered or treated in any other suitable manner, to minimise wind-blown or traffic generated dust.
Odour Nuisance	
B13	The release of noxious or offensive odour(s) or any other noxious or offensive airborne contaminant(s) resulting from the mining activity must not cause an environmental nuisance at any sensitive place or commercial place.

B14	When requested by the administering authority, odour monitoring must be undertaken within a reasonable and practicable timeframe nominated by the administering authority to investigate any complaint (which is neither frivolous nor vexatious nor based on mistaken belief in the opinion of the authorised officer) of environmental nuisance at any sensitive or commercial place, and the results must be notified within fourteen (14) days to the administering authority following completion of monitoring.
B15	If monitoring indicates condition **B13** is not being met then the environmental authority holder must: a) address the complaint including the use of appropriate dispute resolution if required; and b) immediately implement odour abatement measures so that emissions of odour from the activity do not result in further environmental nuisance.

Table B1: Air quality limits and monitoring requirements						
Monitoring Location*	**Air Quality Indicator**	**Instrument**	**Frequency**	**Air Quality Limit**	**Nuisance Limit**	**Monitoring method**
1,2 (Acland)	$PM_{2.5}$	BAM or TEOM	Continuous	25µg/m^3 (24-hr avg) 8µg/m^3 (annual)		AS/NZS 3580.9.12:2013 AS/NZS 3580.9.13:2013
	PM_{10}	TEOM	Continuous	50µg/m^3 (24-hr avg) 25µg/m^3 (annual)		AS 3580.9.8:2022
	TSP#	Hi-Vol Sampler^	24-hr, 1 day in 6	90µg/m^3 (annual)	80µg/m^3 (24-hr avg)	AS/NZS 3580.9.3:2015
		Modified TEOM#	Continuous	90µg/m^3 (annual)	80µg/m^3 (24-hr avg)	Modified TEOM
	Insoluble solids	Dust gauge	Monthly	120mg/m^2/day	120mg/m^2/day	AS/NZS 3850.10.1.2016
	Wind speed and direction		Continuous			AS/NZS 3580:14:2014
	Temperature 2m and 10m		Continuous			AS/NZS 3580:14:2014
	Temperature gradient		Continuous			AS/NZS 3580:14:2014
	Precipitation		Continuous			AS/NZS 3580:14:2014
	Relative Humidity		Continuous			AS/NZS 3580:14:2014
	Solar Radiation		Continuous			AS/NZS 3580:14:2014
	Net radiation		Continuous			AS/NZS 3580:14:2014
7,8 (or an alternative location to the north of the Stage 3 New Acland mine identified I the Air Emissions Management Plan developed pursuant to condition **B4**).	PM_{10}	TEOM	Continuous	50µg/m^3 (24-hr avg) 25µg/m^3 (annual)		AS 3580.9.8:2022
	TSP	Hi-Vol Sampler^	24-hr, 1 day in 6	90µg/m^3 (annual)	80µg/m^3 (24-hr avg)	AS/NZS 3580.9.3:2015
	Insoluble solids	Dust gauge	Monthly	120mg/m^2/day	120mg/m^2/day	AS/NZS 3850.10.1.2016
16 (East) Acland-Silverleigh Road	PM_{10}	TEOM	Continuous	50µg/m^3 (24-hr avg) 25µg/m^3(annual)		AS 3580.9.8:2022
	TSP#	Hi-Vol Sampler^	24-hr, 1 day in 6	90µg/m^3 (annual)	80µg/m^3 (24-hr avg)	AS/NZS 3580.9.3:2015
	Insoluble solids	Dust gauge	Monthly	120mg/m^2/day	120mg/m^2/day	AS/NZS 3850.10.1.2016

Monitoring Location*	Air Quality Indicator	Instrument	Frequency	Air Quality Limit	Nuisance Limit	Monitoring method
38,39 (or an alternative location to the north-west of the Stage 3 New Acland mine identified in the Air Emissions Management Plan developed in pursuant to condition **B4**).	PM_{10}	TEOM	Continuous	50µg/m^3 (24-hr avg) 25µg/m^3 (annual)		AS 3580.9.8:2022
	TSP	Hi-Vol Sampler^	24-hr, 1 day in 6	90µg/m^3 (annual)	80µg/m^3 (24-hr avg)	AS/NZS 3580.9.3:2015
	Insoluble solids	Dust gauge	Monthly	120mg/m^2/day	120mg/m^2/day	AS/NZS 3850.10.1.2016
15 (East)	PM_{10}	TEOM	Continuous	50µg/m^3 (24-hr avg) 25µg/m^3(annual)		AS 3580.9.8:2022
	TSP	Hi-Vol Sampler^	24-hr, 1 day in 6	90µg/m^3(annual)	80µg/m^3 (24-hr avg)	AS/NZS 3580.9.3:2015
	Insoluble solids	Dust gauge	Monthly	120mg/m^2/day	120mg/m^2/day	AS/NZS 3850.10.1.2016
35,36 (west of mine site)	PM_{10}	TEOM	Continuous	50µg/m^3 (24-hr avg) 25µg/m^3(annual)		AS 3580.9.8:2022
	TSP	Hi-Vol Sampler^	24-hr, 1 day in 6	90µg/m^3 (annual)	80µg/m^3 (24-hr avg)	AS/NZS 3580.9.3:2015
	Insoluble solids	Dust gauge	Monthly	120mg/m^2/day	120mg/m^2/day	AS/NZS 3850.10.1.2016
37 (West)+ (trend monitoring at 37 or an alternative location to the west of Stage 3 New Acland mine identified in the Air Emissions Management Plan developed pursuant to condition **B4**).	PM_{10}	TEOM	Continuous	50µg/m^3 (24-hr avg) 25µg/m^3 (annual)		AS 3580.9.8:2022
	TSP	Hi-Vol Sampler^	24-hr, 1 day in 6	90µg/m^3 (annual)	80µg/m^3 (24 hr avg)	AS/NZS 3580.9.3:2015
	Insoluble solids	Dust gauge	Monthly	120mg/m^2/day	120mg/m^2/day	AS/NZS 3850.10.1.2016
44 (northwest)+ (trend monitoring at 44 or an alternative location to the north-west of the Stage 3 New Acland mine identified in the Air Emissions Management Plan developed pursuant to condition **B4**).	PM_{10}	TEOM	Continuous	50µg/m^3 (24-hr avg) 25µg/m^3 (annual)		AS 3580.9.8:2022
	TSP	Hi-Vol Sampler^	24-hr, 1 day in 6	90µg/m^3 (annual)	80µg/m^3 (24-hr avg)	AS/NZS 3580.9.3:2015
	Insoluble solids	Dust gauge	Monthly	120mg/m^2/day	120mg/m^2/day	AS/NZS 3850.10.1.2016

NOTE:
***** See **Figure B1 – Air quality monitoring locations.**
[#] Data from the modified TEOM and Hi-Vol samplers to be used to calibrate the modified TEOM for monitoring TSP. Calibration needs to be undertaken over at least a six-month period from June to December. Once the modified TEOM has been calibrated it can be used to measure TSP instead of the Hi-Vol sampler.
[^] A modified TEOM can be used in place of a Hi-Vol Sampler to measure TSP.
[+] Trend monitoring can be undertaken using different instruments and methods from those specified in the **Table A – Air quality monitoring requirements**.

Schedule C: Water	
C1	Contaminants that will or have the potential to cause environmental harm must not be released directly or indirectly to any waters as a result of the authorised mining activities, except as permitted under the conditions of this environmental authority.
C2	Unless otherwise permitted under the conditions of the environmental authority, the release of mine affected water must only occur from the release points specified in **Table C1 – Mine affected water release points, sources and receiving waters** and depicted in **Figure C1 – Surface water monitoring points** attached to this environmental authority.

Table C1: Mine-affected water release points, sources and receiving waters

Release Point (RP)	Latitude (decimal degrees)	Longitude (decimal degrees)	Mine-affected water source and location	Monitoring Point	Receiving waters description
ED1	27° 15’ 40.5603” S	151° 41’ 48.32659” E	ED1	Overflow from ED1	Spring Creek
ED2[1]	27° 16’ 54.96167” S	151° 41’ 36.83113” E	ED2	Overflow from ED2	Lagoon Creek
ED3	27° 18’ 29.86677” S	151° 43’ 03.04606” E	ED3	Overflow from ED3	Lagoon Creek
ED4	27° 17’ 38.43301” S	151° 41’ 29.26048” E	ED4	Overflow from ED4	Lagoon Creek
ED5	TBA	TBA	ED5	Overflow from ED5	Lagoon Creek
ED6	TBA	TBA	ED6	Overflow from ED6	Lagoon Creek
ED7	TBA	TBA	ED7	Overflow from ED7	Lagoon Creek

1 Environmental Dam 2 was mined out in 2018, the overflow point will be reconstructed if the dam is reinstated.

C3	The release of mine affected water to water in accordance with **C2** must not exceed the release limits stated in **Table C2 – Mine-affected water release limits** when measured at the monitoring points specified in **Table C1 – Mine-affect water release points, sources and receiving waters** for each quality characteristic.
C4	The release of mine affected water to waters from the release points must be monitored at the locations specified in **Table C1 – Mine-affected water release points, sources and receiving waters** for each quality characteristic and at frequency specified in **Table C2 – Mine-affected water release limits.**

Table C2: Mine-affected water release limits

Quality characteristic	Release limits	Monitoring frequency
Electrical conductivity (µS/cm)	Release limits specified in **Table C3** for variable flow criteria	Real time telemetry for EC and pH. Daily grab samples if telemetry not available. If telemetry is unavailable, the first sample must be taken within 2 hours of commencement of release.
pH (pH Unit)	6.0 (minimum) 9.0 (maximum)	
Total suspended solids (mg/L)	100	Daily during release (the first sample must be taken within 2 hours of commencement of release).

Mine-affected water release events	
C5	The environmental authority holder must ensure a stream flow gauging station/s is installed, operated and maintained to determine and record stream flows in Lagoon and Spring Creek upstream of the discharge sites.

Schedule C: Water	
C6	Notwithstanding any other condition of this environmental authority, the release of mine affected water to waters in accordance with condition **C2** must only take place during periods of natural flow in accordance with the receiving water flow criteria for discharge specified in **Table C2 – Mine-affected water release limits** for the release point(s) specified in **Table C1 – Mine-affected water release points, sources and receiving waters.**
C7	The release of mine affected water to waters in accordance with condition **C6** must not exceed the Maximum Release Rate (for all combined release point flows) for each receiving water flow criterion for discharge specified in **Table C3 – Mine-affected water release during flow events** when measured at the monitoring points specified in **Table C1 – Mine-affected water release points, sources and receiving waters.**

Table C3: Mine-affected water release during flow events

Receiving waters/ stream	Release Point (RP)	Gauging Station Latitude	Gauging Station Longitude	Receiving Water Flow Criteria for discharge (m3/s)	Maximum release rate (for all combined RP flows)	Electrical Conductivity Release Limits
Lagoon Creek	ED2 ED3	27° 16’ 54.96167” S 27° 18’ 29.40913” S	151° 41’ 36.83113” E 151’ 42’ 50.52694” E	Low Flow <46.3 L/sec for a period of 28 days after natural flow events that exceed 4ML/d	<17.4 L/sec	700
	ED4	27° 17’ 41.49436” S	151° 41’ 33.60156” E	Medium Flow (low) >46.3 L/sec	<17.4 L/sec	1500
	ED5	TBA	TBA		<8 L/sec	2,500
	ED6	TBA	TBA		<5.8 L/sec	3,500
	ED7	TBA	TBA	Medium Flow (high) >133 L/sec	<48.6 L/sec	1500
					<23 L/sec	2,500
					<15 L/sec	3,500
				High Flow >405 L/sec	<144.7 L/sec	1500
					<92.6 L/sec	2,500
					<69.4 L/sec	3,500
Spring Creek	ED1	27° 15’ 40.5603” S	151° 41’ 48.32659” E	Low Flow <46.3 L/sec for a period of 28 days after natural flow events that exceed 46.3L/sec	<17.4 L/sec	700

C8	The daily quantity of mine affected water released from each release point must be measured and recorded.
C9	Release to waters must be undertaken so not as to cause erosion of the bed and banks of the receiving waters or cause material build-up of sediment in such waters.

Schedule C: Water	
Notification of release event	
C10	The environmental authority holder must notify the administering authority as soon as practicable and no later than **1 Business day** after commencing to release mine affected water to the receiving environment. Notification must include the submission of written advice to the administering authority of the following information: a) release commencement date/time; b) details regarding the compliance of the release with the conditions of **Schedule C: Water** of this environmental authority (that is, contaminant limits, natural flow, discharge volume); c) release point(s); d) release rate; e) release salinity; and f) receiving water(s) including the natural flow rate. NOTE: Notification to the administering authority must be made via WaTERS.
C11	The environmental authority holder must notify the administering authority as soon as practicable and nominally no later than **1 Business day** after cessation of a release event of the cessation of a release notified under condition **C10** and within **twenty-eight (28) days** provide the following information in writing: a) release cessation date/ and time; b) natural flow rate in receiving water; c) volume of water released; d) details regarding the compliance of the release with the conditions of Agency Interest; Water of this environmental authority (i.e. contaminant limits, natural flow, discharge volume); e) all in-situ water quality monitoring results; and f) any other matters pertinent to the water release event. NOTE: Successive or intermittent releases occurring within **twenty-four (24) hours** of the cessation of any individual release can be considered part of a single release event and do not require individual notification for the purpose of compliance with conditions **C10** and **C11**, provided the relevant details of the release are included within the notification provided in accordance with conditions **C10** and **C11.**
C12	If the release limits defined in **Table C2: Mine-affected water release limits** are exceeded, the holder of the environmental authority must notify the administering authority within **1 Business day** of receiving the results.
C13	The environmental authority holder must, within **twenty-eight (28) days** of a release that is not compliant with the conditions of this environmental authority, provide a report to the administering authority detailing: a) the reason for the release; b) the location of the release; c) the total volume of the release and which (if any) part of this volume was non-compliant; d) the total duration of the release and which (if any) part of this period was non-compliant; e) all water quality monitoring results (including all laboratory analyses); f) identification of any environmental harm as a result of the non-compliance; g) all calculations; and h) any other matters pertinent to the water release event.
Receiving Environmental Monitoring and Contaminant Trigger Levels	
C14	The quality of the receiving waters must be monitored at the locations specified in **Table C5: Receiving water upstream background sites and downstream monitoring points** for each quality characteristic and at the monitoring frequency stated in **Table C4: Receiving waters contaminant trigger levels.**

Schedule C: Water	
C15	If quality characteristics of the receiving water at the downstream monitoring points exceed any of the trigger levels specified in **Table C4: Receiving waters contaminant trigger levels** during a release of mine affected water the environmental authority holder must compare the downstream results to the upstream results in the receiving waters and: a) where the downstream result is the same or a lower value than the upstream value for the quality characteristic then no additional monitoring and reporting action is required; or b) where the downstream results exceed the upstream results complete an investigation into the potential for environmental harm and provide a written report to the administering authority within **ninety (90) days** of receiving the results and in the next annual return, outlining: 1. details of the investigations carried out; and 2. actions taken to prevent environmental harm. NOTE: Where an exceedance of a trigger level has occurred and is being investigated, in accordance with (b) of this condition, no further reporting is required for subsequent trigger events for that quality characteristic.
C16	If an exceedance in accordance with condition **C15(b)** is identified, the holder of the environmental authority must notify the administering authority in writing within **1 Business day** of receiving the result.

Table C4: Receiving waters contaminant trigger levels

Quality Characteristic[1,2]	Trigger Levels (µg/L)[1]	Comment on Trigger Level[3,4]	Mine Affected Water Monitoring Frequency
pH	6.5 — 9.0		Daily during the release
Electrical Conductivity (µS/cm)	510	Oakey Creek WQO[5]	
Total Suspended Solids (mg/L)	65	For aquatic ecosystem protection, based on draft MDB guideline[6]	
Aluminium	55	For aquatic ecosystem protection, based on SMD guideline	Commencement of release and thereafter weekly during release
Arsenic	13	For aquatic ecosystem protection, based on SMD guideline	
Cadmium	0.2	For aquatic ecosystem protection, based on SMD guideline	
Chromium	1	For aquatic ecosystem protection, based on SMD guideline	
Copper	2	For aquatic ecosystem protection, based on LOR for ICPMS	
Iron	300	For aquatic ecosystem protection, based on low reliability guideline	
Lead	4	For aquatic ecosystem protection, based on SMD guideline	
Mercury	0.2	For aquatic ecosystem protection, based on LOR for CV FIMS	
Nickel	11	For aquatic ecosystem protection, based on SMD guideline	
Zinc	8	For aquatic ecosystem protection, based on SMD guideline	
Boron	370	For aquatic ecosystem protection, based on SMD guideline	
Cobalt	90	For aquatic ecosystem protection, based on low reliability guideline	
Manganese	1900	For aquatic ecosystem protection, based on SMD guideline	
Molybdenum	34	For aquatic ecosystem protection, based on low reliability guideline	
Selenium	10	For aquatic ecosystem protection, based on LOR for ICPMS	
Silver	1	For aquatic ecosystem protection, based on LOR for ICPMS	
Uranium	1	For aquatic ecosystem protection, based on LOR for ICPMS	

Schedule C: Water			
Quality Characteristic[1,2]	**Trigger Levels (µg/L)[1]**	**Comment on Trigger Level[3,4]**	**Mine Affected Water Monitoring Frequency**
Vanadium	10	For aquatic ecosystem protection, based on LOR for ICPMS	Commencement of release and thereafter weekly during release
Ammonia	900	For aquatic ecosystem protection, based on SMD guideline	
Nitrate	1100	For aquatic ecosystem protection, based on ambient Queensland Water Quality Guidelines (2006) for Total Nitrogen (TN)	
Petroleum hydrocarbons (C6-C9)	20		
Petroleum hydrocarbons (C10-C36)	100		
Fluoride (total)	2000	Protection of livestock and short-term irrigation	
Sulphate (mg/L)	250	Drinking water aesthetic value (taste threshold)[6]	Daily during release

NOTE:
[1] All metals and metalloids must be measured as total (unfiltered) and dissolved (filtered). Trigger levels for metal/metalloids apply if dissolved results exceed trigger.
[2] The quality characteristics required to be monitored as per Table C4: Receiving Waters contaminant trigger levels can be reviewed once the results of 2 years monitoring data is available, or if sufficient data is available to adequately demonstrate negligible environmental risk, and it may be determined that a reduced monitoring frequency is appropriate or that certain quality characteristics can be removed from Table C4: Receiving Waters contaminant trigger levels by amendment.
[3] SMD – slightly moderately disturbed level of protection, guideline refers ANZECC & ARMCANZ (2000).
[4] LOR – typical reporting for method stated. ICPMS/CV FIMS – analytical method required to achieve LOR.
[5] Table 3 Aquatic ecosystem water quality objectives, Condamine River Basin Environmental Values and Water Quality Objectives, Environmental Protection (Water and Wetland Biodiversity) Policy 2019, October 2020, pp.29.
[6] Table 10.6, Australian Drinking Water Guidelines 2011 Version 3.4 updated October 2017, NHMRC, pp187.
[7] Draft environmental values and water quality guidelines: Queensland Murray Darling Basin, Department of Science, Information Technology and Innovation, Queensland

Table C5: Receiving water upstream background sites and downstream monitoring points

Monitoring Points	Receiving Waters Location Description	Latitude	Longitude
Upstream Background Monitoring Points			
LCU1	Lagoon Creek at a point upstream of mine	27° 18’ 9.7728” S	151° 44’ 23.136” E
SSCU1	Spring Creek at a point upstream of mine	27° 14’ 18.7728” S	151° 41’ 31.2864” E
Downstream Monitoring Points			
LCD1	Lagoon Creek downstream of mine	27° 18’ 35.64” S	151° 43’ 4.3536” E
LCD2	Lagoon Creek downstream of mine	27° 18’ 37.36” S	151° 43’ 1.8768” E
SCD1	Spring Creek at a point downstream of mine	27° 14’ 47.364” S	151° 40’ 36.2028” E
DS1	Located at the downstream boundary of ML50232*	27° 19’ 26.68” S	151° 41’ 7.02 E

NOTE: * or any subsequent identifier for the ML required for the New Acland Coal Mine Stage 3 project

Schedule C: Water	
C17	All determinations of water quality must be performed by an appropriately qualified person.
Annual water monitoring reporting	
C18	The following information must be recorded in relation to all water monitoring required under the conditions of this environmental authority and submitted to the administering authority via WaTERS upon request in the specified format: a) the date on which the sample was taken; b) the time at which the sample was taken; c) the monitoring point at which the sample was taken; d) the measured or estimated daily quantity of mine affected water released from all release points; e) the release flow rate at the time of sampling for each release point; f) the results of all monitoring and details of any exceedances of the conditions of this environmental authority; g) water quality monitoring data must be provided to the administering authority in the specified electronic format; and h) water level monitoring data must be provided in the specified electronic format.
Storm water and water sediment controls	
C19	An Erosion and Sediment Control Plan must be developed by an appropriately qualified person and implemented for all stages of the mining activities on the site to minimise erosion and the release of sediment to receiving waters and contamination of stormwater.
C20	Stormwater, other than mine affected water, is permitted to be released to waters from: a) Erosion and sediment control structures that are installed and operated in accordance with the Erosion and Sediment Control Plan required by condition **C19**; and b) Water management infrastructure that is installed and operated, in accordance with a Water Management Plan that complies with conditions **C21** and **C22**, for the purpose of ensuring water does not become mine affected water.
Water Management Plan	
C21	A Water Management Plan must be developed by an appropriately qualified person and implemented for all stages of mining. The Water Management Plan must be submitted to the administering authority for review and comment within **three (3) months** upon the grant of ML50232 and ML700002.
C22	The Water Management Plan must identify methods to: a) identify the environmental values of the receiving waters, including Lagoon and Spring Creeks, and water quality objectives and how they will be protected; b) incorporate a risk management approach to how changing levels of flood, drought and water quality risks should be addressed; c) manage stormwater discharge; d) develop and implement a system for emergency spills or discharges including procedures to minimise extent and duration of release, staff training, investigation and reporting procedures; e) manage the environmental impacts of any release of wastewater to the environment so that any impacts are minimised including restricting any discharge to waters to occasions where there is flow in receiving waters to provide considerable dilution; f) separate clean water from undisturbed areas and water from disturbed areas; g) manage site water quality and quantity during the (3) phases of mining: development, operation and decommissioning and include a site water balance including groundwater generated through mine dewatering; h) safeguard against the potential for soil erosion and acid drainage; and i) provide details of operational monitoring and monitoring of hydrological processes including associated performance indicators.

Schedule C: Water	
C23	Within **twenty (20) business days** of receiving comments from the administering authority as required by condition **C21**, the Water Management Plan must be updated by a suitably qualified and experienced person having regard to the comments and submitted to the administering authority.
C24	A copy of the Water Management Plan and any subsequent amendment of the Water Management Plan must be kept at the place to which this environmentally relevant activity relates and be available for examination by Emergency Services Personnel or an authorised person on request.

Schedule D: Groundwater	
D1	Conditions **D2** to **D6** apply to all activities. Conditions **D7** to **D11** apply to mining activities on ML50232. Conditions **D12** to **D23** apply to mining activities on ML50170 and ML50216. Conditions **D22** and **D24** to **D27** apply to all mining activities.
D2	The environmental authority holder must not release contaminants to groundwater.
D3	All determinations of groundwater monitoring and biological monitoring must be performed by an appropriately qualified person.
D4	Monitoring and sampling of groundwater must comply with the latest edition of the administering authority's Monitoring and Sampling Manual.
D5	The construction, maintenance and management of groundwater bores (including groundwater monitoring bores) must be undertaken in a manner that prevents or minimises impacts to the environment and ensures the integrity of the bores to obtain accurate monitoring.
D6	The location of monitoring bores must take into consideration the location of any voids, Tailings Storage Facilities, hazardous waste rock dumps, heap leach pads, location and depth of aquifers and hydro geological factors within the host rocks which may allow the movement of hazardous contaminants.
ML50232	
D7	Groundwater quality and levels must be monitored at the locations and frequencies defined in **Table D1 – Groundwater monitoring locations and frequency (ML50232)** for quality characteristics identified in **Table D2 – Groundwater quality triggers and limits (ML50232)**.
D8	Groundwater levels when measured at the monitoring locations specified in **Table D1 – Groundwater monitoring locations and frequency (ML50232)** must not exceed the groundwater level trigger thresholds specified in **Table D3 – Groundwater level monitoring ((ML50232, ML50216 and ML50170)**.**).**
D9	If quality characteristics of groundwater from compliance bores identified in **Table D1 – Groundwater monitoring locations and frequency** exceed any of the trigger levels stated in **Table D2 – Groundwater quality triggers and limits** or any bores in **Table D1 – Groundwater monitoring locations and frequency** exceed any of the groundwater level trigger threshold stated in **Table D3 – Groundwater level monitoring (ML50232, ML50216 and ML50170)**, the environmental authority holder must compare the compliance monitoring bore results to the interpretation bore results and complete an investigation in accordance with the *ANZECC and ARMCANZ 2000*.
D10	Results of monitoring of groundwater from compliance bores identified in **Table D1 – Groundwater monitoring locations and frequency**, must not exceed any of the limits defined in **Table D2 – Groundwater quality triggers and limits** as a result of mining activity.
D11	Within **two (2) years** of this environmental authority taking effect, the environmental authority holder must submit to the administering authority: a) all contaminant trigger levels listed as TBA in **Table D2 – Groundwater quality triggers and limits**; and b) all levels listed as TBA in **Table D3 – Groundwater level monitoring (ML50232, ML50216 and ML50170)**.

Schedule D: Groundwater

Table D1: Groundwater monitoring locations and frequency (ML50232)

Groundwater Monitoring Bore	Monitoring Bore Type	Aquifer	Location (GDA94 — Zone 56)		Parameter and Monitoring Frequency
			Latitude	Longitude	
84PbR (84P)	Compliance	Main Range Volcanics	27°16’ 37.509”S	151°41’ 25.57”E	Groundwater levels: monthly Groundwater quality: Six monthly to include: Aluminium (Al) Arsenic (As) Calcium (Ca) Selenium (Se) Chloride (Cl) Copper (Cu) Fluorine (F) Iron (Fe), Total Nitrogen (Total N) Potassium (K) Magnesium (Mg) Manganese (Mn) Sodium (Na) Sulphate (SO4) Bicarbonate (HCO3) Total dissolved solids (TDS) Electrical conductivity (EC) Acidity/alkalinity (pH)
10PbR (843)	Compliance	Main Range Volcanics	27°17’ 14.194”S	151°41’ 28.74”E	
BMH1	Compliance	Main Range Volcanics	27°16’ 31.8205”S	151°41’ 01.3574”E	
109P	Interpretation	Main Range Volcanics	27°16’ 30.77”S	151°40’ 8.38”E	
GW05A (1A)	Interpretation	Main Range Volcanics	27°16’ 39.74”S	151°39’ 6.41”E	
GW16A (2A)	Interpretation	Main Range Volcanics	27°17’ 56.21”S	151°38’ 1.14”E	
GW15A (4A)	Interpretation	Main Range Volcanics	27°19’ 51.11”S	151°38’ 0.21”E	
GW11A (7A)	Interpretation	Main Range Volcanics	27°16’ 15.2”S	151°39’ 36.35”E	
GW13B (4B)	Interpretation	Waipanna Coal Sequence	27°19’ 52.67”S	151°38’ 13.5”E	
4517WB (848)	Compliance	Acland Coal Sequence	27°17’ 20.7594”S	151°41’ 05.0394”E	
CSMH1Ra (CSMH1)	Compliance	Acland Coal Sequence	27° 19’ 13.674” S	151° 44’ 23.776” E	
81P	Interpretation	Acland Coal Sequence	27°18’ 02.0176”S	151°44’ 12.6361”E	
82PcR (82P)	Compliance	Acland Coal Sequence	27° 18’ 35.078” S[1]	151° 43’ 21.176” E[1]	
4518WB (83P)	Compliance	Acland Coal Sequence	27°18’ 06.7374”S	151°40’ 47.6733”E	
112PGC	Interpretation	Acland Coal Sequence	27°18’ 58.95”S	151°41’ 33.6”E	
3316_WB	Compliance	Acland Coal Sequence	27° 18’ 50.919” S	151° 42’ 52.792” E	
114P	Interpretation	Acland Coal Sequence	27°19’ 57.96”S	151°42’ 14.86”E	
116P	Interpretation	Acland Coal Sequence	27°20’ 28.27”S	151°43’ 42.43”E	
119PGC	Interpretation	Acland Coal Sequence	27°21’ 25.69”S	151°42’ 6.67”E	
118P (120WB)	Interpretation	Acland Coal	27°19’ 54.11”S	151°39’ 38.52”E	

Schedule D: Groundwater					
		Sequence			
113PGCB (121WB)	Interpretation	Acland Coal Sequence	27°18’ 38.96”S	151°40’ 14.09”E	
GW05B (1B)	Interpretation	Acland Coal Sequence	27°16’ 39.66”S	151°39’ 5.83”E	
GW06B (2B)	Interpretation	Acland Coal Sequence	27°18’ 10.77”S	151°38’ 40.83”E	
GW07B (3B)	Interpretation	Acland Coal Sequence	27°21’ 12.75”S	151°40’ 47.05”E	
GW09B (5B)	Interpretation	Acland Coal Sequence	27°21’ 54.22”S	151°43’ 27.43”E	
GW10 (6)	Interpretation	Acland Coal Sequence	27°20’ 9.01”S	151°44’ 27.12”E	
18PcR (18P)	Interpretation	Balgowan Coal Sequence	27° 16’ 23.101” S	151° 41’ 48.686” E	
25PcR (25P)	Interpretation	Balgowan Coal Sequence	27°16’ 43.1426”S	151°43’ 42.1855”E	
26PcR (26P)	Interpretation	Balgowan Coal Sequence	27°16’ 13.3728”S	151°43’ 46.9456”E	
27PcR (27P)	Interpretation	Balgowan Coal Sequence	27°15’ 54.904”S	151°43’ 14.255”E	
28PcR (28P)	Interpretation	Balgowan Coal Sequence	27°15’ 40.027”S	151°42’ 36.061”E	
2289 Lower (2289P)	Interpretation	Balgowan Coal Sequence	27°15’ 47.9126”S	151°42’ 02.0952”E	
2291P (2291P)	Interpretation	Balgowan Coal Sequence	27°17’ 06.7898”S	151°44’ 03.2127”E	
GW08C (4C)	Interpretation	Marburg Sandstone	27°19’ 22.75”S	151°38’ 37.37”E	
GW09C (5C)	Interpretation	Marburg Sandstone	27°21’ 53.79”S	151°43’ 27.48”E	
GW09A (5A)	Interpretation	Oakey Creek Alluvium	27°21’ 54.64”S	151°43’ 27.36”E	
GW11B (7B)	Interpretation	Marburg Sandstone	27°16’ 20.01”S	151°39’43.16”E	
3307WB (8)	Interpretation	Mine Pit backfill	27°16’ 22.21”S	151°42’ 43.19”E	
Note: The monitoring ID and location of bores as otherwise specified in the approved Groundwater Management and Monitoring Program will be consolidated with those specified in Table D4, with all monitoring bores being confirmed with two years and consequential updates and consolidation to Table D3 and Table D5.					

Table D2: Groundwater quality triggers and limits (ML50232)			
Parameter	**Units**	**Contaminant Limit [1]**	**Monitoring frequency**
Al	mg/l	5.0	Half yearly
As	mg/l	0.05	Half yearly
Ca	mg/l	1000	Half yearly
Se	mg/l	0.02	Half yearly
Cl	mg/l	TBA	Half yearly
Cu	mg/l	1.0 [2]	Half yearly
F	mg/l	TBA [5]	Half yearly
Fe	mg/l	TBA [5]	Half yearly
NO_3	mg/l	400	Half yearly
NO_2	mg/l	30	Half yearly
K	mg/l	TBA [5]	Half yearly
Mg	mg/l	TBA [5]	Half yearly
Mn	mg/l	TBA [5]	Half yearly
Na	mg/l	TBA [5]	Half yearly
SO_4	mg/l	1000	Half yearly
HCO_3	mg/l	TBA [5]	Half yearly
TDS	mg/l	5000 [2,3]	Half yearly
EC	mg/l	7460 [2,3,4]	Half yearly
pH	unit	TBA [5]	Half yearly

NOTE:
[1] Based on Stockwater limits defined in ANZECC (2000).
[2] Defined for beef cattle based on landholder bore survey results.
[3] Existing bores 27P, 28P, 2289 and 118P background levels already exceed this limit prior to mine operation.
[4] Based on EC to TDS conversion factor of 0.67 as per ANZECC (2000).
[5] TBAs to be revised once adequate sampling has been undertaken by the holder which must be completed within 2 years of commencement of this environmental authority to add groundwater bores that measure groundwater quality and the triggers and limits relevant to each bore.

Table D3: Groundwater level monitoring (ML50232, ML50216 and ML50170)		
Monitoring Point	**Level trigger threshold**	**Reference Level**
84PbR (84P)	5.79	TBA
18PbR	4.57	TBA
18PbR2	TBA[1]	TBA
10PbR (843)	5.79	TBA
BMH1	6.14	440
4517WB (848)	TBA[1]	404.5
CSMH1Rb (CSMH1)	3.74	TBA
81Pc (81P)	TBA[1]	412.3
82PcR (82P)	TBA[1]	TBA
4518WB (83P)	TBA[1]	409
111PGC Lower	TBA[1]	TBA

112PGC (122PGC)	TBA[1]	399.2
109P	TBA[1]	TBA
GW05A (1A)	TBA[1]	TBA
GW16A (2A)	TBA[1]	TBA
GW15A (4A)	TBA[1]	TBA
GW11A (7A)	TBA[1]	TBA
GW13B (4B)	TBA[1]	TBA
3316_WB	TBA[1]	TBA
114P	33.12	381.7
116P	23.75	389.6
119PGC	14.46	392
118P (120WB)	15.79	393
113PGCB (121WB)	TBA[1]	TBA
GW05 (1B)	TBA[1]	TBA
GW06 (2B)	TBA[1]	TBA
GW07B (3B)	TBA[1]	TBA
GW09B (5B)	TBA[1]	TBA
GW10 (6)	TBA[1]	TBA
CSMH1RA (CSMH1)	TBA[1]	TBA
18PcR (18 P)	TBA[1]	408.5
25PcR (25P)	TBA[1]	TBA
26PcR (26P)	0.52	434.5
27PcR (27P)	0.11	TBA
28PcR (28P)	0.29	TBA
BCS4	TBA[1]	TBA
132WBR	TBA[1]	TBA
133WBR	TBA[1]	TBA
BCS3	TBA[1]	TBA
2289 Lower (2289P)	TBA[1]	TBA
2291Pc (2291P)	TBA[1]	TBA
GW08C (4C)	TBA[1]	TBA
GW09C (5C)	TBA[1]	TBA
GW09A (5A)	TBA[1]	TBA
LCA1	TBA[1]	TBA
LCA1	TBA[1]	TBA
GW11B (7B)	TBA[1]	TBA
3307WB (9)	TBA[1]	TBA

NOTE: [1] To be provided – Water level trigger thresholds will be proposed following 12 months of monitoring of the new bores and following the first update of the groundwater model prior to the operation of the revised project.

ML50216 and ML50170	
D12	Groundwater quality must be monitored every **six (6) months** at the locations defined in **Table D4 – Groundwater Monitoring Bores (ML50216 and ML50170)** and shown in **Figure D1 – Groundwater monitoring points (ML50216 and ML50170)** for quality characteristics identified in **Table D5 – Groundwater limits (ML50216 and ML50170).**
D13	For new monitoring bores identified in **Table D4 – Groundwater Monitoring Bores (ML50216 and ML50170),** groundwater quality must be monitored every **three (3) months** until **twelve (12) monitoring events** have been completed for quality characteristics identified in **Table D5 – Groundwater limits (ML50216 and ML50170)**.
D14	If the contaminant limits specified in **Table D5 – Groundwater limits (ML50216 and ML50170)** are exceeded at any time at any compliance bore, groundwater quality monitoring as per condition **D10** must occur every **three (3) months**, until such time as no limits have been exceeded on **three (3) consecutive three-monthly monitoring events**. NOTE: Groundwater monitoring can recommence at **six (6) monthly intervals** once **three (3) consecutive three-monthly monitoring events** compliant with the limits set under **Table D5 – Groundwater Limits** have been achieved.
D15	Standing groundwater levels must be monitored monthly at the locations defined in **Table D4 – Groundwater Monitoring Bores (ML50216 and ML50170).**
D16	Results of groundwater quality monitoring, conducted in accordance with conditions **D12**, **D13** and **D14**, must not be exceeded at the same monitoring bore on **three (3) consecutive monitoring events** for any single contaminant limit specified in **Table D5 – Groundwater Limits (ML50216 and ML50170)**.
D17	If the contaminant limits specified in **Table D5 – Groundwater Limits** are exceeded on **three (3) consecutive occasions**, the environmental authority holder must notify the administering authority within **one (1) Business day** of receiving the results.
D18	If bore groundwater levels, monitored under condition **D15**, exceed any of the groundwater level trigger thresholds stated in **Table D3 – Groundwater Limits (ML50232, 50216 and ML50170),** the environmental authority holder must compare the compliance monitoring bores to the interpretation bore results and complete an investigation in accordance with the ANZECC and ARMCANZ 2000.
D19	If an exceedance is determined under condition **D16** or an exceedance is identified in condition **D18**, at any monitoring bore: a) an investigation must be completed and a written report provided to the administering authority within **sixty (60) days** of becoming aware of the exceedance or difference; and b) the report must include a determination of whether the exceedance or difference is caused by: (i) mining activities authorised under this environmental authority; or (ii) natural variation; or (iii) neighbouring land use resulting in groundwater impacts.
D20	If the investigation under condition **D19** determines that the exceedance was a result of the mining activities, including rehabilitation, authorised under this environmental authority, then further investigation must be undertaken to establish whether environmental harm has occurred or may occur, and the extent thereof.
D21	If an investigation undertaken under condition **D19** determines that environmental harm has or may occur, the holder of this environmental authority must: a) implement immediate mitigation measures to reduce the potential for environmental harm; b) develop long-term mitigation measures to address any existing groundwater contamination and prevent recurrence of groundwater contamination which must be implemented in a reasonable time period, and c) provide a report of the completed mitigation measures and proposed long-term mitigation measures to the administering authority within **twenty-eight (28) days** of submission of the report under condition **D19**.

D22	The results of groundwater monitoring conducted under Condition **D7**, Condition **D12**, Condition **D13**, Condition **D14** and Condition **D15** must be submitted to the administering authority via WaTERS by **1 April** each year for the monitoring conducted in the calendar year prior.
D23	The location and Surface RL of new bores, identified in **Table D4 – Groundwater Monitoring Bores (ML50216 and ML50170),** must be provided to the administering authority within **one (1) month** of installation. New monitoring bores must be installed by **28 February 2023**.
Groundwater Monitoring and Management Program	
D24	An updated Groundwater Monitoring and Management Program (GMMP) must be developed by **1 April 2023** and implemented. The GMMP must: a) identify all potential sources of groundwater contamination from mining activities including construction and rehabilitation activities; b) include a hydrogeological conceptual groundwater model; c) identify all environmental values that must be protected; d) include details of groundwater levels in all identified aquifers present across and adjacent to the site to confirm existing groundwater flow paths; e) include estimates of the groundwater inflow to rehabilitated landforms and surface water ingress to groundwater from flooding events using the groundwater model; f) ensure all potential groundwater impacts, including groundwater contamination and groundwater drawdown due to mining activities including construction and rehabilitation activities are identified, monitored, and mitigated; g) ensure adequate groundwater monitoring and data analysis is undertaken to achieve the following objectives: (i) detect any impacts to groundwater level due to the mining activities, including construction and rehabilitation activities; (ii) detect any impacts to groundwater quality due to the mining activities, including construction and rehabilitation activities; (iii) determine compliance with conditions **D14** and **D16**; and (iv) determine trends in groundwater quality; h) include groundwater management and monitoring methodologies that must also be implemented for the duration of all mining activities, including construction and rehabilitation activities; i) include a quality assurance and control program that must also be implemented for the duration of all mining activities, including construction and rehabilitation activities; and j) include a process that must be carried out every **two (2) years** and results in an updated GMMP, that at a minimum includes identification of improvements to the GMMP and addresses any comments provided by the administering authority.
D25	An Annual Groundwater Monitoring Report (AGMR) is required to be completed and submitted to the administering authority on a yearly basis by **1 April** of each year (excluding exploration activities). The AGMR must include: a) the water monitoring data; b) analysis based on applying the groundwater quality and standing water level of all groundwater monitoring bores (including compliance and interpretation) listed within **Table D1: Groundwater monitoring locations and frequency (ML50232)** and **Table D4 – Groundwater Monitoring Bores (ML50216 and ML50170)**; c) an assessment of long-term water quality and water level trends at all groundwater monitoring bores (including compliance and interpretation) listed in **Table D1: Groundwater monitoring locations and frequency (ML50232)** and **Table D4 – Groundwater Monitoring Bores (ML50216 and ML50170)**; d) details of any review undertaken of the groundwater conceptual model; and e) an assessment of any differences between the groundwater level impact predicted and actual impacts for any corresponding period.

D26	Notwithstanding the requirements of conditions **D13** to **D21** (inclusive), groundwater level increases or decreases as measured in monitoring bores, when caused by seepage from Tailings Storage Facility or environmental dam must be notified within **fourteen (14) days** from becoming aware of the cause of the seepage to the administering authority.
D27	The following information must be recorded in relation to all groundwater quality and water level sampling: (a) the date on which the sample was taken; (b) the time at which the sample was taken; (c) the monitoring bore at which the sample was taken; and (d) The results of all monitoring.

Table D4: Groundwater Monitoring Bores (ML50216 and ML50170)

Monitoring Bore	Location		Aquifer	Monitoring Bore Type	Surface RL (m)
	Latitude	Longitude			
10PbR	27°17' 14.194"S	151°41' 28.74"E	Main Range Volcanics	Compliance	437.53
84PbR	27°16' 37.509"S	151°41' 25.57"E	Main Range Volcanics	Compliance	448.21
18PbR	27° 16' 23.336" S	151° 41' 48.809" E	Main Range Volcanics	Interpretation	459.57
18PbR2[1]	27° 16' 26.893" S[1]	151° 41' 37.176" E[1]	Main Range Volcanics	Compliance	TBC[2]
BMH1	27°16' 31.8205"S	151°41' 01.3574"E	Main Range Volcanics	Compliance	454.34
81Pc	27°18' 02.0176"S	151°44' 12.6361"E	Acland Coal Sequence	Interpretation	460.37
82PcR[1]	27° 18' 35.078" S[1]	151° 43' 21.176" E[1]	Acland Coal Sequence	Compliance	TBC[2]
4517WB	27°17' 20.7594"S	151°41' 05.0394"E	Acland Coal Sequence	Compliance	436.07
4518WB	27°18' 06.7374"S	151°40' 47.6733"E	Acland Coal Sequence	Compliance	419.38
111PGC Lower	27° 19' 2.67" S	151° 42' 6.27" E	Acland Coal Sequence	Compliance	430.87
3316_WB	27° 18' 50.919" S	151° 42' 52.792" E	Acland Coal Sequence	Compliance	433.48
2289PcR Lower	27°15' 47.9126"S	151°42' 02.0952"E	Balgowan Coal Sequence	Interpretation	447.14
2291Pc	27°17' 06.7898"S	151°44' 03.2127"E	Balgowan Coal Sequence	Interpretation	461.27
25PcR	27°16' 43.1426"S	151°43' 42.1855"E	Balgowan Coal Sequence	Interpretation	498.04
26PcR	27°16' 13.3728"S	151°43' 46.9456"E	Balgowan Coal Sequence	Interpretation	497.69
27PcR	27°15' 54.904"S	151°43' 14.255"E	Balgowan Coal Sequence	Interpretation	484.42
28PcR	27°15' 40.027"S	151°42' 36.061"E	Balgowan Coal Sequence	Interpretation	456.48
CSMH1Rb	27° 19' 13.674" S	151° 44' 23.776" E	Balgowan Coal Sequence	Compliance	496.91
132WBR[1]	27° 15' 15.315" S[1]	151° 40' 36.199" E[1]	Balgowan Coal Sequence	Interpretation	TBC[2]
133WBR[1]	27° 15' 50.049" S[1]	151° 41' 6.698" E[1]	Balgowan Coal Sequence	Interpretation	TBC[2]
18PcR	27°16' 23.101"S	151°41' 48.686"E	Balgowan Coal Sequence	Interpretation	459.57
18PcR2[1]	27° 16' 26.893" S[1]	151° 41' 37.176" E[1]	Balgowan Coal Sequence	Compliance	TBC[2]
BCS3[1]	27° 17' 21.460" S[1]	151° 41' 5.829" E[1]	Balgowan Coal Sequence	Compliance	TBC[2]
BCS4[1]	27° 19' 2.71" S[1]	151° 42' 7.07" E[1]	Balgowan Coal Sequence	Compliance	TBC[2]
LCA1[1]	27° 18' 14.225" S[1]	151° 40' 55.178" E[1]	Lagoon Creek Alluvium	Compliance	TBC[2]
LCA2[1]	27° 18' 57.523" S[1]	151° 42' 48.176" E[1]	Lagoon Creek Alluvium	Compliance	TBC[2]

NOTE:
[1] New monitoring bore: location approximate and are to be confirmed following drilling and provided under condition **D24**.
[2] Surface elevation and total depth are to be confirmed following drilling and provided under condition **D24**.

Table D5: Groundwater Limits (ML50216 and ML50170)

Location	Quality Characteristic	pH (field)	Electrical Conductivity (Lab)	Fluoride	Sulfate	Aluminium (dissolved)	Arsenic (dissolved)	Copper (dissolved)	Iron (dissolved)	Manganese (dissolved)	Selenium (dissolved)	Nitrate	Bicarbonate, sodium, carbonate, calcium, chloride, potassium, magnesium.
	Limit type	Range	Maximum	Maximum	Maximum	Maximum	Maximum	Maximum	Maximum	Maximum	Maximum	Maximum	Interpretation Only
	Unit	pH units	(µS/cm)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	N/A
84PbR		6.5 -7.5 [A]	2568 [C]	0.2 [F]	338 [F]	0.055 [G]	0.013 [G]	0.0014 [G]	0.05 [C]	0.02 [C]	0.011 [H]	16.9 [C]	N/A
82PcR			9015 [D]	0.8 [D]	134 [D]				0.1 [D]	0.087 [D]		5 [D]	
BCS3													
BCS4													
18PcR2			3456 [E]	0.4 [E]	33 [E]				0.0 7[E]	0.02 [E]		6.6 [E]	
18PbR2													
LCA1													
LCA2													
CSMH1Rb		6 - 8.5 [B]	1703 [F]	0.8 [D]	134 [F]				0.2 [F]	0.087 [D]		5 [D]	
10PbR		6.5 -7.5 [A]	3346 [F]	0.5 [C]	57.7 [F]				0.05 [C]	0.02 [C]		50.7 [F]	
111PGC Lower			6937 [F]	0.1 [F]	309 [F]			0.0024 [F]	4.9 [F]	0.087 [D]		5 [D]	
3316_WB			5629 [F]	0.2 [F]	31 [F]			0.0014 [G]	0.6 [F]	0.23 [F]		5 [D]	
4517WB			3084 [F]	0.33 [F]	35 [F]				0.8 [F]	0.087 [D]		5 [D]	
4518WB			4065 [F]	0.4 [F]	48 [F]			0.033 [F]	1.6 [F]	0.087 [D]		5 [D]	
BHM1		6 - 8.5 [B]	1440 [F]	0.4 [F]	18 [F]			0.0014 [G]	0.22 [F]	0.02 [C]		16.9 [C]	

NOTE:
A ANZECC Aquatic Ecosystem Guideline for South East Australia
B ANZECC Livestock Drinking Water Guidelines
C Lower Condamine Basalt 80th Percentile WQO
D North East Walloons 80th Percentile WQO
E Woolowins near stream 80th Percentile WQO
F 95th percentile site specific value
G ANZECC Aquatic Ecosystem (95-99%) Protection Guideline (ANZG 2018)
H ANZECC Aquatic Ecosystem (95%) Protection Guideline (ANZG 2018)

Schedule E: Sewage Treatment	
E1	All effluent released from the treatment plant must be monitored at the frequency and for the parameters specified in **Table E1 – Sewage effluent quality targets for dust suppression and irrigation**.
E2	Sewage effluent used for dust suppression or irrigation must not cause spray drift or overspray to any sensitive place.
E3	Sewage effluent used for dust suppression or irrigation must not cause spray drift or over spray to any sensitive place, other than the active mining areas within ML50170 and ML50216.
E4	Subject to condition **E5**, sewage effluent from sewage treatment facilities must be reused or evaporated and must not be directly released from the sewage treatment plant to any waterway or drainage line.
E5	In periods of wet weather or following wet weather, when no irrigation of effluent is reasonably practicable and when effluent storage ponds are full, the release of effluent to waters is permitted in accordance with the release limits in **Table C2 – Mine-affected water release limits** and locations specified in **Table C1 – Mine-affected water release points, sources and receiving waters.**
E6	The environmental authority holder must ensure that irrigation of effluent is carried out in such a manner that prevents and/or minimises environmental harm.
E7	The environmental authority holder is authorised to accept treated wastewater from the Wetalla Wastewater Reclamation Facility at a rate of no more than 5500 megalitres per year.

Table E1: Sewage Effluent Quality Targets for Dust Suppression and Irrigation

Contaminant	Units	Release limit	Limit type	Monitoring frequency
5-day Biochemical Oxygen Demand (uninhibited)	mg/L	20	Maximum	Quarterly
Faecal coliforms, based on the average of a minimum of five samples collected	Colonies per 100 ml	1000	Maximum	Quarterly
pH	pH units	6.5 – 8.5	Range	Quarterly
Nitrogen	mg/L	15	Maximum	Quarterly
Phosphorus	Mg/L	10	Maximum	Quarterly

Schedule F: Noise	
Noise Limits	
F1	The environmental authority holder must ensure that noise generated by the mining activities does not cause the criteria in **Table F1 – Noise Limits (includes construction activities)** to be exceeded at a noise sensitive place. The measurement of noise for a noise sensitive place is either: a) At that place (if measured there); or b) At the monitoring location to which the noise sensitive place is correlated (where there is not measure at the noise sensitive place).
F2	If performance or compliance monitoring indicates the potential for exceedance of the relevant limits in **Table F1 – Noise limits (includes construction activities)** then the environmental authority holder must immediately implement noise abatement measures to avoid exceeding the relevant limits.
F3	Notwithstanding any other condition of this environmental authority, noise from the activity must not cause an environmental nuisance at any noise sensitive place as shown in **Figure F1 – Noise Monitoring locations and sensitive places.**

Table F1: Noise Limits (includes construction activities)

Noise level dB(A) measured as	**All days**		
	7am – 6pm	**6pm – 10pm**	**10pm – 7am**
Noise measured at a 'Noise sensitive place'			
L_{Aeq},adj, 15 min [1]	42	35	35
L_{Amax}	-	-	50
L_{Amax} rail spur [2]	-	-	56
L_{Aeq} (24hr) rail spur[2]	-	-	50

NOTE:
[1] All noise other than that which is distinguishable as train noise
[2] Only for noise distinguishable as train noise

Airblast overpressure nuisance	
F3	The environmental authority holder must ensure that blasting does not cause the limits for peak particle velocity and air blast overpressure in **Table F3 – Blasting noise limits** to be exceeded at a noise sensitive place.

Table F3: Blasting noise limits

Blasting Noise limits	**Noise Parameter**	**Monday to Friday: before 7am and after 6pm Saturday: before 9am and after 1pm Sundays and Public Holidays^**
Airblast overpressure	115 dB (linear) peak for 9 out of any 10 consecutive blasts, initiated and not greater than 120dB (Linear) Peak at any time	No blasting
Ground vibration peak particle velocity	5mm/second peak particle velocity for 9 out of 10 consecutive blasts and not greater than 10mm/second peak particle velocity at any time	No blasting

NOTE: ^ Blasting not permitted on Sundays and public holidays

Schedule F: Noise	
Compliance monitoring and reporting	
F4	A Noise Monitoring Program must be developed by a suitably qualified and experienced person in relation to noise and implemented for all stages of mining to monitor compliance with **Table F1 – Noise limits (includes construction noise)** at the frequency and locations in **Table F2 – Compliance noise monitoring locations and frequency** and shown in **Figure F1 – Noise monitoring locations and sensitive places**. The Noise Monitoring Program must include a figure which identifies noise monitoring locations and sensitive places. The Noise Monitoring Program must be submitted to the administering authority for approval within **three (3) months** upon grant of ML50232 and ML700002. The Noise Monitoring Program must be implemented within **three (3) months** of the administering authority approving the program.
F5	When requested by the administering authority, compliance noise monitoring and recording must be undertaken within a reasonable and practicable timeframe to investigate any complaint of environmental nuisance at any noise sensitive place. In response to any such request, the environmental authority holder must undertake continuous monitoring of not less than **seven (7) days** to capture weather-related variations in different operational conditions on site in noise levels and provide the results to the administering authority within **fourteen (14) days** following completion of monitoring.
F6	Compliance noise monitoring and recording required by conditions **F4**, **F5**, **F6, F7** and **F8** must conducted in accordance with the administering authority's Noise Measurement Manual and include the following: a) L_{A01}, adj, 15 min - day, evening & night; L_{A10}, adj, 15 min - day, evening & night; L_{Aeq}, adj, 15 min - day, evening & night and L_{A90}, adj, 15 min - day, evening & night; b) background noise L_{A90}; c) the level and frequency of occurrence of impulsive or tonal noise and any adjustment and penalties to statistical levels; d) atmospheric conditions including temperature, relative humidity and wind speed and directions; e) effects due to any extraneous factors such as traffic noise and natural sources (e.g. insects, birds and wind); f) location, date and time of monitoring; g) if a complaint concerns low frequency noise and where permitted by the owner or occupier of the noise sensitive place: L_{LINeq} 10 min (internal), L_{Aeq} 10 min (internal) and one third octave band measurements in L_{LINeq} 10 min (internal) for centre frequencies in the 10 – 200 Hz range; h) maximum (L_{Amax}) noise levels – night (for a minimum of 30 min); and i) 1/3 octave band spectrums.
F7	The Noise Monitoring Program must also include a system of real time performance monitoring against the criteria in **Table F1 – Noise Limits (including construction activities)** at: a) Location in Acland to be identified in the Noise Monitoring Program; b) Location to the east of the New Acland mine to be identified in the Noise Monitoring Program; c) Location to the north of the New Acland mine to be identified in the Noise Monitoring Program; and d) Location to the west of the New Acland mine to be identified in the Noise Monitoring Program. NOTE: The performance monitoring required under this condition is to be used for performance management and can be used by the administering authority to assess compliance with **Table F1 – Noise limits (includes construction activities).**
F8	The Noise Monitoring Program must consider the application of a safety factor for noise monitoring of the level and frequency of occurrence of impulsive or tonal noise and any adjustments and penalties to statistical levels.

Schedule F: Noise	
F9	An annual noise monitoring program report must be provided to the administering authority that details: a) the correlation measurements between the real-time monitoring system and the noise sensitive receptors; and b) how the real-time monitoring system adjusted the real-time measurement data in accordance with the correlation assessment at each monitoring location.
F10	All real-time performance monitoring parameters required by condition **F7** must be made publicly available for a period of one month, online and in real-time in a format that includes: a) the noise limits; b) L_{Aeq}, adj 15 min interval levels; c) L_{Amax}, 15 min interval levels; and d) exclusion times and a brief statement for the reason for the exclusion.
F11	A Noise and Vibration Management Plan must be developed by a suitably qualified and experienced person and be implemented for all stages of mining within **three (3) months** upon the grant of ML50232 and ML700002.
F12	The Noise and Vibration Management Plan must incorporate a program for continuous improvements for the management of noise emissions caused by mining operations and must include, but is not limited to: a) a detailed description of the noise management system; b) a description of the noise mitigation measures that would be implemented to ensure best practice noise management is being employed, is regularly benchmarked against contemporary industry standards and is regularly reviewed to ensure continual improvement; c) the Noise Monitoring Program described in conditions **F4**, **F5**, **F6** and **Table F2 – Compliance noise monitoring locations and frequency**; d) a comprehensive noise management system that uses a combination of predictive meteorological forecasting and real-time noise monitoring data to guide the day to day planning of mining operations and the implementation of both proactive and reactive mitigation measures to ensure compliance with these conditions, improved understanding of noise data at the monitoring locations in **Table F2 – Compliance noise monitoring locations and frequency** and its correlation with the noise data collected from the locations specified in condition **F6**; e) a protocol for determining exceedances of the conditions that complies with the administering authority's Noise Measurement Manual; f) a protocol for recording and responding to complaints; and g) the content of the monthly compliance report required under Condition 3 of the imposed conditions of the Coordinator-General, including for the provision of data in that report, and a peer review of that content, including blast monitoring results and must include data analysed against the noise limits detailed in **Table F1 – Noise limits (including construction activities)**.
F13	The environmental authority holder must, at their own cost, appoint an independent acoustic consultant to review the monthly noise report format for a **twelve (12) month** period following the commencement of reporting. The monthly reports must be submitted to the administering authority. The monthly reports must be produced to present information from noise monitoring in a manner that is clear, open and unambiguous.

Schedule F: Noise	
F14	Upon receiving a written request from the owner of a noise sensitive place shown in **Figure F1 – Noise monitoring locations and sensitive places** the environmental authority holder must implement additional reasonable and feasible noise mitigation measures at the noise sensitive place in consultation with the owner. If within **three (3) months** of receiving this request, the environmental authority holder and the owner cannot agree on the measures to be implemented, or there is a dispute about the implementation of these measures, then either party may refer the matter to a suitable qualitied and experienced person in relation to the noise appointed by the Chief Executive of the administering authority or the President for the time being of the Institute of Engineers for resolution. The suitably qualified and experienced person's decision as to the mitigation measures to be implemented must be final. The environmental authority holder is responsible for payment of costs of the suitably qualified and experienced person in relation to noise.
F15	The environmental authority holder must develop and implement a blast monitoring program to monitor compliance with **Table F3 – Blasting noise limits** for a) At least 90% of all blasts undertaken on this site in each year at the nearest noise sensitive place to the centroid of the blast; and b) All blasts conducted during any time period specified by the administering authority at the nearest noise sensitive place. Results of the blast monitoring program must be included in the monthly compliance monitoring report required by the Coordinator-General's imposed condition 3.

Table F2 – Compliance noise monitoring locations and frequency

Monitoring locations	**Frequency**
1 (Acland)	Monthly
34 (rail spur), 35 and 38 (or alternative noise sensitive places identified in the Noise Monitoring Program developed pursuant to condition **F4**, **F5**, **F6, F7** and **F8**)	Monthly
4, 8 and 10 (or alternative noise sensitive places identified in the Noise Monitoring Program developed pursuant to condition **F4**, **F5**, **F6, F7** and **F8**)	Monthly
11, 15, 16 (if occupied) and 19 (or alternative noise sensitive places identified in the Noise Monitoring Program developed pursuant to condition **F4**, **F5**, **F6, F7** and **F8**)	Monthly
Seven (7) days unattended monitoring at the above noise sensitive places or alternate locations identified in the Noise Monitoring Program developed pursuant to condition **F4.**	Monthly for first 12 months

Schedule G: Waste Management	
G1	Unless otherwise permitted by the conditions of this environmental authority or with prior approval from the administering authority and in accordance with a relevant standard operating procedure, waste must not be burnt.
G2	The environmental authority holder may burn vegetation cleared in the course of carrying out extraction activities provided the activity does not cause environmental harm at any sensitive place or commercial place.
G3	The environmental authority holder may dispose of inert waste (packing material) associated with blasting into open pits, buried in such a manner that it will not impede saturated aquifers.
G4	Tyres stored awaiting disposal or transport for take-back and, recycling, or waste-to-energy options - should be stockpiled in volumes less than 3m in height and 200m^2 in area and at least 10m from any other tyre storage area.
G5	All reasonable and practicable fire prevention measures must be implemented, including removal of grass and other materials within a 10m radius of the scrap tyre storage area.
G6	Scarp tyres resulting from the mining activities can be disposed of into open pits provided tyres are placed as deeply in the spoil as reasonably possible and this practice does not cause an unacceptable fire risk or compromise mine safety.
G7	Scrap tyres resulting from the mining activities disposed within the operational land must not impede saturated aquifers or compromise the stability of the consolidated landform.
G8	Tailings must be managed in accordance with procedures contained within the Tailings Management Plan, which must include provisions for: a) containment of tailings b) the management of seepage and leachates both during operation and the foreseeable future c) the control of fugitive emissions to air d) maintain records of the relative locations of any other waste stored within the tailings e) rehabilitation strategy f) monitoring of rehabilitation, research and/or trials to verify the requirements and methods for decommissioning and final rehabilitation of tailings, including the prevention and management of acid mine drainage, erosion minimisation and establishment of vegetation cover.
G9	The waste management hierarchy must be considered in the management of green waste.

Schedule H – Land and Rehabilitation	
H1	Land disturbed by mining on ML50232 and ML700002 must be rehabilitated in accordance with **Table H1: Rehabilitation requirements for disturbance within ML50232 and ML700002.**
H2	Rehabilitation must commence progressively as land becomes available for rehabilitation.
H3	The environmental authority holder must implement the Final Land Use and Rehabilitation Plan approved by the Coordinator-General on 19 May 2020 to ensure that all areas disturbed by mining activities will be suitably rehabilitated. The Plan must include, but is not limited to the following: a) disturbance type; b) disturbance area; c) pre and post mine land descriptions; d) pre and post mine land capability; e) analogue site(s) identification; f) a description of rehabilitation management techniques incorporating works and monitoring programs and timetables; g) indicators for success; and h) keeping of appropriate records or rehabilitation measures implemented including taking of photographs demonstrative of rehabilitation achieved and the preparation of annual rehabilitation progress reports.
H4	Rehabilitation of disturbed areas must achieve the following outcomes as detailed in the approved Final Land Use and Rehabilitation Plan: a) For disturbed areas on ML50216 and ML50170 and in locations shown in **Figure H1 – Post-Mine Land Suitability for Improved Pastures on ML50170 and ML50216**: (i) 553ha of Grazing Land Suitability Class 2; (ii) 37ha of Grazing Land Suitability Class 3; (iii) 1598ha of Grazing Land Suitability Class 4; and (iv) 70ha of Grazing Land Suitability Class 5. b) For disturbed areas on ML50232 and ML700002 and in locations shown in **Figure H2 – Post Mine Land Suitability on ML50232**: (i) 678ha of Cropping Land Suitability Class 3; and (ii) 891ha of Grazing Land Suitability Class 4. c) For the mined voids on ML50232, the requirements detailed in **Table H4 – Rehabilitation Outcomes for void areas within ML50232**.
H5	The environmental authority holder must not cause any disturbance within 50m of the high bank of Lagoon Creek (buffer zone) as shown on **Figure H3 – Lagoon Creek, buffer and levee** unless in accordance with **Condition H6 and H7.**
H6	The environmental authority holder is authorised to access the 50 m buffer zone as shown on **Figure H3 – Lagoon Creek, buffer and levee** for the purposes of the construction and maintenance of an appropriately engineered haul road crossing of Lagoon Creek as part of the access route for coal haulage. The haul road crossing of Lagoon Creek must not impede the ephemeral flow regime or create a barrier for fish movement.
H7	The environmental authority holder is authorised to construct and maintain a flood protection levee and access road for inspection purposes, with the tow of the levee being no closer than 50 metres from the high bank of Lagoon Creek as shown on **Figure H3 – Lagoon Creek, buffer and levee.**
H8	The environmental authority holder is authorised to access the 50-metre buffer zone as shown on **Figure H3 – Lagoon Creek, buffer and levee,** for the purposes of maintaining the integrity of the flood protection levee, riparian conservation and weed management purposes.
H9	The flood protection levee must be designed and inspected by a suitably qualified and experienced person. The final design level of the levee crest must be above the predicted 1,000-year ARI event flood level.

Schedule H – Land and Rehabilitation	
H10	Any section of the outside face of the levee must be treated with cover material and grass seeded (unless rock armoured) within three months of completion of the earthworks for that section of the outside face of the levee.
H11	The condition of the levee must at a minimum be assessed: a) by the environmental authority holder within **one (1) week** of any storm of such intensity that greater than 25mm of rain falls in less than three (3) hours; and b) by a suitably qualified and experienced person at least **once (1) per year** between the months of May and October inclusive (i.e., during the 'dry' season and before the onset of the 'wet' season).
H12	Remedial works identified as necessary during assessments conducted under condition **H11** must be commenced within **thirty (30) days** unless delayed by inclement weather.
H13	Any actions and incidents on site that may impact upon the integrity of the levee bank must be notified to the administering authority in accordance with condition **H9.**
Closure and Post Closure	
H14	The environmental authority holder must submit a Mine Closure Plan to the administering authority at least **five (5) years** prior to the surrender of this environmental authority.
H15	When the deposition of tailings ceases, the environmental authority holder must install a final cover system to the Tailings Storage Facility, which effectively minimises: a) infiltration of water into the Tailings Storage Facility; and b) the likelihood of any erosion occurring to either the final cover system, dumped spoil material or deposited tailings;
H16	The final cover system must include an inert layer to reduce infiltration and an upper/final layer of earthen material that is capable of sustaining plant growth.
Sustainable Final Land Use Outcomes	
H17	Areas that are to be progressively rehabilitated must comply with, but not be limited to, the following outcomes: a) All areas disturbed by mining activities must be rehabilitated to the landform design criteria defined in the Final Land Use and Rehabilitation Plan required by conditions **H1** to **H4** (inclusive); and b) The final landforms must be stable with erosion rates comparable to a suitable analogue site.
Grazing Pasture Outcome	
H18	Areas which are to be progressively rehabilitated to grazing pasture must comply with the following outcomes: a) generate a self-sustaining vegetation with projective cover, species composition and species distribution comparable with that of analogue sites to be determined by the study detailed in condition **H3** e.g., planting local native grass and shrub species where possible. These vegetation species must be listed in the Final Land Use and Rehabilitation Plan; b) all areas disturbed by mining activities must be rehabilitated to the landform design criteria defined in **Table H6 – Landform design criteria for ML50170 and ML50216**; c) a measure of productivity (e.g., sustainable dry matter production, stock live weight gain) are comparable to the selected analogue sites detailed in condition **H19**).
H19	Complete an investigation into rehabilitation of disturbed areas and submit a report to the administering authority proposing acceptance criteria to meet the outcomes in condition **H18** and landform design criteria in **Table H6 – Landform design criteria for ML50170 and ML50216** within **twelve (12) months** of the issue of the environmental authority.

Schedule H – Land and Rehabilitation	
H20	A register of certified progressive rehabilitated areas must be maintained by the environmental authority holder and be made available to the administering authority on request. The register must detail: a) Date of Certification; b) Total area certified (hectares); c) Defining coordinates of the certified area (GDA94); d) Identifying map as included in the Certification Notice; and, e) Any other identifying details as required.
Residual Void Outcome for ML50170 and ML50216	
H21	Residual voids must comply with the following outcomes: a) residual voids must not cause any serious environmental harm to land, surface waters or any recognised ground water aquifer, other than the environmental harm constituted by the existence of the residual void itself, and subject to any other condition within this environmental authority; and b) residual voids must comply with **Table H7 – Residual Void Design for ML50170 and ML50216.**

Table H1: Rehabilitation requirements for disturbance within ML50232 and ML700002				
Mine Domain	**Rehabilitation Goal**	**Rehabilitation Objectives**	**Indicators**	**Completion Criteria**
Solid Waste Rock Disposal	Safe	Site safe for humans and animals	Structurally safe and shallow slopes (geotechnically stable). No hazardous materials (geochemically benign).	Monitoring / observation demonstrates safe site
	Non-polluting	No environmental harm attributed to adverse chemical conditions within the waste rock dumps	Minimise erosion (to at least <10t/ha/yr) through selective placement of mine waste, adequate vegetation cover. Runoff and seepage does not cause environmental harm.	Suitable for low intensity grazing. Runoff and discharge water (including seepage) meets specified limits.
	Stable	Minimise erosion	Wastes selectively placed above and below original ground level to agreed slopes. Adequate ground cover established to control erosion. Runoff control measures (contour banks, etc) effective in controlling erosion.	Suitable for low intensity grazing
	Self-sustaining	To return to agreed grazing land capability	Slope and other landform design criteria achieved. Establish adequate vegetation cover.	Refer Table H2 and Table H3
Tailings Dams	Safe	Site safe for humans and animals	Structurally safe (geotechnically stable). Adequate capping. Accessibility to voids is permanently removed.	Monitoring / observation demonstrates safe site
	Non-polluting	Acid mine drainage will not cause environmental harm	Adequately capped. Minimise erosion through adequate vegetation cover to less than 10t/ha/yr. Runoff and seepage controlled by water management.	Monitoring meeting release limits. Suitable for low intensity grazing
	Stable	Minimise erosion	Stored in both pits below natural surface level and in dams above natural surface. Establish adequate vegetation cover.	Monitoring demonstrates revegetation success. No structural erosion present. Suitable for low intensity grazing
	Self-sustaining	To return to agreed grazing land capability	Monitoring demonstrates successful revegetation.	Refer Table H2 and Table H3

Table H1: Rehabilitation requirements for ML50232 and ML700002				
Mine Domain	**Rehabilitation Goal**	**Rehabilitation Objectives**	**Indicators**	**Completion Criteria**
Mine Infrastructure Areas	Safe	Site safe for humans and animals	Hazardous materials removed.	Monitoring / observation demonstrates safe site
	Non-polluting	Undertake contaminated land assessment.	Remediate contamination so that runoff and seepage are of good quality.	Monitoring meeting release limits.
	Stable	Minimise erosion	Remove infrastructure or allow continued use of useful infrastructure. Establish adequate vegetation cover.	Slope will be a maximum of 17° (30%)
	Self-sustaining	To return to agreed grazing land capability	Return to previous use (grazing). Establish adequate groundcover.	Refer Table H2 and Table H3
Linear Infrastructure areas	Safe	Site safe for humans and animals	Structurally safe (geotechnically stable).	Monitoring / observation demonstrates safe site
	Non-polluting	No environmental harm attributed to adverse chemical conditions within the rehabilitation areas.	Runoff and seepage controlled by water management (e.g. dams).	Monitoring meeting release limits
	Stable	Minimise erosion	Remove infrastructure, rip reshape and revegetate or allow continued use of useful infrastructure.	Suitable for low intensity grazing
	Self-sustaining	To return to agreed grazing land capability	Remove infrastructure or allow continued use of useful infrastructure. Establish adequate vegetation cover.	Refer Table H2 and Table H3

Table H2: Rehabilitation acceptance criteria – grazing lands (ML50232)							
Land Suitability Class	**Acceptance Criteria – Grazing Land**						
	Non-polluting	**Stability and Sustainability Land Use**					
	Active Rill / Gully Erosion	**Vegetation Cover**	**Native and Exotic Grass Species Diversity (spp./ha)**	**Slopes**	**Geo-technical Stability**	**Active Rill / Gully Erosion**	**Declared Weeds**
2 to 5	Absence (<10t/ha/yr)	> 50%	≥ 4	Maximum 17°	stable	absence	absence

Table H3: Rehabilitation acceptance criteria – treed areas (ML50232)							
Land Suitability Class	**Acceptance Criteria – Grazing Land Treed Areas**						
	Non-polluting	**Stability and Sustainable Land Use**					
	Active Rill / Gully Erosion	**Vegetation Cover (including tree / shrub canopy)**	**Native Tree / Shrub & Native / Exotic Grass Species Diversity (spp./ha)**	**Slopes**	**Geo-technical Stability**	**Active Rill / Gully Erosion**	**Declared Weeds**
2 to 5	Absence (<10t/ha/yr)	> 50%	Eucalyptus spp. ≥ 2 Acacia spp. ≥ 2 Other tree / shrub spp. ≥ 2 Grass ≥ 3	Maximum 17°	stable	absence	Absence

Table H4: Rehabilitation Outcomes for void areas within ML50232		
Location / Mined Void Name	**Area**	**Rehabilitation Outcome**
Manning Vale West Pit	175ha	Depressed landform and grazing suitability Class 4
Manning Vale East Pit	129ha	Depressed landform and grazing suitability Class 4
Willeroo Pit	302ha	Depressed landform and grazing suitability Class 4

Table H5: Final Land Use and Rehabilitation Approval Schedule – ML50170 and ML50216

	Disturbance Type						
	Residual Voids	**Tailings Dams**	**Recontoured spoil area**	**Waste Rock Dumps**	**Infrastructure & ROM Areas**	**Roads and Tracks**	**Water Supply and Sediment Dams**
Tenure ID	ML50216	ML50170	ML50170 ML50216	ML50216	ML50170	ML50170 ML50216	ML50216
Projective Surface Area (ha)	55	70	740	100	5	5	40
Post mine land use	Possible water storage	Grazing	Grazing	Grazing	Grazing	Grazing	Possible water storage
Post mine land suitability class	5	5	3-4	4	4	4	5

Table H6: Landform design criteria for ML50170 and ML50216

Disturbance Type	Slope Range (%)	Projective Surface Area (ha)
Residual Voids (high wall)	0 - 214 % or 65º	55
Residual Voids (low wall)	0 – 100 % or 45º	
Tailings Dam Top	0 – 20 % or 11.5º *	60
Tailings Dam Wall	0 – 20 % or 11.5º *	10
Recontoured Spoil Area	0 – 20 % or 11.5º *	740
Waste Rock Dumps	0 – 20 % or 11.5º *	100
Infrastructure and ROM areas	0 – 18% or 10º	5
Roads and Tracks	0 – 10 % or 5.7º	5

NOTE: * The slope depends on the vertical height and slope length. See Landform Acceptance Criteria.

Table H7: Residual Void Design for ML50170 and ML50216

Void Identification	Void wall - competent rock slope (%)	Void wall - incompetent rock slope (%)	Void maximum surface area (ha)
Central Pit/South Pit Void	65° or 214%	45° or 100%	55

Schedule I Biodiversity	
I1	The environmental authority holder must ensure that staff induction and environmental awareness programs include reference to *Anomalopus mackayi* (Five-clawed Worm-skink, Long-legged Worm-skink) and *Tympanocryptis pinguicolla* (Grassland Earless Dragon, South-eastern Lined Earless Dragon) to ensure that any individuals that might be present in the project area are identified and reported to the mine site environmental officer for recovery and release into suitable habitat.
I2	The environmental authority holder must develop a Conservation Management Plan, by **21 November 2019**, for the riparian area of Lagoon Creek and existing stands of regional ecosystems (RE) 11.8.5 and RE11.8.3 located on Bottle Tree Hill and submit the plan to the administering authority within twelve months of the date this environmental authority takes effect. The Plan must be for the two proposed conservation areas (Lagoon Creek and Bottle Tree Hill) and: a) ensure the combined surface area to be protected and enhanced is no less than the surface area of the regional ecosystems proposed to be cleared by mining activities on ML50170 and ML50216; b) develop appropriate conservation/rehabilitation objectives; c) outline suitable conservation/rehabilitation techniques (including those areas where local native plant species/communities are to be re-established and/or enhanced); d) develop an action plan/rehabilitation schedule for the planned conservation/rehabilitation activities; e) propose specific conservation/rehabilitation acceptance criteria (including those areas where local native plant species/communities are re-established and/or enhanced); f) detail a suitable monitoring program to quantify conservation/rehabilitation success (including those areas where local native plant species/communities are re-established and/or enhanced); and g) propose appropriate remedial actions for conservation/rehabilitation areas not achieving the required conservation/rehabilitation objectives.
I3	Significant residual impacts to prescribed matters of state environmental significance must not exceed the maximum authorised residual impact area listed for that matter in **Table I1 – Maximum authorised impacts on Matters of State Environmental Significance (MSES).** Note: Deemed conditions in Sections 18, 22, 24 and 25 of the *Environmental Offsets Act 2014* are taken to be conditions of this authority.
I4	The holder of the environmental authority must provide an environmental offset for the maximum significant residual impacts on matters of state environmental significance in accordance with the requirements of the *Environmental Offsets Act 2014* (including deemed conditions), the *Environmental Offsets Regulation 2014* and the Queensland Environmental Offsets Policy.
I5	Significant residual impacts are not authorised on any matters of state environmental significance not identified in **Table I1– Maximum authorised impacts on Matters of State Environmental Significance (MSES).**

Table I1 – Maximum authorised impacts on Matters of State Environmental Significance (MSES)			
Applicable MSES	**Status**	**Maximum area of residual impact (ha)**	**Environmental offset required**
Threatened REs listed under the *Vegetation Management Act 1999*			
11.3.1#	Endangered	2.58	Yes
11.9.5#	Endangered	24.53	Yes
11.3.2	Of concern	4.63	Yes
11.3.17	Of concern	5.11	Yes
11.8.11#	Of concern	34.65	Yes
11.9.10	Of concern	14.36	Yes
11.9.7	Of concern	3.24	Yes
11.9.13	Of concern	3.62	Yes
Watercourse vegetation (11.8.11)	Of concern	6.38	Yes
Threatened Fauna Species listed under the *Nature Conservation Act 1992*			
Koala (*Phascolarctos cinereus*)	Vulnerable	30.96 ha of remnant vegetation and an additional 18.40 ha of NJKHTs*^	Yes
Threatened Flora Species listed under the *Nature Conservation Act 1992*			
Belson's Panic Grass# (*Homopholis belsonii*)	Endangered	70.8	Yes
Austral Cornflower# (*Rhaponticum austral*)	Vulnerable	0.7	Yes

NOTE:
These prescribed environmental values duplicate Matters of National Environmental Significance (MNES) values and, in the event of an *Environment Protection and Biodiversity Conservation Act 1999* decision on the project, offsets for these matters may be conditioned for by the Commonwealth. Further, any offsets conditioned by the Commonwealth are likely to address offsetting for these matters as required by this environmental authority.
* NJKHTs = Non-Juvenile Koala Habitat Trees.
^ Based on the average tree density of 250 trees per hectare for koala habitat in SEQ used in the Queensland Environmental Offsets Policy (v1.8).

Schedule J: Regulated Structures	
Regulated Dams and Levees	
J1	The consequence category of any structure must be assessed by a suitably qualified and experienced person in accordance with the *Manual for Assessing Categories and Hydraulic Performance of Structures (EM635)* at the following times: a) prior to the design and construction of the structure, if it is not an existing structure; or b) if it is an existing structure, prior to the adoption of this schedule; or c) prior to any change in its purpose or the nature of its stored contents.
J2	A consequence assessment report and certification must be prepared for each structure assessed and the report may include a consequence for more than one structure.
J3	Certification must be provided by the suitably qualified and experienced person who undertook the assessment, in the form set out in the *Manual for Assessing Consequences Categories and Hydraulic Performance of Structures (EM635).*
Design and construction of a regulated structure	
J4	Conditions **J5** to **J9** inclusive do not apply to existing structures.
J5	All regulated structures must be designed by and constructed under the supervision of a suitably qualified and experienced person in accordance with the requirements of the *Manual for Assessing Consequence Categories and Hydraulic Performance of Structures (EM635)*.
J6	Construction of a regulated structure is prohibited unless the environmental authority holder has submitted a consequence category assessment report and certification to the administering authority has been certified by a suitably qualified and experienced person for the design and the design plan and the associated operating procedures in compliance with the relevant condition of this authority.
J7	Certification must be provided by the suitably qualified and experienced person who oversees the preparation of the design plan set out in the *Manual for Assessing Consequence Categories and Hydraulic Performance of Structures (EM635)* and must be recorded in the Register of Regulated Structures.
J8	Regulated structures must: a) be designed and constructed in accordance with and conform to the requirements of the *Manual for Assessing Consequence Categories and Hydraulic Performance of Structures (EM635)*; b) be designed and constructed with due consideration given to ensuring that the design integrity would not be compromised on account of: (i) floodwaters from entering the regulated structure from any watercourse or drainage line; and (ii) wall failure due to erosion by floodwaters arising from any watercourse or drainage line. c) have the floor and sides of the structure designed and constructed to prevent or minimise the passage of the wetting front and any entrained contaminants through either the floor or sides of the dam during the operational life of the dam and for any period of decommissioning and rehabilitation of the dam.
J9	Certification by the suitably qualified and experienced person who supervises the construction must be submitted to the administering authority on the completion of construction of the regulated structure and state that: a) the 'as constructed' drawings and specifications meet the original intent of the design plan for that regulated structure; b) construction of the regulated structure is in accordance with the design plan.

Schedule J: Regulated Structures	
Operation of a regulated structure	
J10	Operation of a regulated structure, except for an existing structure, is prohibited unless the holder has submitted to the administering authority: a) one paper copy and one electronic copy of the design plan and certification of the 'design plan' in accordance with condition **J6**; b) a set of 'as constructed' drawings and specifications; c) certification of those 'as constructed drawings and specifications' in accordance with condition **J9**; d) where the regulated structure is to be managed as part of an integrated containment system for the purpose of sharing the Design Storage Allowance (DSA) volume across the system, a copy of the certified system design plan; e) the requirements of this authority relating to the construction of the regulated structure have been met; f) the holder has entered the details required under this authority into a Register of Regulated Structures; and g) there is a current operational plan for the regulated structures.
J11	For existing structures that are regulated structures: a) where the existing structure that is a regulated structure is to be managed as part of an integrated containment system for the purposes of sharing DSA volume across the system, the holder must submit to the administering authority within 12 months of the commencement of this condition a copy of the certified system design plan including that structure; and b) there must be a current operational plan for the existing structures.
J12	Each regulated structure must be maintained and operated for the duration of its operational life until decommissioned and rehabilitated in a manner that is consistent with the current operational plan and if applicable the current design plan and associated certified 'as constructed' drawings.
Mandatory reporting level	
J15	Conditions **J16** to **J19** inclusive apply to regulated dams which have not been certified as low consequence category for 'failure to contain – overtopping'.
J16	The Mandatory Reporting Level (MRL) must be marked on a regulated dam in such a way that during routine inspections of the dam it is clearly observable.
J17	The environmental authority holder must, as soon as practical and within **forty-eight (48) hours** of becoming aware, notify the administering authority when the level of the contents of a regulated dam reaches the MRL.
J18	The environmental authority holder must, immediately on becoming aware that the MRL has been reached, act to prevent the occurrence on any unauthorised discharges from the regulated dam.
J19	The environmental authority holder must record any changes to the MRL in the Register of Regulated Structures.
Design storage allowance	
J20	The environmental authority holder must assess the performance of each regulated dam or linked containment system over the preceding November to May period based on actual observations of the available storage in each regulated dam or linked containment system taken prior to **1 July** of each year.
J21	By **1 November** of each year, storage capacity must be available in each regulated dam (or network of linked containment systems with a shared DSA volume) to meet the DSA volume of the dam (or network of linked containment systems).
J22	The environmental authority holder must, as soon as possible and within **forty-eight (48) hours** of becoming aware that the regulated dam (or network of linked containment system) will not have the available storage to meet the DSA volume on **1 November** of any year, notify the administering authority.

Schedule J: Regulated Structures	
J23	The environmental authority holder must, immediately on becoming aware that a regulated dam (or network of linked containment systems) will not have the available storage to meet the DSA volume on **1 November** of any year, act to prevent the occurrence of any unauthorised discharge from the regulated dam or linked containment systems.
Annual inspection report	
J24	Each regulated structure must be inspected each calendar year by a suitably qualified and experienced person.
J25	At each inspection the condition and adequacy of all components of the regulated structure must be assessed and a suitably qualified and experienced person must prepare an annual inspection report containing details of the assessment and include recommended actions to ensure the integrity of the regulated structure.
J26	The suitably qualified and experienced person who prepared the annual inspection report must certify the report in accordance with the *Manual for Assessing Consequence Categories and Hydraulic Performance of Structures (EM635)*.
J27	The environmental authority holder must: a) Within **twenty (20) business days** of receipt of the annual inspection report provide to the administering authority: (i) the recommendation section of the annual inspection report; and (ii) if applicable, any actions being taken in response to those recommendations; and b) If, following receipt of the recommendations and (if applicable) actions, the administering authority requests a full copy of the annual inspection report from the environmental authority holder, provide this information to the administering authority within **ten (10) business days** of receipt of the request.
Transfer arrangements	
J28	The environmental authority holder must provide a copy of any reports, documentation and certifications prepared under this authority, including but not limited to and Register of Regulated Structures, consequence assessment, design plan and other supporting documentation, to a new holder on transfer of this environmental authority.
Decommissioning and rehabilitation	
J29	Dams must not be abandoned but be either: a) decommissioned and rehabilitated to achieve compliance with condition **J30**; or b) be left in-situ for a beneficial use(s) provided that: (i) it no longer contains contaminants that will migrate into the environment; and (ii) it contains water of a quality that is demonstrated to be suitable for the intended beneficial use(s); and (iii) the administrating authority, the environmental authority holder and the landholder agree in writing that the dam will be used by the landholder following cessation of the resource activity.

Schedule J: Regulated Structures	
J30	After decommissioning, all significantly disturbed land caused by carrying out of the resource activity must be rehabilitated to meet the final acceptance criteria: a) the landform is safe for humans and fauna; b) the landform is stable with no subsidence of erosion gullies for at least **three (3) years**; c) any contaminated land (e.g. contaminated soils) is remediated and rehabilitated; d) not allowing for acid mine drainage; or e) there is no ongoing contamination to waters (including groundwater); f) all significantly disturbed land is reinstated as defined in **Table H4 – Rehabilitation requirements for disturbance on ML**; g) for land that is not being cultivated by the landholder: (i) groundcover, that is not a declared pest species is established and self-sustaining; (ii) vegetation of similar species richness and species diversity to pre-selected analogue sites is established and self-sustaining; and (iii) the maintenance requirements for rehabilitated land are no greater than that required for the land prior to its disturbance caused by carrying out of the resource activity. h) for land that is cultivated by the landowner, cover crop is revegetated, unless the landholder will be preparing the site for cropping within **three (3) months** of resource activities being completed.
Register of Regulated Structures	
J31	A Register of Regulated Structures must be established and maintained by the environmental authority holder for each regulated structure.
J32	The environmental authority holder must provisionally enter the required information in the Register of Regulated Structures when a design plan for a regulated dam is submitted to the administering authority.
J33	The environmental authority holder must make a final entry of the required information in the Register of Regulated Structures once compliance with condition **J10** and **J11** has been achieved.
J34	The environmental authority holder must ensure that the information contained in the Register of Regulated Structures is current and complete on any given day.
J35	All entries in the Register of Regulated Structures must be approved by the chief executive officer for the environmental authority holder, or the delegate, as being accurate and correct.
J36	The environmental authority holder must, at the same time as providing the annual return, supply to the administering authority a copy of the records contained in the Register of Regulated Structures, in the electronic format required by the administering authority.
Contaminated Land	
J37	Before applying for surrender of a mining lease, the environmental authority holder must (if applicable) provide to the administering authority a site investigation report under the Act, in relation to any part of the mining lease which has been used for notifiable activities or which the holder is aware is likely to be contaminated land, and also carry out any further work that is required as a result of that report to ensure that the land is suitable for its final land use.
J38	Before applying for progressive rehabilitation certification for an area, the environmental authority holder must (if applicable) provide to the administering authority a site investigation report under the Act, in relation to any part of the area the subject of the application which has been used for notifiable activities or which the environmental authority holder is aware is likely to be contaminated land, and also carry out any further work that is required as a result of that report to ensure that the land is suitable for its final land use under conditions **H1 to H4**.
J39	Minimise the potential for contamination of land by hazardous contaminants.

Schedule K: Light	
Condition number	**Condition**
K1	Subject to condition **K2**, the emission of light resulting from the mining activity must not cause an environmental nuisance at any sensitive place.
K2	When requested by the administering authority, an assessment of the light nuisance* must be undertaken within a reasonable and practicable timeframe nominated by the administering authority to investigate any compliant (with in neither frivolous nor vexatious based on mistaken belief in the opinion of the authorised officer) of environmental nuisance at any sensitive place, and the results must be notified within **fourteen (14) days** of the administering authority following completion of the assessment. NOTE: * Assessment to be conducted according to and with reference to the limits specified in *AS 4282-2019 Control of the Obtrusive Effects of Outdoor Lights*.
K3	If the assessment indicates condition **K1** is not being met then the environmental authority holder must: a) address the complaint including the use of appropriate dispute resolution if requires; or b) immediately implement light abatement measures so the emissions of light from the activity do not result in further environmental nuisance.

DEFINITIONS	
Words and phrases used throughout these conditions are defined below. Where a definition for a term is not provided, but is provided in the EP Act or subordinate legislation, the definition in the EP Act or subordinate legislation must be used.	
µg/L	means micrograms per litre
50th percentile	means that the measured values of the quality characteristic must not be greater than the release limit for any more than three out of six consecutive samples where the time interval between the taking of each consecutive sample is not less than three days.
80th percentile	means that the measured values of the quality characteristic must not be greater than the release limit for any more than one out of five consecutive samples where the time interval between the taking of each consecutive sample is not less than three days.
acceptance criteria	means the measures by which actions implemented are deemed to be complete. The acceptance criteria indicate the success of the decommissioning and rehabilitation outcomes or remediation of areas which have been significantly been disturbed by the mining activities. Acceptance criteria may include information regarding: a) stability of final landforms in terms of settlement, erosion, weathering, pondage, and drainage; b) control of geochemical and contaminant transport processes; c) quality of runoff waters and potential impact on receiving environment; d) vegetation establishment, survival, and succession; e) vegetation productivity, sustained growth, and structure development; f) fauna colonisation and habitat development; g) ecosystem processes such as soil development and nutrient cycling, and the recolonisation of specific fauna groups such as collembola, mites and termites which are involved in these processes; h) microbiological studies including recolonisation by mycorrhizal fungi, microbial biomass, and respiration; i) effects of various establishment treatments such as deep ripping, topsoil handling, seeding and fertiliser application on vegetation growth and development; j) resilience of vegetation to disease, insect attack, drought, and fire; k) vegetation water use and effects on ground water levels and catchment yields.
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.
Act	means the *Environmental Protection Act 1994*.
administering authority	means the Environmental Protection Agency or its successor.
Affected person	means someone whose drinking water can potentially be impacted as a result of discharges from a dam or their life can be put at risk due to dwellings or workplaces being in the path of a dam break flood.
airblast overpressure	is energy transmitted from the blast site within the atmosphere in the form of pressure waves, consisting of both audible (noise) and inaudible (concussion) energy. The maximum excess pressure in this wave, above ambient pressure is the peak airblast overpressure measured in decibels linear (dBL).
ambient (or total) noise	at a place, means the level of noise at the place from all sources (near and far), measured as the Leq for an appropriate time interval.
annual exceedance probability or AEP	means the probability that the given event will be exceeded within a one-year period.

DEFINITIONS	
annual inspection report	an assessment prepared by a suitably qualified and experienced person containing details of the assessment against the most recent consequence assessment report and design plan (or system design plan): a) against recommendations contained in the previous annual inspections reports; b) against recognised dam safety deficiency indicators; c) for changes in circumstances potentially leading to a change in consequence category; d) for conformance with the conditions of this authority; e) for conformance with the 'as constructed' drawings; f) for the adequacy of the available storage in each regulated dam, based on an actual observation or observations taken after 31 May each year but prior to 1 November of that years, of accumulated sediment, state of the containment barrier and the level of liquids in the dam (or network of linked containment systems); g) for evidence of conformance with the current operational plan.
appropriately qualified person	means a person who has professional qualifications, training, skills or experience relevant to the nominated subject matter and can give authoritative assessment, advice and analysis on performance relating to the subject matter using the relevant protocols, standards, methods or literature.
ARD	means acid rock drainage and refers to the low pH, high heavy metal pollutant typical of sulphidic mine wastes, and most commonly associated with the production of ferrous iron and sulphuric acid through the "oxidation of sulphide minerals.
assessed or assessment by a suitably qualified and experience person	in relation to a consequence assessment of a dam means a statutory declaration has been made by that person and, when taken together with any attached or appended documents referenced in that declaration, all of the following aspects are addressed and are sufficient to allow an independent audit of the assessment: a) exactly what has been assessed and the precise nature of that determination; b) the relevant legislative, regulatory and technical criteria on which the assessment has been based; c) the relevant data and facts on which the assessment has been based, the source of that material, and the efforts made to obtain all relevant data and facts; and d) the reasoning on which the assessment has been based using the relevant data and facts, and the relevant criteria.
associated works in relation to a dam	means operations of any king and all things constructed, erected or installed for that dam; and Any land used for those operations.
authority	means environmental authority under the *Environmental Protection Act 1994* or a development approval.
background noise level	means noise, measured in the absence of the noise under investigation, as either: a) L A90,T being the A-weighted sound pressure level exceeded for 90 percent of the time period of not less than 15 minutes, using Fast response, or b) L LAbg,T being the arithmetic average of the minimum readings during a representative time period of not less than 15 minutes, using Fast response.
Background	means with reference to the average of samples taken prior to the commencement of the mining from the same waterway that the current sample

DEFINITIONS	
	has been taken.
blasting	means the use of explosive materials to fracture- a) rock, coal, and other minerals for later recovery; or b) structural components or other items to facilitate removal from a site or for reuse.
Certification	means assessment and approval must be undertaken by a suitably qualified and experienced person in relation to any assessment or documentation required by the Manual (Manual for Assessing Categories and Hydraulic Performance of Structures (EM635)), including design plans, 'as constructed' drawings and specifications, construction, operation or an annual report regarding regulated structures, undertaken in accordance with the Board of Professional Engineers of Queensland Policy Certification by RPEQs (ID:1.4 (2A)).
Certifying, certify or certified	a corresponding meaning as certification
Certification Notice	means notice as issued under section 318ZJ of the EP Act for a certified progressive rehabilitation area.
certified progressive rehabilitation area	means area of rehabilitation that has been certified under Part 6 Chapter 5A the EP Act and issued a notice under section 318ZJ of the EP Act.
chemical	• an agricultural chemical product or veterinary chemical product within the meaning of the *Agricultural and Veterinary Chemical Code Act 1994* (Commonwealth); or • a dangerous good under the Australian Code for the Transport of Dangerous Goods by Road and Rail approved by the Australian Transport Council; or • a lead hazardous substance within the meaning of the *Workplace Health and Safety Regulation 1997*; • a drug or poison in the Standard for the Uniform Scheduling of Drugs and Poisons prepared by the Australian Health Ministers Advisory Council and published by the Commonwealth; or • any substance used as, intended for use as: o a pesticide, insecticide, fungicide, herbicide, rodenticide, nematocide, miticide, fumigant, or related product; or o a surface active agent, including, for example, soap or related detergent; or o a paint solvent, pigment, dye, printing ink, industrial polish, adhesive, sealant, food additive, bleach, sanitiser, disinfectant, or biocide; or o a fertiliser for agricultural, horticultural or garden use; or o a substance used for, or intended for use for mineral processing or treatment of metal, pulp and paper, textile, timber, water of wastewater; or o manufacture of plastic or synthetic rubber.
commercial place	means a workplace used as an office or for business or commercial purposes, which is not part of the mining activity and does not include employees accommodation or public roads.
Consequence	in relation to a structure as defined means the potential for environmental harm resulting from the collapse or failure of the structure to perform its primary purposed of containing, diverting or controlling flowable substances.
Consequence category	means a category, either low, significant or high, into which a dam is assessed as a result of the application of tables and other criteria in the Manual for Assessing Consequence Categories and Hydraulic Performance of Structures

DEFINITIONS	
	(EM635).
construction or constructed	in relation to a dam includes building a new dam and modifying or lifting an existing dam, but does not include investigations and testing necessary for the purposed of preparing a design plan.
dam	means a land-based structure or a void that contains, diverts or controls flowable substances, and includes any substances that are thereby contained, diverted or controlled by that land-based structure or void and associated works.
dam crest volume	means the volume of material (liquids and/or solids) that could be within the walls of a dam at any time when the upper level of that material is at the crest level of that dam. That is, the instantaneous maximum volume within the walls, without regard to flows entering or leaving (for example, via spillway).
dB (Linear) Peak	is 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.
design plan	means a document setting out how all identified consequence scenarios are addressed in the planned design and operation of a regulated structure
design plan in the context of a dam design	is the documentation required under the Code of Environmental Compliance for High Hazard Dams Containing Hazardous Waste to describe the physical dimensions of the dam, the materials and standards to be used for construction of the dam, the procedures and criteria to be used for operating the dam and the decommissioning and rehabilitation objectives in terms procedures, works and outcomes at the end of dam life, The documents can include design and investigation reports, drawings, specifications and certifications.
design storage allowance or DSA	means an available volume, estimated in accordance with the Manual for Assessing Consequence Categories and Hydraulic Performance of Structures (EM635) published by the administering authority, must be provided in a dam as at 1 November each year in order to prevent a discharge from that dam to an **annual exceedance probability** (AEP) specified in the Manual.
declared plant	means a plant that has been declared under *the Rural Lands Protection Act 1985*.
designer	for the purposed of a regulated dam means the certifier of the design plan for the regulated dam.
development approval	means a development approval under the *Integrated Planning Act 1997* or the *Sustainable Planning Act 2009* in relation to a matter that involves an environmentally relevant activity under the *Environmental Protection Act 1994*.
disturbance of land	includes: a) compacting, removing, covering, exposing or stockpiling of earth; b) removal or destruction of vegetation or topsoil or both to an extent where the land has been made susceptible to erosion; c) carrying out mining within a watercourse, waterway, wetland or lake; d) the submersion of areas by tailings or hazardous contaminant storage and dam/structure walls; e) temporary infrastructure, including any infrastructure (roads, tracks, bridges, culverts, dam/structure, bores, buildings, fixed machinery, hardstand areas, airstrips, helipads etc.) which to be removed after the mining activity has ceased; or f) releasing of contaminants into the soil, or underlying geological strata. However, the following areas are not included when calculating areas of disturbance:

DEFINITIONS	
	a) areas off lease (e.g. roads or tracks which provide access to the mining lease); b) areas previously disturbed which have achieved the rehabilitation outcomes; c) by agreement with the administering authority, areas previously disturbed which have not achieved the rehabilitation objective(s) due to circumstances beyond the control of the mine operator (such as climatic conditions); d) areas under permanent infrastructure. Permanent infrastructure includes any infrastructure, (roads, tracks, bridges, culverts, dam/structures, bores, buildings, fixed machinery, hardstand areas, airstrips helipads etc) which is to be left by agreement with the landowner; e) disturbance that pre-existed the grant of the tenure.
EC	means electrical conductivity
effluent	means treated waste water released from sewage treatment plants.
emergency action plan	means documentation forming part of the operational plan held by the environmental authority holder and/or a nominated responsible officer, that identifies emergency conditions that sets out procedures and actions that will be followed and taken by the dam owner and operation personnel in the event of an emergency. The actions are to minimise the risk and consequences of failure and ensure timely warning to downstream communities and the implementation of protection measures. The plan must require dam owners to annually updated contact.
environmental authority holder	means the environmental authority holder. a) where this document is an environmental authority, any person who is the holder of, or is acting under, that environmental authority.
environmental nuisance	is unreasonable interference or likely interference with an environmental value caused by: a) noise, dust, odour, light; or b) an unhealthy, offensive, or unsightly condition because of contamination; or c) another way prescribed by regulation.
existing structure	means a structure that was in existence prior to the adoption of this schedule of conditions under the environmental authority
Extreme Storm Storage	means a storm storage allowance determined in accordance with the criteria in the Manual for Assessing Consequence Categories and Hydraulic Performance of Structures (EM635) published by the administering authority.
flowable substance	means matter or mixture of materials which can be flow under any conditions potentially affecting that substance. Constituents of a flowable substance can include water, other liquid fluids or solids, or a mixture that includes water and any other liquids, fluids or solids either in solution or suspension.
foreseeable future	is the period used for assessing the total risk of an event occurring. Permanent structures and ecological sustainability should be expected to still exist at the end of a 150-year foreseeable future with an acceptable risk of failure before that time.
hazard category	means a category, either low, significant or high, into which a dam is assessed as a result of the application of tables and other criteria in Manual for Assessing Hazard Categories and Hydraulic Performance of Dams.
hazardous waste	means any substance, whether liquid, solid or gaseous, derived by or resulting from, the processing of minerals that tends to destroy life or impair or endanger health.

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high hazard dam	**means** a dam defined as high hazard in the EPA Information Sheet on Determining Dams Containing Hazardous Waste.
hydraulic performance	means the capacity of a regulated dam to contain or safely pass flowable substances based on the design criteria specified for the relevant consequence category in the *Manual for Assessing Consequence Categories and Hydraulic Performance of Structures (EM635).*
infrastructure	means water storage dams, roads and tracks, buildings and other structures built for the purpose of mining activity.
LAmax	means the maximum A-weighted sound pressure level measured over a time period of not less than 15 minutes, using Fast response.
LAeq adj,15 min intervals	means A-weighted equivalent continuous sound level over 15 minute intervals
LAr, 1 hour	means the specific noise level measured as the A-weighted equivalent continuous noise level (LAeq) plus any adjustment for the character of the noise (tonal and/or impulsive) determined over a reference time period of one hour.
LA_{10} adj,15 min	means A-weighted, sound level just exceeded for 10% of the 15 minute period.
land	in the "land Schedule" of this document means land excluding waters and the atmosphere.
land capability	as defined in the DME 1995 Technical Guidelines for the Environmental Management of Exploration and Mining in Queensland.
land suitability	as defined in the DME 1995 Technical Guidelines for the Environmental Management of Exploration and Mining in Queensland
"land use	mean the selected post mining use of the land, which is planned to occur after the cessation of mining operations
leachate	means a liquid that has passed through or emerged from or is likely to have passed through or emerged from, a material stored, processed, or disposed of at the operational land which contains soluble, suspended or miscible contaminants likely to have been derived from the said material.
levee	means an embankment that only provides for the containment and diversion of stormwater or flood flows from a contributing catchment, or containment and diversion of flowable materials resulting from releases from other works, during the progress of those stormwater or flood flows or those releases; and does not store any significant volume of **water** or **flowable substances** at any other times.
licensed place	means the mining activities carried out at the mining tenements detailed in this environmental authority.
low consequence dam	means any dam that is not a high or significant consequence category as assessed using the Manual for Assessing Consequence Categories and Hydraulic Performance of Structures (EM635).
m	means metres
mandatory reporting level or MRL	means a warning and reporting level determined in accordance with a criteria in the *Manual for Assessing Consequence Categories and Hydraulic Performance of Structures (EM635)* published by the administering authority.
manual	means the *Manual for Assessing Consequence Categories and Hydraulic Performance of Structures (EM635)* published by the administering authority
Maximum Instantaneous Charge (MIC)	is the maximum amount of explosive on any one specific delay detonator in any one blast hole.

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maximum	means that the measured value of the quality characteristic or contaminant must not be greater than the release limit stated.
MaxLpA,T	means the maximum A-weighted sound pressure level measured over a time period of not less than 15 minutes, using Fast response.
measures	includes any measures to prevent or minimise environmental impacts of the mining activity such as bunds, silt fences, diversion drains, capping and containment systems.
median	means the middle value, where half the data are smaller, and half the data are larger. If the number of samples is even, the median is the arithmetic average of the two middle values.
µS/cm	means microsiemens per centimetre.
mg/kg	means milligrams per kilogram.
mg/L	means milligrams per litre.
mine-affected water	means the following types of water: a) Pit water, tailings dam water, processing plant water; b) Water contaminated by a mining activity which would have been an environmentally relevant activity under Schedule 2 of the Environmental Protection Regulation 2008 if it had not formed part of the mining activity; c) Rainfall runoff which has been in contact with any areas disturbed by mining activities which have not yet been rehabilitated, excluding rainfall runoff discharging through release points associated with erosion and sediment control structures that have been installed in accordance with the standards and requirements of an Erosion and Sediment Control Plan to manage such runoff, provided that this water has not been mixed with pit water, tailings dam water, processing plant water or workshop water; d) Groundwater which has been in contact with any areas disturbed by mining activities which have not yet been rehabilitated; e) Groundwater from the mines dewatering activities; f) A mix of mine affected water (under any of the paragraphs I-v), above, and other water. Does not include surface water runoff which, to the extent that it has been in contact with areas disturbed by mining activities that have not yet been completely rehabilitated, has only been in contact with: a) Land that has been rehabilitated to a stable landform and either capped or revegetated in accordance with the acceptance criteria set out in the environmental authority but only still awaiting maintenance and monitoring of the rehabilitation over a specified period of time to demonstrate rehabilitation success; or b) Land that has partially been rehabilitated and monitoring demonstrates the relevant part of the landform with which water has been in contact does not cause environmental harm to waters or groundwater, for example: (i) Areas that have been capped and have monitoring data demonstrating hazardous material adequately contained within the site; (ii) Evidence provided through monitoring that the relevant surface water would have met the water quality parameters for mine affected water release limits in this environmental authority, if those parameters had been applicable to the surface water runoff; or (iii) Both.
minimum	means that the measured value of the quality characteristic or contaminant must not be less than the release limit stated.
minor infrastructure	means low impact infrastructure ancillary to mining and includes culverts,

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	monitoring bores, disturbance for rehabilitation activities; low impact telecommunication infrastructure, electricity infrastructure up to 11 kilovolts, fences, environmental monitoring infrastructure, pipelines, underground services, access tracks, and roads for light vehicles, constructed and operated for the purposes of the mining activities represented in Figure A1 – Project overview
modification or **modifying**	see definition of construction
monitoring bore	mean compliance or interpretation bores a) **Compliance bore** – a groundwater monitoring bore subject to compliance requirements for both groundwater quality and level. b) **Interpretation bore** – a groundwater monitoring bore used for comparative and interpretative purposes as against the compliance bore to represent natural background quality and levels. Locations for interpretation bores must be selected such that they will not be impacted by mining activities.
NATA	means National Association of Testing Authorities, Australia
natural flow	means the flow of water through waters caused by nature.
ng/L	means nanograms per litre.
noise sensitive place	means: • a legal dwelling, caravan park, residential marina, or other residential premises; or • a motel, hotel, or hostel; or • a kindergarten, school, university, or other educational institution; or • a medical centre or hospital; or • a protected area; or • a public park or gardens. • and includes the curtilage of any such place. But does not include: a) places that are within the boundaries of the mining lease; or b) places that are owned or leased by the environmental authority holders or its related companies; or c) places for which an agreement has been entered into between the environmental authority holder and the owner of the place for the provision of alternative measures to mitigate impacts of mining activities for the Stage 3 New Acland Mine Project at the place, where those measures are reasonably expected to result in noise levels experienced at the place that are consistent with the relevant limits in **Table D1- Noise limits (includes construction activities).**
non-polluting	means having no adverse impacts upon the receiving environment.
noxious	means harmful or injurious to health or physical wellbeing, other than trivial harm.
offensive	means causing unreasonable offence or displeasure; is unreasonably disagreeable to the sense; disgusting, nauseous or repulsive, other than trivial harm.
operational plan	includes: a) normal operating procedures and rules (including clear documentation and definition of process inputs in the DSA allowance); b) contingency and emergency actions plans including operating procedures designed to avoid and/or minimise environmental impacts including threats to human life resulting from any overtopping or loss of structural integrity of

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	the regulated structure.
peak particle velocity (ppv)	means a measure of ground vibration magnitude which is the maximum rate of change of ground displacement with time, usually measured in millimetres/second (mm/s).
percent slope	means is simply the slope of a line displayed as a percentage instead of a ratio of rise to run
protected area	means: a) a protected area under the *Nature Conservation Act 1992*; or b) a marine park under *the Marine Parks Act 1992*; or c) a World Heritage Area.
progressive rehabilitation	means rehabilitation (defined below) undertaken progressively OR a staged approach to rehabilitation as mining operations are ongoing.
range	means that the measured value of the quality characteristic or contaminant must not be greater than the higher release limit stated nor lower than the lower release limit stated.
receiving environment	in relation to an activity that causes or may cause environmental harm means that part of the environment to which the harm is, or may be, caused. The receiving environment includes (but is not limited to) a) a watercourse; b) groundwater; and c) an area of land.
receiving waters	means the waters into which this environmental authority authorises releases of mine affected water.
Register of Regulated Structures	includes: a) Date of entry in the register; b) Name of the structure, its purpose and intended/actual contents; *c)* The consequence category of the structure as assesses using the *Manual for Assessing Consequence Categories and Hydraulic Performance of Structures (EM635);* *d)* Dates, names and reference for the design plan plus dates, names and reference numbers of all document(s) lodged as part of a design plan for the structure; *e)* Name and qualifications of the suitably qualified and experienced person who certified the design plan and as constructed drawings; For regulated dams only- *a) The dimensions (metres) and surface area (hectares) of the dam measured at the footprint of the dam;* *b) Coordinates (latitude and longitude in GDA 94) within five metres at any point from the outside of the dam including the storage area* *c) Dam crest volume (megalitres);* *d) Spillway crest level (metres AHD);* *e) Maximum operating level (metres AHD);* *f) Storage rating table of stored volume versus level (metres AHD);* *g) Design storage allowance (megalitres) and associated level of the dam (metres AHD);* *h)* The design plan title and reference relevant to the dam; *i)* The date construction was certified as compliant with the design plan; *j)* The name and details of the suitably qualified and experienced person who certified that the constructed dam was compliant with the design plan; *k)* Details of the composition and construction of any liner; *l)* The System for the detection of any leakage through the floor and sides of

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	the dam; *m)* Dates when the regulated dam underwent an annual inspection for structural and operational adequacy, and to ascertain the available storage volume for 1 November of any year; *n)* Dates when recommendations and actions arising from the annual inspection were provided to the administering authority; *o)* Dam water quality obtained from any monitoring required under this environmental authority at 1 November of each year.
regulated dam	means any dam in the significant or high consequence category as assessed using the *Manual for Assessing Consequence Categories and Hydraulic Performance of Structures (EM635)* published by the administering authority.
rehabilitation	means the process of reshaping and revegetating land to restore it to a stable landform.
release event	means a surface water discharge from mine affected water storages or contaminated areas on the licensed place.
representative	means a sample set which covers the variance in monitoring or other data either due to natural changes or operational phases of the mining activities.
residual drilling material	means waste drilling materials including muds and cuttings or cement returns from well holes and which have been left behind after the drilling fluids are pumped out.
residual void	means an open pit resulting from the removal of ore and/or waste rock, which will remain following the cessation of all mining activities and completion of rehabilitation processes.
RL	means reduced level, relative to mean sea level as distinct from depths to water.
saline drainage	means the movement of waters, contaminated with salts, as a result of the mining activity
sediment dam	means a structure for the capture and treatment of stormwater runoff contaminated only by sediments from disturbed areas and which discharge off-site once full.
self-sustaining	means an area of land which has been rehabilitated and has maintained the required acceptance criteria without human intervention for a period nominated by the administering authority.
sensitive place	is • a dwelling, residential allotment, mobile home or caravan park, residential marina or other residential premises; or • a motel, hotel or hostel; or • an educational institution; or • a medical centre or hospital; or • a protected area under the *Nature Conservation Act 1992*, the *Marine Parks Act 1992* or a World Heritage Area; or • a public park or grave.
significant disturbance	includes land a) if it is contaminated land; or b) it has been disturbed and human intervention is needed to rehabilitate it. i) to a state required under the relevant environmental authority; or ii) if the environmental authority does not require the land to be rehabilitated to a particular state – to its state immediately before the disturbance.

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	Some examples of disturbed land include: • areas where soil has been compacted, removed, covered, exposed, or stockpiled; • areas where vegetation has been removed or destroyed to an extent where the land has been made susceptible to erosion; (vegetation & topsoil) • areas where land use suitability or capability has been diminished; • areas within a watercourse, waterway, wetland, or lake where mining activities occur; • areas submerged by tailings or hazardous contaminant storage and dam walls in all cases; • areas under temporary infrastructure. Temporary infrastructure includes any infrastructure (roads, tracks, bridges, culverts, dams, bores, buildings, fixed machinery, hardstand areas, airstrips, helipads etc) which is to be removed after mining activities have ceased; or • areas where land has been contaminated and a suitability statement has not been issued. However, the following areas are not included: • areas off lease (e.g., roads or tracks which provide access to the mining lease); • areas previously significantly disturbed which have achieved the rehabilitation outcomes; • by agreement with the EPA, areas previously significantly disturbed which have not achieved the rehabilitation objective(s) due to circumstances beyond the control of the mine operator (such as climatic conditions); • areas under permanent infrastructure. Permanent infrastructure includes any infrastructure (roads, tracks, bridges, culverts, dams, bores, buildings, fixed machinery, hardstand areas, airstrips, helipads etc), which is to be left by agreement with the landowner. The agreement to leave permanent infrastructure must be recorded in the Landowner Agreement and lodged with the EPA; • - disturbances that pre-existed the grant of the tenure unless those areas are disturbed during the term of the tenure.
spillway	means the passage or outlet from the dam through which surplus water flows.
spillway crest	means the highest point (elevation) of the spillway, above which water will flow along the spillway and discharge from the dam if the flow rate is sufficient.
stable	means land-form dimensions are or will be stable within tolerable limits now and in the foreseeable future. Stability includes consideration of geotechnical stability, settlement and consolidation allowances, bearing capacity (traffic ability), erosion resistance and geochemical stability with respect to seepage and contaminant generation.
Structure	means a dam or levee.
suitably qualified and experienced person	in relation to regulated structures means a person who is a Registered Professional Engineer of Queensland (RPEQ) under the provisions of the *Professional Engineers Act 2002* and has demonstrated competence and relevant experience: a) for regulated dams, an RPEQ who is a civil engineer with the required qualifications in dam safety and dam design. b) for regulated levees, an RPEQ who is a civil engineer with the required qualifications in the design of flood protection embankments. c) Note: It is permissible that a suitably qualified and experienced person obtain subsidiary certification from an RPEQ who has demonstrated

DEFINITIONS	
	competence and relevant experience in either geomechanics, hydraulic design or engineering hydrology.
system design plan	means a plan that manages an integrated containment system that shares the required DSA and/or ESS volume across the integrated containment system.
the Act	means the *Environmental Protection Act 1994*.
the holder	means the environmental authority holder.
Total Organic Carbon	("TOC") means the sum of all compounds of carbon which contain at least one carbon to carbon bond plus methane and its derivatives. For the purpose of measurement 1 gram of TOC is deemed to have the same flame ionisation response as 1 gram of hexane.
tolerable limits	means that a range of values could be accepted to achieve an overall environmental management objective (e.g., a range of settlement of a tailing capping could still meet the objective of draining the cap quickly, preventing pondage and limiting infiltration and percolation).
void	means any constructed, open excavation in the ground.
watercourse	has the meaning in Schedule 4 of the *Environmental Protection Act 1994* and means a river, creek or stream in which water flows permanently or intermittently— a) in a natural channel, whether artificially improved or not; or b) in an artificial channel that has changed the course of the watercourse.
watercourse	includes the bed and banks and any other element of a river, creek or stream confining or containing water.
waters	includes all or any part of a river, stream, lake, lagoon, pond, swamp, wetland, unconfined surface water, unconfined water in natural or artificial watercourses, bed and bank of any waters, dams, non-tidal or tidal waters (including the sea), stormwater channel, stormwater drain, roadside gutter, stormwater run-off, and groundwater.
water quality	means the chemical, physical and biological conditions of water.
Water year	means the 12-month period from 1 July to 30 June.
WaTERS	Water Tracking and Electronic Reporting System or subsequent updated system, used to submit monitoring data and notify the Queensland Government [https://waters.des.qld.gov.au/ or contact psd.help@qld.gov.au].
wet season	means the time of year, covering one or more months, when most of the average annual rainfall in a region occurs. For the purposes of DSA determination this time of year is deemed to extend from 1 November in one year to 31 May in the following year inclusive.

END OF DEFINITIONS

FIGURES

Figure A1: Project overview

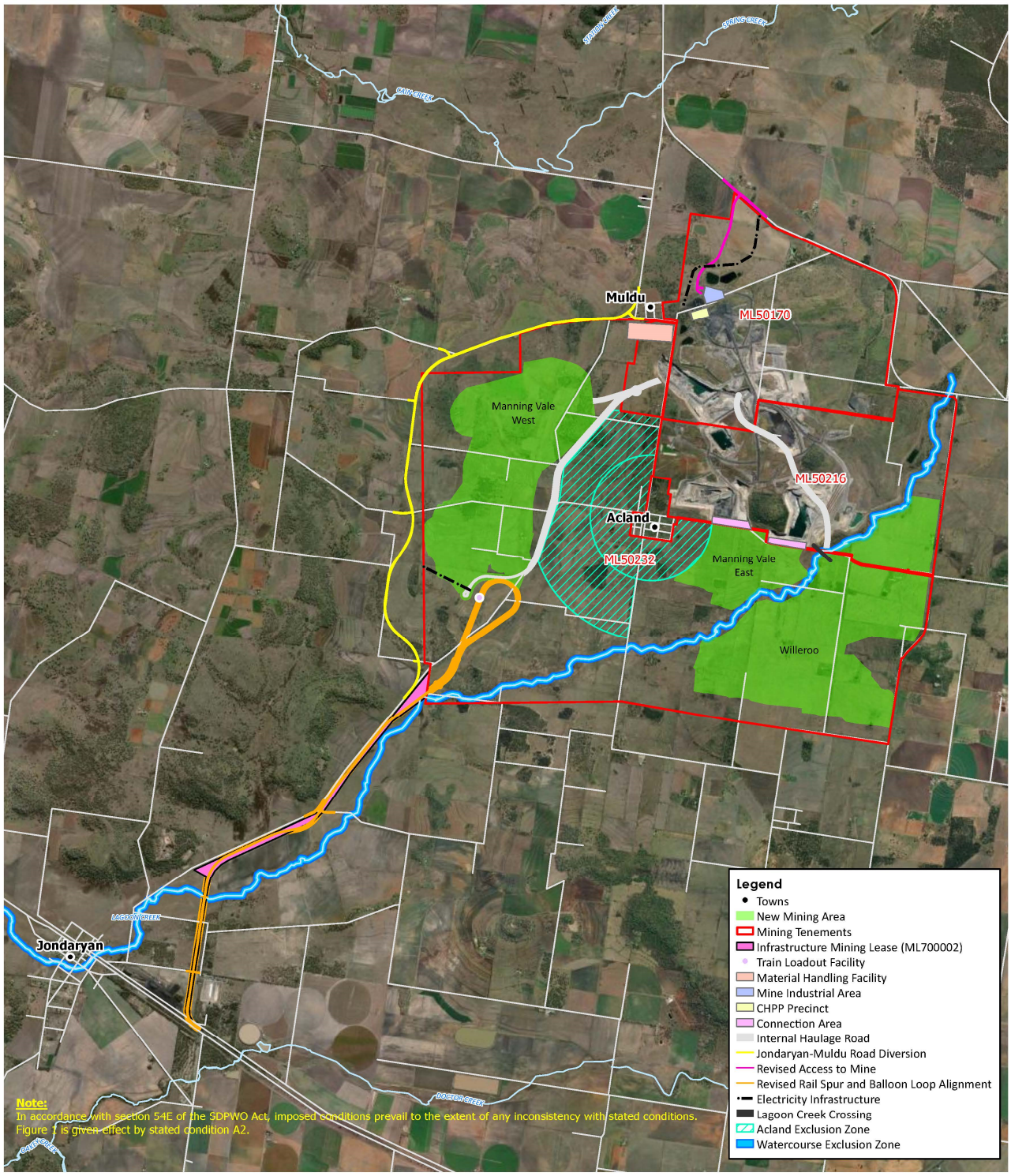


Figure B1: Air quality monitoring locations

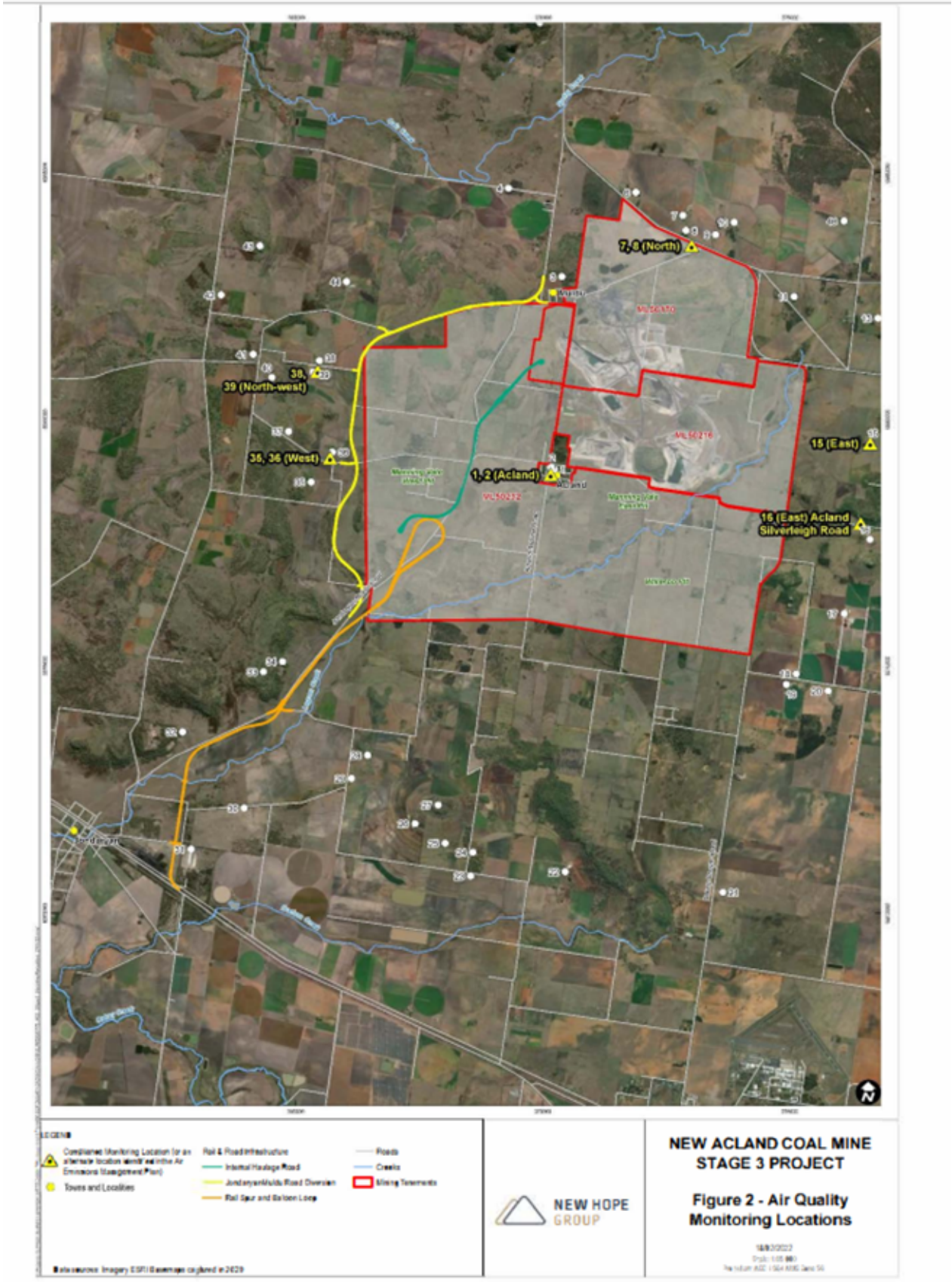


Figure C1: Surface water monitoring points

Figure D1: Groundwater monitoring points (ML50216 and ML50170)

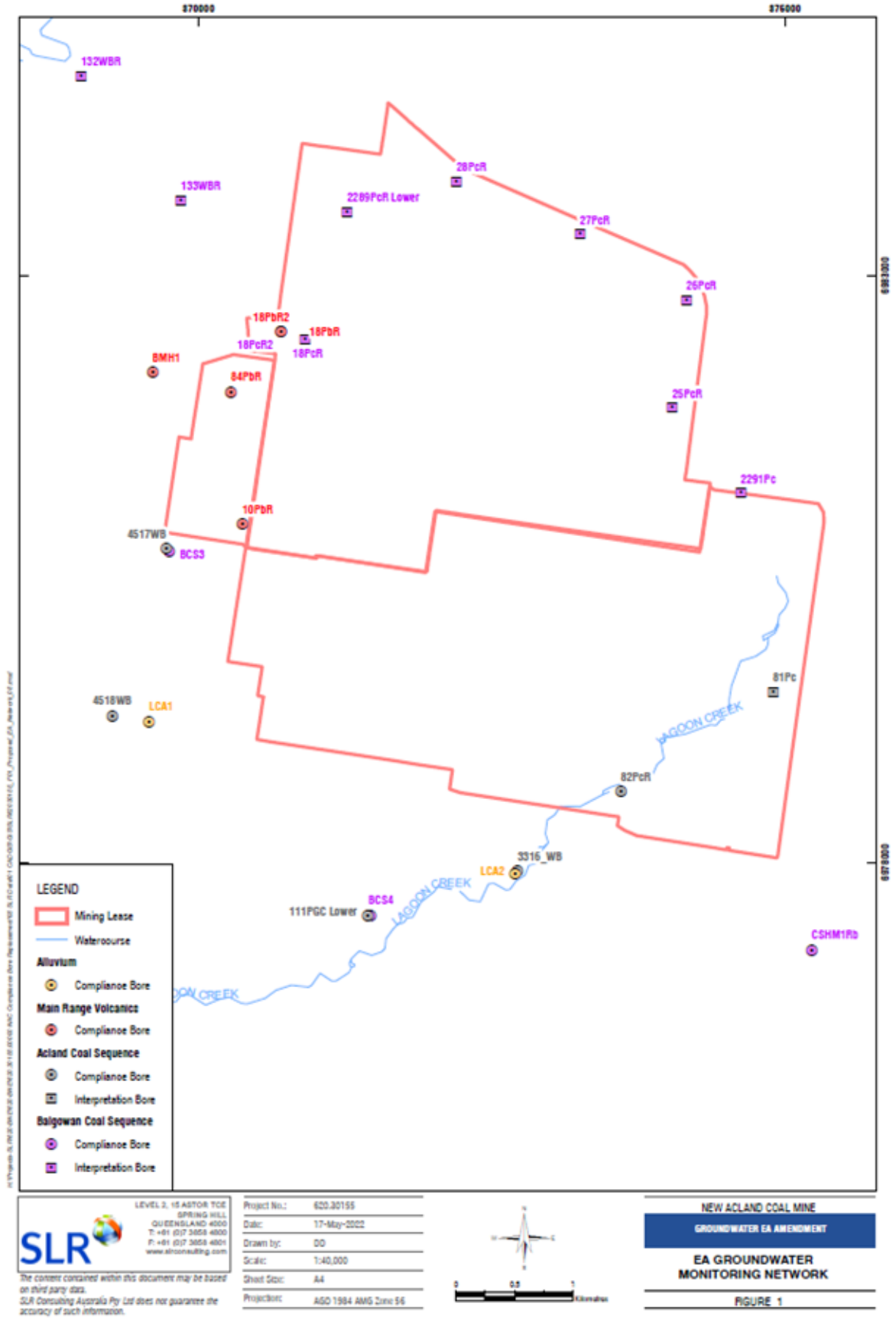


Figure F1 – Noise monitoring locations and sensitive places

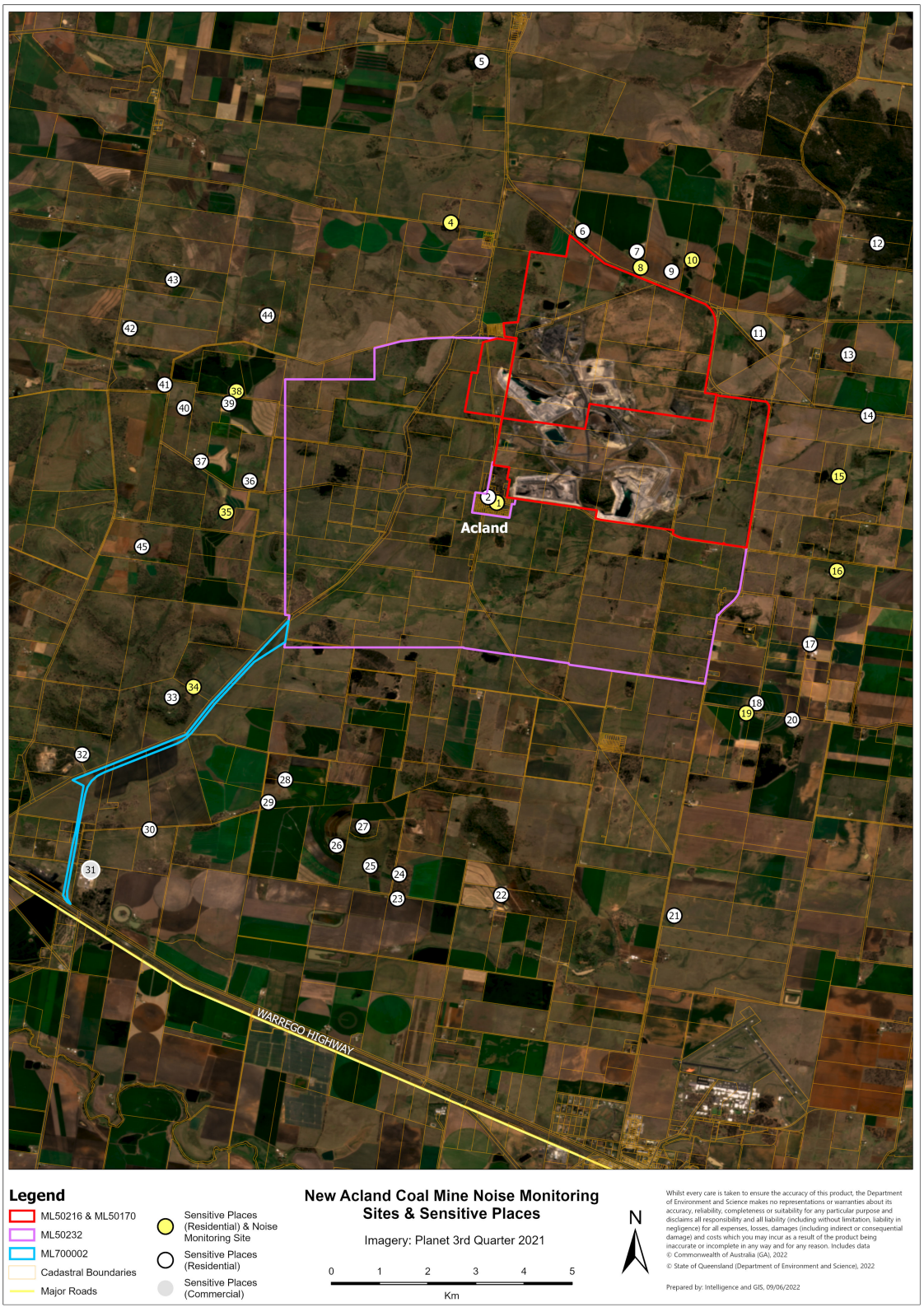


Figure H1: Post-Mine Land Suitability for Improved Pastures on ML50170 and ML50216

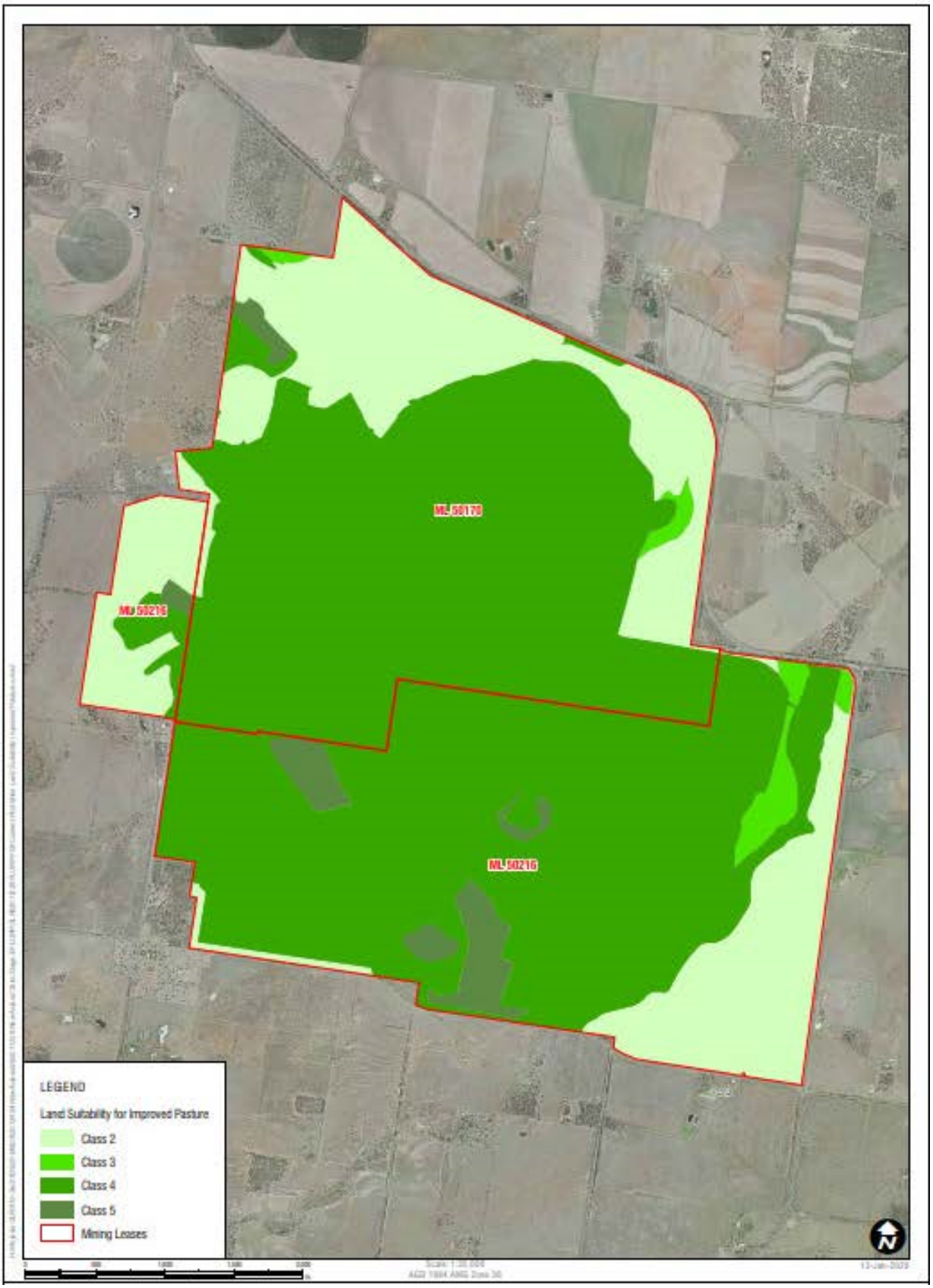


Figure H2: Post-Mine Land Suitability on ML50232

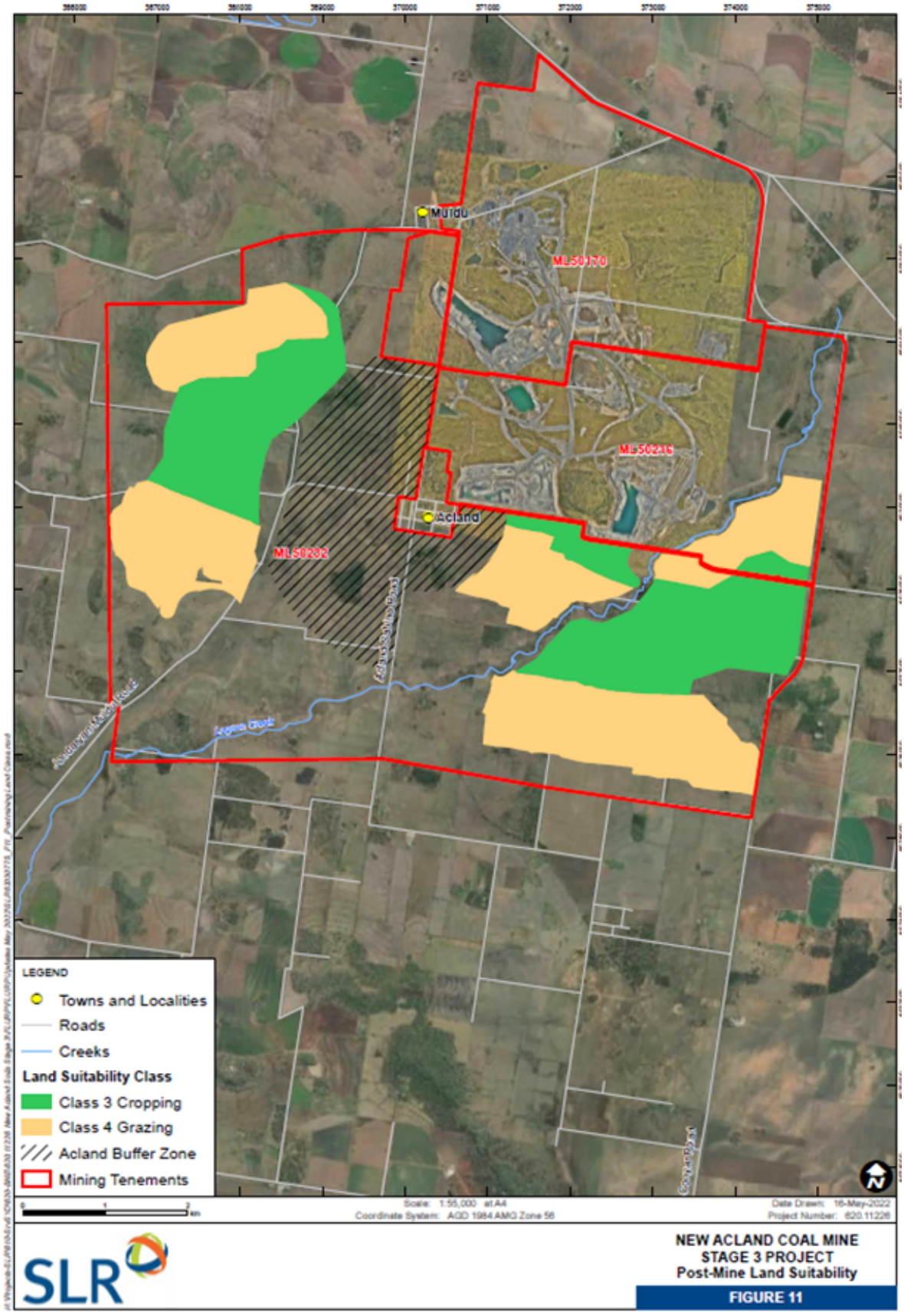
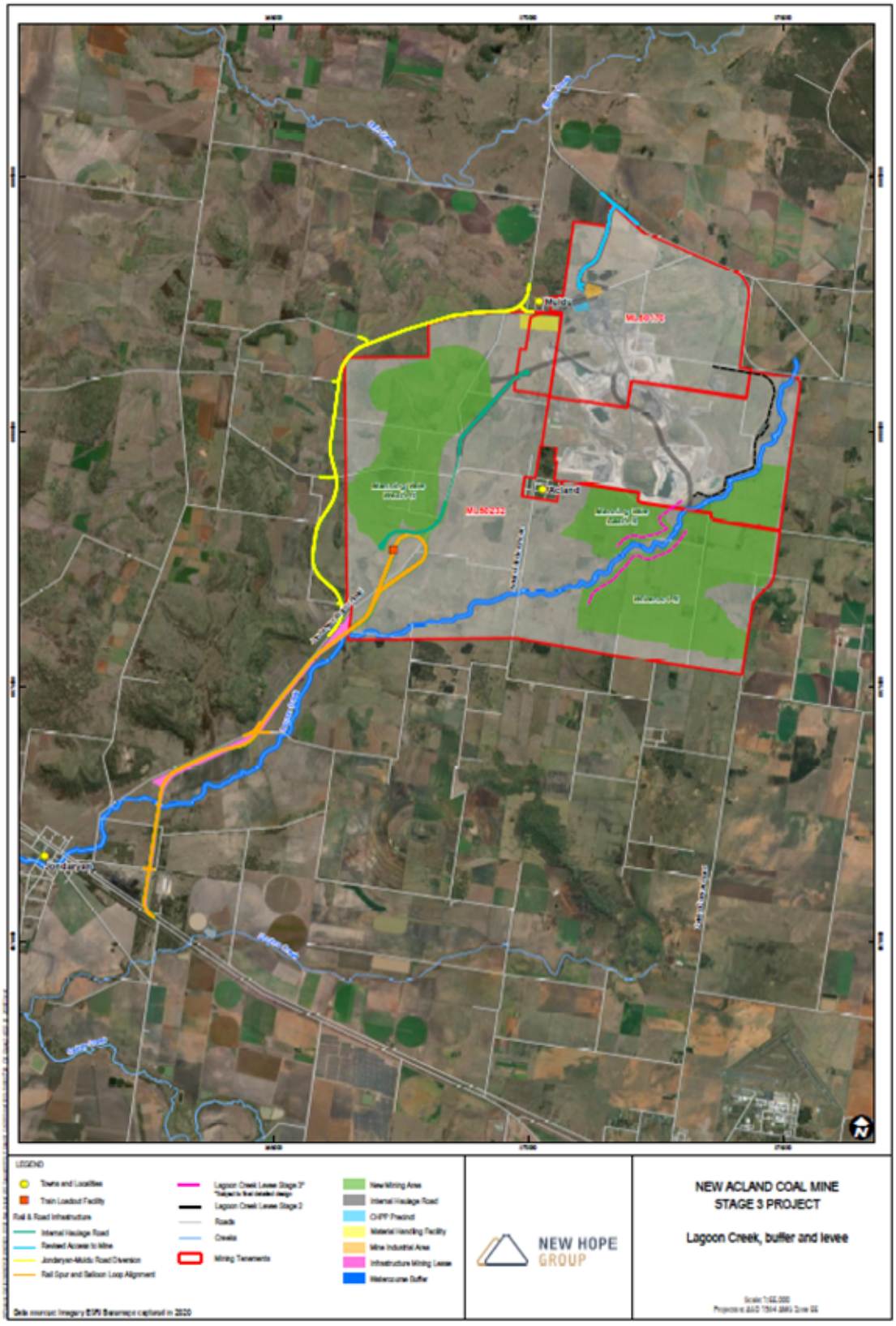


Figure H3: Lagoon Creek, buffer, and levee



END OF PERMIT