

Permit

Environmental Protection Act 1994

Environmental authority EPML00475513

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

Environmental authority number: EPML00475513

Environmental authority takes effect on the date that ML700053 and ML700054 are granted.

The anniversary date remains 10 June. The payment of the annual fee will be due each year on this day.

An annual return will be due each year on 01 April.

Environmental authority holder(s)

Name(s)	Registered address
New Lenton Coal Pty Ltd	New Hope Group Level 16/175 Eagle Street BRISBANE CITY QLD 4000
MPC Lenton Pty Ltd	C/- ClarkeKann Lawyers Level 7/300 Queen Street BRISBANE CITY QLD 4000

Environmentally relevant activity and location details

Environmentally relevant activity/activities	Location(s)
Resource Activity, Schedule 3, 13: Mining black coal	ML70337 ML700053 ML700054

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.

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.



Signature

20 January 2021

Date

Alison Sinclair
Department of Environment and Science
Delegate of the administering authority
Environmental Protection Act 1994

Date Issued: 20 January 2021

Enquiries:
Business Centre (Coal)
Department of Environment and Science
PO Box 3028
EMERALD QLD 4720
Phone: (07) 4987 9320
Email: CRMining@des.qld.gov.au

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).

Conditions of environmental authority

The environmental relevant activity(ies) conducted at the location as described above must be conducted in accordance with the following site-specific conditions of approval. This environmental authority consists of the following Schedules and Appendices:

Schedule A	General
Schedule B	Air
Schedule C	Surface Water
Schedule D	Groundwater
Schedule E	Noise and Vibration
Schedule F	Waste
Schedule G	Land
Schedule H	Offsets and Biodiversity
Schedule I	Structures
Appendix 1	Authorised Disturbance Footprint
Appendix 2	Final Landform
Appendix 3	Rehabilitation Success Criteria
Appendix 4	Surface Water Monitoring
Appendix 5	Groundwater Monitoring
Appendix 6a	Regulated Vegetation Offsets
Appendix 6b	Regional Ecosystem Mapping

Schedule A – General	
Condition number	Condition
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	Scope of activity This environmental authority authorises the mining of two (2) million tonnes run of mine (ROM) coal per annum.
A3	In carrying out the mining activity authorised by this environmental authority, the holder of this environmental authority must not cause disturbance greater than 658ha . All disturbance must be located within the authorised disturbance footprint detailed within Appendix 1 – Authorised Disturbance Footprint .
A4	The holder of this environmental authority must: (a) install all measures, plant and equipment necessary to ensure compliance with the conditions of this environmental authority; (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.
A5	Monitoring and Records Except where specified otherwise in another condition of this environmental authority, all monitoring records or reports required by this environmental authority must be kept for a period of not less than five (5) years.
A6	Where monitoring is a requirement of this environmental authority, ensure that a suitably qualified person(s) conducts all monitoring.

A7	Chemicals and flammable or combustible liquids All explosives, hazardous chemicals, corrosive substances, toxic substances, gases and dangerous goods should be stored and handled in accordance with the current Australian standard where such is applicable. Flammable and combustible liquids, including petroleum products, should be stored and handled in accordance with the latest edition of <i>AS1940—The storage and handling of flammable and combustible liquids</i>. Where no relevant Australian standard exists store such materials within an effective on-site containment system. Minimise the potential for contamination of land and waters by diverting stormwater around contaminated areas and facilities used for the storage of chemicals and flammable or combustible liquids.
A8	Notification of emergencies, incidents and exceptions The holder of this environmental authority 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, or reasonably expected to be not in accordance with, the conditions of this environmental authority.
A9	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 interpretation of any samples taken and analysed; (b) outcomes of actions taken at the time to prevent or minimise unlawful environmental harm; and (c) proposed actions to prevent a recurrence of the emergency or incident.
A10	Definitions Words and phrases used throughout this environmental authority are defined in the Definitions section of this authority. Where a definition for a term used in this environmental authority is sought and the term is not defined within this environmental authority, the definitions in the <i>Environmental Protection Act 1994</i>, its regulations and policies must be used.
A11	Third-party reporting The holder of this environmental authority must: (a) within one year of the commencement of mining (including construction activities, excluding exploration and ecological monitoring activities) obtain from an appropriately qualified person a report on compliance with the conditions of this environmental authority (b) obtain further such reports at regular intervals, not exceeding three-yearly intervals, from the completion of the report referred to above (c) provide each report to the administering authority within 90 days of its completion.

A12	Where a condition of this environmental authority requires compliance with a standard, policy or guideline published externally to this environmental authority and the standard is amended or changed subsequent to the issue of this environmental authority, the holder of this environmental authority must, where required under relevant legislation: (a) comply with the amended or changed standard, policy or guideline within two 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 Schedule I, the time specified in that condition; and (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.
A13	ROM coal may be trucked to Lenton JV Burton mine and handled, processed and exported via infrastructure at the Lenton JV Burton mine under the Lenton JV Burton mine environmental authority (EA0001002).
A14	Complaints The holder of this environmental authority must record all environmental complaints received about the mining activities including: (a) name, address and contact number of the complainant (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.
A15	The holder of this environmental authority 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 10 business days of completion of the investigation, or no later than 10 business days after the end of the timeframe nominated by the administering authority to undertake the investigation.

Schedule B – Air	
Condition number	Condition
B1	The environmental authority holder shall ensure that all reasonable and feasible avoidance and mitigation measures are employed so that the dust and particulate matter emissions generated by the mining activities do not cause exceedances of the following levels when measured at any sensitive or commercial place: (a) Dust deposition of 120 milligrams per square metre per day, averaged over one month, when monitored in accordance with the most recent version of <i>Australian Standard AS3580.10.1 Methods for sampling and analysis of ambient air—Determination of particulate matter—Deposited matter – Gravimetric method</i>; (b) A concentration of particulate matter with an aerodynamic diameter of less than 10 micrometres (PM10) suspended in the atmosphere of 50 micrograms per cubic metre over a 24-hour averaging time, for no more than five exceedances recorded each year, when monitored in accordance with the most recent version of either: (i) <i>Australian Standard AS3580.9.6 Methods for sampling and analysis of ambient air—Determination of suspended particulate matter—PM10 high volume sampler with size selective inlet – Gravimetric method</i>, or (ii) <i>Australian Standard AS3580.9.9 Methods for sampling and analysis of ambient air—Determination of suspended particulate matter—PM10 low volume sampler—Gravimetric method</i>. (c) A concentration of particulate matter with an aerodynamic diameter of less than 2.5 micrometres (PM2.5) suspended in the atmosphere of 25 micrograms per cubic metre over a 24-hour averaging time, when monitored in accordance with the most recent version of <i>AS/NZS3580.9.10 Methods for sampling and analysis of ambient air—Determination of suspended particulate matter—PM (sub)2.5(sub) low volume sampler—Gravimetric method</i>. (d) A concentration of particulate matter suspended in the atmosphere of 90 micrograms per cubic metre over a 1 year averaging time, when monitored in accordance with the most recent version of <i>AS/NZS3580.9.3:2003 Methods for sampling and analysis of ambient air—Determination of suspended particulate matter—Total suspended particulate matter (TSP)—High volume sampler gravimetric method</i>.
B2	If monitoring indicates exceedance of the relevant limits in condition B1, then the environmental authority holder must: (a) address the complaint including the use of appropriate dispute resolution if required; and (b) immediately implement dust abatement measures so that emissions of dust from the activity do not result in further environmental nuisance.

Schedule C – Surface Water	
Condition number	Condition
C1	Contaminant release 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. This EA must be amended to populate all missing / TBA locations and values within Table C4 – Gauging Station and Table C7 – Water Storage Monitoring prior to commencement of mining activities (including construction activities, excluding exploration activities).
C2	Unless otherwise permitted under the conditions of this environmental authority, the release of mine affected water to waters must only occur from the release points specified in Table C1 - Mine affected water release points, sources and receiving waters as depicted in Appendix 4 – Surface Water Monitoring.

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

Release Point (RP)	Latitude (decimal degrees GDA94)	Longitude (decimal degrees GDA94)	Mine affected water source and location	Monitoring Point	Receiving water description
RP1	-21.570480	148.129306	New Lenton South West Sediment Dam	Release pipe/gate	Ti-Tree Creek ¹
RP2	-21.551890	148.114856	New Lenton North West Sediment Dam	Release pipe/gate	Ti-Tree Creek Diversion ²

¹ RP1 releases to the remainder of the Ti Tree Creek natural alignment, approximately 1km upstream of the Isaac River.

² RP2 releases to the Ti Tree Creek diversion, approximately 3 km upstream of the Isaac River.

C3	The release of mine affected water to waters must only be released from the release points specified in Table C1 - Mine affected water release points, sources and receiving waters in accordance with the release requirements specified in Table C2 - Mine affected water release limits and Table C3 - Release contaminant trigger investigation levels.
-----------	---

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 the frequency specified in Table C2 - Mine affected water release limits and Table C3 - Release contaminant trigger investigation levels. <i>Note: The administering authority will take into consideration any extenuating circumstances prior to determining an appropriate enforcement response in the event condition C4 is contravened due to a temporary lack of safe or practical access. The administering authority expects the environmental authority holder to take all reasonable and practicable measures to maintain safe and practical access to designated monitoring locations.</i>
-----------	--

Table C2 – Mine affected water release limits

Quality Characteristic	Release Limits	Monitoring Frequency	Comment
Electrical Conductivity (µS/cm)	<250 µs/cm (high-flow)	Daily during release (the first sample must be taken within two (2) hours of commencement of release)	Upper Isaac River catchment water quality objective.
pH (pH Unit)	6.5 (minimum) 9.0 (maximum)	Daily during release (the first sample must be taken within two (2) hours of commencement of release)	
Turbidity (NTU)	50	Daily during release (first sample within two (2) hours of commencement of release)	Turbidity is required to assess ecosystems impacts and can provide instantaneous results.
Sulphate (SO42-) (mg/L)	25	Daily during release (first sample within two (2) hours of commencement of release)	Upper Isaac River catchment water quality objective.

Table C3 – Release contaminant trigger investigation levels

Quality characteristic	Trigger levels (µg/L)	Comment on trigger level	Monitoring frequency
Aluminium ¹	55	For aquatic ecosystem protection, based on SMD guideline	Commencement of release (within two (2) hours) and thereafter weekly during release
Arsenic ¹	13	For aquatic ecosystem protection, based on SMD guideline	
Cadmium ¹	0.2	For aquatic ecosystem protection, based on SMD guideline	
Chromium ¹	1	For aquatic ecosystem protection, based on SMD guideline	
Copper ¹	1.4	For aquatic ecosystem protection, based on SMD guideline	
Iron ¹	300	For aquatic ecosystem protection, based on low reliability guideline	
Lead ¹	3.4	For aquatic ecosystem protection, based on SMD guideline	
Mercury ¹	0.06	For aquatic ecosystem protection, based on SMD guideline	
Nickel ¹	11	For aquatic ecosystem protection, based on SMD guideline	
Zinc ¹	8	For aquatic ecosystem protection, based on SMD guideline	
Boron ¹	370	For aquatic ecosystem protection, based on SMD guideline	
Cobalt ¹	1.4	For aquatic ecosystem protection, based on SMD guideline	
Manganese ¹	1900	For aquatic ecosystem protection, based on SMD guideline	
Molybdenum ¹	34	For aquatic ecosystem protection, based on low reliability guideline	

Selenium ¹	5	For aquatic ecosystem protection, based on SMD guideline	
Silver ¹	0.05	For aquatic ecosystem protection, based on SMD guideline	
Uranium ¹	0.5	For aquatic ecosystem protection, based on low reliability guideline	
Vanadium ¹	6	For aquatic ecosystem protection, based on low reliability guideline	
Ammonia	900	For aquatic ecosystem protection, based on SMD guideline	
Nitrate	1100	For aquatic ecosystem protection, based on ambient Qld WQ Guidelines (2006) for TN	
Total recoverable hydrocarbons (C6-C9)	20		
Total recoverable hydrocarbons (C10-C36)	100		

Note:

1. All metals and metalloids must be measured as total (unfiltered) and dissolved (filtered). Trigger levels for metal/metalloids apply to the dissolved fraction.
2. The quality characteristics required to be monitored as per Table C3 can be reviewed once the results of two years monitoring data is available, or if sufficient data is available to adequately demonstrate negligible environmental risk. It may be determined that a reduced monitoring frequency is appropriate or certain quality characteristics can be removed from Table C3 by amendment.

C5	The environmental authority holder must ensure a stream flow gauging station/s is installed, operated and maintained to determine and record stream flows at the locations and flow recording frequency specified in Table C4 - Gauging stations .
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 C4 - Gauging stations for the release point(s) specified in Table C1 - Mine affected water release points, sources and receiving waters .
C7	The daily quantity of mine affected water released from each release point must be measured and recorded at the monitoring points specified in Table C1 - Mine affected water release points, sources and receiving waters .
C8	Releases to waters must be undertaken so as not to cause erosion of the bed and banks of the receiving waters or cause a material build-up of sediment in such waters.

Table C4 – Gauging stations

Receiving waters	Release Point (RP)	Gauging Station	Gauging Station Latitude (decimal degrees GDA94)	Gauging Station Longitude (decimal degrees GDA94)	Receiving water flow recording frequency	Receiving Water flow criteria for discharge (m ³ /s)
Ti-Tree Creek	RP1	TBA	TBA	TBA	TBA	Low Flow > 0.5 m ³ /s
Ti-Tree Creek Diversion	RP2	TBA	TBA	TBA	Continuous (minimum daily)	Low Flow > 0.1m ³ /s

C9	If electrical conductivity (EC) at MP04 and MP05 exceeds 650 µS/cm during a release event, the environmental authority holder must immediately notify the administering authority and only continue to release mine affected water if the administering authority gives approval.
C10	If any trigger levels specified in Table C3 – Release contaminant trigger investigation levels are exceeded for any quality characteristic at the release points specified in Table C1 - Mine affected water release points, sources and receiving waters during a release, the environmental authority holder must compare results of the downstream monitoring points (Table C5 – Receiving water upstream and downstream monitoring points) to the trigger levels specified in Table C3 – Release contaminant trigger investigation levels and: (a) where the trigger values are not exceeded then no action is to be taken; or (b) where the downstream results exceed the trigger values specified Table C3 – Release contaminant trigger investigation levels for any quality characteristic, compare the results of the downstream site to the data from upstream monitoring sites and; (c) if the result is less than the background monitoring site data, then no action is to be taken; or (d) if the result is greater than the background monitoring site data, complete an investigation into the potential for environmental harm and provide a written report to the administering authority within ninety (90) days, outlining: (i) details of the investigations carried out; and (ii) actions taken to prevent environmental harm. Note: Where an exceedance of a trigger level has occurred and is being investigated, in accordance with condition C10(b)(ii) of this condition, no further reporting is required for subsequent trigger events for that quality characteristic.

Table C5 – Receiving water upstream and downstream monitoring points

Monitoring Points	Receiving waters location description	Latitude (decimal degree, GDA94)	Longitude (decimal degree, GDA94)
<i>Upstream monitoring points</i>			
MP01	Isaac River 1000 meters upstream of site	-21.545222	148.145438
MP02	Isaac River at downstream site boundary upstream of RP1	-21.565999	148.142814
MP03	Ti-Tree Creek upstream of RP2	-21.549080	148.112127
<i>Downstream monitoring points</i>			
MP04	Isaac River downstream of RP1	-21.581287	148.137026
MP05	Ti-Tree Creek 2000 m downstream of RP2	-21.545931	148.125478

C11	Notification of Release Events The environmental authority holder must notify the administering authority via WaTERS as soon as practicable and no later than twenty-four (24) hours after commencing to release mine affected water to the receiving environment. Notification must include the submission 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 etc.); (c) release point/s; (d) release rate; (e) release volume (estimated); (f) details of the receiving water/s including the natural flow rate; (g) any details (including available data) regarding likely impacts on the receiving water(s); and (h) expected release cessation date/time.
------------	---

C12	The environmental authority holder must notify the administering authority via WaTERS as soon as practicable and no later than twenty-four (24) hours after cessation of a release event notified under condition C11: (a) release cessation date/time; (b) details of the receiving water/s including the natural flow rate (c) volume of water released; (d) all in-situ water quality monitoring results; and (e) 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 C12 and C13, provided the relevant details of the release are included within the notification provided in accordance with conditions C12, C13 and C14.
C13	Within twenty-eight (28) days of notification under condition C11, the environmental authority holder must provide the administering authority the following information via WaTERS: (a) confirmation of: (i) the release commencement date and time; (ii) the release cessation date and time; (iii) details of the receiving water/s including the natural flow rate; (iv) volume of water released; (b) all in-situ and laboratory water quality monitoring results; (c) details regarding the compliance of the release with the conditions of Schedule C: Water of this environmental authority (i.e. contamination limits, natural flow, discharge volume); (d) whether the release resulted in any impacts to the receiving environment; and (e) any other matter(s) pertinent to the water release event.
C14	Notification of Release Event Exceedance If the release limits defined in Table C2 - Mine affected water release limits are exceeded, the environmental authority holder must notify the administering authority via WaTERS within twenty-four (24) hours of receiving the results.
C15	If an exceedance in accordance with condition C10(b)(ii) is identified, the environmental authority holder must notify the administering authority via WaTERS within twenty-four (24) hours of receiving the result.
C16	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 via WaTERS 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.

C17	Release notification – potentially affected stakeholder The environmental authority holder must notify all potentially affected stakeholders within two (2) hours of the commencement, or another timeframe as agreed to in writing with the relevant potentially affected stakeholder, of releasing mine affected water to the receiving environment. Notification must be in the form agreed to by the potentially affected stakeholder or at least include the following: (a) release commencement date/time; (b) release location (release point/s); (c) release rate; (d) receiving waters for the release; (e) receiving water flow rate; (f) water quality of the release including salinity and pH; and (g) estimated duration of the release.
C18	Receiving environment monitoring and contaminant trigger levels The quality of the receiving waters must be monitored at the locations specified in Table C5 – Receiving water upstream and downstream monitoring points for each quality characteristic and at the monitoring frequency stated in Table C6 – Receiving waters contaminant trigger levels
C19	If quality characteristics of the receiving water at the downstream monitoring points exceed any of the trigger levels specified in Table C6 – Receiving waters contaminant trigger levels during a release event 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 further action needs to be taken; 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 by 1 March each year, outlining: (i) details of the investigations carried out; and (ii) actions taken to prevent environmental harm. <i>Note: Where an exceedance of a trigger level has occurred and is being investigated, in accordance with condition C19(b) of this condition, no further reporting is required for subsequent trigger events for that quality characteristic.</i>

Table C6 – Receiving waters contaminant trigger levels

Quality characteristic	Trigger level	Monitoring Frequency
pH	6.5-8.5	Daily during the release
Electrical Conductivity (µS/cm)	250	
Turbidity (NTU)	50	
Sulphate (SO ₄ ²⁻) (mg/L)	25	

C20	The release of stormwater runoff captured by the East Freshwater Dam is permitted during flow event conditions, given the sedimentation pond water quality meets the receiving water environment quality criteria listed in Table C6 – Receiving waters contaminant trigger levels .
C21	Receiving Environment Monitoring Program (REMP) The environmental authority holder must before the commencement of mining activities (including construction activities, excluding exploration activities) develop, maintain and implement a Receiving Environment Monitoring Program (REMP) to monitor, identify and describe any adverse impacts to surface water environmental values, quality and flows due to the authorised mining activity. This must include monitoring the effects of the mine on the receiving environment periodically (under natural flow conditions) and while mine affected water is being released from the site. The REMP must be made available on request.
C22	For the purposes of the REMP, the receiving environment is the waters of the Hill Creek, Ti-Tree Creek, and the Isaac River and connected or surrounding waterways within 15 km downstream of the release. The REMP should encompass any sensitive receiving waters or environmental values downstream of the authorised mining activity that will potentially be directly affected by an authorised release of mine affected water.
C23	The REMP must address (but not necessarily be limited to) the following: (a) Description of potentially affected receiving waters including key communities and background water quality characteristics based on accurate and reliable monitoring data that takes into consideration any temporal variation (e.g. seasonality); (b) Description of applicable environmental values and water quality objectives to be achieved (i.e. as scheduled pursuant to the <i>Environmental Protection (Water) Policy 2009</i>); (c) Any relevant reports prepared by other governmental or professional research organisations that relate to the receiving environment within which the REMP is proposed; (d) Water quality targets within the receiving environment to be achieved, and clarification of contaminant concentrations or levels indicating adverse environmental impacts during the REMP; (e) Monitoring for any potential adverse environmental impacts caused by the release; (f) Monitoring of stream flow and hydrology; (g) The locations of monitoring points; (h) Specify sampling and analysis methods and quality assurance and control; (i) Any historical datasets to be relied upon; (j) Description of the statistical basis on which conclusions are drawn; and (k) Any spatial and temporal controls to exclude potential confounding factors.
C24	A report outlining the findings of the REMP, including all monitoring results and interpretations must be prepared annually and submitted to the administering authority. This must include an assessment of background reference water quality, the condition of downstream water quality compared against water quality objectives, the suitability of current discharge limits to protect downstream environmental values

C25	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 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 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; and (g) water monitoring data where required by the environmental authority (release, receiving environment, REMP, water storages, sewage treatment plants and groundwater) must be provided to the administering authority via WaTERS in the specified electronic format.
C26	The release of any contaminants as permitted by this environmental authority, directly or indirectly to waters, other than in accordance with condition C2 must not result in any: (a) visible discolouration of receiving waters; and (b) slick or other visible or odorous evidence of oil, grease or petrochemicals nor contain visible floating oil, grease, scum, litter or other objectionable matter.
C27	All water storages must be monitored in accordance with Table C7 – Water Storage Monitoring.

Table C7 – Water Storage Monitoring

Water Storage Description	Latitude (GDA94)	Longitude (GDA94)	Monitoring Location	Frequency of Monitoring	Parameter ¹
Sediment Dam (North West)	-21.542666	148.144394	Spillway	Quarterly	pH, Electrical conductivity, Turbidity, Sulphate, Major Ions, Arsenic ² , Aluminium ² , Molybdenum ² and selenium ²
Sediment Dam (North)	-21.549785	148.138326	Spillway	Quarterly	
Sediment Dam (South)	- 21.56968	148.131424	Spillway	Quarterly	
Sediment Dam (South West)	- 21.549785	148.138326	Spillway	Quarterly	
East Freshwater Dam	- 21.552229	148.140485	Spillway	Quarterly	
Lenton MAW Dam	TBA	TBA	Spillway	Quarterly	

1. Monitoring against receiving environment limits is for interpretation only to ensure adequate management of water storages to prevent environmental harm.
2. All metals and metalloids must be measured as total (unfiltered) and dissolved (filtered).

C28	Water Management Plan A Water Management Plan must be developed by a suitably qualified person(s) and implemented.
C29	A copy of the Water Management Plan must be provided to the administering authority six (6) months prior to commencement of mining activities (including construction activities and excluding exploration activities) for review and approval.
C30	The water management plan required by Condition C28 must: (a) provide for effective management of actual and potential environmental impacts resulting from water management associated with the activity carried out under this environmental authority; and (b) be developed in accordance with the Department's most recent guideline ' <i>Preparation of water management plans for mining activities</i> ' and include: (i) a study of the source of contaminants; (ii) a water balance model for the site; (iii) a water management system for the site; (iv) measures to manage and prevent saline drainage; (v) measures to manage and prevent acid rock drainage; (vi) contingency procedures for emergencies; and (vii) a program for monitoring and review of the effectiveness of the water management plan

C31	The release of mine affected water to internal water management infrastructure installed and operated in accordance with a water management plan that complies with condition C9 is permitted.
C32	Water Reuse Water contaminated by mining activity may be piped or trucked or transferred by some other means that does not contravene the conditions of this authority during periods of dry weather for the purpose of supplying stock water to properties directly adjoining properties owned by the environmental authority holder or a third party and subject to compliance with the quality release limits specified in Table C8 – Stock Water Release Limits.

Table C8 – Stock Water Release Limits

Quality characteristic	Units	Minimum	Maximum
pH	pH units	6.5	8.5
Electrical Conductivity	µS/cm	N/A	5000

C33	Water contaminated by mining activity may be piped or trucked or transferred by some other means that does not contravene the conditions of this authority during periods of dry weather for the purpose of supplying irrigation water to properties directly adjoining properties owned by the environmental authority holder or a third party and subject to compliance with quality release limits in Table C9: Irrigation Water Release Limits .
------------	---

Table C9 – Irrigation Water Release Limits

Quality characteristic	Units	Minimum	Maximum
pH	pH units	6.5	8.5
Electrical Conductivity	µS/cm	N/A	2900

C34	Water contaminated by mining activity may be piped or trucked off the mining lease for the purpose of supplying water to a third party for purpose of construction and/or road maintenance in accordance with the conditions of this environmental authority.
C35	Water contaminated by mining activity may be piped or trucked for the purpose of supplying water to Lenton JV Burton mine (EA0001002) or accepting water from the Lenton JV Burton mine in accordance with the conditions of this environmental authority. The volume, pH and electrical conductivity of water transferred to and from Lenton JV Burton mine must be monitored and recorded.

C36	If the responsibility of water contaminated by mining activities (the water) is given or transferred to another person in accordance with conditions C32, C33, C34 or C35: (a) the responsibility of the water must only be given or transferred in accordance with a written agreement (the third party agreement); and (b) include in the third party agreement a commitment from the person utilising the water to use water in such a way as to prevent environmental harm or public health incidences and specifically make the persons aware of the General Environmental Duty (GED) under section 319 of the <i>Environmental Protection Act 1994</i>, environmental sustainability of the water disposal and protection of environmental values of waters; and (c) the third party agreement must be signed by both parties to the agreement.
C37	Saline drainage The environmental authority holder must ensure proper and effective measures are taken to avoid, or otherwise minimise, the generation and/or release of saline drainage.
C38	Acid rock drainage The environmental authority holder must ensure proper and effective measures are taken to avoid, or otherwise minimise, the generation and/or release of acid rock drainage.
C39	Stormwater and water sediment controls 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.
C40	The maintenance and cleaning of any vehicles, plant or equipment must not be carried out in areas from which contaminants can be released into any receiving waters.
C41	Any spillage of wastes, contaminants or other materials must be cleaned up as quickly as practicable to minimise the release of wastes, contaminants or materials to any stormwater drainage system or receiving waters.
C42	Sewage Effluent Sewage effluent used for dust suppression or irrigation must not exceed sewage effluent release limits defined in Table C10: Sewage effluent quality standards.

Table C10 – Sewage effluent quality standards

Quality characteristics	Release limit	Units	Limit type	Monitoring frequency
5-day Biochemical Oxygen Demand (uninhibited)	<20	mg/l	max	Monthly
pH	6.5 – 8.5	pH Units	range	Monthly
Free Chlorine Residual	0.5-0.9	ppm	max	Monthly
Faecal Coliforms, based on the average of a minimum of five samples collected	<1000 c.f.u.	Colonies per 100 millilitres	max	Monthly

C43	Sewage effluent used for dust suppression or irrigation must not cause spray drift or over spray to any sensitive or commercial place.
C44	The effluent irrigation areas must have a separation distance of at least 30 metres from any groundwater bores and surface waters.
C45	Notices must be prominently displayed on any treated effluent irrigation area warning staff and the public that the area is irrigated with treated effluent and not to use or drink the treated effluent. These notices must be maintained in a visible and legible condition.
C46	The daily volume of contaminants released to land must be determined by an appropriate method, for example a flow meter and records kept of such determinations.
C47	Activities within watercourses Destroying native vegetation, excavating, or placing fill in a watercourse, lake or spring necessary for and associated with mining operations must be undertaken in accordance with Department of Natural Resources, Mines and Energy <i>Guideline – Activities in a Watercourse, Lake or Spring associated with Mining Activities</i>.
C48	All determinations of water quality and biological monitoring must be performed by a suitably qualified person(s). Made in accordance with methods prescribed in the latest edition of the administering authorities Water Monitoring and Sampling Manual.

Schedule D – Groundwater	
Condition number	Condition
D1	The holder of this environmental authority must not release contaminants, directly or indirectly, to groundwater.
D2	Baseline Monitoring Program A baseline groundwater monitoring program must be developed and implemented by a suitably qualified person(s) and be provided to the administering authority. The baseline groundwater monitoring program must result in the holder of this environmental authority finalising the program that must be provided to the administering authority at least ninety (90) days prior to commencement of mining activities including construction. The baseline groundwater monitoring program must: (a) Continue until the Groundwater Monitoring and Management Program (GMMP) required under Condition D14 commences. (b) contain representative groundwater quality samples from the geological units identified as potentially affected by mining activities; (c) include at least twelve (12) sampling events that are no more than two (2) months apart over a two (2) year period, so as to determine background groundwater quality; (d) conceptual model used to determine the location of ground water bores; (e) include background groundwater quality in hydraulically isolated background bore(s); (f) Allow for the identification of natural groundwater level trends and groundwater contaminant trigger levels; (g) Identify groundwater water level trigger limits as per Table D3 Groundwater level monitoring; (h) Complete an investigation to demonstrate that groundwater drawdown resulting from the activity will not impact environmental values including but not limited to Groundwater Dependent Ecosystems (GDEs). (i) Proposed mitigation and monitoring measures to ensure the activity will not impact environmental values. (j) How impacts to prescribed environmental matters have been or will be avoided as a result of the disturbance with the installation of proposed bores.
D3	Groundwater monitoring Groundwater quality and levels must be monitored at the locations and frequencies defined in Table – D1 Groundwater monitoring locations and frequency and Appendix 5 – Groundwater Monitoring Locations for quality characteristics identified in Table D2 – Groundwater quality limits. Groundwater monitoring must commence prior to the commencement of mining activities (including construction activities, excluding exploration activities). This EA must be amended to populate all missing / TBA monitoring locations and values within Table D1 – Groundwater monitoring locations and frequency and Table D3 – Groundwater level monitoring prior to commencement of mining activities (including construction activities, excluding exploration activities).

Table D1 – Groundwater monitoring locations and frequency

Monitoring Point	Monitored Unit	Compliance assessment required		Location		Surface RL (m)	Monitoring Frequency
		Water quality (Y/N)	Water level (Y/N)	Easting (GDA94 – Zone 55)	Northing (GDA94 – Zone 55)		
Interpretation Bores							Quarterly
GW01	Alluvium	N	N	617299	7618210	327	
NEW	Regolith	N	N	TBA	TBA	TBA	
Compliance Bores							Quarterly
GW03	Alluvium	Y	N	618094	7614389	308	
GW06	Alluvium	Y	Y	618097	7616723	314	
GW07	Alluvium	Y	Y	617640	7613075	300	
GW08	Alluvium	Y	N	617041	7613900	307	
GW09	Alluvium	Y	Y	617525	7614070	307	
GW19_37a	Alluvium	Y	Y	618034	7615771	309	
GW19_33	Alluvium	N	Y	618664	7617348	311	
New	Alluvium	Y	Y	TBA	TBA	TBA	
GW30c	Regolith	N	Y	618094	7617368	318	
GW31b	Regolith	N	Y	617506	7617500	322	
New	Regolith	Y	Y	TBA	TBA	TBA	
GW10	Leichardt / Vermont Seam	Y	Y	616032	7617014	335	
GW11	Leichardt / Vermont Seam	Y	Y	616294	7616680	332	
GW13	Leichardt / Vermont Seam	Y	Y	616881	7615480	319	
GW30a	Leichardt / Vermont Seam	N	Y	618084	7617395	318	
GW31a	Leichardt / Vermont Seam	N	Y	617509	7617189	322	
New	Leichardt / Vermont Seam	Y	Y	TBA	TBA	TBA	
GW30b	Burton Rider Seam	N	Y	618088	7617382	318	
GW29a	Underburden	Y	Y	618081	7616561	314	

D4	Results of monitoring of groundwater from water quality compliance bores identified in Table D1 - Groundwater monitoring locations and frequency , must not exceed any of the Contaminant Limits specified in Table D2 - Groundwater quality limits on three (3) consecutive occasions.
-----------	--

Table D2 – Groundwater quality limits

Parameter (units)	Bore	Contaminant Limit
pH (pH units)	All bores	6.5 – 8.5 ¹
Electrical conductivity (µS/cm)	GW07, GW10, GW11	7,000
	GW06, GW13, GW29a	15,700
	GW09, GW19_37a, GW03, GW08	2,633
Aluminium - dissolved (µg/L) ³	All bores	55 ²
Arsenic - dissolved (µg/L) ³	All bores	13 ²
Boron - dissolved (µg/L) ³	GW03, GW07, GW08, GW09, GW19_37a, GW11, GW13, GW29a	630
Boron - dissolved (µg/L) ³	GW06 & GW10	1660
Cadmium - dissolved (µg/L) ³	All other bores	0.2 ²
Cobalt - dissolved (µg/L) ³	All bores except GW07	1.4 ²
Cobalt - dissolved (µg/L) ³	GW07	4
Chromium - dissolved (µg/L) ³	All bores	1 ²
Copper - dissolved (µg/L) ³	All bores	5
Mercury - dissolved (µg/L) ³	All bores	0.06 ²
Lead - dissolved (µg/L) ³	All bores	3.4 ²
Manganese - dissolved (µg/L) ³	All bores	1900 ²
Molybdenum - dissolved (µg/L) ³	All bores	34 ²
Nickel - dissolved (µg/L) ³	All bores	11 ²
Selenium - dissolved (µg/L) ³	All bores	5 ²
Uranium - dissolved (µg/L) ³	All bores, except GW06	8
Uranium - dissolved (µg/L) ³	GW06	30
Vanadium - dissolved (µg/L) ³	All bores	6 ²
Zinc - dissolved (µg/L) ³	All bores	20
Sulfate (mg/L)	GW06	135
	GW03, GW07, GW08, GW09	50
	GW10, GW11, GW13, GW29a, GW19-37a	25 ¹
Major ions (mg/L) Calcium, chloride, potassium, magnesium, sodium, bicarbonate	All bores	For interpretation purposes only
Hardness (mg/L)	All bores	For interpretation purposes only

1. DEHP (2011) Isaac River Sub Basin WQO – surface water
2. ANZG (2018) Aquatic ecosystem protection for moderately disturbed system (95% protection)
3. All metals and metalloids must be measured as total (unfiltered) and dissolved (filtered).

D5	Groundwater levels when measured at the water level compliance bores specified in Table D1 - Groundwater monitoring locations and frequency must not exceed the groundwater Level Trigger Thresholds specified in Table D3 - Groundwater level monitoring . The current Level trigger thresholds included in Table D3 Groundwater level monitoring must be amended to the actual trigger level thresholds prior to the commencement of mining (including construction activities, excluding exploration activities).
-----------	---

D6	Pre-mining groundwater baseline level to be provided through an amendment application prior to the commencement of mining activities (Table D3 – Groundwater level monitoring).
-----------	--

Table D3 – Groundwater level monitoring

Monitoring Location	Monitored Unit	Pre-mining baseline level (mBDL)	Level Trigger Threshold ¹
GW01	Alluvium	TBD	2.0 m drawdown from the pre-mining baseline level
GW06	Alluvium	TBD	2.5 m drawdown from the pre-mining baseline level
GW07	Alluvium	TBD	2.0 m drawdown from the pre-mining baseline level
GW09	Alluvium	TBD	2.8 m drawdown from the pre-mining baseline level
GW19_37a	Alluvium	TBD	7.9 m drawdown from the pre-mining baseline level
GW19_33	Alluvium	TBD	TBA
TBA	Alluvium	TBD	TBA
GW30c	Regolith	TBD	2.0 m drawdown from the pre-mining baseline level
GW31b	Regolith	TBD	2.0 m drawdown from the pre-mining baseline level
TBA	Regolith	TBD	TBA
GW10	Leichardt/Vermont Seam	TBD	63.9 m drawdown from the pre-mining baseline level
GW11	Leichardt/Vermont Seam	TBD	110.7 m drawdown from the pre-mining baseline level
GW13	Leichardt/Vermont Seam	TBD	45.7 m drawdown from the pre-mining baseline level
GW30a	Leichardt/Vermont Seam	TBD	2.4 m drawdown from the pre-mining baseline level
GW31a	Leichardt/Vermont Seam	TBD	5.3 m drawdown from the pre-mining baseline level
TBA	Leichardt / Vermont Seam	TBD	TBA
GW30b	Burton Rider Seam	TBD	2.2 m drawdown from the pre-mining baseline level
GW29a	Underburden	TBD	3.0 m drawdown from the pre-mining baseline level

1. 90th percentile predicted maximum cumulative drawdown over the life of the Project beyond any background non-mining related influence, except where specifically identified.

D7	The environmental authority holder must notify the administering authority within twenty-four (24) hours via WaTERS of receiving any monitoring result that shows an exceedance of any limit for any quality characteristic specified in Table D2 – Groundwater quality limits and any exceeded groundwater level trigger threshold specified in Table D3 – Groundwater level monitoring. For condition D7, an exceedance is when a limit for any quality characteristic specified in Table D2 – Groundwater quality limits is exceeded on any three (3) consecutive sampling occasions.
D8	Within fourteen (14) days of the notification given under condition D7, the environmental authority holder must commence an investigation to determine if the exceedance is a result of: (a) mining activities authorised under this environmental authority; or (b) natural variation; or (c) neighbouring land use resulting in groundwater impacts.
D9	The investigation required by condition D8 must be completed and submitted to the administering authority via WaTERS within three (3) months of notification under condition D7.
D10	If the investigation under condition D8 determines that the exceedance was the result of mining authorised under this environmental authority, then investigations must be undertaken by the holder of this environmental authority to establish whether environmental harm has occurred or may occur.
D11	Within twenty-eight (28) days of the investigation under D10, the environmental authority holder must have: (a) implemented short-term measures to mitigate the potential for environmental harm; and (b) develop long-term mitigation measures to address any existing groundwater contamination and prevent recurrence of groundwater contamination; and (c) if environmental harm has occurred as a result of groundwater drawdown exceedances, the environmental authority holder must: (i) determine any actions required to reduce the potential for environmental harm; and (ii) determine any mitigation measures required to limit the drawdown in the affected groundwater resource.
D12	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.
D13	All determinations of groundwater quality and biological monitoring must be performed by a suitably qualified person(s).

D14	Groundwater Monitoring and Management Program A Groundwater Monitoring and Management Program (GMMP) must be developed, implemented and provided to the administering authority at least ninety (90) days prior to commencement of mining activities including construction (excluding exploration and ecological monitoring activities). The GMMP will: (a) identify all potential sources of contamination to groundwater from construction, mining activities and rehabilitation activities; (b) provides a hydrogeological conceptual groundwater model; and (c) identifies all environmental values that must be protected; (d) details groundwater levels in all identified aquifers present across and adjacent to the site to confirm existing groundwater flow paths; (e) estimates the groundwater inflow to rehabilitated landforms and surface water ingress to groundwater from flooding events using the groundwater model; (f) ensures all potential groundwater impacts due to mining activities and rehabilitation activities are identified, monitored and mitigated; (g) ensures 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 and rehabilitation activities; (ii) detect any impacts to groundwater quality due to the mining activities and rehabilitation activities; (iii) determine compliance with condition D4 and D5; and (iv) determine trends in groundwater quality; (h) documents groundwater management and monitoring methodologies undertaken for the duration of all mining activities and rehabilitation activities; (i) provides an appropriate quality assurance and quality control program; and (j) includes a review process to identify improvements to the program that includes addresses any comments provided by the administering authority.
D15	An Annual Groundwater Monitoring Report (AGMR) is required to be completed and submitted to the administering authority commencing after the first year of mining activities (excluding exploration activities). The AGMR must include: (a) the groundwater quality and standing water level of all groundwater bores listed within Table D1 - Groundwater monitoring locations and frequency (b) an assessment of long-term water quality and water level trends at all groundwater bores listed in Table D1 - Groundwater monitoring locations and frequency; (c) details of any review undertaken of the groundwater conceptual model; (d) an assessment of any differences between the groundwater level impact predicted and actual impacts for corresponding period.

D16	The following information must be recorded in relation to all groundwater water sampling: (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; and (d) the results of all monitoring; and (e) submit all groundwater monitoring data required by this environmental authority or related to environmental management activities to the administering authority via WaTERS.
------------	--

Schedule E - Noise and Vibration	
Condition number	Condition
E1	The holder of this environmental authority must ensure that noise generated by the mining activities does not cause the criteria in Table E1 – Noise limits to be exceeded and that blasting does not cause the limits for peak particle velocity and air blast overpressure in Table E2 – Blasting noise and vibration limits to be exceeded at a sensitive place or commercial place.
E2	Noise monitoring and recording must be conducted in accordance with the following descriptor characteristics and matters: (a) LAN,T (where N equals the statistical levels of 1, 10 and 90 and T = 15 mins) (b) background noise LA90 (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 (f) location, date and time of monitoring (g) if the complaint concerns low frequency noise, Max LpLIN,T and one third octave band measurements in dB (LIN) for centre frequencies in the 10 – 200 Hz range. (h) Monitoring and analysis must be conducted in accordance with: (i) Australian Standard; AS 1055:2018 – ‘Acoustics – Description and measurement of environmental noise’; and (ii) The department’s Noise Measurement Manual (version 4) dated 22 August 2013 or latest edition.
E3	If monitoring indicates exceedance of the limits in Table E1: Noise limits and Table E2: Blasting noise and vibration limits , then the environmental authority holder must: (a) address the complaint including the use of appropriate dispute resolution if required; and (b) immediately implement noise abatement measures so that emissions of noise from the activity do not result in further environmental nuisance.

Table E1 – Noise limits

Noise Level dBA measured as:	Monday to Sunday (including Public Holidays)		
	Daytime (7am to 6pm)	Evening (6pm to 10pm)	Night-time (10 pm to 7am)
<i>Sensitive Place</i>			
LAeq, adj, 1 hr	40	40	35
LA1,adj,1 hr	50	50	45
<i>Commercial place (when open for business)</i>			
LAeq, adj, 1 hr	50	50	50

Table E2 – Blasting noise and vibration limits

Blasting Parameter	Criteria at a Sensitive or Commercial Place	
	Monday to Sunday 9.00 am to 7.00 pm	Other times and public holidays
Airblast overpressure	115 dB (Linear) peak for nine (9) out of ten (10) consecutive blasts initiated and 120 dB (Linear) peak at any time.	No blasting to occur
Ground vibration peak particle velocity	Not greater than 10 mm/s peak particle velocity at any time.	No blasting to occur

E4	If the environmental authority holder can provide evidence through monitoring that the limits defined in Table E2: Blasting noise and vibration limits, are not being exceeded then the holder is not in breach of condition E1. Monitoring must include: (a) peak particle velocity (mm/s); (b) air blast overpressure level (dB linear peak); (c) location of the blast/s within the mining area (including which bench level); (d) atmospheric conditions including temperature, relative humidity and wind speed and direction; and (e) location, date and time of recording.
-----------	--

Schedule F - Waste	
Condition number	Condition
F1	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.
F2	The holder of this environmental authority 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.
F3	Waste Management A Waste Management Plan must be developed and implemented prior to the commencement of mining (including construction activities). The Waste Management Plan must at a minimum include the following: (a) types and amounts of regulated waste generated; (b) description of how the types of regulated waste are generated and will be dealt with under the waste and resource management hierarchy; (c) procedures for identifying and implementing opportunities to minimise the amount of regulated waste generated and improve practices employed; (d) procedures for dealing with accidents, spills and incidents that may impact on waste management; (e) location of disposal of regulated waste; (f) staff training on matters relevant to regulated waste management; and (g) mechanisms and dates for review of the waste management plan.

Schedule G – Land	
Condition number	Condition
G1	Preventing contaminant release to land Contaminants must not be released to land in a manner which constitutes nuisance, material or serious environmental harm.
G2	Land disturbed by mining must be rehabilitated in accordance with Table G1 - Rehabilitation requirements.

Table G1 – Rehabilitation requirements

Mine Area	Approx. Disturbance Area (ha)	Pre-Mine Land Suitability Classification	Pre-Mine Land Suitability Description	Post-Mine Land Suitability Classification*	Post-Mine Land Suitability Description	Analogue site identification
Mining Pit/Void	52.5	4	Grazing	N/A	Water Containment	N/A
Re-Contoured Spoil Area	509.8	5	Grazing	3	Grazing	Lot 9 on RP903903 & Lot 1 on SP159745
Haul Roads/ Infrastructure	28.3	4 & 5	Grazing	3	Grazing	Lot 9 on RP903903 & Lot 1 on SP159745
Sediment/ Supply Dams	9.9	5	Grazing	N/A	Water Storage	N/A
Drains	26.1	4	Grazing	N/A	Grazing	Lot 9 on RP903903 & Lot 1 on SP159745
Diversion	12.3	4	Grazing	3	Diversion	N/A
Levees	19.3	4 & 5	Grazing	3	Grazing	Lot 9 on RP903903 & Lot 1 on SP159745

* As per *Guidelines for Agricultural Land Evaluation in Queensland 2015*

G3	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 to analogue site – to be advised; and (b) all areas disturbed by mining activities must be rehabilitated to the landform design criteria defined in Table G2: Landform design; and (c) landforms are stable with rates of erosion comparable to analogue sites; and a measure of productivity (e.g. sustainable dry matter production, stock live weight gain) is comparable to analogue site – to be advised.
-----------	---

Table G2 – Landform design

Slope (%)	Maximum slope length (m)*
20	50
17	100
15	133
10	220
5	520
3	900

* Between water management structures

G4	Rehabilitation Management Plan A Rehabilitation Management Plan must be implemented prior to the commencement of mining (including construction activities and excluding exploration and ecological monitoring activities) and submitted to the administering authority for review and approval. The plan must: (a) be developed for all significant disturbance associated with mining activities; (b) implemented for the duration of mining activities; and (c) be implemented by a suitably qualified person.
-----------	--

G5	The Rehabilitation Management Plan required by condition G4, must address all relevant requirements within this environmental authority, and at a minimum include: (a) details of how all land significantly disturbed by the mining activities will be rehabilitated to ensure that it is; (i) safe for humans and wildlife; (ii) non-polluting (iii) stable; and (iv) able to sustain an agreed post mining land use, unless specified as having no use (Table G1); (b) details of how all land significantly disturbed by mining activities that will not have a land use will be managed to prevent environmental harm into the foreseeable future; (c) a plan of each domain area identified in Table G1 - Rehabilitation requirements. (d) a map of existing areas (once completed) of rehabilitation including classification of stage (i.e. time since establishment) and quality; (e) a strategy for progressive rehabilitation, including a progressive rehabilitation schedule; (f) details of the design objectives for rehabilitation of each domain to achieve rehabilitation success criteria (Appendix 3 - Rehabilitation Success Criteria); (g) specify the spoil characteristics, soil analysis and soil separation for use on rehabilitation; (h) specify the topsoil requirements for the site and how topsoil will be managed for use in rehabilitation; (i) details of any topsoil deficit and how any deficit will be managed for successful rehabilitation; (j) details of a material balance and how any topsoil deficit will be managed for successful rehabilitation; balance includes – rock, topsoil, gypsum, lime and all other ameliorates. (k) details of landform design including end of mine design; (l) details of how landform design will be consistent with surrounding topography; (m) identification of planned native vegetation rehabilitation areas and corridors; (n) a description of rehabilitation indicators and how these will be monitored; (o) a description of management actions to address unsuccessful rehabilitation or redesign; and (p) a description of end of mine landform design planning and post mining land uses across the mine.
G6	Land must be progressively rehabilitated as soon as practicable after the land becomes available.
G7	A topsoil inventory which identifies the topsoil requirements for the New Lenton Coal Mine and availability of suitable topsoil on site must be maintained and made available on request by the administering authority.
G8	Areas to be rehabilitated must be rehabilitated to the landform design criteria defined in Table G2 - Landform design and the landforms must be safe, stable, non-polluting and sustain agreed post mining land outcomes defined in Table G1 - Rehabilitation Requirements . Post mining land outcome 'final void' detailed in Table G1 - Rehabilitation requirements that does not have a post mining land outcome must adhere to Table G3 - Residual void design .
G9	Where reasonable and practicable, areas of the site where grazing is nominated as the post-mine land use must include native grass species endemic to the area.

G10	Residual void outcome 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 groundwater 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 G3 - Residual void design.
G11	Complete an investigation into residual voids and submit a report to the administering authority prior to the commencement of mining (including construction activities, excluding exploration and ecological monitoring activities), proposing acceptance criteria to meet the outcomes in condition G10 and landform design criteria in Table G3 - Residual void design.

Table G3: Residual void design

Void identification	High wall/competent rock maximum slope (%)	High wall/ incompetent rock maximum slope (%)	Low wall maximum slope (%)	Void maximum surface area (ha)
Final Void	214	100	75	52.5

G12	Infrastructure All infrastructures constructed by or for the environmental authority holder during the licensed activities including water storage structures, must be removed from the site prior to surrender, except where agreed in writing by the post mining land owner / holder. <i>Note: This is not applicable where the landowner / holder are also the environmental authority holder.</i>
G13	Exploration Disturbance due to exploration activities in areas not authorised to be mined must be rehabilitated in accordance with provisions detailed in the <i>Code of Environmental Compliance for Exploration and Mineral Development Projects</i> or its successor.
G14	Flood Protection Levees Design requirements for the levees (western levee and eastern levee) and adjacent mining excavation must meet the following: (a) the design level of the levee crest must be at least 1 in 1,000 AEP flood event for the adjacent watercourses; and (b) final landform slopes adjacent to the levee must remain stable and are to be designed with a factor of safety of one point five (1.5) (calculated from the levee toe) or above based on an accepted stability analysis.
G15	Design requirements for the levee and adjacent mining excavation must: (a) not result in increased erosion of the bank or bed of the adjacent waterways – Isaac River, Hill Creek and Ti-Tree Creek; (b) not significantly impact upon riparian or existing remnant vegetation (other than that allowed under the approved disturbance footprint); and (c) not erode during any flood events up to any 1 in 1,000 AEP event.

G16	As part of the authorised rehabilitation activities detailed in Table G1 - Rehabilitation Requirements the levees are required to developed into the approved final landform of grazing.
G17	Groundwater Dependent Ecosystems No significant impacts to Groundwater Dependent Ecosystems (with consideration to background seasonal fluctuations in riparian health) are authorised.
G18	Permanent drainage feature diversion Permanent drainage feature diversions must be designed and constructed to: (a) incorporate natural features (including geomorphic and vegetation) present at the location of the diversion; (b) maintain the pre-existing hydrologic characteristics of surface water and groundwater systems for the area in which the drainage feature diversion is located; (c) maintain the hydraulic characteristics of the permanent drainage feature diversion that are equivalent to other local watercourses and are suitable for the area in which the diversion is located without using artificial structures that require on-going maintenance; (d) maintain sediment transport and water quality regimes that allow the diversion to be self-sustaining, while minimising any impacts to upstream and downstream water quality, geomorphology or vegetation; and (e) maintain equilibrium and functionality in all substrate conditions at the location of the diversion;
G19	Design plan A certified Design Plan that achieves condition I5 for permanent drainage feature diversions must be submitted to the administering authority at least ten (10) business days before commencing construction of the diversion.
G20	The certified design plan for permanent drainage feature diversion must be consistent with the functional design/s that formed a part of the application documents for this authority.
G21	Construction and operation A certified set of 'as constructed' drawings and specifications must be submitted to the administering authority within sixty (60) business days from the completion of construction of the permanent drainage feature diversion. These drawings and specifications must state: (a) that the 'as constructed' drawings and specifications meet the original intent of the design plan for the drainage feature diversion; and (b) construction of the drainage feature diversion is in accordance with the design plan.
G22	Permanent drainage feature diversion must meet the rehabilitation criteria as per the Table G1 - Rehabilitation requirements .

Schedule H - Offsets and Biodiversity	
Condition number	Condition
H1	Significant residual impacts to prescribed environmental matters are not authorised under this environmental authority unless the impacts are specified in Table H1 – Significant residual impacts to prescribed environmental matters and Appendix 6a - Regulated Vegetation Offsets and Appendix 6b - Regional ecosystem mapping
H2	An environmental offset made in accordance with the <i>Environmental Offsets Act 2014</i> and Queensland Environmental Offset Policy, must be undertaken for the maximum extent of impact to each prescribed environmental matter authorised in Table H1 – MNES and MSES offset requirements .
H3	The significant residual impacts to prescribed environmental matters authorised in condition H1 for which an environmental offset is required by condition H2 , may be carried out in stages. An environmental offset can be delivered for each stage of the impacts to prescribed environmental matters.
H4	Prior to the commencement of each stage, a report completed by an appropriately qualified person, that includes an analysis of the following must be provided to the administering authority: (a) For the forthcoming stage – the estimated significant residual impacts to each prescribed environmental matter; and (b) For the previous stage, if applicable – the actual significant residual impacts to each prescribed environmental matter, to date.
H5	The report required by condition H4 must be approved by the administering authority before a notice of election for the forthcoming stage, if applicable, is given to the administering authority.
H6	A notice of election for the staged environmental offset referred to in condition H5 , if applicable, must be provided to the administering authority no less than three (3) months before the proposed commencement of that stage, unless a lesser timeframe has been agreed to by the administering authority.
H7	Within six (6) months from the completion of the final stage of the project, a report completed by an appropriately qualified person, that includes the following matters must be provided to the administering authority: (a) An analysis of the actual impacts on prescribed environmental matters resulting from the final stage; and (b) If applicable, a notice of election to address any outstanding offset debits for the authorised impacts.

Table H1: MNES and MSES offset requirements

Prescribed environmental matters		Offset Act	Area to be impacted (ha)
Poplar Box Grassy Woodlands on Alluvial Plains*	Of Concern RE 11.3.2	EPBC Act 1999/Environmental Offset Act 2014	185.70
<i>Eucalyptus tereticornis</i> and/or <i>Eucalyptus</i> spp. woodland on alluvial plains.	Of Concern RE 11.3.4	Environmental Offsets Act 2014	8.01
<i>Eucalyptus populnea</i> , <i>Eremophila mitchellii</i> shrubby woodland on fine-grained sedimentary rocks.	Of Concern RE 11.9.7	Environmental Offsets Act 2014	5.15
REs located within the defined distance from the defining banks of a VM Act watercourse.	Of Concern RE 11.3.2, RE 11.3.4, RE 11.3.25, RE 11.8.5, and RE 11.9.7.	Environmental Offsets Act 2014	15.84

*This matter will be offset under the Environment Protection and Biodiversity Conservation Act 1999 (EPBC) approval conditions.

Schedule I - Structures	
Condition number	Condition
I1	Assessment of consequence category The consequence category of any structure must be assessed by a suitably qualified and experienced person: (a) in accordance with the latest version of the <i>Manual for assessing consequence categories and hydraulic performance of structures</i>; and (b) in any of the following situations: (i) prior to the design and construction of the structure; or (ii) prior to any change in its purpose or the nature of its stored contents.
I2	A consequence assessment report and certification must be prepared for any structure assessed and the report may include a consequence assessment for more than one structure.
I3	Certification must be provided by the suitably qualified and experienced person who undertook the assessment, in the form set out in the latest version of the <i>Manual for assessing consequence categories and hydraulic performance of structures</i> .
I4	The holder must take reasonable and practical measures so that each dam associated with the mining activity is designed, constructed, operated and maintained in accordance with accepted engineering standards and is fit for the purpose for which it is intended.
I5	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 latest version of the <i>Manual for assessing consequence categories and hydraulic performance of structures</i>. <i>Note: Construction of a dam includes modification of an existing dam - see definitions.</i> <i>Certification of design and construction may be undertaken by different persons.</i>
I6	Construction of a regulated structure is prohibited unless the holder has: (a) submitted a consequence category assessment report and certification to the administering authority; (b) commissioned a suitably qualified and experienced person to prepare a design plan for the structure; and (c) received the certification from a suitably qualified and experienced person for the design and design plan and the associated operating procedures in compliance with conditions I12, I13 and I14 of this authority.
I7	Certification must be provided by the suitably qualified and experienced person who oversees the preparation of the design plan, in the form set out in the latest version of the <i>Manual for assessing consequence categories and hydraulic performance of structures</i> and must be recorded in the Register of Regulated Structures.

I8	Regulated structures must: (a) be designed and constructed in accordance with and conform to the requirements of the latest version of the <i>Manual for assessing consequence categories and hydraulic performance of structures</i>; and (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 dam from any watercourse or drainage line; and (ii) wall failure due to erosion by floodwaters arising from any watercourse or drainage line.
I9	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; and (b) construction of the regulated structure is in accordance with the design plan.
I10	Where a regulated dam is to be managed as part of an integrated containment system and the DSA volume is to be shared across the integrated containment system, the design and operating rules for the system as a whole must be documented in a system design plan that is certified by a suitably qualified and experienced person.
I11	The system design plan must contain: (a) the design plans, (b) the 'as constructed' plans, (c) the operational rules for each individual regulated dam that forms part of the integrated system, (d) the standards of serviceability and accessibility of water transfer equipment or structures, and (e) the operational rules for the system as a whole.

I12	Operation of a regulated structure Operation of a regulated 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 I5; (b) a set of 'as constructed' drawings and specifications; (c) certification of those 'as constructed drawings and specifications' in accordance with condition I9; (d) where the regulated structure is to be managed as part of an integrated containment system for the purpose of sharing the 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 structure.
I13	Each regulated structure must be maintained and operated in a manner that is consistent with the current design plan, the current operational plan, and the associated certified 'as constructed' drawings for the duration of its operational life until decommissioned and rehabilitated.
I14	The holder must take reasonable and practicable control measures to prevent the causing of harm to persons, livestock or wildlife through the construction and operation of a regulated structure. Reasonable and practicable control measures may include, but are not limited to: (a) the secure use of fencing, bunding or screening; and (b) escape arrangements for trapped livestock and fauna.
I15	Mandatory reporting level The Mandatory Reporting Level (the MRL) must be marked on a regulated dam in such a way that during routine inspections of that dam, it is clearly observable.
I16	The holder must record any changes to the MRL in the Register of Regulated Structures condition I24.
I17	The 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.
I18	The holder must, immediately on becoming aware that the MRL has been reached, act to prevent the occurrence of any unauthorised discharge from the regulated dam.

I19	Annual inspection report Each regulated structure must be inspected each calendar year by a suitably qualified and experienced person.
I20	At each annual inspection, the condition and adequacy of all components of the regulated structure must be assessed: (a) against the most recent hazard assessment report and design plan (or system design plan); (b) against recommendations contained in previous annual inspections reports; (c) against recognised dam safety deficiency indicators; (d) for changes in circumstances potentially leading to a change in hazard category; (e) for conformance with the conditions of this authority; (f) for conformance with the 'as constructed' drawings; (g) 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 year, of accumulated sediment, state of the containment barrier and the level of liquids in the dam (or network of linked containment systems); and (h) for evidence of conformance with the current operational plan.
I21	A suitably qualified and experienced person must prepare an annual inspection report containing details of the assessment and including recommended actions to ensure the integrity of the regulated structure.
I22	The suitably qualified and experienced person who prepared the annual inspection report must certify the report in accordance with the latest version of the <i>Manual for assessing consequence categories and hydraulic performance of structures</i>.
I23	Register of Regulated Structures A Register of Regulated Structures must be established and maintained by the holder for each regulated structure:
I24	The 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.
I25	The holder must make a final entry of the required information in the Register of Regulated Structures once compliance with condition I13 has been achieved.
I26	The holder must ensure that the information contained in the Register of Regulated Structures is current and complete on any given day.
I27	All entries in the Register of Regulated Structures must be approved by the chief executive officer for the holder of this authority, or their delegate, as being accurate and correct.
I28	The holder must, supply to the administering authority on request a copy of the records contained in the Register of Regulated Structures, in the electronic format required by the administering authority.

I29	The holder must: (a) upon receipt of the annual inspection report, consider the report and its recommendations and take action to ensure that the regulated structure will safely perform its intended function; and (b) within twenty (20) business days of receipt of the annual inspection report, notify the administering authority in writing, of the recommendations of the inspection report and the actions being taken to ensure the integrity of each regulated structure.
I30	Design storage allowance On 1 November of each year, storage capacity must be available in each regulated dam (or network of linked containment systems with a shared Design Storage Allowance (DSA) volume), to meet the DSA volume for the dam (or network of linked containment systems).
I31	The 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.
I32	Performance review The 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.
I33	The holder must take action to modify its water management or linked containment system so as to ensure that the regulated dam or linked containment system will perform in accordance with the requirements of this authority, for the subsequent November to May period. <i>Note: Action may include seeking the necessary approvals for physical modification of a regulated dam.</i>
I34	Transfer arrangements The holder must provide a copy of any reports, documentation and certifications prepared under this authority, including but not limited to any Register of Regulated Structures, hazard assessment, design plan and other supporting documentation, to a new holder and the administering authority on transfer of this authority.

I35	Prior to the cessation of the environmentally relevant activity, each regulated structure must be decommissioned such that: (a) ongoing environmental harm is minimised by the regulated structure: i) becoming a safe site for humans and animals at the completion of rehabilitation; or ii) becoming a stable landform, that no longer contains flowable substances and minimises erosion impacts; or iii) not allowing for acid mine drainage; or iv) being approved or authorised under relevant legislation for a beneficial use; or v) being a void authorised by the administering authority to remain after decommissioning; and (b) the regulated structure is compliant with all other relevant rehabilitation requirements of this authority.
------------	--

END OF CONDITIONS

Definitions

Words and phrases used throughout this licence are defined below except where identified in the *Environmental Protection Act 1994 (EP Act 1994)* or subordinate legislation. Where a word or term is not defined, the ordinary English meaning applies, and regard should be given to the *Macquarie Dictionary*.

20th percentile flow means the 20th percentile of all daily flow measurements (or estimations) of daily flow over a 10 year period for a particular site. The 20th percentile calculation should only include days where flow has been measured (or estimated), i.e. not dry weather days.

Accepted engineering standards in relation to dams, means those standards of design, construction, operation and maintenance that are broadly accepted within the profession of engineering as being good practice for the purpose and application being considered. In the case of dams, the most relevant documents would be publications of the Australian National Committee on Large Dams (ANCOLD), guidelines published by Queensland government departments, and relevant Australian and New Zealand Standards.

Acceptance criteria means the measures by which the actions implemented to rehabilitate the land are deemed to be complete. The acceptance criteria indicate the success of the rehabilitation outcome or remediation of areas which have been significantly been disturbed by the mining activities. Acceptance criteria may include information regarding:

- a) vegetation establishment, survival and succession
- b) vegetation productivity, sustained growth and structure development
- c) fauna colonisation and habitat development
- d) 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
- e) microbiological studies including recolonisation by mycorrhizal fungi, microbial biomass and respiration
- f) effects of various establishment treatments such as deep ripping, topsoil handling, seeding and fertiliser application on vegetation growth and development
- g) resilience of vegetation to disease, insect attack, drought and fire
- h) 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 as a result of mining activity.

AEP means the Annual Exceedance Probability, which is the probability that at least one event in excess of a particular magnitude will occur in any given year.

Airblast overpressure means energy transmitted from the blast site within the atmosphere in the form of pressure waves. The maximum excess pressure in this wave, above ambient pressure is the peak air blast 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.

ANZECC means the *Australian and New Zealand Guidelines for Fresh Marine Water Quality 2000*.

Authority means environmental authority (mining activities) under the *Environmental Protection Act 1994*.

Assessed or assess by a suitably qualified and experienced person in relation to a hazard assessment of a dam, means that 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 at any time:

- a) exactly what has been assessed and the precise nature of that assessment
- 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
- 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:

- a) operations of any kind and all things constructed, erected or installed for that dam
- b) any land used for those operations.

Bed and banks for a waters, river, creek, stream, lake, lagoon, pond, swamp, wetland or dam means land over which the water of the waters, lake, lagoon, pond, swamp, wetland or dam normally flows or that is normally covered by the water, whether permanently or intermittently; but does not include land adjoining or adjacent to the bed and banks that is from time to time covered by floodwater.

Beneficial use in respect of dam's means that the current or proposed owner of the land on which a dam stands, has found a use for that dam that is:

- a) of benefit to that owner in that it adds real value to their business or to the general community
- b) in accordance with relevant provisions of the *Environmental Protection Act 1994*
- c) sustainable by virtue of written undertakings given by that owner to maintain that dam
- d) the transfer and use have been approved or authorised under any relevant legislation.

Biosolids means the treated and stabilised solids from sewage.

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.

Bunded means within bunding consistent with Australian Standard 1940.

Certification or **Certified** by a suitably qualified and experienced person in relation to a design plan or an annual report regarding dams, means that 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 at any time:

- a) exactly what is being certified and the precise nature of that certification
- b) the relevant legislative, regulatory and technical criteria on which the certification has been based
- c) the relevant data and facts on which the certification has been based, the source of that material, and the efforts made to obtain all relevant data and facts
- d) the reasoning on which the certification has been based using the relevant data and facts, and the relevant criteria.

Chemical means:

- a) An agricultural chemical product or veterinary chemical product within the meaning of the *Agricultural and Veterinary Chemicals Code Act 1994* (Commonwealth).
- b) A dangerous good under the dangerous goods code.
- c) A lead hazardous substance within the meaning of the *Workplace Health and Safety Regulation 1997*.
- d) 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.
- e) any substance used as, or intended for use as:
 - i. a pesticide, insecticide, fungicide, herbicide, rodenticide, nematocide, miticide, fumigant or related product.
 - ii. a surface active agent, including, for example, soap or related detergent
 - iii. a paint solvent, pigment, dye, printing ink, industrial polish, adhesive, sealant, food additive, bleach, sanitiser, disinfectant, or biocide
 - iv. a fertiliser for agricultural, horticultural or garden use
- f) a substance used for, or intended for use for:
 - i. mineral processing or treatment of metal, pulp and paper, textile, timber, water or wastewater
 - ii. manufacture of plastic or synthetic rubber.

Commercial place means a work place 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.

Competent person means a person with the demonstrated skill and knowledge required to carry out the task to a standard necessary for the reliance upon collected data or protection of the environment.

Construction includes building a new dam and modifying or lifting an existing dam.

Contaminate means to render impure by contact or mixture.

Contaminated means the substance has come into contact with a contaminant.

Contaminant - a contaminant can be:

- a) a gas, liquid or solid
- b) an odour
- c) an organism (whether alive or dead), including a virus
- d) energy, including noise, heat, radioactivity and electromagnetic radiation
- e) a combination of contaminants.

Control measure means any action or activity that can be used to prevent or eliminate a hazard or reduce it to an acceptable level.

Cover material means any soil or rock suitable as a germination medium or landform armouring.

Dam means a land-based structure or a void that is designed to contain, divert or control flowable substances, and includes any substances that are thereby contained, diverted or controlled by that land-based structure or void and associated works. However; a dam does not mean a fabricated or manufactured tank or container designed to a recognised standard, nor does a dam mean a land-based structure where that structure is designed to an Australian Standard. In case there is any doubt, a levee (dyke or bund) is a dam, but (for example) a bund designed for spill containment to AS1940 is not a dam.

Density of cover In reference to trees and/or shrubs, it means the number of trees or shrubs in a specified area (e.g. 50 trees per square kilometre). With reference to understorey plant species (e.g. grasses and forbs), it means the percentage of surface area covered by a particular species.

Design plan is the documentation required to describe the physical dimensions of the dam, the materials and standards to be used for construction of the dam, and the criteria to be used for operating the dam. The documents must include design and investigation reports, specifications and certifications, together with the planned decommissioning and rehabilitation works and outcomes. A design plan may include 'as constructed' drawings.

Design storage allowance or **DSA** means the minimum storage required in a dam at the first of November each year in order to meet the hydraulic performance requirements.

Development approval means a development approval under the *Integrated Planning Act 1997* in relation to a matter that involves an environmentally relevant activity under the *Environmental Protection Act 1994*.

Disturbed means any area that has had its natural state altered by the action or interference of carrying out an activity associated with the exploration project.

Domestic waste means waste, other than domestic clean-up waste, green waste, recyclable waste, interceptor waste or waste discharged to a sewer, produced as a result of the ordinary use or occupation of domestic premises.

Dwelling means any of the following structures or vehicles that is principally used as a residence:

- a) a house, unit, motel, nursing home or other building or part of a building
- b) a caravan, mobile home or other vehicle or structure on land
- c) a water craft in a marina.

Effluent means treated waste water discharged from sewage treatment plants.

End of pipe means the location at which water is released to waters or land.

Environmental authority means an environmental authority granted in relation to an environmentally relevant activity under the *Environmental Protection Act 1994*.

Environmental authority holder means the holder of this environmental authority.

Environmental Harm is any adverse effect, or potential adverse effect (whether temporary or permanent and of whatever magnitude, duration or frequency) on an environmental value, and includes environmental nuisance. Environmental harm may be caused by an activity whether the harm is a direct or indirect result of the activity; or whether the harm results from the activity alone or from the combined effects of the activity and other activities or factors.

Environmental Nuisance is unreasonable interference or likely interference with an environmental value caused by:

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

Environmentally relevant activity means an environmentally relevant activity as defined under Section 18 of the *Environmental Protection Act 1994* and listed under Schedule 2 of the *Environmental Protection Regulation 2008*.

ERE means an endangered regional ecosystem identified in the database maintained by the department called 'Regional Ecosystem Description Database' containing regional ecosystem numbers and descriptions.

Financial assurance means a security required under the *Environmental Protection Act 1994* by the administering authority to cover the cost of rehabilitation or remediation of disturbed land or to secure compliance with the environmental authority.

Floodwater means water overflowing, or that has overflowed, from waters, river, creek, stream, lake, pond, wetland or dam onto or over riparian land that is not submerged when the watercourse or lake flows between or is contained within its bed and banks.

Flowable substance means matter or a mixture of materials which can flow under any conditions potentially affecting that substance. Constituents of a flowable substance can include water, other liquids 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 probability 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 probability of failure before that time.

General waste means waste other than regulated waste.

Hazardous waste means a substance, whether liquid, solid or gaseous that, if improperly treated, stored, disposed of or otherwise managed, is likely to cause environmental harm.

Hazard in relation to a dam as defined, means the potential for environmental harm resulting from the collapse or failure of the dam to perform its primary purpose of containing, diverting or controlling flowable substances.

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 the *Site Water Management Technical Guideline for Environmental Management of Exploration and Mining in Queensland (DME 1995)*.

Hydraulic performance means the capacity of a regulated dam to contain or safely pass flowable substances based on a probability (AEP) of performance failure specified for the relevant hazard category in the *Site Water Management Technical Guideline for Environmental Management of Exploration and Mining in Queensland (DME 1995)*.

Infrastructure means water storage dams, roads and tracks, buildings and other structures built for the purpose of mining activities but does not include other facilities required for the long term management of mining impacts or the protection of potential resources. Such other facilities include dams, waste rock dumps, voids, or ore stockpiles and buildings as well as other structures whose ownership can be transferred and which have a residual beneficial use for the next owner of the operational land or the background land owner.

L_A 10, adj, 10 mins means the A-weighted sound pressure level, (adjusted for tonal character and impulsiveness of the sound) exceeded for 10% of any 10-minute measurement period, using Fast response.

L_A 1, adj, 10 mins means the A-weighted sound pressure level, (adjusted for tonal character and impulsiveness of the sound) exceeded for 1% of any 10-minute measurement period, using Fast response

$L_{A, \max \text{ adj, T}}$ means the average maximum A-weighted sound pressure level, adjusted for noise character and measured over any 10 minute period, using Fast response.

Lake includes:

- a) lagoon, swamp or other natural collection of water, whether permanent or intermittent; and
- b) the bed and banks and any other element confining or containing the water.

Land in the **Land schedule** of this document means land excluding waters and the atmosphere.

Land capability as defined in the *Guidelines for Agricultural Land Evaluation in Queensland 2nd edition (DSITI 2015)*.

Land suitability as defined in the *Guidelines for Agricultural Land Evaluation in Queensland 2nd edition (DSITI 2015)*.

Land use term to describe the selected post mining use of the land, which is planned to occur after the cessation of mining operations.

Landfill means land used as a waste disposal site for lawfully putting solid waste on the land.

Levee means a dam, dyke or bund that is designed only to provide for the containment and diversion of stormwater or flood flows from a contributing catchment, or containment and diversion of flowable materials resulting from unplanned releases from other works of infrastructure, during the progress of those stormwater or flood flows or those unplanned releases; and does not store any significant volume of water or flowable substances at any other times.

Mandatory reporting level or **MRL** means a warning and reporting level determined in accordance with the *Site Water Management Technical Guideline for Environmental Management of Exploration and Mining in Queensland (DME 1995)*.

Mature trees means any tree relevant to the tenure that is classified as a *commercial sized tree* by the *Code of Practice for Native Forest Timber Production 2002*

mg/L means milligrams per litre.

Mineral means a substance which normally occurs naturally as part of the earth's crust or is dissolved or suspended in water within or upon the earth's crust and includes a substance which may be extracted from such a substance, and includes:

- a) clay if mined for use for its ceramic properties, kaolin and bentonite
- b) foundry sand
- c) hydrocarbons and other substances or matter occurring in association with shale or coal and necessarily mined, extracted, produced or released by or in connection with mining for shale or coal or for the purpose of enhancing the safety of current or future mining operations for coal or the extraction or production of mineral oil there from
- d) limestone if mined for use for its chemical properties
- e) marble
- f) mineral oil or gas extracted or produced from shale or coal by in situ processes
- g) peat
- h) salt including brine
- i) shale from which mineral oil may be extracted or produced
- j) silica, including silica sand, if mined for use for its chemical properties

k) rock mined in block or slab form for building or monumental purposes.

But does not include:

- a) living matter
- b) petroleum within the meaning of the *Petroleum Act 1923*
- c) soil, sand, gravel or rock (other than rock mined in block or slab form for building or monumental purposes) to be used or to be supplied for use as such, whether intact or in broken form
- d) water.

Mine water means process water and contaminated stormwater.

Mining activity/ies means the activities:

- a) authorised as per the definition in section 110 of the *Environmental Protection Act 1994*; and
- b) all environmentally relevant activities authorised under this environmental authority

Natural flow means the flow of water through waters caused by nature.

Native vegetation means vegetation that occurs naturally in a certain area.

Nature includes:

- a) ecosystems and their constituent parts
- b) all natural and physical resources
- c) natural dynamic processes.

Noxious means harmful or injurious to health or physical wellbeing.

Offensive means causing reasonable offence or displeasure; is disagreeable to the sense; disgusting, nauseous or repulsive, other than trivial harm.

Operational land means the land associated with the project for which this environmental authority has been issued.

Operational plan means a document that amongst other things sets out procedures and criteria to be used for operating a dam during a particular time period. The operational plan as defined herein may form part of a plan of operations or plan otherwise required in legislation.

Palletised means stored on a movable platform on which batteries are placed for storage or transportation.

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 (mms^{-1}).

Progressive rehabilitation means rehabilitation (defined below) undertaken progressively or a staged approach to rehabilitation as mining operations are ongoing.

Protected area means:

- a) a protected area under the *Nature Conservation Act 1992*
- b) a marine park under the *Marine Parks Act 2004*
- c) a World Heritage Area.

Progressive rehabilitation means rehabilitation (defined below) undertaken progressively or a staged approach to rehabilitation as mining operations are ongoing.

Process water means water used or produced during the mineral development activities.

Receiving environment means all groundwater, surface water, land, and sediments that are not disturbed areas authorised by this environmental authority.

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.

Receiving waters means all groundwater and surface water that are not disturbed areas authorised by this environmental authority.

Recycled water means appropriately treated effluent and urban stormwater suitable for further use.

Reference site (or analogue site) may reflect the original location, adjacent area or another area where rehabilitation success has been completed for a similar biodiversity. Details of the reference site may be as photographs, computer generated images and vegetation models etc.

Regulated structure includes land-based containment structures, levees, bunds and voids, but not a tank or container designed and constructed to an Australian Standard that deals with strength and structural integrity.

Regulated dam means any dam in the significant or high hazard category as assessed using the *Site Water Management Technical Guideline for Environmental Management of Exploration and Mining in Queensland (DME 1995)*.

Regulated waste means non-domestic waste mentioned in schedule 7 of the *Environmental Protection Regulation 2008* (whether or not it has been treated or immobilised), and includes:

- a) for an element – any chemical compound containing the element
- b) anything that has contained the waste.

Rehabilitation the process of reshaping and revegetating land to restore it to a stable landform and in accordance with the acceptance criteria set out in this environmental authority and, where relevant, includes remediation of contaminated land.

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 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.

Saline drainage the movement of waters, contaminated with salt(s), as a result of the mining activity.

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 means:

- a) a dwelling, residential allotment, mobile home or caravan park, residential marina or other residential premises
- b) a motel, hotel or hostel
- c) an educational institution
- d) a medical centre or hospital

- e) a protected area under the *Nature Conservation Act 1992*, the *Marine Parks Act 2004* or a World Heritage Area
- f) a public park or gardens.

Sewage means the used water of person's to be treated at a sewage treatment plant.

Significant impact (in relation to GDEs) means an impact that results in environmental values being affected in any of the following ways:

- a) areas of the wetland or watercourse being destroyed or artificially modified; or
- b) the species composition of the GDEs being seriously affected; or
- c) a substantial and measurable change in the hydrological regime or recharge zones of the GDE area, e.g. a substantial change to the volume, timing, duration and frequency of ground and surface water flows to and within the GDE area in excess of modelled impacts.

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.

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 a weir, channel, conduit, tunnel, gate or other structure designed to permit discharges from the dam, normally under flood conditions or in anticipation of flood conditions.

Stable in relation to land, 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 (trafficability), erosion resistance and geochemical stability with respect to seepage, leachate and related contaminant generation.

Storm water means all surface water runoff from rainfall.

Suitably qualified person means a person who;

- a) is a member of an organisation listed in Schedule 14 of the EP Regulations 2019; and
- b) holds certification as an environmental practitioner (i.e. Certified Environmental Practitioner, (CEnvP) under the CEnvP Scheme); or
- c) has professional qualifications, training, skills and 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.

Suitably qualified and experienced person in relation to dams means one who is a Registered Professional Engineer of Queensland (RPEQ) under the provisions of the *Professional Engineers Act 2002*, OR registered as a National Professional Engineer (NPER) with the Institution of Engineers Australia, OR holds equivalent professional qualifications to the satisfaction of the administering authority for the Act; AND the administering authority for the Act is satisfied that person has knowledge, suitable experience and demonstrated expertise in relevant fields, as set out below:

- a) knowledge of engineering principles related to the structures, geomechanics, hydrology, hydraulics, chemistry and environmental impact of dams
- b) a total of five years of suitable experience and demonstrated expertise in at least four of the following categories, with the 'geomechanics of dams' category being compulsory:
 - i. geomechanics of dams with particular emphasis on stability, geology and geochemistry
 - ii. investigation, design or construction of dams
 - iii. operation and maintenance of dams
 - iv. hydrology with particular reference to flooding, estimation of extreme storms, water management or meteorology
 - v. hydraulics with particular reference to sediment transport and deposition, erosion control, beach processes
 - vi. hydrogeology with particular reference to seepage, groundwater
 - vii. solute transport processes and monitoring thereof
 - viii. dam safety

Trackable waste means a waste or combination of waste stated in Schedule 1 of the *Environmental Protection (Waste Management) Regulation 2000*.

Trivial harm means environmental harm which is not material or serious environmental harm and will not cause actual or potential loss or damage to property of an amount of, or amounts totalling more than \$5,000.

Tolerable limits means a range of parameters regarded as being sufficient to meet the objective of protecting relevant environmental values. For example, a range of settlement for a tailings capping, rather than a single value, could still meet the objective of draining the cap quickly, preventing pondage and limiting infiltration and percolation.

Void means any man-made, open excavation in the ground.

Waste as defined in section 13 of the *Environmental Protection Act 1994*.

Waste management hierarchy has the meaning given by the *Environmental Protection (Waste Management) Policy 2000*.

Waste management principles has the meaning given by the *Environmental Protection (Waste Management) Policy 2000*.

Water means:

- a) water in waters or spring
- b) underground water
- c) overland flow water
- d) water that has been collected in a dam.

Waste water means used water from the activity, process water or contaminated storm water.

Water quality means the chemical, physical and biological condition of water.

Watercourse - Means a river, creek or stream in which water flows permanently or intermittently in a visibly defined channel (natural, artificial or artificially improved) with:

- a) continuous bed and banks;
- b) an extended period of flow for some months after rain ceases, and
- c) an adequacy of flow that sustains basic ecological processes and maintains biodiversity.

Waters includes:

- a) river, creek, stream in which water flows permanently or intermittently either:
 - i. in a natural channel, whether artificially improved or not
 - ii. in an artificial channel that has changed the course of the river, creek or stream
- b) lake, lagoon, pond, swamp, wetland, dam
- c) unconfined surface water
- d) storm water channel, storm water drain, roadside gutter
- e) bed and banks and any other element of a river, creek, stream, lake, lagoon, pond, swamp, wetland, storm water channel, storm water drain, roadside gutter or dam confining or containing water
- f) groundwater
- g) non-tidal or tidal waters (including the sea)
- h) any part thereof.

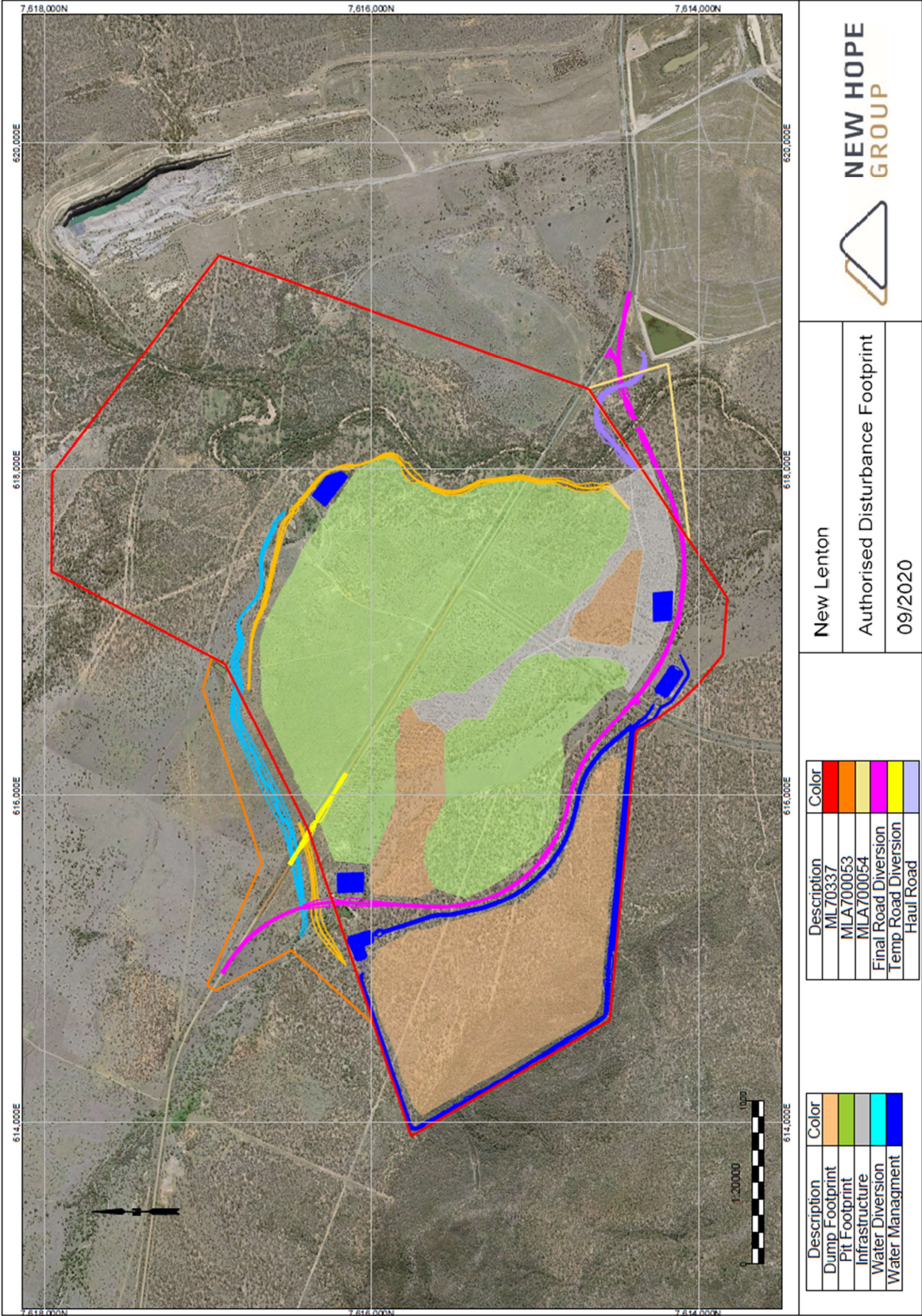
µg/L means micrograms per litre.

µS/cm⁻¹ means microsiemens per centimetre.

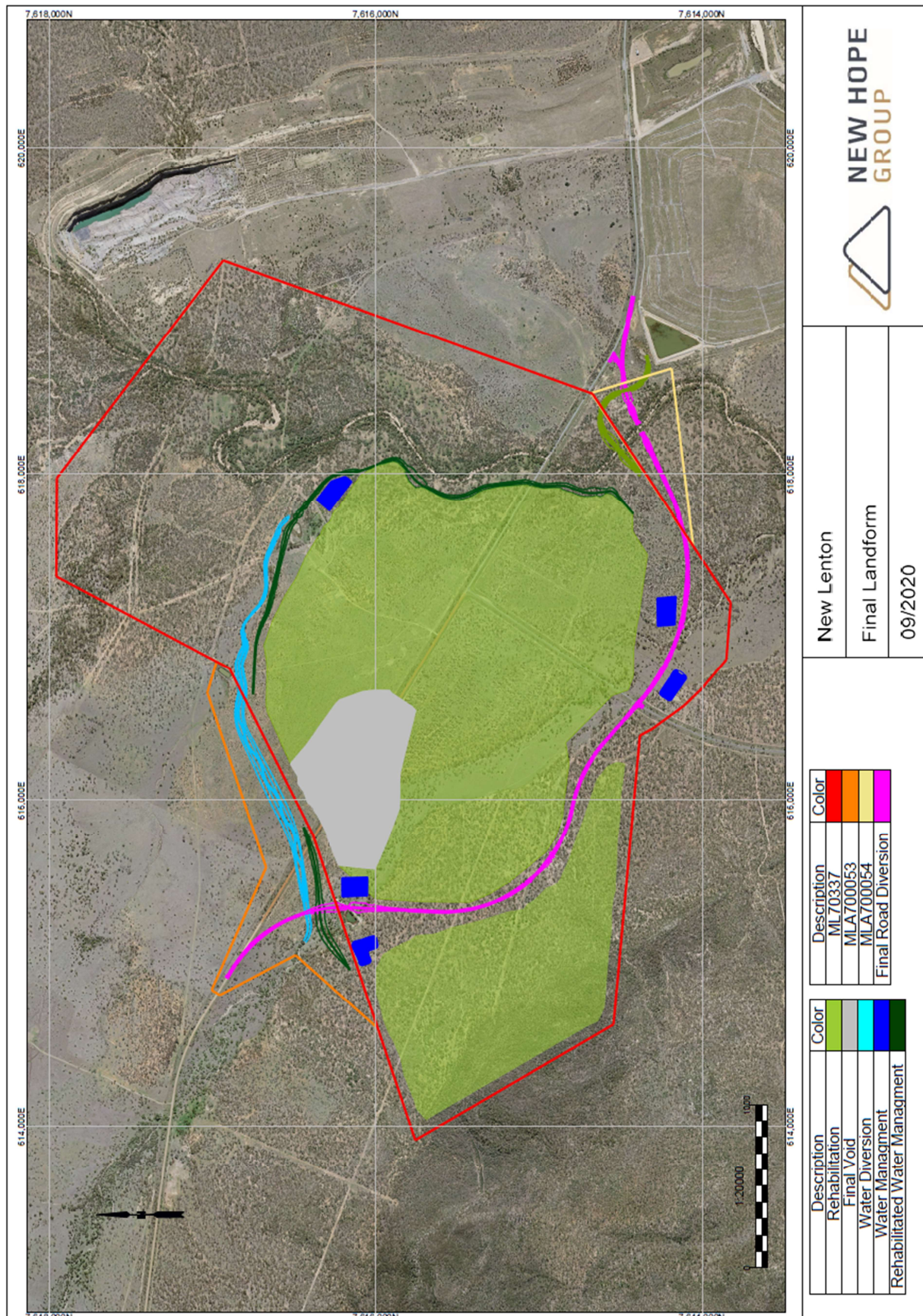
END OF DEFINITIONS

Appendices

Appendix 1 – Authorised Disturbance Footprint



Appendix 2 – Final Landform



Appendix 3 – Rehabilitation Success Criteria

Mine Domain	Mine Feature Name	Rehabilitation Goal	Rehabilitation Objectives	Indicators	Completion Criteria
Overburden	In pit and out of pit dumps, roads, cleared areas, topsoil stripped areas	Safe	Safe for humans and animals	Structurally sound with no major slumping No exposed hazardous material (geochemistry)	Backfill in pit dump areas to ground level or higher (for settlement) Slopes <17% with 100m length for dump outer batters and max slope lengths as per Table G2. No hazardous materials at surface
		Stable	Minimise erosion and low probability of slope slippage, rock falls	Structural and geotechnical adequacy No major erosion	Geotechnical stable with Factor of Safety of 1.5 Suitable for grazing - slopes less than 17% and max slope lengths as per Table G2. Absence of active rill/gully erosion
		Non-polluting	No serious environmental harm from materials and water quality	Runoff and seepage do not cause environmental harm	Runoff and discharge water quality meet specified limits. pH- 6.5 to 8.5, EC 1000 µS/cm, Sulphate 250 mg/L
		Self-sustaining land use minimal maintenance	Grazing	Establishment of adequate vegetation cover and diversity	Vegetation cover >50% Species diversity spp./ha ≥3 Land suitability Class 3

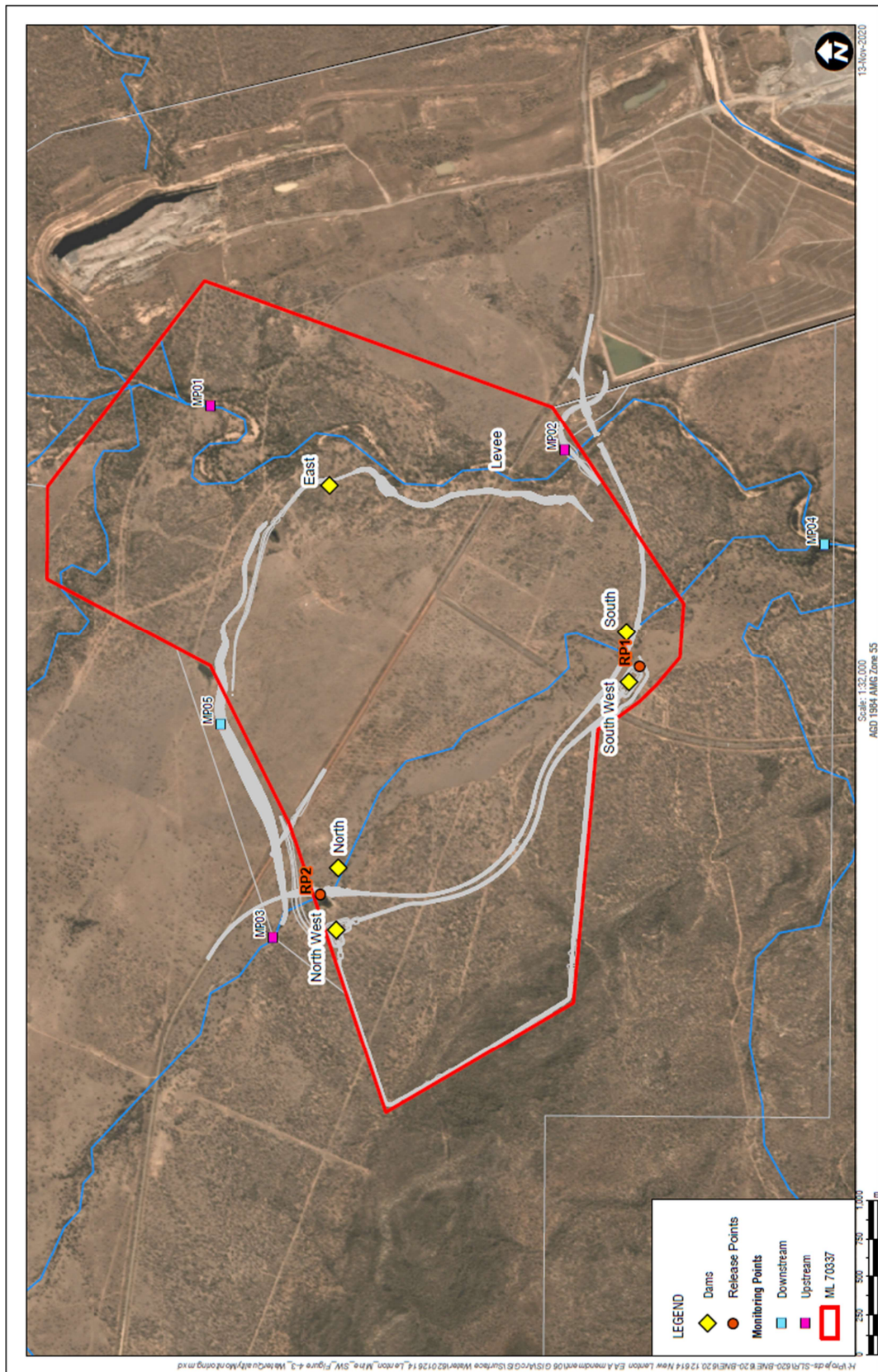
Mine Domain	Mine Feature Name	Rehabilitation Goal	Rehabilitation Objectives	Indicators	Completion Criteria
Final Void	Mining pits	Safe	Safe for humans and animals	Geotechnical stability No exposed hazardous material No access to steep zones (angle of repose or greater) No contaminated void discharges Void is a sink/storage Stable high walls	Non-competent rock - maximum slope of 100% and maximum slope of 214% for competent rock and stable landform. Minimal exposure of humans and fauna to toxic waters No public access to highwall or end wall Fence entire perimeter and bund to high wall areas Coal seams covered in areas not inundated permanently
		Stable	Minimise erosion and low probability of slope slippage, rock falls	Structural and geotechnical soundness No major erosion	Low wall left at angle of repose with vegetative cover <75% (Table G2) Steep slopes only in competent rock Absence of active rill/gully erosion
		Non-polluting	No serious environmental harm from materials and water quality	Void water does not cause environmental harm No exposed hazardous material	Water quality maximum of 18,000us/cm, no livestock access if quality outside of stock limits Coal seams covered in areas not inundated permanently
		Self-sustaining minimal maintenance	Agreed water storage capability	Establishment of adequate vegetation cover and diversity	Vegetation cover >80% on low wall (not highwalls or end walls) Species diversity spp./ha ≥ 3
Diversion	Diversion channels	Safe	Safe for humans and animals	Structural, geotechnical and hydraulic adequacy Minimal erosion	Meets engineering design criteria
		Stable	Minimise erosion and low probability of slope slippage, rock falls	Structural and geotechnical adequacy No major erosion	Drainage channels/ lines functioning Absence of active rill/gully erosion

Mine Domain	Mine Feature Name	Rehabilitation Goal	Rehabilitation Objectives	Indicators	Completion Criteria
		Non-polluting	No serious environmental harm from materials and water quality	Runoff does not cause environmental harm	Runoff water quality meets specified limits – to meet WQO for downstream receiving environment (pH- 6.5 to 8.5, EC 1000 µS/cm, Sulphate 250 mg/L)
		Self-sustaining minimal maintenance	Native or riparian community	Establishment of adequate vegetation cover	Vegetation cover >50% on slopes Monitoring evidence (geomorphology, etc.)
Drains	Mine affected water drainage lines	Safe	Safe for humans and animals	Structural, geotechnical and hydraulic adequacy Minimal erosion	Similar to regional, ephemeral drainage lines (geomorphology)
		Stable	Minimise erosion and low probability of slope slippage, rock falls	Structural and geotechnical adequacy No major erosion	Drainage lines functioning Absence of active rill/gully erosion
		Non-polluting	No serious environmental harm from materials and water quality	Runoff does not cause environmental harm	Runoff water quality meets specified limits (pH- 6.5 to 8.5, EC 1000 µS/cm, Sulphate 250 mg/L)
		Self-sustaining minimal maintenance	Native or riparian community	Establishment of adequate vegetation cover	Vegetation cover >50% on slopes Species diversity spp./ha ≥3
Dams	Mine water dams	Safe	Protects humans and animals	Structural, geotechnical and hydraulic adequacy No hazardous material remaining in dam Minimal erosion	Final structure stable Contaminated sediment removed and placed in pit void Sign off by post-mining landholder if retained
		Stable	Low probability of failure, slumping of embankments	Structural and geotechnical adequacy No major erosion	Bywash/spillway structures with adequate capacity Absence of active rill/gully erosion

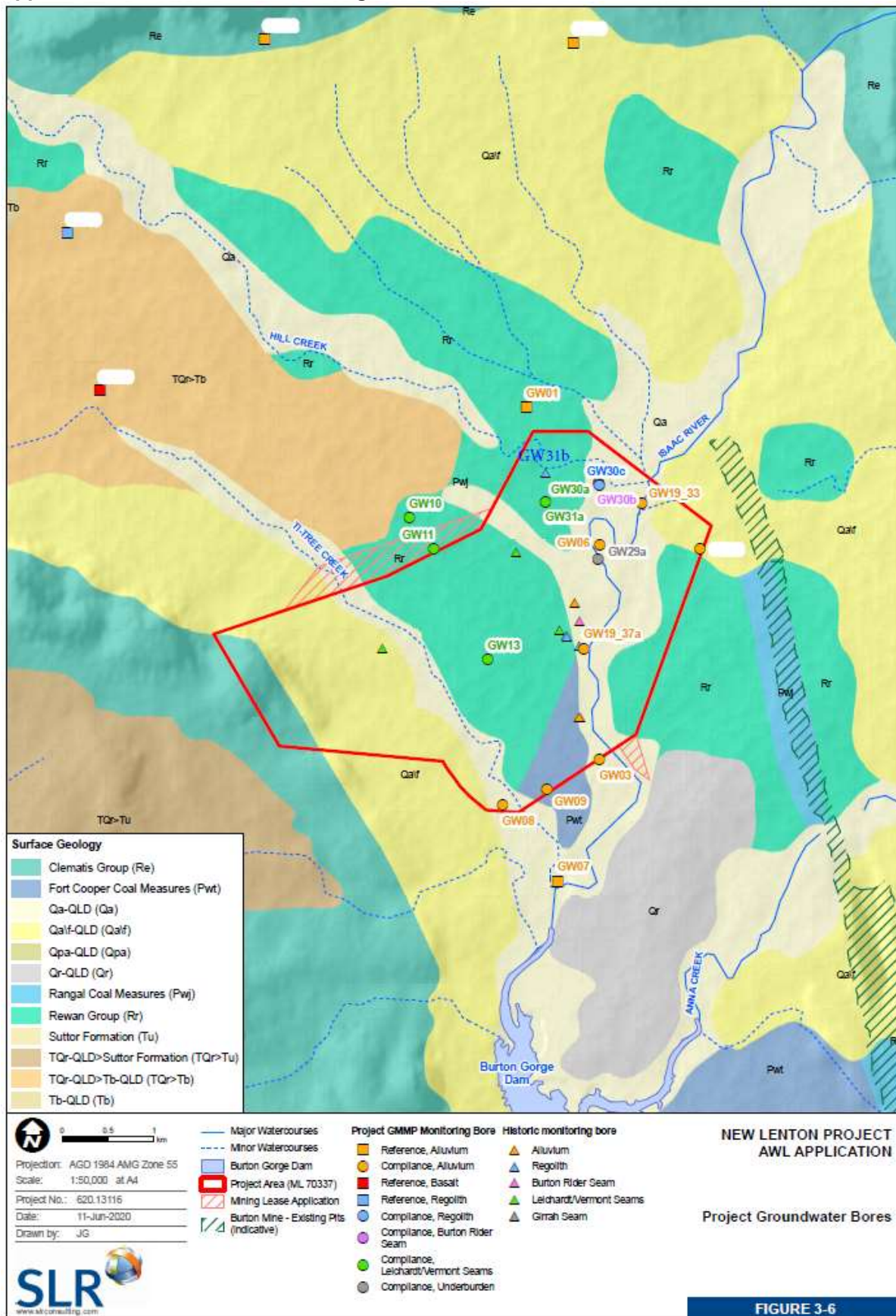
Mine Domain	Mine Feature Name	Rehabilitation Goal	Rehabilitation Objectives	Indicators	Completion Criteria
		Non-polluting	No serious environmental harm from materials and water quality	Runoff, seepage and discharge do not cause environmental harm	Runoff and discharge water quality meet downstream WQO (pH- 6.5 to 8.5, EC 1000 µS/cm, Sulphate 250 mg/L)
		Self-sustaining minimal maintenance	Grazing	Establishment of adequate vegetation cover and diversity	Vegetation cover >50% if not retained Species diversity spp./ha ≥3 if not retained Grazing land suitability class 3
Levees	Constructed embankment	Safe	Protects final landform, humans and animals	Structural, geotechnical and hydraulic adequacy Minimal erosion	Meets engineering design criteria or removed post-mining (Isaac River Levee)
		Stable	Low probability of failure, slumping of embankments	Removal from final landform (Isaac River) or integration in final landform (Ti-Tree Creek)	Drainage lines functioning (Ti-Tree Creek) or integrated in floodplain (Isaac River) Absence of active rill/gully erosion
		Non-polluting	No serious environmental harm from materials and water quality	Runoff does not cause environmental harm	Runoff water quality meets WQO downstream (pH- 6.5 to 8.5, EC 1000 µS/cm, Sulphate 250 mg/L)
		Self-sustaining minimal maintenance	Grazing	Establishment of adequate vegetation cover	Vegetation cover >50% on slopes Species diversity spp./ha ≥3

Mine Domain	Mine Feature Name	Rehabilitation Goal	Rehabilitation Objectives	Indicators	Completion Criteria
Infrastructure	Haul roads, mine infrastructure areas, transmission lines, pipeline easements	Safe	Protects retained infrastructure, humans and animals	Geotechnical adequacy Services disconnected No exposed hazardous material or chemicals. No contaminated mine drainage or discharges. Wastes removed	Stable final landform Demolition/removal of all infrastructure not to be retained Sign off of asset transfer by post-mining landholder (for retained structures) Formal asset handover for engineered or non-engineered assets. Treat or remove waste/ hazardous materials
		Stable	Minimise erosion and low probability of slope slippage	Structural and geotechnical stability No major erosion	No infrastructure with structural instability retained Absence of active rill/gully erosion
		Non-polluting	No serious environmental harm from materials and water quality	Runoff or discharges do not cause environmental harm Contamination remediated	Runoff and discharge water quality meets WQO downstream (pH- 6.5 to 8.5, EC 1000 µS/cm, Sulphate 250 mg/L)
		Self-sustaining minimal maintenance	Native communities or agreed grazing land suitability	Establishment of adequate vegetation cover and diversity	Vegetation cover >50% if not retained Species diversity spp./ha ≥3 if not retained

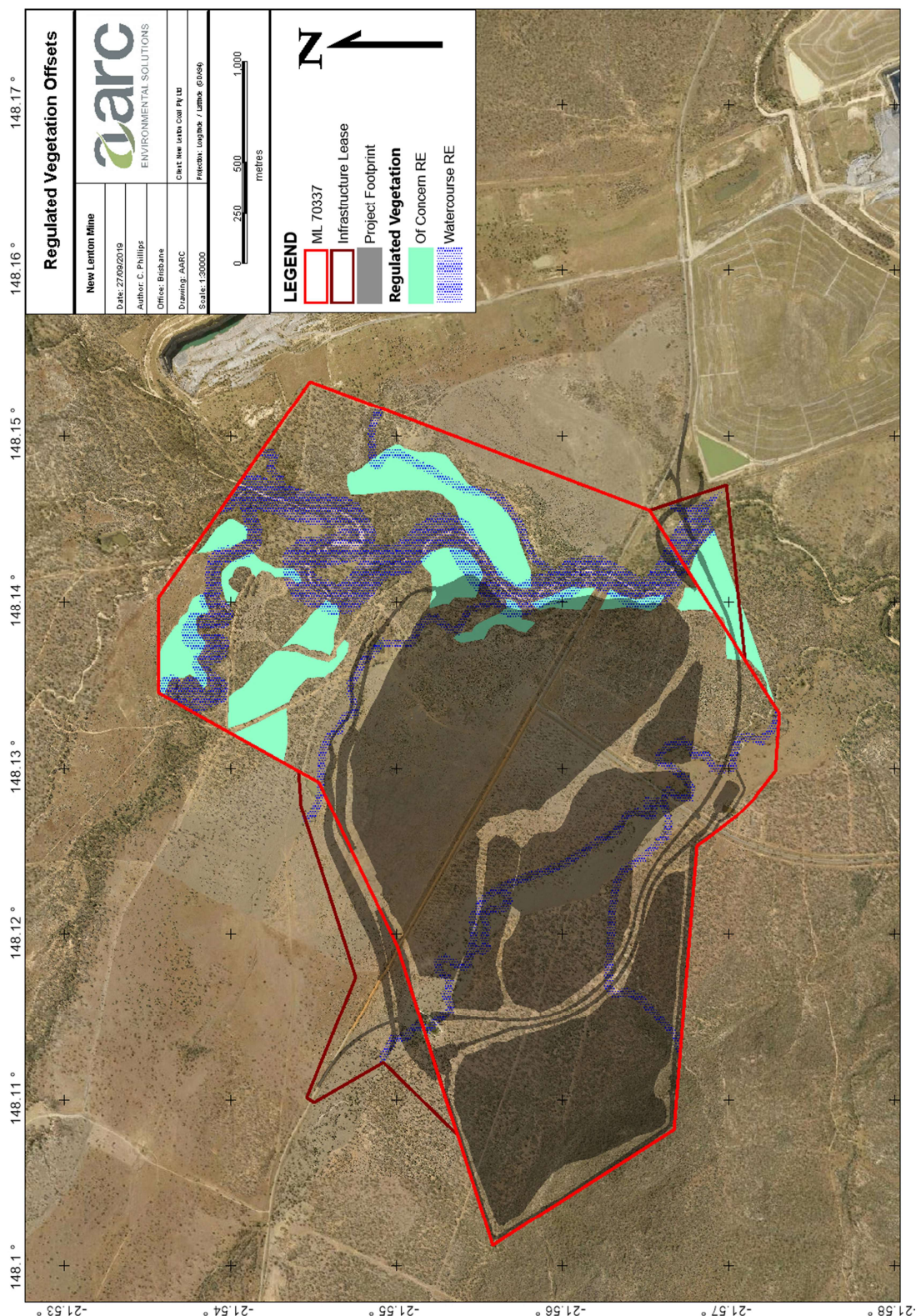
Appendix 4 – Surface Water Monitoring



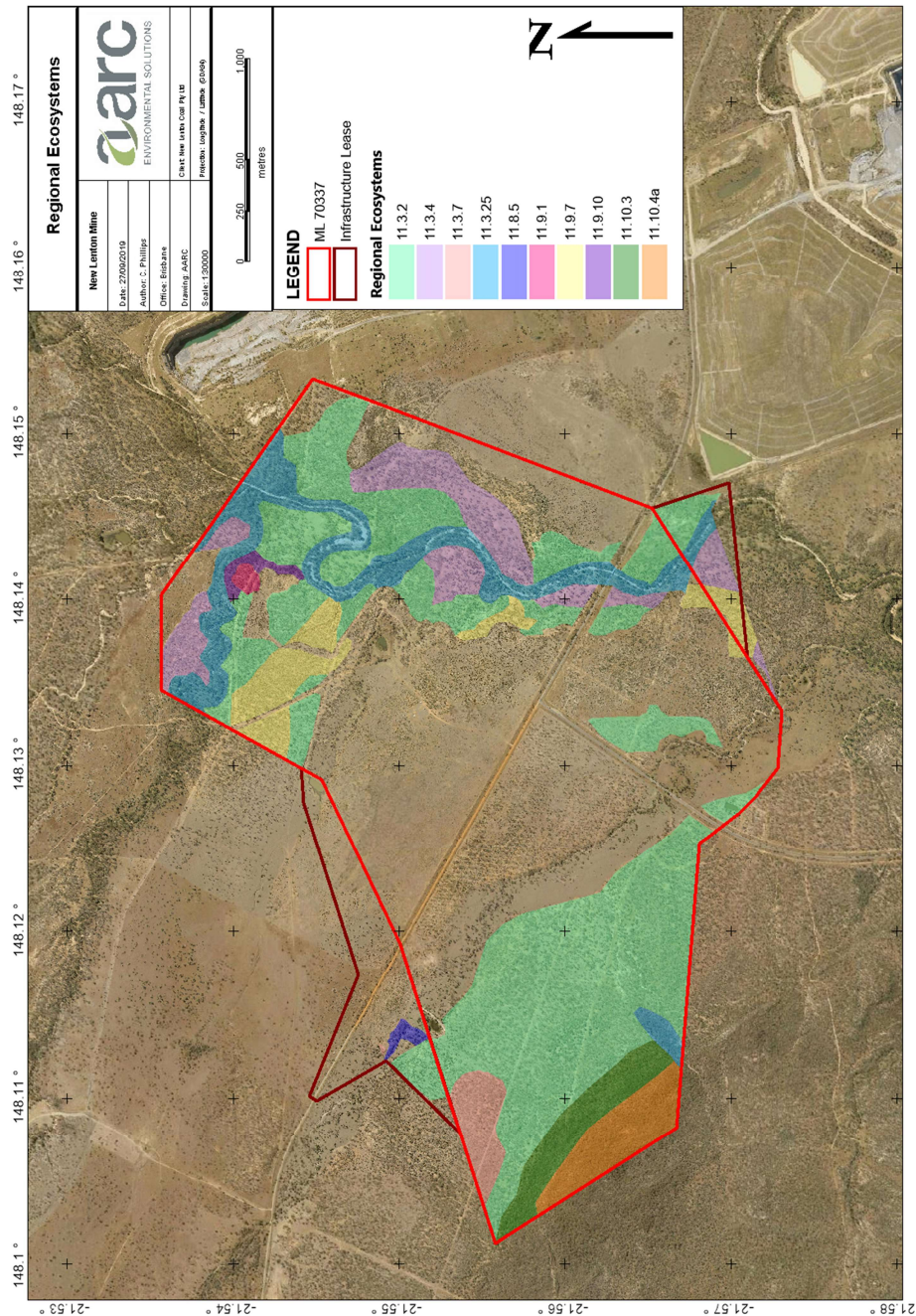
Appendix 5 – Groundwater Monitoring Locations



Appendix 6a – Regulated Vegetation Offsets



Appendix 6b – Regional Ecosystem mapping



END OF PERMIT