Permit

Environmental Protection Act 1994

Environmental authority EA100114091 – Isaac River Coal Mine

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

Environmental authority number: EA100114091

Environmental authority takes effect on the date that your related tenure is granted**.** This is the take effect date.

The first annual fee is payable within 20 business days of the take effect date.

The anniversary date of this environmental authority is the same day each year as the take effect date. 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
Coking Coal One Pty Ltd 064 874 620	Level 19, Waterfront Place, 1 Eagle Street BRISBANE QLD 4000

Environmentally relevant activity and location details

Environmentally relevant activity/activities	Location(s)
Environmental Protection Regulation 2019 Schedule 3: 13 – Mining black coal	ML700062 ML700063
Ancillary 8 – Chemical storage 3: storing more than 500m^3 of chemicals of class C1 or C2 combustible liquids under AS 1940 or dangerous goods class 3 under subsection (1)(c).	
Ancillary 60 – Waste disposal 2: operating a facility for disposing of, in a year, the following quantity of waste mentioned in subsection (1)(b)— (h) more than 200,000t.	

Queensland Government

Additional information for applicants

Environmentally relevant activities

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

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

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

Contaminated land

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

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

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

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

Take effect

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

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

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

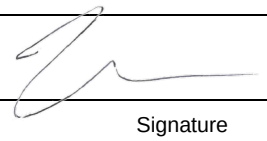
c) otherwise – on the day the authority is issued.

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

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

The anniversary day of this environmental authority is the same day each year as the effective date. 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.

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.

	29 March 2022
Signature	Date

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

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).

Obligations under the *Mining and Quarrying Safety and Health Act 1999*

If you are operating a quarry, other than a sand and gravel quarry where there is no crushing capability, you will be required to comply with the *Mining and Quarrying Safety and Health Act 1999*. For more information on your obligations under this legislation contact Mine Safety and Health at www.resources.qld.gov.au, or phone 13 QGOV (13 74 68) or your local Mines Inspectorate Office.

Development approval

This permit is not a development approval under the *Planning Act 2016*. The conditions of this environmental authority are separate, and in addition to, any conditions that may be on the development approval. If a copy of this environmental authority is attached to a development approval, it is for information only, and may not be current. Please contact the Department of Environment and Science to ensure that you have the most current version of the environmental authority relating to this site.

Conditions of environmental authority

Schedule A: General	
Condition number	**Condition**
A1	**Scope of approval** This environmental authority authorises environmental harm referred to in the conditions. Where there is no condition, or this authority is silent on the matter, the lack of a condition or silence does not authorise environmental harm.
A2	This environmental authority holder is authorised to extract coal at a rate of up to **500,000 tonnes per annum (tpa)** of run-of-mine (ROM) coal in accordance with this environmental authority.
A3	**Authorised activities** In carrying out the mining activities authorised by this environmental authority, disturbance of land: (a) is authorised to be carried out in the disturbance footprint shown at **Appendix 1 – Land disturbance area** to this environmental authority; and (b) is not authorised to be carried out in the areas outside of the maximum extent of authorised disturbance footprint shown at **Appendix 1 – Land disturbance area** to this environmental authority.
A4	**Commencement of mining activities** The environmental authority holder must: (a) provide a written statement advising the administering authority of the date for when mining activities will commence (the commencement date) under this environmental authority; and (b) provide the written statement no later than **fourteen (14) days** after the commencement of mining activities.
A5	Unless otherwise authorised by this environmental authority, contaminants must not be released to the receiving environment.
A6	**Prevent and /or minimise likelihood of environmental harm** In carrying out the environmentally relevant activities, you must take all reasonable and practicable measures to prevent and/or minimise the likelihood of environmental harm being caused.

A7	**Maintenance of measures, plant and equipment** 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 proper and efficient condition (c) Operate such measures, plant and equipment in proper and efficient condition; 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.
A8	**Monitoring** All monitoring records, plans, programs, and reports required by this environmental authority must be kept until the surrender of this environmental authority.
A9	Monitoring and determinations required under any condition of this environmental authority must be conducted by an appropriately qualified person(s).
A10	**Management Plans and Reports** Management plans and reports required under any condition of this environmental authority must be developed by an appropriately qualified person.
A11	All records, reports, plans and programs required by this environmental authority, must be made available to the administering authority within **five (5) business days** of the administering authority's request.
A12	Within **twenty (20) business days**; or an alternative timeframe agreed between the administering authority and the environmental authority holder, of receiving comments from the administering authority on any document, the document must: (a) be updated by an appropriately qualified person having regard to the comments; and (b) re-submitted to the administering authority.
A13	All plans and programs required by this environmental authority are to be published on the environmental authority holder's website within **one (1) month** of completion.
A14	**Risk management** The holder of this environmental authority must develop and implement a risk management system for mining activities which mirrors the content requirement of the *Standard for Risk Management* (ISO31000:2009), or the latest edition of an Australian Standard for risk management, to the extent relevant to environmental management, prior to the commencement of mining activities.

A15	**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: (a) results in the release of contaminants not in accordance; or (b) is reasonably expected to be not in accordance with, the conditions of this environmental authority.
A16	Notifications made under **Condition A15** must include the following information: (a) the environmental authority number; (b) the holder/s of the environmental authority; (c) the name and telephone number of a designated contact person who is authorised to talk with the administering authority on behalf of the environmental authority holder in relation to the incident or emergency; (d) the location of the event or release, including a physical address, lot on plan description (if available), GPS coordinates and any other information necessary to identify the specific location of the incident or emergency; (e) the time and date of the incident or emergency; (f) the time the holder of the environmental authority became aware of the incident or emergency; (g) details of any landholders affected or potentially affected by the incident or emergency; (h) the suspected cause of the incident or emergency; (i) the environmental harm caused, threatened, or suspected to be caused by the incident or emergency; and (j) actions taken to prevent or mitigate any further environmental harm caused by the incident or emergency.
A17	Within **ten (10) business days** following the initial notification of an emergency or incident under **Condition A15**, 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 environmental harm; and c) Proposed actions to prevent a recurrence of the emergency or incident.
A18	All reasonable actions are to be taken to minimise environmental harm, or potential environmental harm, resulting from any emergency, incident or circumstances not in accordance with the conditions of this environmental authority.

A19	**Complaints** The holder of this environmental authority must record all environmental complaints received about the mining activities and include the following details: (a) name, address and contact number for the complainant; (b) time and date of complaint; (c) time and date of notification to administering authority; (d) reasons for the complaint, including the location of the issue; (e) investigations undertaken; (f) conclusions formed; (g) actions taken to resolve the complaint; (h) any abatement measures implemented; and (i) person responsible for resolving the complaint.
A20	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 required by **Condition A19** must: (a) include an analysis and interpretation of the monitoring results and abatement measures, where implemented; and (b) be provided to the administering authority within **ten (10) business days** of completion of the investigation, or no later than **ten (10) business days** after the end of the timeframe nominated by the administering authority to undertake the investigation.
A21	If the monitoring undertaken in accordance with **Condition A20** indicates the occurrence of environmental harm or nuisance then the environmental authority holder must: (a) address any complaint including the use of appropriate dispute resolution if required; (b) determine the potential circumstances and actions on site that may have contributed to the complaint; and (c) implement abatement measures as soon as reasonably practicable so that the environmental harm or nuisance to which the complaint relates ceases or no longer negatively impacts the sensitive receptor.
A22	**Third-party reporting** The holder of this environmental authority must: (a) within **one (1) year** of the commencement of mining activities as notified under **Condition A4**, the holder of this environmental authority must obtain from an appropriately qualified independent, third party auditor, a report on compliance with the conditions of this environmental authority; (b) obtain further such reports at regular intervals, not exceeding **three (3) yearly intervals**, from the completion of the report referred to above; and (c) submit each report to the administering authority within **ninety (90) days** of its completion.

A23	Within **ninety (90) days** of completing the audit, as required by **Condition A22,** a written report must be provided to the administering authority that has been certified by the appropriately qualified independent third party auditor, detailing any non-compliance issues that were found (if no non-compliance issues were found this should be stated in the report). If non-compliance issues were found, the report must also address: (a) actions taken by the holder of this environmental authority to ensure compliance with this environmental authority; and (b) actions taken to prevent a recurrence of any identified non-compliance.
A24	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: (a) comply with the amended or changed standard, policy or guideline within **two (2) years** of the amendment or change being made, unless a different period is specified in the amended standard or relevant legislation where reasonable and practical and required to minimise environmental impacts, or where the amendment or change relates specifically to regulated structures referred to within **Schedule H** of this environmental authority, 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.
A25	**Chemicals and flammable or combustible liquids** All explosives, hazardous chemicals, corrosive substances, toxic substances, gases and dangerous goods must be stored and handled in accordance with the current Australian standard where such is applicable.
A26	Flammable and combustible liquids, including petroleum products, must be stored and handled in accordance with the latest edition of AS1940 – *The storage and handling of flammable and combustible liquid*s.
A27	The holder of this environmental authority must 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.
A28	**Definitions** Words and phrases used throughout this environmental authority are defined in the Definitions section of this environmental authority. Where a definition for a term used in this environmental authority is sought and term is not defined within this environmental authority, the definitions in the *Environmental Protection Act 1994*, its regulations and Environmental Protection Policies are to be used.

Conditions of environmental authority

Schedule B: Air	
Condition number	**Condition**
B1	**Dust Nuisance** The release of dust and/or particulate matter or both resulting from the mining activities must not cause an environmental nuisance, at any sensitive receptor or commercial place.
B2	**Determining Air Quality Background** An assessment of the background air quality must be undertaken by an appropriately qualified person and a report provided to the administering authority within **six (6) months of** the commencement of mining activities. If the report identifies an increase in the potential for exceedances of the levels in **Condition B3** at any sensitive receptor or commercial place, the administering authority will undertake a review of the conditions within this schedule.
B3	The holder of this environmental authority must ensure that 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 Australian Standard AS3580.10.1 Methods for sampling and analysis of ambient air—Determination of particulate matter—Deposited matter – Gravimetric method. (b) A concentration of particulate matter with an aerodynamic diameter of less than 10 micrometres (PM_{10}) suspended in the atmosphere of 50 micrograms per cubic metre over a 24-hour averaging time, when monitored in accordance with the most recent version of either: (i) Australian Standard AS3580.9.6 Methods for sampling and analysis of ambient air—Determination of suspended particulate matter—PM_{10} high volume sampler with size selective inlet – Gravimetric method, or (ii) Australian Standard AS3580.9.9 Methods for sampling and analysis of ambient air—Determination of suspended particulate matter—PM_{10} low volume sampler—Gravimetric method, or (iii) Australian Standard AS3580.9.11 Methods for sampling and analysis of ambient air Determine of suspended particulate matter—PM_{10} beta attenuation monitors. (c) A concentration of particulate matter with an aerodynamic diameter of less than 2.5 micrometres ($PM_{2.5}$) suspended in the atmosphere of 25 micrograms per cubic metre over a 24-hour averaging time, when monitored in accordance with the most recent version of either: (i) AS/NZS3580.9.10 Methods for sampling and analysis of ambient air—Determination of suspended particulate matter—$PM_{2.5}$ low volume sampler—Gravimetric method; or (ii) AS/NZS3580.9.12 (2013): Determination of suspended particulate matter – $PM_{2.5}$ beta attenuation monitors.

B4	When requested by the administering authority or as a result of a complaint (which is neither frivolous nor vexatious nor based on mistaken belief in the opinion of the administering authority), dust and particulate monitoring (including dust deposition, PM_{10} and $PM_{2.5}$) must be undertaken in accordance with the appropriate standards at a time, duration and location(s) specified by the administering authority.
B5	Monitoring results obtained in accordance with **Condition B4** must be notified to the administering authority within **ten (10) days** following completion of monitoring. This includes providing interim reports to the administering authority, as required by the administering authority if the monitoring continues for more than **one (1) month**.
B6	If the monitoring carried out in accordance with **Condition B4** indicates an exceedance of the relevant limits in **Condition B3**, then the environmental authority holder must investigate whether the exceedance is due to the mining activity. If the mining activity is found to be the cause of the exceedance then the environmental authority holder must: (a) Address the complaint including the use of appropriate dispute resolution if required; and (b) Implement dust abatement measures as soon as reasonably practicable so that emissions of dust from the activity do not result in further environmental nuisance.
B7	If during the monitoring period nominated in **Condition B4** there is an exceedance of the relevant limits listed in **Condition B3**, the environmental authority holder must notify the administering authority within **twenty-four (24) hours** of the exceedance occurring. The notification must also include the actions taken in accordance with **Condition B6**.
B8	**Air Quality Management Plan** An Air Quality Management Plan (AQMP) must be developed by an appropriately qualified person and implemented prior to the commencement of mining activities.

B9	The AQMP required by **Condition B8** must provide for effective management of actual and potential environmental impacts resulting from the mining activities carried out under this environmental authority and include, but not be limited to: (a) Identification of all potential sensitive and commercial places which may be affected by air quality impacts from mining activities; (b) Identification of all major sources of air emissions that may occur as a result of mining activities; (c) Implementation of a Trigger Action Response Plan, which will identify and initiate appropriate air quality mitigation measures, for periods when adverse meteorological conditions combine with high mining intensity; (d) An **Air Quality Monitoring Program** including locations and monitoring methods to be implemented in accordance with **Condition B10** and **Table B1 – Dust and Particulate Matter Monitoring Locations**; and (e) A framework for identifying actual and potential dust impacts, and for applying pro-active and reactive mitigation and management measures to address those impacts. (f) An annual review of the AQMP must be undertaken by an appropriately qualified person. The review must include monitoring results and recommended improvements.
B10	Where monitoring identifies instances where a concentration specified in **Condition B3** is exceeded at any of the locations in **Table B1 – Dust and Particulate Matter Monitoring Locations**, the environmental authority holder must report the exceedance to the administering authority within **twenty-four (24) hours** and within **(10) business days** provide the following: a) the air quality data at the sensitive place or commercial place; b) a description of meteorological conditions recorded in accordance with **AS3580.14** and **Table B1 - Dust and Particulate Matter Monitoring Locations** occurring at the time; c) the air quality data upwind of the mining activities (if known); and d) measures taken to reduce dust generated by the mining activities.

Table B1 – Dust and Particulate Matter Monitoring Locations

Monitoring Point	Northing (GDA94)	Easting (GDA94)	Monitoring Description
AQ1	7561224.31	635186.211	North-west corner of lease.
AQ2	7561057.12	636980.045	North-east corner of lease.
AQ3	7559454.92	637113.763	South-east corner of lease.
AQ4	7558965.84	635663.703	South-west corner of lease.

B11	**Dust control – trafficable areas** Trafficable areas (including entry and exit points from Daunia Quarry Road) must be maintained using reasonable and practicable measures necessary to minimise the release of windblown or traffic generated dust to the atmosphere. Reasonable and practicable measures may include, but are not limited to: (a) keeping surfaces clean; (b) sealing with bitumen or other suitable material; (c) using water sprays; (d) installing an effective truck body and wheel wash facility; and (e) using dust suppressants and wind breaks.
B12	**Spontaneous Combustion Management Plan** A Spontaneous Combustion Management Plan must be developed and implemented prior to the commencement of the mining activities. The Spontaneous Combustion Management Plan must: (a) identify potential and actual spontaneous combustion heating areas; (b) include regular inspections of spontaneous combustion heating areas; (c) include a risk assessment that will guide and prioritise management actions; (d) include remedial actions where a high risk has been identified; and (e) describe a program for the review of the effectiveness of the Spontaneous Combustion Management Plan.
B13	**Odour nuisance** The release of noxious or offensive odour(s) or any other noxious or offensive airborne contaminant(s) resulting from the mining activity must not cause an environmental nuisance at any sensitive or commercial place.
B14	When requested by the administering authority, odour monitoring must be undertaken within reasonable and practicable timeframe nominated by the administering authority to investigate any complaint (which is neither frivolous nor vexatious nor based on mistaken belief in the opinion of the authorised officer) of environmental nuisance at any sensitive or commercial place, and the results must be notified within **fourteen (14) days** to the administering authority following completion of monitoring.
B15	If the administering authority determines the odour released to constitute an environmental nuisance, then the environmental authority holder must: (a) Address the complaint including the use of appropriate dispute resolution if required; and (b) Implement odour abatement measures so that emissions of odour 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 mining activities, except as permitted under the conditions of this environmental authority.
C2	**Mine affected water releases** Unless otherwise permitted under the conditions of this environmental authority, the release of mine affected water to waters must only occur from the release point/s specified in **Table C1 – Mine affected water release points, sources and receiving waters**, depicted in **Appendix 2 – Surface water release, monitoring and gauging locations**.
C3	The release of mine affected water to internal water management infrastructure installed and operated in accordance with an approved water management plan that complies with **Condition C29** is permitted.

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

Release Point	Easting (GDA94)	Northing (GDA94)	Water source and location	Monitoring point	Receiving waterway
RP1	639355	7560919	Mine Water Dam 1 (MWD1)	Dam discharge pipeline	North Creek

C4	The release of mine affected water to waters in accordance with **Condition C2** must not exceed the release limits stated in **Table C2 – Mine affected water release limits** when measured at the monitoring points specified in **Table C1 – Mine affected water release points, sources and receiving waters** for each quality characteristic.
C5	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, potential contaminants**.

Table C2 – Mine affected water release limits

Quality characteristic	Release limits	Monitoring frequency
Electrical conductivity (µS/cm)	Release limits specified in **Table C4 – Mine affected water release during flow events** for variable flow criteria	Daily during release (first sample must be taken within **two (2) hours** of commencement of release).

Sulfate (SO_4^{2-}) (mg/L)	25	
pH (pH Unit)	6.5 (minimum) 9.0 (maximum)	
Turbidity (NTU)	50	

Table C3 – Release contaminant trigger investigation levels, potential contaminants

Quality characteristic	Trigger level (µg/L)	Trigger Level source	Monitoring frequency
Aluminium (dissolved)	270	Interim site-specific trigger value	Commencement of release (within **two (2) hours** of commencement of release) and thereafter weekly during release
Arsenic (dissolved)	13	ANZG (2018) slightly to moderately disturbed aquatic ecosystem default guideline value	
Cadmium (dissolved)	0.2	ANZG (2018) slightly to moderately disturbed aquatic ecosystem default guideline value	
Chromium (dissolved)	1	ANZG (2018) slightly to moderately disturbed aquatic ecosystem default guideline value	
Copper (dissolved)	1.4	ANZG (2018) slightly to moderately disturbed aquatic ecosystem default guideline value	
Iron (dissolved)	660	Interim site-specific trigger value	
Lead (dissolved)	4	DES Model Mining Conditions (ESR/2016/1936)	
Mercury (dissolved)	0.6	ANZG (2018) slightly to moderately disturbed aquatic ecosystem default guideline value	
Nickel (dissolved)	11	ANZG (2018) slightly to moderately disturbed aquatic ecosystem default guideline value	
Zinc (dissolved)	8	ANZG (2018) slightly to moderately disturbed aquatic ecosystem default guideline value	
Boron (dissolved)	370	ANZG (2018) slightly to moderately disturbed aquatic ecosystem default guideline value	
Cobalt (dissolved)	90	DES Model Mining Conditions (ESR/2016/1936)	
Manganese (dissolved)	1,900	ANZG (2018) slightly to moderately disturbed aquatic ecosystem default guideline value	
Molybdenum (dissolved)	34	ANZG (2018) slightly to moderately disturbed aquatic ecosystem default guideline value	
Selenium (dissolved)	10	For aquatic ecosystem protection, based on LOR for ICPMS	
Silver (dissolved)	1	For aquatic ecosystem protection, based on LOR for ICPMS	

Uranium (dissolved)	1	For aquatic ecosystem protection, based on LOR for ICPMS	
Vanadium (dissolved)	10	For aquatic ecosystem protection, based on LOR for ICPMS	
Ammonia – as N	900	ANZG (2018) slightly to moderately disturbed aquatic ecosystem default guideline value	
Nitrate – as N	1,100	Chronic, slightly to moderately disturbed systems grading value from Hickey C.W. (2013) Updating nitrate toxicity effects on freshwater aquatic species, National Institute of Water & Atmospheric Research Ltd, report HAM2013-009, January 2013	
Petroleum hydrocarbons (C6-C9)	20	DES Model Mining Conditions (ESR/2016/1936);	
Petroleum hydrocarbons (C10-C36)	100	DES Model Mining Conditions (ESR/2016/1936);	
Fluoride (total)	2,000	Protection of livestock and short-term irrigation guideline	

Note: All metals and metalloids must be measured as total (unfiltered) and dissolved (filtered). Trigger levels for metal/metalloids apply if dissolved results exceed trigger.

C6	If any of the trigger levels specified in **Table C3 – Release contaminant trigger investigation levels, potential contaminants** are exceeded for any quality characteristic at the release point specified in **Table C1 – Mine affected water release points, sources and receiving waters** during a release event, the environmental authority holder must compare the downstream results in the receiving waters to the trigger values specified in **Table C3 – Release contaminant trigger investigation levels, potential contaminants** and: (a) Where the downstream results do not exceed the trigger values 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, potential contaminants** for any quality characteristic, compare the results of the downstream site to the data from upstream background monitoring sites (specified in **Table C5 - Receiving waters contaminant trigger levels**); and: (i) where the downstream result is less than the upstream background monitoring site data for the quality characteristic, then no action is to be taken, or (ii) where the downstream result is greater than the upstream 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** of receiving the result, outlining: (a) details of the investigations carried out; and (b) actions taken to prevent environmental harm. **Note:** Where an exceedance of a trigger level has occurred and is being investigated, in accordance with **Condition C6(b)(ii)** of this condition, no further reporting is required for subsequent trigger events for that quality characteristic.
C7	**Mine affected water release events** The 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 – Mine affected water release during flow events**.
C8	The interim site-specific trigger values identified within **Table C3 - Release contaminant trigger investigation levels, potential contaminants** must be reviewed within **two (2) years** of the commencement of mining activities, or when sufficient monitoring data is available. The administering authority must be notified in writing of the outcome of the review within **fourteen (14) days**.
C9	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 – Mine affected water release during flow events** for the release point(s) specified in **Table C1 – Mine affected water release points, sources and receiving waters**.

Table C4 – Mine affected water release during flow events

Receiving Waters	Release Points	Gauging Station	Easting (GDA94)	Northing (GDA94)	Receiving Water Flow Criteria for Discharge	Maximum Release Rate	Release Limit
North Creek	RP1	Gauging Station 1 (GS1)	639341	756935	Medium Flow 1 0.5m^3/s	0.05m^3/s	1,500 µS/cm
					Medium Flow 2 1.0m^3/s	0.1m^3/s	3,500 µS/cm

C10	The daily quantity of mine affected water released from each authorised release point specified in **Table C1 - Mine affected water release points, sources and receiving waters** must be measured and recorded.
C11	Releases of contaminants to water as permitted by this environmental authority, directly or indirectly 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, or not result in any; (a) visible discolouration of receiving waters; or (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.
C12	**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 in accordance with **Condition C2**. 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 including EC, turbidity, and pH within this environmental authority; (c) Release location (release point/s); (d) Release rate; (e) Release salinity; (f) Receiving water/s including flow rate when release occurred; (g) Expected cessation date; and (h) Expected volume to be discharged.
C13	The administering authority must be notified via WaTERS within **twenty-four (24) hours** after cessation of a release event notified under **Condition C12**. The release cessation notification must include the following information: (a) Release cessation date and time; (b) Details of the receiving waters; 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 **Condition C14** and **C15** provided the relevant details of the release are included within the notification provided in accordance with **Conditions C15, C16** and **C17**.

C14	Within **twenty-eight (28) days** of notification under **Condition C13**, the following information must be provided to the administering authority 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 assessing compliance of the release with the conditions of Schedule C – Surface 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.
C15	**Notification of release event exceedance** If the release limits defined in **Table C2 - Mine affected water release limits** are exceeded, the holder of the environmental authority must notify the administering authority, via WaTERS, within **twenty-four (24) hours** of receiving the results.
C16	If an exceedance in accordance with **Condition C6(b)(ii)** is identified, the holder of the environmental authority must notify the administering authority, via WaTERS, within **twenty-four (24) hours** of receiving the result.
C17	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.
C18	**Receiving environment monitoring and contaminant trigger levels** The quality of the receiving waters must be monitored at the locations specified in **Table C6 - Receiving water upstream background sites and downstream monitoring points** for each quality characteristic and at the monitoring frequency stated in **Table C5 - Receiving waters contaminant trigger levels.**

Table C5 – Receiving waters contaminant trigger levels

Quality Characteristic	Trigger Level	Monitoring frequency
pH (pH units)	6.5 – 8.5	Daily during the release
Electrical Conductivity (µS/cm)	410	
Total Suspended Solids (mg/L)	180	
Turbidity (NTU)	50	
Sulfate (mg/L)	25	

Table C6 – Receiving water upstream background sites and downstream monitoring points

Monitoring points	Receiving waters location description	Easting (GDA94)	Northing (GDA94)
Upstream background monitoring points			
UNC.MP	North Creek, located outside ML	638823	7561686
Downstream monitoring points			
DNC.MP	North Creek, located outside ML	638820	7560624
DNC.MP.2	North Creek, located outside ML, approx. 6km downstream	639993	7556728
Isaac River at Deverill (130410A)	Isaac River, located outside ML	642713	7547620

C19	**Notification of release event exceedance** If quality characteristics of the receiving water at the downstream monitoring points exceed any of the trigger levels specified in **Table C5 - 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 (DNC) is the same or a lower value than the upstream value (UNC) for the quality characteristic then no action is 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 in the next annual return, 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 C19(b)** of this condition, no further reporting is required for subsequent trigger events for that quality characteristic.
C20	**Monitoring of water storage quality** Water storages stated in **Table C7 – Water Storage Monitoring** must be monitored for: (a) the water quality characteristics specified in **Table C2 – Mine affected water release limits** and **Table C3 - Release contaminant trigger investigation levels, potential contaminants** at the monitoring locations and frequency specified in **Table C7 – Water Storage Monitoring**; and (b) the volume of water held in each of the water storages listed in **Table C7 – Water Storage Monitoring**.

Table C7 – Water Storage Monitoring

Water Storage Description	Northing (GDA94)	Easting (GDA94)	Monitoring Location	Frequency of Monitoring
Sediment Dam 1 (SD1)	7561061.71	636936.282	Dam wall	Quarterly
Mine Water Dam 1 (MWD1)	7560710.74	635326.245	Dam wall	Quarterly

C21	All determinations of water quality and biological monitoring must be performed by an appropriately qualified person.

C22	**Receiving environment monitoring program (REMP)** The environmental authority holder must develop and implement a REMP to monitor, identify and describe any adverse impacts to surface water environmental values, quality and flows due to the mining activity. This must include monitoring the effects of the mine on the receiving environment periodically (under natural flow conditions) and while sediment affected water is being discharged from the site. For the purposes of the REMP, the receiving environment is the waters of North Creek and connected or surrounding waterways within **ten (10) km** downstream of the mine access road. The REMP should encompass any sensitive receiving waters or environmental values downstream of the mining activity that will potentially be directly affected by an unauthorised release of mine affected water.
C23	The REMP must: (a) Assess the condition or state of receiving waters, including upstream conditions, spatially within the REMP area, considering background water quality characteristics based on accurate and reliable monitoring data that takes into consideration temporal variation (e.g. seasonality); (b) Be designed to facilitate assessment against water quality objectives for the relevant environmental values that need to be protected; (c) Include monitoring from background reference sites (e.g. upstream or background) and downstream sites from the mine access road (as a minimum, the locations specified in **Table C6 – Receiving water upstream background sites and downstream monitoring points**); (d) Specify the frequency and timing of sampling required in order to reliably assess ambient conditions and to provide sufficient data to derive site specific background reference values in accordance with the Queensland Water Quality Guidelines 2009. This should include monitoring during periods of natural flow irrespective of mine or other discharges; (e) Include, where appropriate, monitoring of metals/metalloids in sediments (in accordance with ANZECC Guidelines, Handbook for Sediment Quality Assessment 2005 and/or the most recent version of AS5667.1 Guidance on Sampling of Bottom Sediments); (f) Include, where appropriate, monitoring of macroinvertebrates in accordance with the AUSRIVAS methodology; (g) Apply procedures and/or guidelines from ANZECC Guidelines and other relevant guideline documents; (h) Describe sampling and analysis methods and quality assurance and control; and (i) Incorporate stream flow and hydrological information in the interpretations of water quality and biological data.
C24	A REMP Design document that addresses each criterion presented in **Conditions C22** and **C23** must be prepared and made available to the administering authority upon request.

C25	A report outlining the findings of the REMP, including all monitoring results and interpretations must be prepared by an appropriately qualified person annually and within **three (3) months** of the commencement of mining activities and made available to the administrating authority on request. This must include: (a) an assessment of background reference water quality; (b) the condition of downstream water quality compared against water quality objectives; and (c) the suitability of current discharge limits to protect downstream environmental values.
C26	**Annual Water Monitoring Reporting** 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 with each annual return by **one (1) March** each year: (a) The date on which the sample was taken; (b) The time at which the sample was taken; (c) The monitoring point at which the sample was taken; (d) The measured or estimated daily quantity of mine affected water released from all release points; (e) The release flow rate at the time of sampling for each release point; (f) The results of all monitoring and details of any exceedances of the conditions of this environmental authority; and (g) Water quality monitoring data must be provided to the administering authority in the specified electronic format upon request.
C27	**Water Management Plan** A Water Management Plan for the mining activities must be developed by an appropriately qualified person and implemented prior to the commencement the mining activities. The Water Management Plan must: (a) Provide for effective management of actual and potential environmental impacts resulting from water management associated with the mining activities carried out under this environmental authority; and (b) Include: (i) A contaminant source study; (ii) Site water balance and model; (iii) Sit water management system; (iv) Saline drainage prevention and management measures; (v) Acid rock drainage prevention and management measures (if applicable); (vi) Emergency and contingency planning; and (vii) Monitoring and review program of the effectiveness of the Water Management Plan.

C28	The Water Management Plan required by **Condition C27** must be reviewed each calendar year and a report prepared by an appropriately qualified person. The report must: (a) Assess the plan against the requirements under **Condition C27;** (b) Include recommended actions to ensure actual and potential environmental impacts are effectively managed for the coming year; and (c) Identify any amendments made to the Water Management Plan following the review.
C29	**Stormwater and water sediment controls** An Erosion and Sediment Control Plan (ESCP) for mining operations must be developed by an appropriately qualified person and implemented prior to the commencement of mining activities, to minimise erosion and the release of sediment to receiving waters and contamination of stormwater.
C30	Stormwater, other than mine affected water, is permitted to be released to waters from: (a) Erosion and sediment control structures that are installed and operated in accordance with the ESCP required by **Condition C29**; and (b) Water management infrastructure that is installed and operated, in accordance with a Water Management Plan that complies with **Condition C27**, for the purpose of ensuring water does not become mine affected water.
C31	Water that has come into contact with unrehabilitated spoil, overburden or waste rock must report to the mine affected water dam (MWD1).
C32	**Saline drainage** Proper and effective measures must be taken to avoid or otherwise minimise the generation and/or release of saline drainage.
C33	**Acid rock drainage** Proper and effective measures must be taken to avoid or otherwise minimise the generation and/or release of acid rock drainage.
C34	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.
C35	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.

Schedule D: Groundwater	
Condition number	**Condition**
D1	The environmental authority holder must not release contaminants to groundwater.
D2	Groundwater monitoring and analysis must be performed by an appropriately qualified person.
D3	**Monitoring and reporting** A Groundwater Management and Monitoring Program must be developed, certified and implemented by an appropriately qualified person for all stages of the activities on site (including construction, mining and closure) prior to commencing mining activities.
D4	The Groundwater Management and Monitoring Program required by **Condition D3** must: (a) Identify potential sources of contamination to groundwater from the authorised mining activity; (b) Ensure that all potential groundwater impacts due to the authorised mining activity are identified, monitored and mitigated; (c) Document sampling and monitoring methodology; and (d) Ensure that groundwater monitoring and data analysis is undertaken to achieve the following objectives: (i) detect any impacts to groundwater levels due to the authorised mining activity; (ii) detect any impacts to groundwater quality due to the authorised mining activity; (iii) determine trends in groundwater quality; (iv) include a quality assurance and quality control program; (v) include a conceptual groundwater model; and (vi) include a review process to improve the program.
D5	The Groundwater Management and Monitoring Program required by **Condition D3** and the data collected must be reviewed annually by an appropriately qualified person. The review must: (a) include the assessment of all groundwater levels and quality data for all groundwater bores listed within **Table D1: Groundwater Monitoring Locations and Frequency** to determine long term trends; (b) assess the suitability of the groundwater monitoring network, including an assessment of whether additional or amended groundwater quality parameter limits, trigger values or compliance bores are required for all groundwater aquifers potentially impacted by the authorised mining activities; and (c) be in a report submitted to the administering authority annually via WaTERS by 1 March each calendar year.
D6	Groundwater quality and levels must be monitored at the locations and frequencies defined in **Table D1 - Groundwater Monitoring Locations and Frequency** and shown in **Appendix 3 – Groundwater Monitoring Locations.**

D7	Results of monitoring of groundwater quality 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** for the same monitoring bore on **three (3)** consecutive sampling occasions.
D8	If the contaminant limits specified in **Table D2 - Groundwater Quality Limits** are exceeded at the same monitoring bore on **three (3)** consecutive sampling occasions the holder of the environmental authority must notify the administering authority via WaTERS within **twenty-four (24) hours** of receiving the results.
D9	The administering authority must be notified via WaTERS within **twenty-eight (28) days** following detection of drawdown fluctuations exceeding that specified at any monitoring point in **Table D3 - Groundwater Level Trigger Thresholds** when measured against the pre-mining baseline standing water levels.
D10	The environmental authority holder must submit to the administering authority pre-mining baseline standing water levels for each bore identified in **Table D1 – Groundwater Monitoring Locations and Frequency** to replace the 'TBA' values specified in **Table D3 - Groundwater Level Trigger Thresholds** within **12 (twelve) months** of the commencement of mining activities or when sufficient data is available when collected in accordance with **Condition D11**.
D11	The pre-mining baseline standing water levels required by **Condition D10** must be derived from baseline groundwater monitoring data that includes at least **twelve (12) sampling events, one (1) month apart,** at the locations specified in **Table D1 - Groundwater Monitoring Locations and Frequency**.
D12	Within **fourteen (14) days** of notification given under **Condition D8** or **D9** an investigation must be completed to determine if the exceedance is a result of: (a) mining activities authorised under this environmental authority; or (b) seasonal/natural variation; or neighbouring land use resulting in groundwater impacts; or (c) any other potential cause not related to the mining activity.
D13	If the investigation under **Condition D12** determines that the exceedance was caused by the mining activities authorised under this environmental authority, then a further investigation must be completed within **twenty-eight (28) days** of the investigation required under **Condition D12 (or a timeframe agreed to with the administering authority).** This investigation must determine whether environmental harm has occurred or may occur, and the extent thereof.

D14	If the investigation undertaken under **Condition D12** determines that environmental harm has occurred, or may occur, the following actions must be completed within **twenty-eight (28) days** after completing the investigation under **Condition D12**: (a) implementation of measures as soon as reasonably practicable to reduce environmental harm including potential environmental harm; and (b) development of long-term mitigation measures to address any existing groundwater contamination and prevent recurrence of groundwater contamination which is implemented in a reasonable time period; and (c) if environmental harm has occurred as a result of groundwater drawdown exceedances, 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; and (d) document the steps taken under **Condition D14(a), (b),** and **(c),** and provide the documentation to the administering authority.
D15	The following information must be recorded in relation to all groundwater 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.
D16	Monitoring and sampling of groundwater must comply with the latest edition of the administering authority's *Monitoring and Sampling Manual*.
D17	**Bore construction and maintenance and decommissioning** 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.
D18	All groundwater bores specified in **Table D1 - Groundwater Level Monitoring and Frequency** must be installed within six (6) months of the commencement of mining activities.

Table D1 - Groundwater Level Monitoring and Frequency

Location Description	Monitoring Point	Environmental Value Monitoring	Easting (GDA94)	Northing (GDA94)	Surface RL (m)[3]	Screening Interval (mbgl)[4]	Monitoring Frequency
Reference Bores							
Rangal Coal Measure	RB01	Groundwater	638937	7561395	218.1	30-70	Quarterly measurements of SWL[1] Quarterly EC and pH Six monthly for remaining analytes[2]
North Creek Alluvium	RB02	Riparian ecosystem to the east of MDL 444	638864	7561470	203.6	10-30	
Compliance Bores							
North Creek Alluvium	CB01	Riparian ecosystem to the east of MDL 444	639039	7558386	218.1	10-30	Quarterly measurements of SWL[1] Quarterly EC and pH Six monthly for remaining analytes[2]
North Creek Alluvium	CB02	Groundwater	638709	7560060	201.6	10-30	
North Creek Alluvium	CB03		638748	7559377	203.6	10-30	
Rangal Coal Measure	CB04		635285	7560768	223.5	20-40	
Rangal Coal Measure	CB05		636991	7561100	216.8	20-40	
Rangal Coal Measure	CB06		636508	7559654	227.1	20-40	
Rangal Coal Measure	CB07		635970	7559367	217.5	45.2-51.2	
Rangal Coal Measure	CB08		635970	7559367	217.5	73.0-79	
Rangal Coal Measure	CB09	Potential Groundwater user	637264	7558807	221.0	20-40	
Rangal Coal Measure	CB10	Groundwater	636177	7561348	218.9		

[1]SWL – Standing Water Level

[2]Quarterly or more frequently following granting of this Environmental Authority.

[3]RL – must be measured to the nearest 5cm from the top of the bore casing.

[4]mbgl – metres below ground level.

Table D2 - Groundwater Quality Limits

Monitoring Point	Parameter	pH	EC	Sulfate	Arsenic	Aluminium	Molybdenum	Selenium	*TRH C6-C9	*TRH C10-C36	Major ions
	Sample	Range	Max	Max	Max	Max	Max	Max	Max	Max	Interpretation Only
	Unit	pH units	(µS/cm)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(µg/L)	(µg/L)	N/A
CB01		6.5 – 8.5[A]	990[B]	11[B]	0.014[C]	0.055[E]	0.034[E]	0.005[E]	20[F]	100[F]	Bicarbonate, sodium, carbonate, calcium, chloride, potassium, magnesium.
CB02											
CB03											
CB04			12900[C]	27[C]							
CB05											
CB06											
CB07			11200[C]	23[C]							
CB08			10000[C]	62[C]							
CB09			5500[D]	68[D]							
CB10			12900[C]	27[C]							

Notes:

All metals must be measured as total (unfiltered) and dissolved (filtered). Trigger levels for metal apply if dissolved results exceed trigger

* TRH: Total Recoverable Hydrocarbons

[A] Isaac River Sub-basin EVs and WQOs

[B] Isaac River Sub-basin EVs and WQOs Groundwater Unit 1 (shallow)

[C] Site specific 95%ile

[D] ANZECC stock water WQO

[E] Australian Water Quality Guidelines

[F] Model mining condition limit

Table D3 - Groundwater Level Trigger Thresholds

Monitoring Point	Groundwater Level Thresholds	Pre-mining baseline standing water level (m)	Level Trigger Threshold (Maximum)
CB01	North Creek Alluvium	TBA	2 m
CB02	North Creek Alluvium	TBA	
CB03	North Creek Alluvium	TBA	
CB04	Rangal Coal Measure	TBA	
CB05	Rangal Coal Measure	TBA	
CB06	Rangal Coal Measure	TBA	
CB07	Rangal Coal Measure	TBA	
CB08	Rangal Coal Measure	TBA	
CB09	Rangal Coal Measure	TBA	
CB10	Rangal Coal Measure	TBA	

Schedule E: Noise	
Condition number	**Condition**
E1	Noise generated by the activities must not cause the limits prescribed in **Table E1 – Noise Limits** to be exceeded at a sensitive place or commercial place.
E2	Blasting must not cause the limits prescribed in **Table E2 – Blasting noise and vibration limits** to be exceeded at a sensitive place or commercial place.
E3	No heavy mining equipment can be operated on the waste rock dumps during the nighttime period between 10pm and 6am. **Note:** Heavy mining equipment includes CAT 789D Dump Trucks.

E4	A Noise and Vibration Management Plan must be developed and implemented for the mining activities by an appropriately qualified person and include the following as a minimum: a) be developed by an appropriately qualified person; b) identification of all potential sensitive and commercial places which may be affected by noise and vibration impacts from the authorised mining activities; c) identification of all major sources of noise and vibration emissions that may occur as result of the operation of the project; d) description of the procedures to manage the noise and vibration emissions from the sources identified; e) collection of noise and vibration data; f) identifying adverse meteorological conditions likely to produce elevated levels of noise and vibration at a sensitive receptor or commercial place due to authorised mining activities; g) integration of noise and vibration control strategies as described in the Blast Management Program as per **Condition E9**; h) protocols for regular maintenance of plant and equipment, to minimise the potential for noise and vibration emissions; and i) description of procedures to be undertaken if any exceedance is detected.
E5	**Noise monitoring** When requested by the administering authority, or as a result of a complaint, noise monitoring must be undertaken at sensitive places and within a timeframe nominated by the administering authority. The results thereof notified to the administering authority within **fourteen (14) days** following completion of the monitoring period.
E6	Noise monitoring required by **Condition E5** must be conducted in accordance with the administering authority's *Noise Measurement Manual* (ESR/2016/2195) and all recordings must include 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; and (g) if required by administering authority and/or a complaint process low frequency noise, Max LpLIN,T and one third octave band measurements in dB(LIN) for centre frequencies in the 10 – 200 Hz range.
E7	If the monitoring, undertaken in accordance with **Condition E5** indicates an exceedance of the relevant limits in **Table E1 - Noise limits**, an investigation must be undertaken to determine whether the exceedance is due to the authorised mining activities. If the authorised mining activities are found to be the cause of the exceedance then noise abatement measures must be implemented as soon as reasonably practicable so that noise from the activity does not result in further environmental nuisance.

E8	If during monitoring, as required by **Condition E5**, there is an exceedance of the relevant limits listed in **Table E1 - Noise limits**, the administering authority must be notified within **seven (7) days** of the exceedance occurring. The notification must also include the actions taken in accordance with **Condition E7**.

Table E1 – Noise Limits

Sensitive Receptors			
Noise level dB(A) measured as:	**Monday to Sunday (including public holidays)**		
	7am – 6pm	**6pm – 10pm**	**10pm – 7am**
$L_{Aeq, Adj,15min}$	40	40	35
$L_{A1, Adj,15min}$	50	50	45
Commerical Receptors			
Noise level dB(A) measured as:	**Monday to Sunday (including public holidays)**		
	7am – 6pm	**6pm – 10pm**	**10pm – 7am**
$L_{Aeq, Adj,15min}$	50	50	50
$L_{A1, Adj,15min}$	55	55	55

E9	**Blast monitoring** The holder of this environmental authority must develop and implement a Blast Monitoring Program to monitor compliance with **Table E2 – Blasting Noise Limits** for: (a) At least 90% of all blasts undertaken on this site in each year at the nearest sensitive or commercial place(s); and (b) All blasts conducted during any time period specified by the administering authority at the nearest sensitive place(s) or commercial place.
E10	Blast monitoring must be conducted in accordance with the most recent edition of the administering authority's guideline *Noise and vibration from blasting* (ESR/2016/2169) or relevant Australian Standards.
E11	When requested by the administering authority, or as a result of a complaint, blast monitoring must be undertaken, and the results thereof provided to the administering authority within **fourteen (14) days** following the completion of the monitoring period. Air blast overpressure and vibration from the authorised mining activities must not exceed the limits specified in **Table E2 - Blasting Noise and Vibration Limits**, at any sensitive place or commercial place.

E12	Blast monitoring required by **Condition E11** 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, wind speed and direction; and (e) location, date and time of recording.

Table E2 – Blasting Noise and Vibration Limits

Blasting noise and vibration limit	**Sensitive or commercial blasting noise limits**	
	7am - 6pm	**6pm - 7am**
Airblast overpressure (dB)	115 dB (Linear) peak for 9 out of 10 consecutive blasts initiated and not greater than 120 dB (Linear) peak at any time	No blasting is allowed during these times
Ground vibration peak particle velocity (mm/s)	5 mm/s peak particle velocity for 9 out of 10 consecutive blasts and not greater than 10 mm/s peak particle velocity at any time	No blasting is allowed during these times

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	**Waste disposal** Unless otherwise permitted by the conditions of this environmental authority, general waste and regulated waste that cannot be lawfully reused or recycled on site, must be collected by a licenced waste contractor and transported to a licenced facility for recycling or disposal.
F3	**Waste Management** A Waste Management Plan for non-mining waste must be implemented that: a) describes how the mining operation recognises and applies the waste management hierarchy; b) characterises wastes generated from the project and identifies general volume trends; c) contains a program for safe recycling or disposal of all wastes - reusing and recycling where possible; d) contains waste commitments with auditable targets to reduce, reuse and recycle; e) includes waste management control strategies which addresses: I. the type of wastes; II. segregation of the wastes; III. storage of the wastes; IV. transport of the wastes; f) monitoring and reporting matters concerning the wastes; g) emergency response planning; h) disposal, reused and recycling options; i) identifies the potential adverse and beneficial impacts of the wastes generated; j) details the hazardous characteristics of the waste generated (if any); k) contains a disposal procedure for hazardous wastes; l) outlines the process to be implemented to allow for continuous improvement of the waste management systems; m) identifies responsible staff (positions) for implementing, managing and reporting the Waste Management Plan; and n) contains a staff awareness and induction program that encourages re-use and recycling.
F4	**Mine Waste Management Plan** A Mining Waste Management Plan (MWMP) must be developed and implemented by an appropriately qualified person prior to the commencement of overburden removal.

F5	The MWMP must include, where relevant, at a minimum: (a) Characterisation programs to ensure that all mining waste (including waste rock, spoil, course and fine rejects) is progressively characterised during disposal for net acid producing potential, salinity and the following contaminants: pH, Electrical Conductivity (EC), Acid Neutralising Capacity (ANC), Net Acid Generation (NAG) (reporting NAG capacity and NAG pH after oxidation), Total Sulphur (S), Chromium Reducible Sulphur (Scr), Boron (B) Cadmium (Cd), Iron (Fe), Aluminium (Al), Copper (Cu), Magnesium (Mg), Manganese (Mn), Calcium (Ca), Sodium (Na), Zinc (Zn) and Sulphate (SO_4^{2-}); (b) A plan demonstrating how potentially acid forming mine waste will be selectively placed and/or encapsulated to minimise the potential generation of acid mine drainage; (c) Where relevant, a sampling program to verify encapsulation and/or placement of potentially acid forming mine waste; (d) The availability or leachability of metals from the mining waste; (e) Quantification of Potentially Acid Forming (PAF) from mining waste present; (f) Management actions for mining waste that has been identified as having a high availability or leachability of metals; (g) Management actions for mining waste that has been defined as PAF; (h) Identification of environmental impacts and potential environmental impacts; (i) Completion of a mine waste risk assessment, with the following required if risk determined to be greater than low: a. control measures for routine operations to minimise likelihood of environmental harm; and b. contingency plans and emergency procedures for non-routine situations. (j) Periodic review of environmental performance and continual improvement and how often the performance of the MWMP will be assessed; (k) The indicators or other criteria on which the performance of the MWMP will be assessed; and (l) Rehabilitation strategy that includes review of impacts of the PAF mining waste on the rehabilitation.
F6	**Disposal of rejects** Course and fine rejects must be encapsulated in the waste rock dump or buried within the pit above the groundwater table with a 5m thick cover of benign spoil.
F7	**Storage and Disposal of tyres** Where no feasible recycling or waste to energy options are available, disposing of scrap tyres resulting from the mining activities in the pit is acceptable, provided tyres are placed as deep in the pit as reasonably practicable. A record must be kept of the number and location for tyres disposed.

F8	Scrap tyres resulting from the mining activities disposed within the operational land must not impede saturated aquifers or compromise the stability of the consolidated landform.
F10	Scrap tyres stored awaiting disposal or transport for take-back and recycling, or waste-to-energy options must be stored in stable stacks and at least **ten (10) metres** from any other scrap tyre storage area, or combustible or flammable material, including vegetation.
Schedule G: Land and Biodiversity	
Condition number	**Condition**
G1	Land disturbed by mining must be rehabilitated in accordance with the approved Progressive Rehabilitation and Closure Plan (PRCP) schedule for this environmental authority.
G2	**Preventing contaminant release to land** Contaminants must not be released to land unless authorised by a condition of this environmental authority.
G3	**Impacts to Prescribed Environmental Matters** Significant residual impacts to prescribed environmental matters, are not authorised under this environmental authority or the *Environmental Offsets Act 2014*, unless the impact(s) is specified in **Table G1 - Significant Residual Impacts to Prescribed Environmental Matters** and **Appendix 4 – Location of Protected Wildlife Habitat**.
G4	An environmental offset made in accordance with the *Environmental Offsets Act 2014* and Queensland Environmental Offsets Policy, as amended from time to time, must be undertaken for the maximum extent of impact to each prescribed environmental matter authorised in **Table G1 - Significant Residual Impacts to Prescribed Environmental Matters**, unless a lesser extent of the impact has been approved in accordance with **Condition G6.**
G5	The significant residual impacts to a prescribed environmental matter authorised in **Condition G3** for which an environmental offset is required by **Condition G5** may be carried out in stages. An environmental offset can be delivered for each stage of the impacts to prescribed environmental matters.
G6	A notice of election for the staged environmental offset 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.

G7	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 G1 - Significant Residual Impacts to Prescribed Environmental Matters

Matters of State Environmental Significance	Location of impact	Description	Impact Area Total (ha)	Offset Required
Protected Wildlife Habitat	Appendix 4	Ornamental Snake: Non remnant agricultural grassland	24	EPBC Act*
	Overall impact area (ha)		**24**	

Notes:

***** These prescribed environmental values duplicate Matter of National Environmental Significance (MNES) values and, in the event of an *Environmental Protection and Biodiversity Conservation Act* 1999 (EPBC Act) decision on the project, offsets for these matters may be conditioned for by the Commonwealth. Further, any offsets conditioned by the Commonwealth are likely to address offsetting for these matters as required by this environmental authority.

G8	**Groundwater Dependent Ecosystems (GDEs)** No significant impacts to Groundwater Dependent Ecosystems (with consideration to background seasonal fluctuations in riparian health) are authorised.
G9	**Topsoil** A Topsoil Management Plan must be developed, implemented and made available to the administering authority upon request. The Topsoil Management Plan must contain topsoil management strategies including but not limited to: (a) Topsoil stripped and stockpiled in advance of mining activities; (b) Measures to ensure that the mixing and erosion of topsoil and overburden stockpiles is prevented; and (c) A topsoil inventory which identifies the topsoil requirements and availability of suitable topsoil on site for the mining activity must be maintained and made available on request by the administering authority.

G10	**Weed Management** A weed management plan must be developed and implemented for all areas both disturbed and undisturbed outlining: (a) Areas of control priority and the methods used to determine such areas; (b) Strategies to promote dense pasture cover (to decrease weed establishment) through reduced disturbance; (c) Monitoring methodologies that document the spread of weeds and any new outbreak; (d) Best practice methods for control of weeds; (e) Stringent wash-down and inspection procedures for both machinery involved in clearing/construction activities and those operating outside of designated roads during mine operation; (f) Truck wash procedure to reduce weed infestations; and (g) Promotion of the awareness of weed management issues at site.

Schedule H: Regulated Structures	
Condition number	**Condition**
H1	**Assessment of consequence category** The consequence category of any structure must be assessed by a suitably qualified and experienced person in accordance with the *Manual for Assessing Consequence Categories and Hydraulic Performance of Structures (ESR/2016/1933)* at the following times: (a) Prior to the design and construction of the structure, if it is not an existing structure; or (b) Prior to any change in its purpose or the nature of its stored contents.
H2	A consequence assessment report and certification must be prepared for each structure assessed and the report may include a consequence assessment for more than one structure.
H3	Certification must be provided by the suitably qualified and experienced person who undertook the assessment, in the form set out in the *Manual for Assessing Consequence Categories and Hydraulic Performance of Structures (ESR/2016/1933).*
H4	**Design and construction of a regulated structure** All regulated structures must be designed by, and constructed under the supervision of, a suitably qualified and experienced person in accordance with the requirements of the *Manual for Assessing Consequence Categories and Hydraulic Performance of Structures (ESR/2016/1933)*.
H5	Construction of a regulated structure is prohibited unless: (a) The holder has submitted a consequence category assessment report and certification to the administering authority; and (b) Certification for the design, design plan and the associated operating procedures has been certified by a suitably qualified and experienced person in compliance with the relevant condition of this authority.
H6	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 *Manual for Assessing Consequence Categories and Hydraulic Performance of Structures (ESR/2016/1933)* and must be recorded in the Register of Regulated Structures.

H7	Regulated structures must: (a) Be designed and constructed in accordance with and conform to the requirements of the *Manual for Assessing Consequence Categories and Hydraulic Performance of Structures (ESR/2016/1933)*; (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. (c) Have the floor and sides of the dam designed and constructed to prevent or minimise the passage of the wetting front and any entrained contaminants through either the floor or sides of the dam during the operational life of the dam and for any period of decommissioning and rehabilitation of the dam.
H8	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.
H9	**Notification of affected persons** All affected persons must be provided with a copy of the emergency action plan in place for each regulated structure: (a) For existing structures that are regulated structures, within **ten (10) business days** of this condition taking effect; (b) Prior to the operation of the new regulated structure; and (c) If the emergency action plan is amended, within **five (5) business days** of it being amended.
H10	**Operation of a regulated structure** Operation of a regulated structure, except for an existing structure, is prohibited unless the holder has submitted to the administering authority: (a) One paper copy and one electronic copy of the design plan and certification of the 'design plan' in accordance with **Condition H6**; (b) Set of 'as constructed' drawings and specifications, (c) Certification of those 'as constructed drawings and specifications' in accordance with **Condition H8**, (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 Dams; and (g) There is a current operational plan that has been implemented for the regulated structure.

H11	Each regulated structure must be maintained and operated, for the duration of its operational life until decommissioned and rehabilitated, in compliance with the current operational plan, the PRC Plan and, if applicable, the current design plan and associated certified 'as constructed' drawings.
H12	**Mandatory reporting level** **Conditions H13** and **H16** only apply to Regulated Structures which have not been certified as low consequence category for 'failure to contain – overtopping'.
H13	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.
H14	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.
H15	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.
H16	The holder must record any changes to the MRL in the Register of Regulated Structures.
H17	**Design storage allowance** 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.
H18	By **1 November** of each year, storage capacity must be available in each regulated dam (or network of linked containment systems with a shared DSA volume), to meet the Design Storage Allowance (DSA) volume for the dam (or network of linked containment systems).
H19	The holder must, as soon as possible and within **forty-eight (48) hours** of becoming aware that the 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, notify the administering authority.
H20	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.
H21	**Annual inspection report** Each regulated structure must be inspected each calendar year by a suitably qualified and experienced person.
H22	At each annual inspection, the condition and adequacy of all components of the regulated structure must be assessed and a suitably qualified and experienced person must prepare an annual inspection report containing details of the assessment and include recommended actions to ensure the integrity of the regulated structure.

H23	The suitably qualified and experienced person who prepared the annual inspection report must certify the report in accordance with the *Manual for Assessing Consequence Categories and Hydraulic Performance of Structures (ESR/2016/1933).*
H24	The holder must within **twenty (20) business days** of receipt of the annual inspection report, provide to the administering authority: (a) The annual inspection report; and (b) If applicable, any actions being taken in response to those recommendations.
H25	**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, consequence assessment, design plan and other supporting documentation, to a new holder on transfer of this authority.
H26	**Register of regulated structures** A Register of Regulated Structures must be established and maintained by the holder for each regulated structure.
H27	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.
H28	The holder must make a final entry of the required information in the Register of Regulated Structures once compliance with **Conditions H10** and **H11** has been achieved.
H29	The holder must ensure that the information contained in the Register of Regulated Structures is current and complete on any given day.
H30	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.
H31	The holder must, at the same time as providing the annual return, supply to the administering authority a copy of the records contained in the Register of Regulated Structures, in the electronic format required by the administering authority.

END OF CONDITIONS

Definitions

Key terms and/or phrases used in this document are defined in this section. Where a term is not defined, the definition in the *Environmental Protection Act 1994*, its regulations or environmental protection policies must be used. If a word remains undefined it has its ordinary meaning.

'acid rock drainage' means any contaminated discharge emanating from a mining activities 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 activities.

'administering authority' means the agency or department that administers the environmental authority provisions under the *Environmental Protection Act 1994*.

'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 airblast overpressure measured in decibels linear (dBL).

'**annual inspection report'** means an assessment prepared by a suitably qualified and experienced person containing details of the assessment against the most recent consequence assessment report and design plan (or system design plan):

(a) against recommendations contained in previous annual inspections reports;
(b) against recognised dam safety deficiency indicators;
(c) for changes in circumstances potentially leading to a change in consequence category;
(d) for conformance with the conditions of this authority;
(e) for conformance with the 'as constructed' drawings;
(f) for the adequacy of the available storage in each regulated dam, based on an actual observation or observations taken after 31 May each year but prior to 1 November of that year, of accumulated sediment, state of the containment barrier and the level of liquids in the dam (or network of linked containment systems);
(g) for evidence of conformance with the current operational plan.

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

'ANZG' means the *Australian and New Zealand Guidelines for Fresh and Marine Water Quality 2018*.

'appropriately qualified person' means a person who has professional qualifications, training, skills or experience relevant to the nominated subject matter and can give authoritative assessment, advice and analysis on performance relative to the subject matter using the relevant protocols, standards, methods or literature.

'assess' or **'assessed'** or **'assessment'** means by a suitably qualified and experienced person in relation to a consequence 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; and
(d) the reasoning on which the assessment has been based using the relevant data and facts, and the relevant criteria.

'bed and banks' means 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.

'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.

'certify' or **'certification'** or **'certified'** or **'certifying'** means assessment and approval must be undertaken by a suitably qualified and experienced person in relation to any assessment or documentation required by this environmental authority, including design plans, 'as constructed' drawings and specifications, construction, operation or an annual report regarding regulated structures, undertaken in accordance with the Board of Professional Engineers of Queensland Policy Certification by RPEQs (ID:1.4(2A)).

'chemical' means –
(a) an agricultural chemical product or veterinary chemical product within the meaning of the *Agricultural and Veterinary Chemicals Code Act 1994 (Commonwealth)*; or
(b) a dangerous good under the dangerous goods code; or
(c) a drug or poison in the current Poisons Standard under the *Therapeutic Goods Act 1989 (Commonwealth)*; or
(d) any substance intended for use as –
    (i) a pesticide, insecticide, fungicide, herbicide, rodenticide, nematocide, miticide, fumigant or related product; or
    (ii) a surface active agent, including, for example, soap or related detergent; or
    (iii) a paint solvent, pigment, dye, printing ink, industrial polish, degreasing agent, adhesive, sealant, food additive, bleach, sanitiser, disinfectant, biocide or firefighting foam; or
    (iv) a fertiliser for agricultural, horticultural or garden use, other than mushroom growing substrate or compost; or
(e) class 1 or 2 combustible liquids under AS 1940; or
(f) a chemical toxicant for which guidelines are prescribed under the Australian water quality management guidelines.

'commercial place' means a work place used as an office or for business or commercial purposes, which is not part of the mining activities and does not include employees accommodation or public roads.

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

'consequence category' means a category, either low, significant or high, into which a dam is assessed as a result of the application of tables and other criteria in the *Manual for Assessing Consequence Categories and Hydraulic Performance of Structures (ESR/2016/1933).*

'construction' or **'constructed'** in relation to a dam includes building a new dam and modifying or lifting an existing dam, but does not include investigations and testing necessary for the purpose of preparing a design plan.

'contaminate' means to render impure by contact or mixture.

'contaminated' means the substance has come into contact with a contaminant.

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

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

'dam' means a land-based structure or a void that contains, diverts or controls flowable substances, and includes any substances that are thereby contained, diverted or controlled by that land-based structure or void and associated works.

'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.

'disturbed' means areas:
(a) that are susceptible to erosion;
(b) that are contaminated by the activity; and/or
(c) upon which stockpiles of soil or other materials are located.

'disturbance of land' means:
(a) compacting, removing, covering, exposing or stockpiling of earth;
(b) removal or destruction of vegetation or topsoil or both to an extent where the land has been made susceptible to erosion;
(c) carrying out mining within a watercourse, waterway, wetland or lake; and/or
(d) the submersion of areas by tailings or hazardous contaminant storage and dam/structure walls
(e) temporary infrastructure, including any infrastructure (roads, tracks, bridges, culverts, dam/structures, bores, buildings, fixed machinery, hardstand areas, airstrips, helipads etc) which is to be removed after the mining activity has ceased
(f) releasing of contaminants into the soil or underlying geological strata.

However, the following areas are not included when calculating areas of 'disturbance':
(a) areas off lease (e.g. roads or tracks which provide access to the mining lease)
(b) areas previously disturbed which have achieved the rehabilitation outcomes
(c) by agreement with the administering authority, areas previously disturbed which have not achieved the rehabilitation objective(s) due to circumstances beyond the control of the mine operator (such as climatic conditions)
(d) areas under permanent infrastructure. Permanent infrastructure includes any infrastructure (roads, tracks, bridges, culverts, dam/structures, bores, buildings, fixed machinery, hardstand areas, airstrips, helipads etc.) which is to be left by agreement with the landowner
(e) disturbance that pre-existed the grant of the tenure.

'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; or
(b) a caravan, mobile home or other vehicle or structure on land; or
(c) a water craft in a marina.

'document' means the same meaning as in the *Acts Interpretation Act 1954.*

'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 nuisance' meaning section 15 of the *Environmental Protection Act 1994*.

'environmental offset' means the same as in section 7 of the *Environmental Offsets Act 2014*.

'environmentally relevant activity' means an environmentally relevant activity as defined in the *Environmental Protection Act 1994* and listed in the *Environmental Protection Regulation 2019.*

'existing structure' means a structure that was in existence prior to the adoption of this schedule of conditions under the 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.

'general waste' means definition in schedule 12 of the Environmental Protection Regulation 2019 and defines general waste as "waste other than regulated waste". Waste rock, overburden and the contents of tailings dams are not included in the definition of general waste for the purposes of these conditions.

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

'infrastructure' means water storage dams, sediment dams, powerlines, pipelines, haul roads and bitumen roads and light vehicle 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.

'$L_{A\ 10,\ adj,\ 10\ mins}$' 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

'$L_{A,\ max\ adj,\ T}$' means the average maximum A-weighted sound pressure level, adjusted for noise character and measured over any 10-minute period, using Fast response.

'lake' means –
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.

'low consequence dam' means any dam that is not a high or significant consequence category as assessed using the *Manual for Assessing Consequence Categories and Hydraulic Performance of Structures (ESR/2016/1933)*;

'mandatory reporting level' means the volume below the spillway crest, equivalent to the lower of the AEP, 72 hour storm or the AEP wave allowance (AEP is the natural exceedance probability).

'manual' means the *Manual for Assessing Consequence Categories and Hydraulic Performance of Structures (ESR/2016/1933)* published by the administering authority.

'maximum extent of impact' means the total, cumulative, residual extent and duration of impact to a prescribed environmental matter that will occur over a project's life after all reasonable avoidance and reasonable on-site mitigation measures have been, or will be, undertaken.

'mine affected water' means the following types of water:
(a) means the following types of water:
    (i) pit water, tailings dam water, processing plant water;
    (ii) water contaminated by mining activities which would have been an environmentally relevant activity under Schedule 2 of the Environmental Protection Regulation 2019 if it had not formed part of the mining activities;
    (iii) rainfall runoff which has been in contact with any areas disturbed by mining activities which have not yet been rehabilitated, excluding rainfall runoff discharging through release points associated with erosion and sediment control structures that have been installed in accordance with the standards and requirements of an Erosion and Sediment Control Plan to manage such runoff, provided that this water has not been mixed with pit water, tailings dam water, processing plant water or workshop water;
    (iv) groundwater which has been in contact with any areas disturbed by mining activities which have not yet been rehabilitated;
    (v) groundwater from the mine's dewatering activities;
    (vi) a mix of mine affected water (under any of paragraphs i)-v) and other water.

(b) does not include surface water runoff which, to the extent that it has been in contact with areas disturbed by mining activities that have not yet been completely rehabilitated, has only been in contact with:

    (i) land that has been rehabilitated to a stable landform and either capped or revegetated in accordance with the acceptance criteria set out in the environmental authority but only still awaiting maintenance and monitoring of the rehabilitation over a specified period of time to demonstrate rehabilitation success; or

    (ii) land that has partially been rehabilitated and monitoring demonstrates the relevant part of the landform with which the water has been in contact does not cause environmental harm to waters or groundwater, for example:

        a) areas that are been capped and have monitoring data demonstrating hazardous material adequately contained with the site;

        b) evidence provided through monitoring that the relevant surface water would have met the water quality parameters for mine affected water release limits in this environmental authority, if those parameters had been applicable to the surface water runoff; or

    (iii) both.

'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—
(l) living matter;
(m) petroleum within the meaning of the *Petroleum Act 1923*;
(n) 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; or
(o) water.

'mining activities' means the following activities:
(a) authorised as per the definition in section 110 of the *Environmental Protection Act 1994*;
(b) all environmentally relevant activities authorised under this environmental authority;
(c) all mining disturbance including construction of infrastructure, overburden removal and active mining;
(d) all care and maintenance; and
(e) rehabilitation.

'modification or modifying' means (see definition of 'construction')

'natural flow' means the flow of water through waters caused by nature.

'nature' means:
(a) ecosystems and their constituent parts; and
(b) all natural and physical resources; and
(c) natural dynamic processes.

'notice of election' means the definition in section 18(2) *Environmental Offsets Act 2014*.

'noxious' means harmful or injurious to health or physical wellbeing, other than trivial harm.

'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) normal operating procedures and rules (including clear documentation and definition of process inputs in the DSA allowance);
(b) contingency and emergency action plans including operating procedures designed to avoid and/or minimise environmental impacts including threats to human life resulting from any overtopping or loss of structural integrity of the regulated structure.

'overburden' means rock or soil, other than the topsoil (e.g. top 1m of soil) overlying the coal deposit.

'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}).

'prescribed environmental matters' means the meaning in section 10 of the *Environmental Offsets Act 2014*, limited to the Matters of State Environmental Significance listed in schedule 2 of the Environmental Offsets Regulation 2014.

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

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

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

'Register of Regulated Structures' means the inclusion of**:**
(a) Date of entry in the register;
(b) Name of the structure, its purpose and intended/actual contents;
(c) The consequence category of the structure as assessed using the *Manual for Assessing Consequence Categories and Hydraulic Performance of Structures (ESR/2016/1933);*
(d) Dates, names, and reference for the design plan plus dates, names, and reference numbers of all document(s) lodged as part of a design plan for the dam;
(e) Name and qualifications of the suitably qualified and experienced person who certified the design plan and 'as constructed' drawings;
(f) For the regulated dam, other than in relation to any levees –
    (i) The dimensions (metres) and surface area (hectares) of the dam measured at the footprint of the dam;
    (ii) Coordinates (latitude and longitude in GDA94) within five metres at any point from the outside of the dam including its storage area
    (iii) Dam crest volume (megalitres);
    (iv) Spillway crest level (metres AHD).
    (v) Maximum operating level (metres AHD);
    (vi) Storage rating table of stored volume versus level (metres AHD);
    (vii) Design storage allowance (megalitres) and associated level of the dam (metres AHD);
    (viii) Mandatory reporting level (metres AHD);
(g) The design plan title and reference relevant to the dam;
(h) The date construction was certified as compliant with the design plan;
(i) The name and details of the suitably qualified and experienced person who certified that the constructed dam was compliant with the design plan;
(j) Details of the composition and construction of any liner;
(k) The system for the detection of any leakage through the floor and sides of the dam;
(l) Dates when the regulated dam underwent an annual inspection for structural and operational adequacy, and to ascertain the available storage volume for 1 November of any year;
(m) Dates when recommendations and actions arising from the annual inspection were provided to the administering authority;
(n) Dam water quality as obtained from any monitoring required under this authority as at 1 November of each year.

'regulated dam' means any dam in the significant or high consequence category as assessed using the *Manual for Assessing Consequence Categories and Hydraulic Performance of Structures (ESR/2016/1933)* published by the administering authority.

'regulated structure' means the inclusion of 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.

'saline drainage' means the movement of waters, contaminated with salt(s), as a result of the activities.

'sensitive receptor' or **'sensitive place'** means:
(a) a dwelling, residential allotment, mobile home or caravan park, residential marina or other residential premises; or
(b) a motel, hotel or hostel; or
(c) an educational institution; or
(d) a medical centre or hospital; or
(e) a protected area under the *Nature Conservation Act 1992*, the *Marine Parks Act 1992* or a *World Heritage Area*; or
(f) a public park or gardens.

Note:
The definition of 'sensitive place' and 'commercial place' is based on Schedule 1 of EPP Noise. That is, a sensitive place is inside or outside on a dwelling, library and educational institution, childcare or kindergarten, school or playground, hospital,

surgery or other medical institution, commercial & retail activity, protected area or an area identified under a conservation plan under *Nature Conservation Act 1992* as a critical habitat or an area of major interest, marine park under *Marine Parks Act 2004*, park or garden that is outside of the mining lease and open to the public for the use other than for sport or organised entertainment. A commercial place is inside or outside a commercial or retail activity.

Accommodation and ancillary facilities (including a mining camp) provided for mine employees, contractors and their families, associated with the mine the subject of the environmental authority, is not a sensitive place for that mine or mining project, whether or not it is located within a mining tenement that is part of the mining project the subject of the environmental authority. For example, the accommodation might be located on neighbouring land owned or leased by the same company as one of the holders of the environmental authority for the mining project, or a related company.
A township (occupied by the mine employees, contractors and their families for multiple mines that are held by different companies) would be a sensitive place, even if part or all of the township is constructed on land owned by one or more of the companies.

'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 residual impacts' means the definition in section 8 *Environmental Offsets Act 2014*.

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

'stable' means geotechnical stability of the rehabilitated landform where instability related to the excessive settlement and subsidence caused by consolidation / settlement of the wastes deposited, and sliding / slumping instability has ceased.

'stormwater' means all surface water runoff from rainfall.

'structure' means dam or levee.

'suitably qualified and experienced person' in relation to regulated structures means a person who is a Registered Professional Engineer of Queensland (RPEQ) under the provisions of the *Professional Engineers Act 2002*, and has demonstrated competency and relevant experience:
(a) for regulated dams, an RPEQ who is a civil engineer with the required qualifications in dam safety and dam design.
(b) for regulated levees, an RPEQ who is a civil engineer with the required qualifications in the design of flood protection embankments.

***Note**: It is permissible that a suitably qualified and experienced person obtain subsidiary certification from an RPEQ who has demonstrated competence and relevant experience in either geomechanics, hydraulic design or engineering hydrology*.

'system design plan' means a plan that manages an integrated containment system that shares the required DSA and/or ESS volume across the integrated containment system.

'waste' means the definition in section 13 of the *Environmental Protection Act 1994*.

'waste management hierarchy' means the definition given by the *Waste Reduction and Recycling Act 2011*.

'water' means –
(a) water in waters or spring;
(b) underground water;
(c) overland flow water; or
(d) water that has been collected in a dam.

'watercourse' means:

1. a river, creek or stream in which water flows permanently or intermittently—
   (a) in a natural channel, whether artificially improved or not; or
   (b) in an artificial channel that has changed the course of the watercourse.
2. Watercourse includes the bed and banks and any other element of a river, creek or stream confining or containing water.

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

'waters' means river, stream, lake, lagoon, pond, swamp, wetland, unconfined surface water, unconfined water natural or artificial watercourse, bed and bank of any waters, dams, non-tidal or tidal waters (including the sea), stormwater channel, stormwater drain, and groundwater and any part thereof.

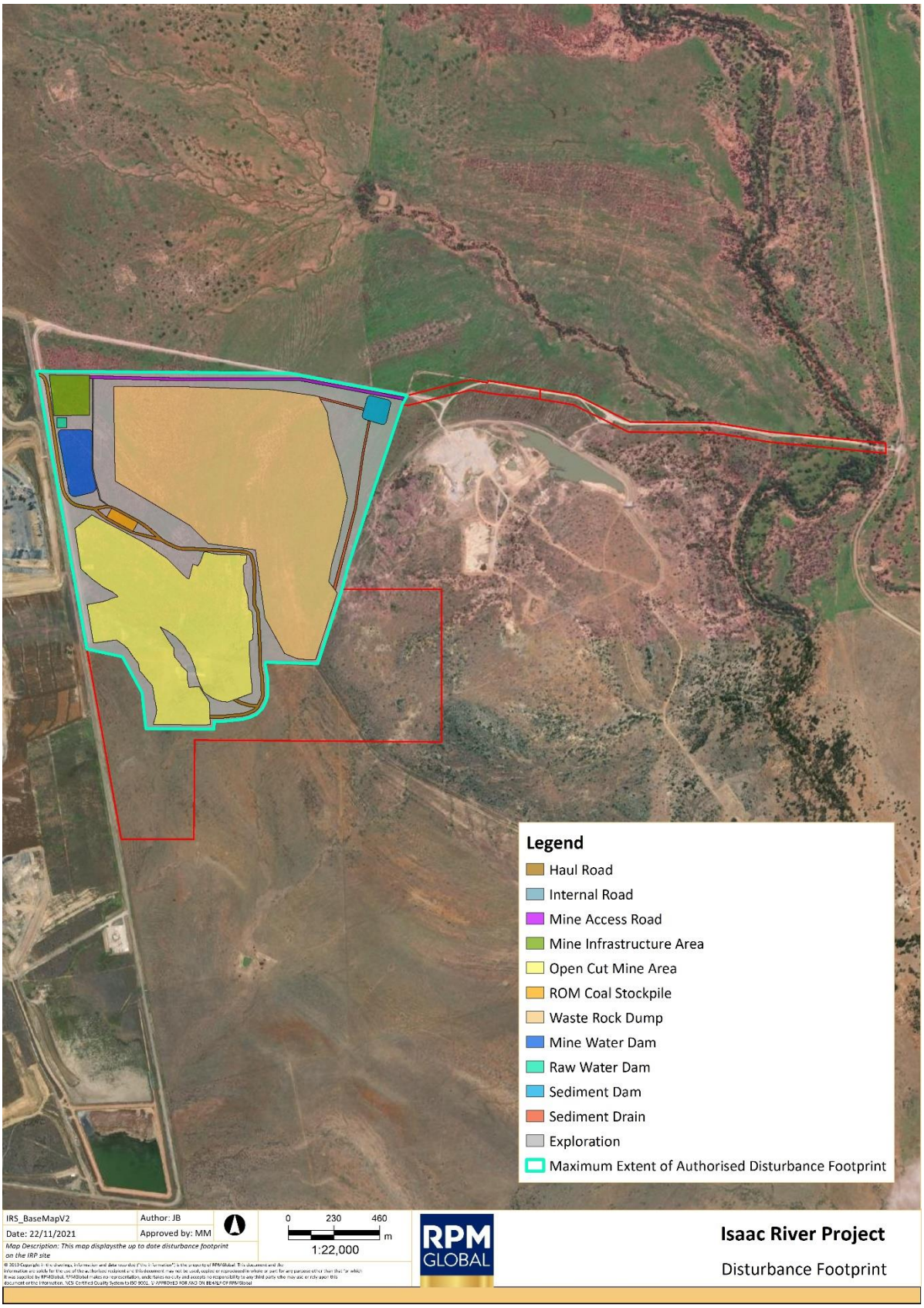
'µg/L' means micrograms per litre

'µS/cm' means microsiemens per centimetre

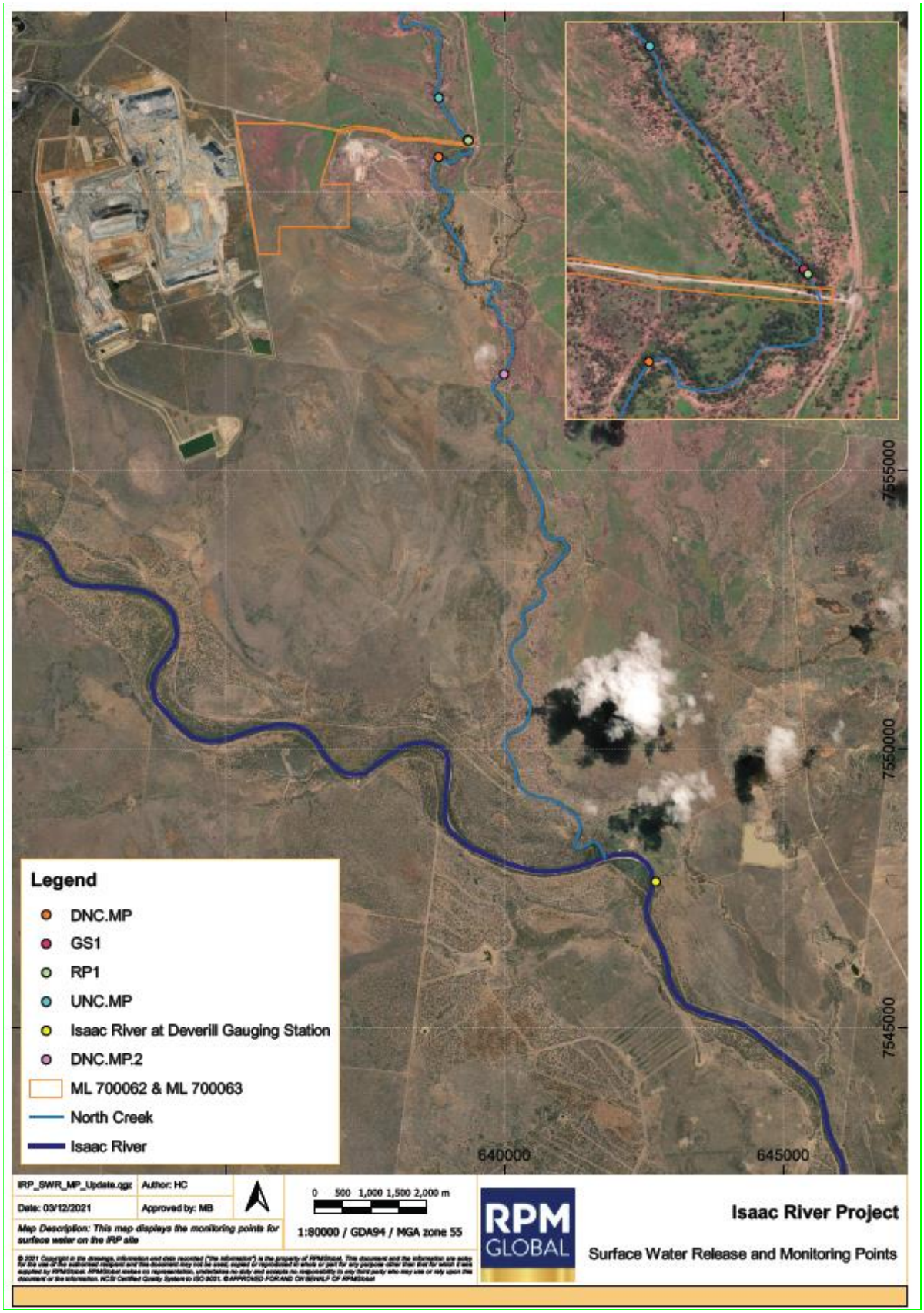
END OF DEFINITIONS

Appendices

Appendix 1 – Land Disturbance Area

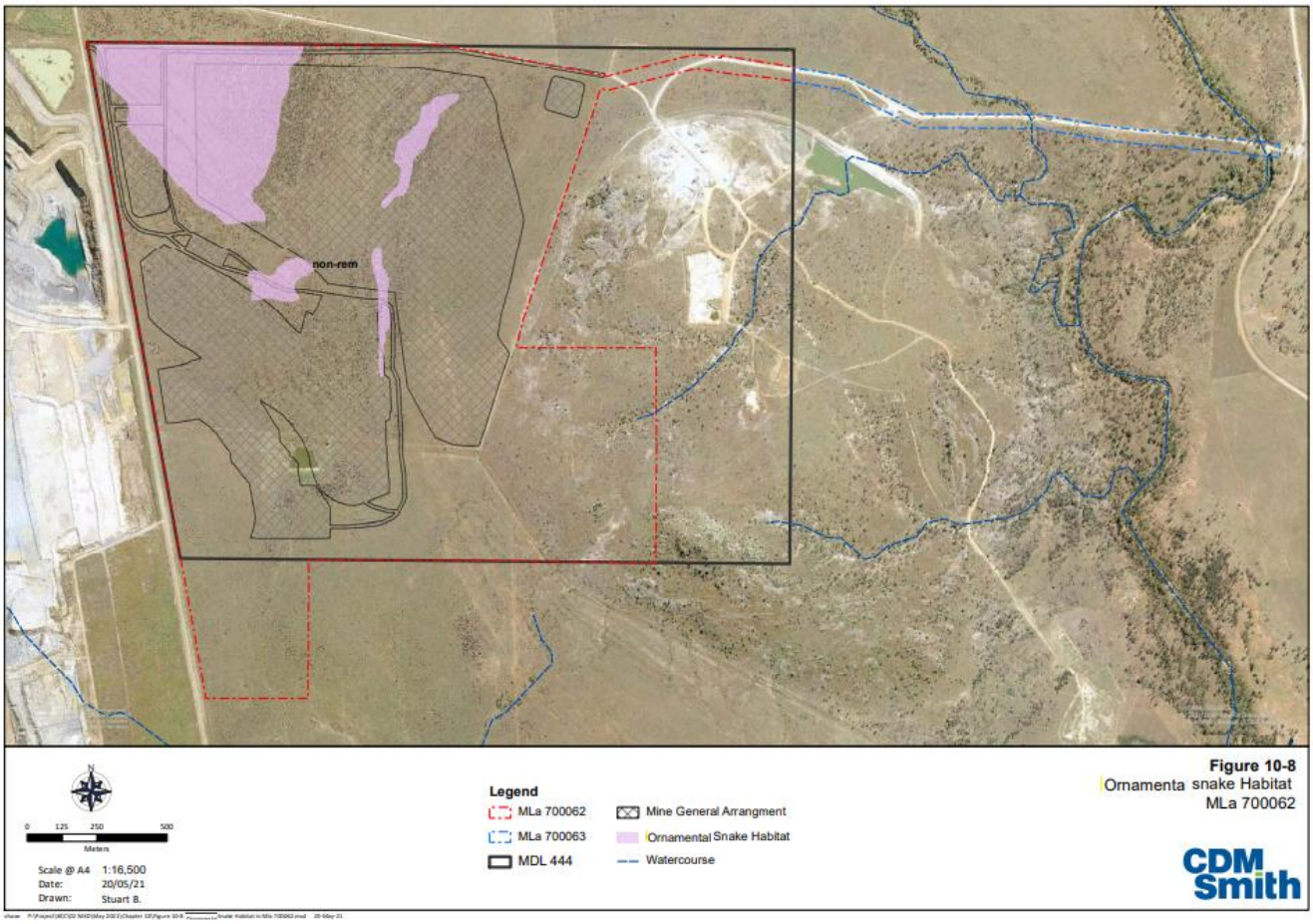


Appendix 2 - Surface water release, monitoring and gauging locations



Appendix 3 – Groundwater monitoring bore locations

Appendix 4 - Location of Protected Wildlife Habitat



END OF ENVIRONMENTAL AUTHORITY