Permit

Environmental Protection Act 1994

Environmental authority EA0002912

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

Environmental authority number: EA0002912

Environmental authority takes effect on 7 February 2022

Environmental authority holder(s)

Name(s)	Registered address
QUEENSLAND COKING COAL PTY LTD	Level 6, Suite 2, 12 Creek Street, Brisbane QLD 4000
QLD COAL AUST NO.1 PTY LTD	

Environmentally relevant activity and location details

Environmentally relevant activity/activities	Location(s)
Resource Activity, Schedule 3, 13: Mining Black Coal	ML700060, MDL3039
Resource Activity, Schedule 3, 10: Investigating the potential development of a mineral resource by large bulk sampling or constructing an exploratory shaft, adit or open pit.	
Ancillary Activity 16(2): Extracting, other than by dredging, in a year, the following quantity of material, (b) more than 100,000t but not more than 1,000,000t.	
Ancillary Activity 16(3): Screening, in a year, the following quantity of material, (b) more than 100,000t but not more than 1,000,000t.	
Ancillary Activity 33: Crushing, grinding, milling or screening more than 5,000t of material in a year.	

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

Queensland Government

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- one 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.

Dr. Alison Cummings
Department of Environment and Science
Delegate of the administering authority
Environmental Protection Act 1994

Date Issued: 7 February 2022

Enquiries:
Business Centre (Coal)
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 Natural Resources, Mines and Energy (to clear vegetation), and the Department of Agriculture and Fisheries (to clear marine plants or to obtain a quarry material allocation).

This environmental authority consists of the following Parts, Schedules and Appendices

PART A – Conditions of ML700060

Schedule A General

Schedule B Air

Schedule C Waste

Schedule D Noise

Schedule E Groundwater

Schedule F Surface Water

Schedule H Land

Schedule Definitions

Appendix 1-A Project Layout – Authorised Disturbance Areas

PART B – Conditions of MDL3039

Schedule A General

Schedule B Air

Schedule C Waste

Schedule D Noise and Vibration

Schedule E Groundwater

Schedule F Water

Schedule G Land

Schedule Definitions

Appendix 1-B Project Layout – Authorised Disturbance Areas

Appendix 2-B Authorised Water Release Points

PART A – Conditions of ML700060

Schedule A: General	
Condition number	**Condition**
A-A1	This environmental authority authorises environmental harm referred to in the conditions. Where there is no condition or this environmental authority is silent on a matter, the lack of a condition or silence does not authorise environmental harm.
A-A2	In carrying out activities authorised by this environmental authority, the environmental authority holder must comply with **Appendix 1-A. Project Layout – Authorised Disturbance Areas.**
A-A3	The environmental authority holder must: (a) install all measures, plant and equipment necessary to ensure compliance with the conditions of this environmental authority; (b) maintain such measures, plant and equipment in a proper and efficient condition; (c) operate such measures, plant and equipment in a proper and efficient manner; and (d) ensure all instruments and devices used for the measurement or monitoring of any parameter under any condition of this environmental authority are properly calibrated.
A-A4	**Commencement of activities** The environmental authority holder must: (a) provide a written statement advising the administering authority of the date for when 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 activities.
A-A5	**Monitoring** All monitoring records, registers, plans, programs, and reports required by this environmental authority must be kept until the surrender of this environmental authority.
A-A6	Monitoring, or determinations, or both, required under any condition of this environmental authority must be conducted by an appropriately qualified person(s).
A-A7	Upon request from the administering authority, copies of monitoring records, registers, plans, programs, and reports required by the conditions of this environmental authority must be made available and provided to the administering authority within: (a) **ten (10) business days**; or (b) an alternative timeframe agreed between the administering authority and the environmental authority holder.

A-A8	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.
A-A9	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.
A-A10	**Chemicals and flammable or combustible liquids** The environmental authority holder must: (a) Store and handle flammable and combustible liquids in accordance with the latest edition of *AS1940—The storage and handling of flammable and combustible liquids*; (b) Store materials with an effective on-site containment system; and (c) 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.
A-A11	**Notification of emergencies, incidents, and exceptions** The environmental authority holder must notify the administering authority by written notification within **twenty-four (24) hours** of becoming aware of any emergency or incident or action 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.
A-A12	The notification provided to the administering authorised as required by condition **A-A11** must include but not be limited to the following information: (a) the holder of the environmental authority; (b) the location of the emergency or incident; (c) the number of the environmental authority; (d) the name and telephone number of the designated contact person; (e) the time of the release; (f) the time the holder of the environmental authority became aware of the release; (g) the suspected cause of the release; (h) the environmental harm caused, threatened, or suspected to be caused by the release; and (i) actions taken to prevent any further release and mitigate any environmental harm caused by the release.

A-A13	Within **ten (10) business days** following the initial notification of an emergency or incident under condition **A-A11**, or receipt of monitoring results, whichever is the later, 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.
A-A14	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.
A-A15	**Complaints** An investigation must be undertaken into all environmental complaints received that are deemed to be neither frivolous nor vexatious and the administering authority must be notified within **twenty-four (24) hours** upon the commencement of investigation. The investigation must determine: (a) the potential circumstances and actions on site that may have contributed to the complaint; and (b) reasonable measures, where warranted, that will be implemented to address the complaint.
A-A16	Measures identified under condition **A-A15** must be implemented within: (a) **twenty (20) business days** of the investigation required by condition **A-A15** being finalised; or (b) a longer period agreed to in writing by the administering authority.
A-A17	The following details must be recorded for all environmental complaints received: (a) Date and time the complaint was received; (b) If authorised by the person making the complaint, their name and contact details; (c) Nature and details of the complaint including date and time the complaint was received; (d) Investigations carried out in response to the complaint as required by condition **A-A15**; (e) The results of investigations; and (f) Measures taken under condition **A-A16**.
A-A18	The results of the investigation required under condition **A-A15** must: (a) include an analysis and interpretation of the monitoring results and abatement measures, where implemented; and (a) 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.

A-A19	**Third-party reporting** The environmental authority holder must: (a) within **one (1) year** of the commencement of activities as notified under condition **A-A4,** obtain from an appropriately qualified person a report on compliance with the conditions of this environmental authority; (b) obtain further such reports at regular intervals, not exceeding **two (2) years** from the completion of the report; and (c) provide each report to the administering authority within **thirty (30) days** of its completion.
A-A20	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 environmental authority holder must, where required under relevant legislation: (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, in 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.
A-A21	**Risk management** The environmental authority holder must, prior to the commencement of activities, develop and implement a risk management system for activities which mirrors the content requirements of the Standard for Risk Management (ISO31000:2018), or the latest edition of an Australian Standard for risk management, to the extent relevant to environmental management.
A-A22	**Non-Commercial Location Agreements** If the environmental authority holder enters into a "Co-Existence Plan" agreement with any commercial place located within ML700060, the commercial place is not considered to be a commercial place for the purposes of conditions **B-A1, B-A2, B-A3, D-A1,** and **D-A4**, while that agreement remains in place.

Schedule B: Air	
Condition number	**Condition**
B-A1	**Dust nuisance** The release of dust, or particulate matter, or both, as a result of the mining activity must not cause environmental nuisance at any sensitive or commercial place.
B-A2	**Dust and particulate matter monitoring** The environmental authority holder must ensure that all reasonable and feasible avoidance and mitigation measures are employed so that dust deposition, or particulate matter emissions, or both, generated by the activities do not cause exceedances of the air quality limits stated in **Table B-A1 – Air Quality limits** when measured at any sensitive or commercial place.

Table B-A1 – Air Quality Limits

Quality Characteristic	**Air Quality Limit**	**Averaging Period**	**Monitoring Standard**
Particulate Matter less than 10µm in aerodynamic diameter (PM_{10})	50 µg/m^3	24-hour	1. Australian Standard AS3580.9.6 Methods for sampling and analysis of ambient air — Determination of suspended particulate matter—PM10 high volume sampler with size selective inlet – Gravimetric method; 2. Australian Standard AS3580.9.9 Methods for sampling and analysis of ambient air — Determination of suspended particulate matter—PM10 low volume sampler — Gravimetric method; or 3. Australian Standard AS3580.9.11 Methods for sampling and analysis of ambient air – Determination of suspended particulate matter – PM10 beta attenuation monitors
Dust deposition	120 mg/m^2/day	Monthly	Australian Standard AS3580.10.1 Methods for sampling and analysis of ambient air—Determination of particulate matter — Deposited matter – Gravimetric method

B-A3	When requested by the administering authority, dust and particulate monitoring must be undertaken at sensitive receptors and within a timeframe nominated by the administering authority.
B-A4	Monitoring in accordance with condition **B-A3** must occur over a **one (1) month** period and results must be submitted within **ten (10) business days** to the administering authority following completion of monitoring.

B-A5	In accordance with condition **B-A4**, If the monitoring indicates an exceedance of the relevant limits in **Table B-A1 – Air Quality Limits**, then the environmental authority holder must investigate whether the exceedance is due to emissions from the activity. If the mining activity is found to be the cause of the exceedance, then the environmental authority holder must immediately implement dust abatement measures so that emissions of dust from the activity do not result in further environmental nuisance.
B-A6	**Dust management – coal transport** The environmental authority holder must take reasonable and practicable measures necessary to prevent release of windblown dust from vehicles used for transporting coal extracted from site. Reasonable and practicable measures may include, but are not limited to: (a) wetting down the load prior to transport; (b) having the entire load covered with a tarpaulin or similar material for the duration of transport; and (c) clearing of spillages from side rails, tail gates and draw bars of vehicles prior to and after delivery.
B-A7	**Dust control - trafficable areas** Trafficable areas (including entry and exit points from Saraji 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.
B-A8	**Odour** The release of noxious or offensive odour(s) or any other noxious or offensive airborne contaminant(s) resulting from the mining activity must not cause an environmental nuisance at any sensitive place or commercial place, or both.

Schedule C: Waste	
Condition number	**Condition**
C-A1	The environmental authority holder must plan and conduct activities on site to prevent any potential or actual release of a hazardous contaminant.
C-A2	The environmental authority holder must not directly or indirectly release waste from the site to any watercourse, waterway, groundwater, wetland or lake.
C-A3	Coal washing and disposal of coal reject materials from toll-washing must not occur on site.
C-A4	**Storage and Disposal of Tyres** Tyres must be stored and disposed of in accordance with the Operational policy - Disposal and storage of scrap tyres at mine sites ESR/2016/2380 Version 2.02, or the most recent revision available.
C-A5	**Burning of waste** 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.
C-A6	**General Waste** A **Waste Management Plan** must be developed and implemented prior to the commencement of activities notified under condition **A-A4**.
C-A7	In accordance with condition **C-A6**, the Waste Management Plan must at a minimum include the following: (a) a description of the activities that may generate waste; (b) waste management control strategies, including: (i) the types and amounts of wastes generated by the activities; (ii) segregation of the wastes; (iii) storage of the wastes, transport of the wastes; and (iv) monitoring and reporting matters concerning the wastes; (c) how the waste will be dealt with in accordance with the waste management hierarchy (that is, avoid, reuse, recycling, energy recovery, disposal); (d) the hazardous characteristics of the wastes generated including disposal procedures for hazardous wastes; and (e) procedures for dealing with accidents, spills and other incidents; the indicators or other criteria on which the performance of the waste management program will be assessed; and staff training.

C-A8	**Waste Rock Disposal Plan** A **waste rock disposal plan** must be developed prior to the commencement of activities and must stay implemented for the duration of the activities**.**
C-A9	The **waste rock disposal plan** required under condition **C-A8** must at a minimum include: (a) effective characterisation of the waste rock and spoil to predict, under the proposed placement and disposal strategy, the quality of runoff and seepage generated concerning potentially environmentally significant effects including salinity, acidity, alkalinity and dissolved metals, metalloids and non-metallic inorganic substances; (b) a program of progressive sampling and characterisation to identify dispersive and non-dispersive waste rock and the salinity, acid and alkali producing potential, metal and acid concentrations of waste rock; (c) a material balance and disposal plan demonstrating how potentially acid forming waste rock will be selectivity placed and/or encapsulated to minimise potential generation of acid mine drainage, where relevant; (d) re-testing of waste rock geochemistry and water quality limits of parameters (e) where relevant, a sampling program to verify encapsulation and/or placement of potentially acid forming waste rock; (f) data for run-off water quality; (g) how often the performance of the plan will be assessed; and (h) the indicators or other criteria on which the performance of the plan will be assessed.
C-A10	**Reuse of waste rock** The environmental authority holder is authorised to carry out environmentally relevant activity 16 extractive and screening activities only in accordance with conditions **C-A11** and **C-A12** of this environmental authority.
C-A11	The environmental authority holder is authorised to give or transfer not more than a total of **400,000 tonnes** of waste rock from ML700060 to the out-of-pit tailings dam on ML70142 located generally at the coordinates Latitude -22.2633469 and Longitude 148.172531.
C-A12	A register of all given or transferred volumes of waste rock, as stated in condition **C-A11**, must be established and maintained to ensure that the information contained in the register is current and complete on any given day.

Schedule D: Noise and Vibration	
Condition number	**Condition**
D-A1	**Noise limits** The environmental authority holder must ensure that noise generated by activities do not exceed the criteria in **Table D-A1: Noise limits** at a sensitive place or commercial place, or both.

Table D-A1: Noise limits

Residential place						
Noise level dB(A) measured as:	**Monday to Saturday**			**Sunday and public holidays**		
	7am to 6pm	6pm to 10pm	10pm to 7am	9am to 6pm	6pm to 10pm	10pm to 9am
$L_{Aeq,\ adj,\ 15\ mins}$	CV = 50 AV = 5	CV = 45 AV = 5	CV = 40 AV = 0	CV = 45 AV = 5	CV = 40 AV = 5	CV = 40 AV = 0
$L_{A1,\ adj,\ 15\ mins}$	CV = 55 AV = 10	CV = 50 AV = 10	CV = 45 AV = 5	CV = 50 AV = 10	CV = 45 AV = 10	CV = 40 AV = 5
Commercial place						
Noise level dB(A) measured as:	**Monday to Saturday**			**Sundays and public holidays**		
	7am to 6pm	6pm to 10pm	10pm to 7am	7am to 6pm	6pm to 10pm	10pm to 7am
$L_{Aeq,\ adj,\ 15\ mins}$	CV = 55 AV = 10	CV = 50 AV = 10	CV = 45 AV = 5	CV = 50 AV = 10	CV = 45 AV = 10	CV = 40 AV = 5

NOTE:

CV = Critical Value

AV = Adjustment Value

bg = background noise level (LA90, adj, 15 mins) measured over 3-5 days at the nearest sensitive receptor

To calculate noise limits in Table D1:

If bg ≤ (CV – AV):

Noise limit = bg + AV

If (CV – AV) < bg ≤ CV:

Noise limit = CV

If bg > CV:

Noise limit = bg + 0

In the event that measured bg (LA90, adj, 15 mins) is less than 30 dB(A), then 30 dB(A) can be substituted for the measured background level.

If the project is unable to meet the noise limits as calculated above alternative limits may be calculated using the processes outlined in the "Planning for Noise Control" guideline.

D-A2	Noise monitoring and recording 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 the complaint concerns low frequency noise, Max LpLN,T and one third octave band measurements in dB(LIN) for centre frequencies in the 10 – 200 Hz range.
D-A3	When requested by the administering authority, noise and/or vibration monitoring must be undertaken at sensitive receptors and within a timeframe nominated by the administering authority.
D-A4	**Airblast overpressure nuisance** The environmental authority holder must ensure that blasting does not cause the limits for peak particle velocity and air blast overpressure in **Table D-A2: Blasting Noise Limits** to be exceeded at a sensitive place, or commercial place, or both.
D-A5	**Blast monitoring program** The environmental authority holder must develop and implement a blast monitoring program to monitor compliance with **Table D-A2: Blasting Noise Limits** for all blasts conducted during any time period specified by the administering authority at the nearest and most affected sensitive place(s) or commercial place(s) or another such place to investigate an allegation of environmental nuisance caused by blasting.
D-A6	Blast monitoring must include the following descriptors, characteristics, and conditions: (a) location of the blast(s) within the mining area (including which bench level); (b) atmospheric conditions including temperature, relative humidity, wind speed and wind direction; and (c) location, date and time of recording.

Table D-A2: Blasting noise limits

Blasting Noise Limits	**Sensitive or commercial place limits**	
	7am to 6pm	**6pm to 7am**
Airblast overpressure	115 dB (linear) peak for 9 out of 10 consecutive blasts initiated and not greater than 120 dB (linear) Peal at any time	No blasting is allowed during these times
Ground vibration peak particle velocity	5mm/second peak particle velocity for 9 out of 10 consecutive blasts and not greater than 10 mm/ second peak particle velocity at any time.	No blasting is allowed during these times

D-A7	If monitoring indicates exceedance of the limits in **Table D-A2: Blasting Noise Limits**, then the environmental authority holder must immediately implement airblast overpressure abatement measures so that airblast overpressure from the activity does not result in further environmental nuisance.

Schedule E: Groundwater	
Condition number	**Condition**
E-A1	All groundwater monitoring data, plans, programs, and reports are to be submitted to the administering authority via WaTERS.
E-A2	The environmental authority holder must not release contaminants, directly or indirectly, to groundwater.
E-A3	**Baseline Groundwater Monitoring Prior to Commencement of Activities** A baseline groundwater monitoring program must be developed and implemented by suitably qualified person(s) and be provided to the administering authority at least **twenty (20) business days** prior to commencement of activities (including construction activities, excluding exploration activities). The groundwater program must: (a) contain representative groundwater quality samples from the geological units identified as potentially affected by activities; (b) include at least **twelve (12)** sampling events from locations detailed in **Table E-A1: Groundwater Monitoring Locations and Frequency,** that are no more than **one (1) month** apart over a **one (1) year** period, so as to determine background groundwater quality; (c) use a conceptual model to determine the location of ground water bores; (d) include background groundwater quality in hydraulically isolated background bore(s); (e) allow for the identification of natural groundwater level trends and groundwater quality trends; (f) identify groundwater water level trigger limits as per **Table E-A2: Groundwater Quality Limits;** (g) detail proposed mitigation and monitoring measures to ensure the activity will not impact environmental values; and (h) detail how impacts to prescribed environmental matters have been or will be avoided as a result of the disturbance with the installation of proposed bores.
E-A4	**Groundwater Quality Limits** All contaminant triggers from the Baseline Groundwater Monitoring program must be reviewed and submitted to the administering authority via an amendment that is deemed to be a valid application, no more than **eighteen (18) months** from the commencement of activities; to evaluate whether the replacement of interim trigger values for site specific values are appropriate for all parameters specified in **Table E-A2 - Groundwater Quality Limits.**
E-A5	Within **five (5) business days** of submitting the notification required by condition **A-A4**, the environmental authority holder is required to commence monitoring required by condition **E-A6**.

E-A6	**Groundwater Monitoring** Groundwater quality and levels must be monitored at the locations and frequencies listed in **Table E-A1: Groundwater Monitoring Locations and Frequency** for quality characteristics identified in **Table E-A2: Groundwater Quality Limits.**

Table E-A1: Groundwater Monitoring Locations and Frequency

Bore	**MB04**	**MB05**	**MB13**	**MB x**	**MB x**	**MB x**
Latitude (GDA94)	-22.27597	-22.28721	-22.29849	TBD	TBD	TBD
Longitude (GDA94)	148.1843	148.1839	148.1934			
Aquifer	Moranbah CM	Back Creek Group	Back Creek Group			
Monitored unit	DLL coal seam*	MAT coal seam**	MAT coal seam**			
Surface RL (mAHD)	243.28	252.70	223.13			
Depth (mbgl)	21.5	40.9	35			
Monitoring Frequency	Monitored monthly as per condition **E3**, following completion of baseline monitoring the frequency will occurs quarterly.					

NOTE:

**DLL = Dysart Lower Lower coal seam*

***MAT = Matilda coal seam*

mbgl = meters below ground level

mAHD = metres above the Australian Height Datum

Surface RL = Reduced Standing Water Level

Table E-A2: Groundwater Quality Limits

Parameter	Bores	Limit	Comments
pH (field) (pH units)	All bores	5.5 - 8.0	Broad range to encompass all bores, adapted from data and ANZG (2018)
Electrical Conductivity (field) (µS/cm)	MB04	12,849*	Site specific 95th percentile
	MB05	2,756*	Site specific 95th percentile
	MB13	3,000*	95th percentile of MB05 rounded up to reduce likelihood of false non-compliance
Metals and Metalloids			
Sulphate (mg/L)	MB04	1.76*	Site specific 95th percentile
	MB05	284*	Site specific 95th percentile
	MB13	398	Deep WQO
Aluminium (dissolved) (mg/L)	MB04	4.8*	Site specific 95th percentile
	MB05	6.2*	Site specific 95th percentile
	MB13	6*	Site specific 95th percentile of MB05 and MB13
Arsenic (dissolved) (mg/L)	All bores	0.013	ANZG (2018)
Iron (dissolved) (mg/L)	MB04	288*	Site specific 95th percentile
	MB05	2.9*	Site specific 95th percentile
	MB13	2.8*	Site specific 95th percentile of MB05 and MB13
Lead (dissolved) (mg/L)	All bores	0.008	ANZG (2018)
Mercury (dissolved) (mg/L)	All bores	0.0006	ANZG (2018)
Molybdenum (dissolved) (mg/L)	All bores	0.034	ANZG (2018)
Selenium (dissolved) (mg/L)	All bores	0.005	ANZG (2018) 99th percentile
**TRH C6-C9 µg/L	All bores	< 20	LOR
**TRH C10-C36 µg/L	All bores	< 50	LOR

NOTE:

* *Site specific values using 95th percentiles*

** *Total Recoverable Hydrocarbons (TRH)*

Table E-A3: Groundwater level monitoring

Monitoring Location	Monitored unit	Pre-mining baseline level (mAHD)	Level Threshold[1] (mAHD)
MB04	DLL coal seam	237.70	236.27
MB05	MAT coal seam	237.13	234.86
MB13	MAT coal seam	202.71	200.44
MBX[2]	DLL coal seam	TBD	TBD
MBX		TBD	TBD
MBX		TBD	TBD

NOTE:

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

[2] TO REPLACE MB04

E-A7	A replacement bore for MB04 must be installed in the same coal seam immediately outside the north-east mining footprint and begin collecting data before the decommission of MB04.
E-A8	Two bores must be installed to detect potential seepage down gradient from mine affected water dams MWD1 and MWD3 within **six (6) months** from the commencement of activities notified under condition **A-A4**.
E-A9	The environmental authority holder must submit values to replace all TBD values in **Table E-A1: Groundwater Monitoring Locations and Frequency** and **Table E-A3: Groundwater level monitoring,** within the **nine (9) months** from the commencement of activities notified under condition **A-A4**.
E-A10	**Assessment Criteria for Bores – Quality Characteristics** The mining activity must not cause groundwater measured from any bore specified in **Table E-A1: Groundwater Monitoring Locations and Frequency** to exceed the corresponding Limits specified in **Table E-A2: Groundwater quality limits** on any **three (3)** consecutive sampling occasions.
E-A11	If the quality characteristics specified in **Table E-A2 - Groundwater quality limits** are exceeded as conditioned in **E-A10**, the environmental authority holder must notify the administering authority via WaTERS within **twenty-four (24) hours** of receiving the results.
E-A12	**Assessment Criteria for Bores – Level Trigger** The mining activity must not cause groundwater measured from any bore specified in **Table E-A1: Groundwater Monitoring Locations and Frequency** to exceed the corresponding Level trigger thresholds specified in **Table E-A3: Groundwater level monitoring.**

E-A13	If the Level Trigger Thresholds of groundwater measured at any compliance bore specified in **Table E-A1: Groundwater monitoring locations and frequency** exceeds any of the corresponding trigger levels specified in **Table E-A3: Groundwater level monitoring**, the holder of the environmental authority must (a) notify the administering authority via WaTERS within **twenty-four (24) hours** of receiving the results; and (b) conduct an investigation into the cause of the exceedance within **twenty (20) business days.**
E-A14	If an exceedance under condition **E-A10** and/or **E-A12** occurs, the environmental authority holder must undertake an investigation to determine that environmental harm has or may occur, and must: (a) implement immediate measures to reduce the potential for environmental harm; (b) develop and detail long-term mitigation measures to address any existing groundwater contamination and prevent recurrence of groundwater contamination; and (c) submit an investigation report to the administering authority within **twenty-eight (28) days** of completion of investigation.
E-A15	**Groundwater Management and Monitoring Program** Following the commencement of activities in accordance with condition **A-A4**, the environmental authority holder must: (a) implement the Groundwater Management and Monitoring Program for the entire operational and closure phase of mining; (b) submit a Groundwater Management and Monitoring Program to the administering authority via WaTERS within **twelve (12) months** of commencement date of activities; (c) update the program every **two (2) years** if required**;** and (d) submit all groundwater monitoring data from January to December of the previous calendar year to the administering authority via WaTERS by **1 March** of each calendar year.

E-A16	The **Groundwater Management and Monitoring Program Report** required by condition **E-A15** must include: (a) the standing water level of all groundwater bores within **Table E-A1: Groundwater Monitoring Locations***;* (b) an assessment of long-term water quality and water level trends at all groundwater bores in **Table E-A1: Groundwater Monitoring Locations***;* (c) maps showing the actual water level drawdown contours caused by the take of associated water for each groundwater aquifer in accordance with **Table E-A3: Groundwater level monitoring;** (d) details of any review undertaken of the numerical groundwater model and conceptual model; (e) an assessment of any differences between the groundwater level impact predicted and actual impacts for corresponding periods in the most current numerical groundwater model; (f) details of any bores which are predicted by the most current numerical groundwater model to be located within the depressurisation zone; (g) identify potential sources of contamination from the mining activity; (h) identify the environmental values that need to be protected; (i) ensure that all potential underground water impacts due to the activity are identified, mitigated and monitored; (j) document sampling and monitoring methodology; (k) include a conceptual groundwater model; (l) ensure that monitoring bores are representative of the target aquifer and chemically comparable; (m) include an appropriate quality assurance and quality control program; and (n) include a review process to identify required improvements to the program and address any comments provided by the administering authority.
E-A17	Monitoring and sampling of groundwater must comply with the latest edition of the administering authority's Groundwater Monitoring and Sampling Manual.
E-A18	**Bore construction and maintenance and decommissioning** The construction, maintenance, management, and decommissioning 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.

Schedule F: Surface Water	
Condition number	**Condition**
F-A1	All surface monitoring data, plans, programs, and reports is to be submitted to the administering authority via WaTERS.
F-A2	**Release to receiving waters** Contaminants that will/or have the potential to cause environmental harm must not be released directly or indirectly to any waters as a result of the authorised activity, except as permitted under the conditions of this environmental authority.
F-A3	The environmental authority holder is not authorised to release mine affected water into receiving waters under a controlled release (pumped release).
F-A4	Releases to receiving waters must not cause erosion of the bed and banks of the receiving waters or cause a material build-up of sediment in such waters.
F-A5	The release of water from sediment dams must be monitored at the release locations detailed in **Table F-A1: Water Release Locations from Sediment Dams,** and downstream monitoring point locations specified in and **Table F-A3: Receiving Waters Quality Monitoring Locations** for each quality characteristic specified in **Table F-A2: Interim contaminant trigger investigation levels.**

Table F-A1: Water Release Locations from Sediment Dams

Release location	Release location Latitude	Release location Longitude	Sediment Dam Water Source location	Downstream Monitoring Point	Receiving waters description
SD1	-22.29316	148.18773	Out of pit spoil dump	VSW2	Drainage line 2 via the existing drainage diversion
SD2	-22.28714	148.18329	Out of pit spoil dump	VSW2	
SD3	-22.27815	148.17893	Northern mine access road	VSW8	Drainage line 1
SD4	-22.29451	148.18781	Topsoil stockpile south of the out of pit spoil dump	VSW2	Drainage line 2 via the existing drainage diversion
SD5	-22.29651	148.19342	In pit spoil dump	VSW2	Drainage line 2
SD6*	-22.28512	148.18586	In pit spoil dump	VSW8	Drainage line 2 via the existing drainage diversion
SD7	-22.29309	148.18911	In pit spoil dump and topsoil stockpile	VSW2	
SD8	-22.29542	148.18936	In pit spoil dump and topsoil stockpile	VSW2	
SD9	-22.28652	148.19337	In pit spoil dump	VSW8	Drainage line 1
SD10	-22.27929	148.18825	In pit spoil dump	VSW8	
SD11*	-22.27914	148.18291	In pit spoil dump, topsoil stockpiles and mine access road	VSW8	Drainage line 1 via the final landform drain
SD12*	-22.27728	148.18213	In pit spoil dump	VSW8	

NOTE:

**SD6, SD11 and SD12 are release points after closure and not during operations. During operations, SD6 releases report to the mining pit and will not require monitoring. SD11 and SD12 will not be constructed until the final landform is established.*

F-A6	The environmental authority holder must complete an investigation if water quality sampling as specified in condition **F-A5** identifies **three (3)** consecutive exceedances of: (a) interim sediment dam release trigger values detailed in **Table F-A2: Interim contaminant trigger investigation levels;** and (b) interim downstream monitoring point trigger values detailed in **Table F-A2: Interim contaminant trigger investigation levels.**

Table F-A2: Interim contaminant trigger investigation levels

Parameter	Interim dam release point trigger value		Interim downstream monitoring point trigger value		Source	Frequency
pH (pH units)	6.5 –- 8.5		6.5 – 8.5		WQO (aquatic ecosystem)	Upon commencement (the first sample must be taken within 2 hours of commencement of release), daily during release, and within two (2) hours after cessation of release.
Electrical Conductivity (µS/cm)	Low Flow[1]	<864	Low Flow[1]	<720	Vulcan Bulk Sample Project EA	
	Medium Flow[2]	<600	Medium Flow[2]	<500		
	High Flow[3]	<300	High Flow[3]	<250		
Total suspended solids (mg/L) [4]	109.2		91		Locally derived	
Turbidity (NTU)[4]	243.6		203		Locally derived	
Dissolved oxygen	64% -– 132% saturation		80% – 110% saturation		WQO (aquatic ecosystem)	
Sulphate mg/L	924		770		Vulcan Bulk Sample Project EA	
Filtered Metals and Metalloids						
Filtered Lead µg/L	4.8		4		MMC (aquatic ecosystem)	Upon commencement (the first sample must be taken within 2 hours of commencement of release), daily during release, and within two (2) hours after cessation of release.
Filtered Mercury µg/L	0.72		0.6		WQO (aquatic ecosystem)	
Filtered Arsenic µg/L	28.8		24		WQO (aquatic ecosystem)	
Filtered Aluminium µg/L	362.4		302		Locally derived	
Filtered Molybdenum µg/L	40.8		34		WQO (aquatic ecosystem)	
Filtered Selenium µg/L	13.2		11		WQO (aquatic ecosystem)	

NOTE:

[1] = Less than 0.5m³/s

[2] = (>0.5 – 5.0m³/s)

[3] = >5.0m³/s where 10m³/s is the maximum release rate in a high flow event.

*[4] = Interim dam release point trigger values for Total Suspended Solids and Turbidity can be exceeded for water discharged from the sediment dam during uncontrolled releases during a heavy rainfall event over and above the sediment dam's design storage capacity specified in condition **F21**.*

F-A7	The environmental authority holder must ensure stream flow gauging station/s are installed, operated and maintained to determine and record stream flows at the downstream locations specified in **Table F-A3: Receiving Waters Quality Monitoring Locations.**

F-A8	**Trigger Investigation** In accordance with condition **F-A6,** where the quality characteristics of the release exceed any of the trigger values specified in **Table F-A2: Interim contaminant trigger investigation levels** on **three (3)** consecutive occasions, the environmental authority holder must compare the downstream results to the upstream results and: (a) where the downstream result is the same or a lower value than the upstream value for the quality characteristic and the trigger values are not exceeded, then no action is to be taken; or (b) where the downstream result exceeds the values specified in **Table F-A2: Interim contaminant trigger investigation levels:** 1. if the result is less than the upstream monitoring site data, then no action is to be taken, or 2. if the result is greater than the upstream monitoring site data, complete an investigation and provide a written report to the administering authority via WaTERS within **ninety (90) days** of receiving the result, outlining: i. details of the investigations carried out; ii. determine if the exceedance is a result of: a. activities authorised under this environmental authority; b. natural variation; or c. neighbouring land uses; 3. if exceedances are a result of activities authorised under this environmental authority, detail: i. level of environmental harm; 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 **F8 a) and b)1.** of this condition, no further reporting is required for subsequent trigger events for that quality characteristic.*
F-A9	If an investigation occurs in accordance with condition **F-A8 b)3** the holder must determine whether environmental harm has or may occur, and detail: (a) strategies to implement immediate measures to reduce the potential for environmental harm; and (b) develop long-term mitigation measures to address any surface water contamination and prevent recurrence of surface water contamination. The environmental authority holder must provide details of the measures implemented or to be implemented to reduce the potential for environmental harm as well as the long-term mitigation measures to the administering authority within **twenty-eight (28) days** after completing the investigation.

Table F-A3: Receiving Waters Quality Monitoring Locations

Description	Latitude	Longitude	Description
Receiving Waters			
Monitoring – Upstream sites			
VSW1	-22.276605	148.174505	Diversion bund approximately 3.1km upstream of Drainage line 2. Used as an upstream monitoring site for all site dams.
VSW11	-22.29796	148.189.32	Minor drainage line, upstream of confluence of Drainage line 2.
Monitoring – Downstream sites			
VSW2	-22.301059	148.195230	Drainage Line 2 upstream of the railway. Used as a downstream monitoring site for SD1, SD2, SD4, SD5, SD7, SD8, MWD2.
VSW8	-22.278613	148.187818	Drainage Line 1 upstream of the railway. Used as a downstream site for SD10, SD11, SD12, DD1, SD3, MWD1 and MWD3.

F-A10	Monitoring at locations specified in **Table F-A3: Receiving Waters Quality Monitoring Locations** must occur during natural flow events and release events to achieve at least **twenty-four (24)** sampling events over a **two (2) year** period.
F-A11	All results from monitoring required under condition **F-A10** must be reviewed and submitted to the administering authority via an amendment that is deemed to be a valid application, no more than **two (2) years** from the commencement of activities; to evaluate whether the replacement of interim trigger values for site specific values is appropriate for all parameters specified in **Table F-A2: Interim contaminant trigger investigation levels.**
F-A12	**Mine affected water dams** Any mine affected water dam operated within the operational land must be designed and maintained to contain a 10% Annual Exceedance Probability (AEP) 72-hour design rainfall runoff event between the dam operating level and the full storage level.
F-A13	In the event of an uncontrolled release from a mine affected water dam(s) as a result of a rainfall event that exceeds design specifications, the environmental authority holder must: (a) notify the administering authority via WaTERS within **twenty-four (24) hours** of the commencement of the release; (b) notify the administering authority via WaTERS within **twenty-four (24) hours** of the cessation of the release; and (c) conduct an investigation within **twenty (20) business days** of cessation of the release**.**

F-A14	The investigation required under condition **F-A13(c)** must determine: (a) whether environmental harm has or may occur; (b) cause of the uncontrolled release; (c) where relevant, measures to address environmental harm; and (d) where relevant, measures to prevent recurrence of uncontrolled release(s). The environmental authority holder must submit the results of the investigation to the administering authority within **twenty-eight (28) days** after completing the investigation required under condition **F-A13(c)**.
F-A15	**Receiving Environment Monitoring Program (REMP)** On the commencement of activities, the environmental authority holder must develop, maintain and implement a Receiving Environment Monitoring Program (REMP).
F-A16	For the purposes of the REMP, the only receiving environment is the waters detailed in **Table F-A3: Receiving Waters Quality Monitoring Locations**. The REMP must encompass any sensitive receiving waters or environmental values within the area of the site that will potentially be directly affected by releases of sediment water.
F-A17	The REMP, required by condition **F-A15** must: (a) assess the condition or state of receiving waters, including upstream conditions, spatially within the area of the site, 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 sites) and downstream sites from the release (as a minimum, the locations specified in **Table F-A3: Receiving Waters Quality Monitoring Locations**; (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 2006. This should include monitoring during periods of natural flow irrespective of mine or other discharges; (e) include monitoring and assessment of dissolved oxygen saturation, temperature and all water quality parameters listed in **Table F-A2: Interim contaminant trigger investigation levels**; (f) apply procedures and/or guidelines from Australian and New Zealand Guidelines for Fresh and Marine Water Quality (ANZG 2018) and other relevant guideline documents; (g) describe sampling process; (h) analysis methods and detail quality assurance and control; and (i) incorporate stream flow and hydrological information in the interpretations of water quality and biological data.

F-A18	A report on the REMP must be prepared annually and made available on request to the administering authority. The report must include all monitoring results, an assessment of background reference water quality, the condition of downstream water quality compared against water quality objectives, and analysis of the suitability of current release limits to protect downstream environmental values.
F-A19	**Water Management Plan** A Water Management Plan must be developed by an appropriately qualified person and implemented for all stages of activities on the site. The Water Management Plan must be submitted to the administering authority for review and comment by **30 November 2021.**
F-A20	The **Water Management Plan** required by condition **F-A19** must: (a) detail the movement of mine affected water between all mine water dams, including the capture of mine affected water runoff; (b) provide for effective water management of actual and potential environmental impacts resulting from water management associated with the activities carried out under this environmental authority; (c) be developed in accordance with the administering authority's most recent version of the guideline for "Preparation of water management plans for activities" or any updates that become available from time to time; and (d) must include at least the following components: (i) a study of the source on contaminants; (ii) a water balance model for the site; (iii) a map showing the water management system for the site; (iv) measures to manage and prevent saline drainage; (v) measures to manage and prevent acid rock drainage; and (vi) contingency procedures for incidents and emergencies.
F-A21	**Sediment Dams** Any sediment dam operated within the operational land must be designed and maintained to contain an eightieth (80^{th}) percentile 5-day rainfall event plus fifty (50) percent for sediment storage.
F-A22	**Erosion and Sediment Control Plan** An Erosion and Sediment Control Plan must be developed and implemented for the duration of activities to minimise erosion and the release of sediment to receiving waters.
F-A23	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.
F-A24	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.

F-A25	**Saline drainage** The environmental authority holder must ensure proper and effective measures are taken to avoid, or otherwise minimise, the generation and/or release of saline drainage.
F-A26	**Acid mine drainage and leachate management** All reasonable and practicable measures must be implemented to prevent hazardous leachate being directly or indirectly released, or likely to be released as a result of the activity to the environment.
F-A27	**Pipeline Design** The pipeline depicted in **Appendix 1. Project Layout – Authorised Disturbance Areas** must be designed by and constructed under the supervision of a suitably qualified and experienced person.
F-A28	**Hydrostatic Testing of the Pipeline** Hydrostatic Testing of the pipeline after construction must not be completed using mine affected water.
F-A29	**Pipeline Inspection** During pumping activities, the environmental authority holder must inspect the pipeline daily for leaks and hazards with the potential to cause leaks.

Schedule H: Land	
Condition number	**Condition**
H-A1	**Topsoil** Environmental authority holder must ensure that: (a) topsoil is removed and stockpiled prior to carrying out any activity; (b) measures are implemented to ensure that the mixing and erosion of topsoil and overburden stockpiles is prevented; and (c) A topsoil inventory is maintained and provide to the administering authority on request. **NOTE**: *To separate topsoil and overburden and to prevent or minimise the erosion of these stockpiles the following measures or similar measures can be used:* • *identify topsoil and overburden layers before stripping topsoil;* • *store topsoil and overburden in separate stockpiles;* • *install silt fences or bunding around the stockpiles;* • *where practicable reuse topsoil stockpiles within 12 months;* • *establish and maintain a temporary cover crop on stockpiles; and* • *limit the height of topsoil stockpiles to 2 metres.*
H-A2	**Weed Management** (a) A weed management plan must be developed and implemented for this site outlining: (b) areas of control priority and the methods used to determine such areas; (c) strategies to promote dense pasture cover (to decrease weeds establishment) through reduced disturbance; (d) monitoring methodologies that document the spread of weeds and any new outbreaks; (e) methods for the control of weeds. These methods should include best practice management; (f) stringent wash-down and inspection procedures for both machinery involved in clearing/construction activities and those operating outside of designated roads during mine operation; (g) truck wash procedure to reduce weed infestations; and (h) promotion of the awareness of weed management issues at the site.

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.

Activity(ies) means

(a) all mining activities authorised as per the definition in section 110 of the *Environmental Protection Act 1994;* and

(b) all environmentally relevant activities authorised under this environmental authority.

To avoid doubt, includes care and maintenance and rehabilitation.

Administering authority is the agency 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).

ANZG (2018) refers to the Australian and New Zealand Guidelines for Fresh and Marine Water Quality.

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

BD means business days

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.

(a) Contaminant is defined in section 11 of the Environmental Protection Act 1994 as:

(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;

(e) a combination of contaminants.

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

Disturbed includes 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 includes:

(a) compacting, removing, covering, exposing or stockpiling of earth

(b) removal or destruction of vegetation or topsoil or both to an extent where the land has been made susceptible to erosion

(c) carrying out mining within a watercourse, waterway, wetland or lake

(d) the submersion of areas by tailings or hazardous contaminant storage and dam/structure walls

(e) temporary infrastructure, including any infrastructure (roads, tracks, bridges, culverts, dam/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.

Environmental has the meaning in section 7 of the Environmental Offsets Act 2014.

Environmental authority means a licence or approval issued by the administrating authority under the Environmental Protection Act 1994.

Environmental authority holder means:

(a) where this document is an environmental authority, any person who is the holder of, or is acting under, that environmental authority; or

(b) where this document is a development approval, any person who is the registered operator for that development approval.

Environmental nuisance has the meaning in section 15 of the Environmental Protection Act 1994.

General waste is defined 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.

Groundwater level drawdown threshold means the authorised maximum drawdown of groundwater at the nominated location at any time during the life of activities.

Hazardous contaminant is defined in schedule 4 of the Environmental Protection Act 1994, and defines a hazardous contaminant as "a contaminant that, if improperly treated, stored, disposed of or otherwise managed, is likely to cause serious or material environmental harm because of:

(a) its quantity, concentration, acute or chronic toxic effects, carcinogenicity, teratogenicity, mutagenicity, corrosiveness, explosiveness, radioactivity, flammability; or

(b) its physical, chemical or infectious characteristics (e.g.: spills of mercury, cyanide, petrol, diesel or oil)".

Holder of a mining tenement means a holder of the tenement under the Mineral Resources Act 1989, and the holder of the associated environmental authority under the Environmental Protection Act 1994.

Incident means a set of circumstances arising as a result of activities carried out under an environmental authority which cause or threaten to cause environmental harm.

Infrastructure means water storage dams, levees, roads and tracks, buildings and other structures built for the purpose of the mining activity.

LA 1, adj, 15 mins means the A-weighted sound pressure level, (adjusted for tonal character and impulsiveness of the sound) exceeded for 1% of any **15-minute** measurement period, using Fast response.

LAeq, adj,15 mins means an A-weighted sound pressure level of a continuous steady sound, adjusted for tonal character, that within a **15-minute** period has the same mean square sound pressure of a sound that varies with time.

Land in the 'land schedule' of this document means land excluding waters and the atmosphere, that is, the term has a different meaning from the term as defined in the Environmental Protection Act 1994. For the purposes of the Acts Interpretation Act 1954, it is expressly noted that the term 'land' in this environmental authority relates to physical land and not to interests in land.

Landowner is defined in schedule 4 of the Environmental Protection Act 1994, and defines the owner of the land as -

(a) The "owner" of land is-

(i) for freehold land-the person recorded in the freehold land register as the person entitled to the fee simple interest in the land; or

(ii) for land held under a lease, licence or permit under an Act-the person who holds the lease, licence or permit; or

(iii) for trust land under the Land Act 1994-the trustees of the land; or

(iv) iv. for Aboriginal land under the Aboriginal Land Act 1991-the persons to whom the land has been transferred or granted; or

(v) for Torres Strait Islander land under the Torres Strait Islander Land Act 1991-the persons to whom the land has been transferred or granted; or

(vi) for land for which there is a native title holder under the Native Title Act 1993 (Cwlth) -each registered native title party in relation to the land.

(b) Also, a mortgagee of land is the owner of the land if –

(i) the mortgagee is acting as a mortgagee in possession of the land and has the exclusive management and control of the land; or

(ii) the mortgagee, or a person appointed by the mortgagee, is in possession of the land and has the exclusive management and control of the land.

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

LOR means limit of reporting.

m means metres.

Material environmental harm is defined in section 16 of the Environmental Protection Act 1994, and defines material environmental harm as:

(a) material environmental harm is environmental harm (other than environmental nuisance)-

(i) that is not trivial or negligible in nature, extent or context; or

(ii) that causes actual or potential loss or damage to property of an amount of, or amounts totalling, more than the threshold amount but less than the maximum amount; or

(iii) that results in costs of more than the threshold amount but less than the maximum amount being incurred in taking appropriate action to –

1. prevent or minimise the harm; and

2. rehabilitate or restore the environment to its condition before the harm.

In this section -

"maximum amount" means the threshold amount for serious environmental harm.

"threshold amount" means $5 000 or, if a greater amount is prescribed by regulation, the greater amount.

MMC refers to the Model Mining Conditions for coal mines in the Fitzroy basin Guideline (ESR/2015/1562).

Measures includes any activities or infrastructure to prevent or minimise environmental impacts of the mining activity such as bunds, silt fences, diversion drains, capping, and containment systems.

Mine affected water

(a) means the following types of water:

(i) pit water, tailings dam water, processing plant water

(ii) water contaminated by a mining activity 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 activity

(iii) rainfall runoff which has been in contact with haul roads that have been constructed using coal and/or coal reject material

(iv) rainfall runoff which has been in contact with any areas disturbed by 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

(v) groundwater which has been in contact with any areas disturbed by activities which have not yet been rehabilitated

(vi) groundwater from the mine's dewatering activities

(vii) a mix of mine affected water (under any of paragraphs i)-vi) and other water.

(b) does not include surface water runoff which, to the extent that it has been in contact with areas disturbed by 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:

1. areas that have been capped and have monitoring data demonstrating hazardous material adequately contained with the site
2. 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.

Minimise means to reduce to the smallest possible amount or degree.

Non-polluting means having no adverse impacts upon the receiving environment.

Overburden refers to material overlying a mineral ore deposit, up to but not including the topsoil.

Peak particle velocity (ppv) means a measure of ground vibration magnitude which is the maximum rate of change of ground displacement with time, usually measured in millimetres/second (mm/s).

Receiving waters means the waters into which this environmental authority authorises releases of surface runoff water.

Regulated waste is defined in schedule 19 of the Environmental Protection Regulation 2019 and defines regulated waste as “waste that is a commercial waste or industrial waste; and is a type, or contains a constituent of a type, mentioned in schedule 9, part 1, column 1 of the Environmental Protection Regulation 2019.”

Rehabilitation means the process of reshaping and revegetating land to restore it to a stable landform.

Release event means water runoff from sediment dams.

Representative means a sample set which covers the variance in monitoring or other data either due to natural changes or operational phases of the activities.

Sediment trap means a device used to filter waterborne sediment running off disturbed areas. May include silt fences, hay bales or grassed strips.

Self-sustaining means not requiring on-going intervention and maintenance to maintain functional processes and characteristics.

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 Environmental Protection Policy (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.

A mining camp (i.e., accommodation and ancillary facilities for mine employees or contractors or both, associated with the mine the subject of the environmental authority) is not a sensitive place for that mine or mining project, whether or not the mining camp is located within a mining tenement that is part of the mining project the subject of the environmental authority. For example, the mining camp 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.

Accommodation for mine employees or contractors is a sensitive place if the land is held by a mining company or related company, and if occupation is restricted to the employees, contractors and their families for the particular mine or mines which are held by the same company or a related company. For example, 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.

Seepage means the process by which water leaks through the base or sides of a water storage but does not mean the movement of water as the result of opening a gate or valve or turning on a pump.

Significantly disturbed land means land that:

(a) is contaminated land; or

(b) has been disturbed and human intervention is needed to rehabilitate it.

Significantly disturbed land includes:

(a) areas where soil has been compacted, removed, covered, exposed or stockpiled;

(b) areas where vegetation has been removed or destroyed to an extent where the land has been made susceptible to erosion; (vegetation & topsoil)

(c) areas where land use suitability or capability has been diminished;

(d) areas within a watercourse, waterway, wetland or lake where mining project activities occur;

(e) areas submerged by tailings or hazardous contaminant storage and dam walls in all cases;

(f) areas under temporary infrastructure. Temporary infrastructure includes any infrastructure (roads, tracks, bridges, culverts, dams, bores, buildings, fixed machinery, hardstand areas, airstrips, helipads etc.), which is to be removed after mining has ceased; or

(g) areas where land has been contaminated.

However, the following areas are not included:

(a) areas off lease (e.g. roads or tracks which provide access to the mining lease);

(b) areas previously significantly disturbed which have achieved the rehabilitation outcomes;

(c) by agreement with the administering authority, areas previously significantly disturbed which have not achieved the rehabilitation objectives 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, dams, bores, buildings, fixed machinery, hardstand areas, airstrips, helipads etc.) which is to be left by agreement with the landowner. The agreement to leave permanent infrastructure must be recorded in the Landowner Agreement and lodged with the administering authority;

(e) disturbances that pre-existed the grant of the tenure unless those areas are disturbed during the term of the tenure.

Suitably qualified person means a person who is a Registered Professional Engineer of Queensland under the provisions of the Professional Engineers Act 2002, who has an appropriate level of expertise in the structures, geomechanics, hydrology, hydraulics and environmental impact of watercourse diversions.

An appropriate level of expertise includes:

(a) demonstrable competency, experience and expertise in:

(i) investigation, design or construction of watercourses diversions

(ii) operation and maintenance of watercourse diversions

(iii) geomechanics with particular emphasis on channel equilibrium, geology and geochemistry

(iv) hydrology with particular reference to flooding, estimation of extreme storms, water management or meteorology

(v) hydraulics with particular reference to sediment transport and deposition and erosion control

(vi) hydrogeology with particular reference to seepage and groundwater

(vii) solute transport processes and monitoring thereof, or

(b) sufficient knowledge and experience to certify that where the suitably qualified and experienced person has relied on advice and information provided by other persons with relevant expertise*:

(i) they consider it reasonable to rely on that advice and information

(ii) the expert providing the advice and information has knowledge, competency, suitable experience and demonstrated expertise in the matters related to watercourse diversions.

*Persons with relevant expertise include:

(a) Geomorphologist: person who has demonstrated competency and relevant experience in stream geomorphology and watercourse diversions.

(b) Geotechnical Expert: person who has demonstrated competency and relevant experience in geotechnical assessment of soil characteristics suitable for watercourse diversions.

(c) Vegetation Expert: person who has demonstrated competency and relevant experience in the identification, role and function of vegetation with watercourses and adjoining floodplains, and has demonstrated competency and relevant experience in revegetation of watercourse diversions and adjoining floodplains.

(d) Groundwater Expert: person who has demonstrated competency and relevant experience in groundwater systems.

(e) Surface Water Expert: person who has demonstrated competency and relevant experience in hydrology.

(f) Engineer: person who is a Registered Professional Engineer of Queensland (RPEQ) under the provisions of the Professional Persons Act 2002 or has similar qualifications under a respected professional registration association, and has demonstrated competency and relevant experience in design and construction of watercourse diversions.

(g) Soils Expert: person who has demonstrated competency and relevant experience in soil classification including the physical, chemical and hydrologic analysis of soil.

Surface runoff water is water from areas that are disturbed by mining operations (including out-of-pit dumps and rehabilitated areas). This runoff may contain high sediment loads but would not contain contaminated material or high total dissolved solids (TDS).

Tailings means fines from mineral processing that have not been dewatered.

The Act means the Environmental Protection Act 1994.

The site refers to the area of land on which the project footprint is located as illustrated in **Appendix 1: Figure 1 Project Infrastructure Layout – Mine Area.**

Topsoil refers to the surface layer of a soil profile, which is usually more fertile, darker in colour, better structured and supports greater biological activity than underlying layers. The surface layer may vary in depth depending on soil forming factors, including parent material, location and slope, but generally is not greater than about 300mm in depth from natural surface.

Trafficable areas mean roads with bitumen or major haul roads transporting coal within the site.

'µS/cm' means micro siemens per centimetre.

Waste is defined under Section 13 of the Environmental Protection Act 1994.

Waste rock means material other than a mineral ore deposit that is extracted as part of the mining activity carried out on the land the subject of this environmental authority.

Water is defined under Schedule 4 of the Water Act 2000.

Watercourse is defined in the Water Act 2000.

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

WaTERS means Water Tracking and Electronic Reporting System or subsequent updated system, used to submit monitoring data and notify the Queensland Government.

Waterway means a naturally occurring feature where surface water runoff normally collects, such as a clearly defined swale or gully, but only flows in response to a local rainfall event.

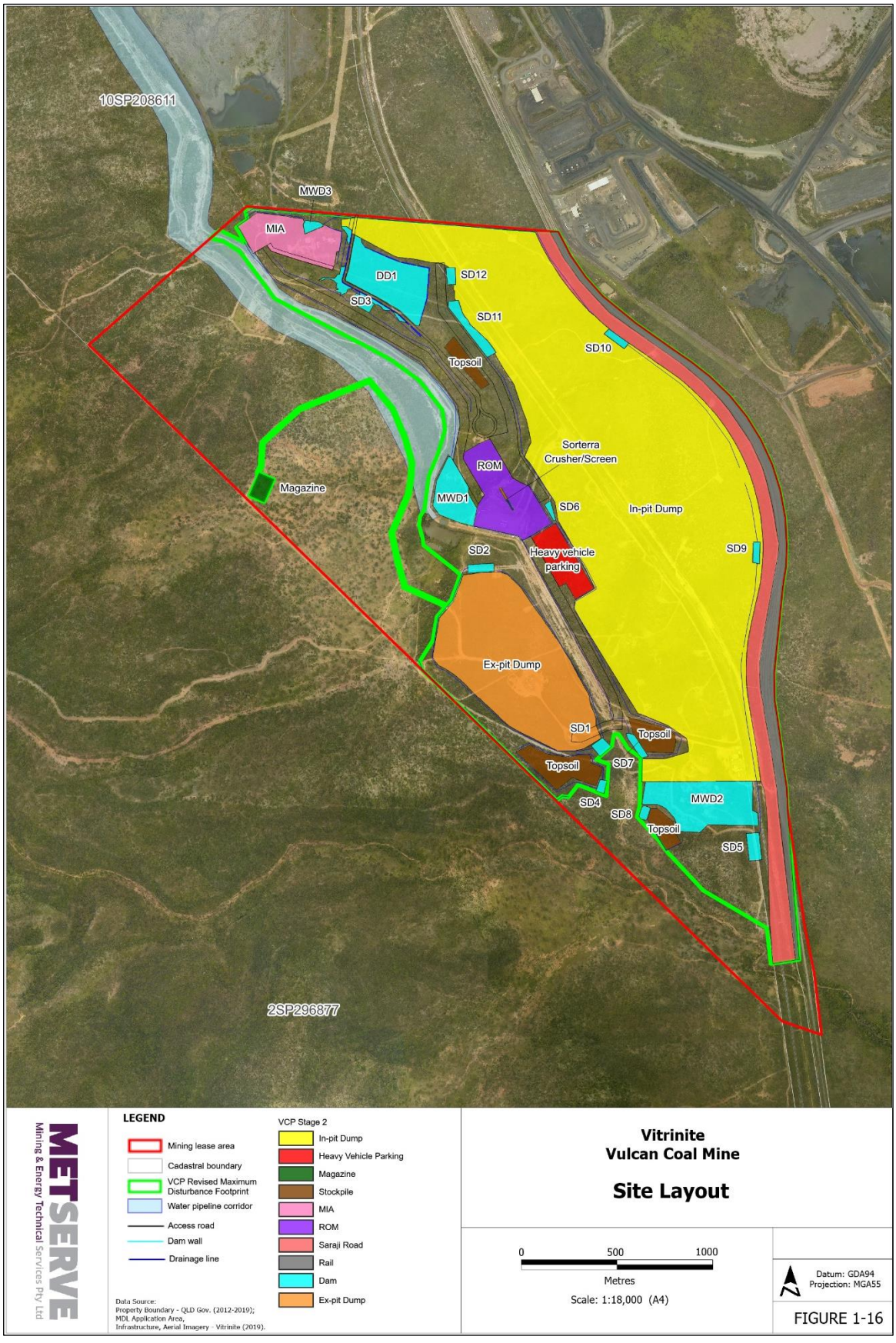
Water quality means the chemical, physical and biological condition of water.

Wetland refers to an area of permanent or periodic/intermittent inundation, whether natural or artificial, with water that is static or flowing, fresh, brackish or salt, including areas of marine water the depth of which at low tide does not exceed 6m. Wetlands typically include areas such as lakes, swamps, marshes, estuaries or mudflats.

Wet Season in Queensland refers to the period of November to April each year.

WQO refers to Water Quality Objectives as defined under the *Environmental Protection (Water and Wetland Biodiversity) Policy 2019.*

Appendix 1-A. Project Layout – Authorised Disturbance Areas



PART B – Conditions of MDL3039

Schedule A: General	
Condition number	**Condition**
A-B1	In carrying out the mining activity authorised by this environmental authority, the holder of this environmental authority must only undertake disturbance in the areas authorised in **Appendix 1-B. Project Layout – Authorised Disturbance Areas**.
A-B2	This environmental authority authorises environmental harm referred to in the conditions. Where there is no condition or this environmental authority is silent on a matter, the lack of a condition or silence does not authorise environmental harm.
A-B3	The holder of this environmental authority must: (a) install all measures, plant and equipment necessary to ensure compliance with the conditions of this environmental authority; (b) maintain such measures, plant and equipment in a proper and efficient condition; (c) operate such measures, plant and equipment in a proper and efficient manner; and (d) ensure all instruments and devices used for the measurement or monitoring of any parameter under any condition of this environmental authority are properly calibrated.
A-B4	**Monitoring** All monitoring records or reports required by this environmental authority must be kept for a period of not less than **five years**.
A-B5	**Notification of emergencies, incidents and exceptions** The holder of this environmental authority must notify the administering authority by written notification within **24 hours**, after becoming aware of any emergency or incident which results in the release of contaminants not in accordance, or reasonably expected to be not in accordance with, the conditions of this environmental authority.
A-B6	The holder of this environmental authority must notify the administering authority in writing within **24 hours** of becoming aware of any emergency, incident or action which is not in accordance, or reasonably expected to be not in accordance with the conditions of this environmental authority.

A-B7	The notification of emergencies or incidents as required by conditions **A-B5** and **A-B6** must include but not be limited to the following: (a) the holder of the environmental authority; (b) the location of the emergency or incident; (c) the number of the environmental authority; (d) the name and telephone number of the designated contact person; (e) the time of the release; (f) the time the holder of the environmental authority became aware of the release; (g) the suspected cause of the release; (h) the environmental harm caused, threatened, or suspected to be caused by the release; and (i) actions taken to prevent any further release and mitigate any environmental harm caused by the release.
A-B8	Within **10 business days** following the initial notification of an emergency or incident, or receipt of monitoring results, whichever is the later, 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.
A-B9	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.
A-B10	**Complaints** The holder of this environmental authority must record all environmental complaints received about the mining activities including: (a) name, address and contact number of the complainants; (b) time and date of the complaint; (c) reasons for the complaint; (d) investigations undertaken; (e) conclusions formed; (f) actions taken to resolve the complaint; (g) any abatement measures implemented; and (h) person responsible for resolving the complaint.

A-B11	The holder of this environmental authority must, when requested by the administering authority, undertake relevant specified monitoring within a reasonable timeframe nominated or agreed to by the administering authority to investigate any complaint of environmental harm. The results of the investigation (including an analysis and interpretation of the monitoring results) and abatement measures, where implemented, must be provided to the administering authority within **10 business days** of completion of the investigation, or no later than **10 business days** after the end of the timeframe nominated by the administering authority to undertake the investigation.
A-B12	**Risk management** The holder of this environmental authority must, prior to the commencement of mining activities, develop and implement a risk management system for mining activities which mirrors the content requirements of the Standard for Risk Management (ISO31000:2018), or the latest edition of an Australian Standard for risk management, to the extent relevant to environmental management.
A-B13	**Reports and Management Plans** Within **twenty (20) business days** of receiving comments from the administering authority on any plans or reports, the plan or report must be updated by a suitably qualified and experienced person having regard to the comments, and submitted to the administering authority.
A-B14	**Non-Commercial Location Agreements** If the holder of the environmental authority enters into a “Co-Existence Plan” agreement with any commercial place located within MDL 3039, the commercial place is not considered to be a commercial place for the purposes of conditions **B-B1**, **D-B1**, **D-B2**, **D-B4** and **Table D-B1 – Noise Limits**, while that agreement remains in place.

Schedule B: Air	
Condition number	**Condition**
B-B1	The holder of this environmental authority must ensure that all reasonable and feasible avoidance and mitigation measures are employed so that the dust and particulate matter emissions generated by the mining activities do not cause exceedances of the following levels when measured at any sensitive or commercial place: (a) Dust deposition of 120 milligrams per square metre per day, averaged over one month, when monitored in accordance with the most recent version of *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 (PM10) 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 AS3580.9.9 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.* (c) A concentration of particulate matter suspended in the atmosphere of 90 micrograms per cubic metre over a 1 year averaging time, when monitored in accordance with the most recent version of *AS/NZS3580.9.3:2003 Methods for sampling and analysis of ambient air – Determination of suspended particulate matter – Total suspended particulate matter (TSP) – High volume sampler gravimetric method*.

Schedule C: Waste	
Condition number	**Condition**
C-B1	The holder of this environmental authority must plan and conduct activities on site to prevent any potential or actual release of a hazardous contaminant. **NOTE**: • section 442 of the *Environmental Protection Act 1994* makes it an offence to release a prescribed contaminant. A prescribed contaminant is a contaminant prescribed by an Environmental Protection Policy. • section 443 of the *Environmental Protection Act 1994* makes it an offence to cause or allow a contaminant to be placed in a position where it could reasonably be expected to cause serious or material environmental harm or environmental nuisance.
C-B2	A record of all wastes must be kept detailing the following information: (a) date of pickup of waste; (b) description of wastes; (c) quantity of waste; (d) origin of the waste; and (e) destination of the waste.
C-B3	The holder of the environmental authority is not permitted to dispose of general waste or regulated waste within Mineral Development Licence 3039.
C-B4	Waste must not be burned or allowed to be burned on Mineral Development Licence 3039 unless by approval of the administering authority.
C-B5	The holder of the environmental authority must not directly or indirectly release waste from the project area to any watercourse, waterway, groundwater, wetland or lake. **NOTE**: • when managing waste materials, the following strategy should be adopted: – avoid creating excess waste; – reuse waste material; – recycle waste; – create and utilise energy from waste; – treat waste; and – dispose of waste (e.g. provide rubbish containers on site).

C-B6	**Waste Rock Disposal Plan** A waste rock disposal plan must be developed and implemented to include: (a) effective characterisation of the waste rock and spoil to predict, under the proposed placement and disposal strategy, the quality of runoff and seepage generated concerning potentially environmentally significant effects including salinity, acidity, alkalinity and dissolved metals, metalloids and non-metallic inorganic substances; (b) a program of progressive sampling and characterisation to identify dispersive and non-dispersive waste rock and the salinity, acid and alkali producing potential, metal and acid concentrations of waste rock; (c) a material balance and disposal plan demonstrating how potentially acid forming waste rock will be selectivity placed and/or encapsulated to minimise potential generation of acid mine drainage; (d) where relevant, a sampling program to verify encapsulation and/or placement of potentially acid forming waste rock; (e) how often the performance of the plan will be assessed; (f) the indicators or other criteria on which the performance of the plan will be assessed; and (g) rehabilitation strategy specific to the disposal of waste rock.

Schedule D: Noise and Vibration	
Condition number	**Condition**
D-B1	**Noise Nuisance** Noise from the mining activity must not cause an environmental nuisance at any sensitive or commercial place.
D-B2	The holder of this environmental authority must ensure that noise generated by the mining activities does not cause the criteria in **Table D-B1 – Noise limits** to be exceeded at a sensitive or commercial place.

Table D-B1 – Noise limits

Residential place						
Noise level dB(A) measured as:	**Monday to Saturday**			**Sunday and public holidays**		
	7am to 6pm	6pm to 10pm	10pm to 7am	9am to 6pm	6pm to 10pm	10pm to 9am
$L_{Aeq,\ adj,\ 15\ mins}$	CV = 50 AV = 5	CV = 45 AV = 5	CV = 40 AV = 0	CV = 45 AV = 5	CV = 40 AV = 5	CV = 35 AV = 0
$L_{A1,\ adj,\ 15\ mins}$	CV = 55 AV = 10	CV = 50 AV = 10	CV = 45 AV = 5	CV = 50 AV = 10	CV = 45 AV = 10	CV = 40 AV = 5
Commercial place						
Noise level dB(A) measured as:	**Monday to Saturday**			**Sundays and public holidays**		
	7am to 6pm	6pm to 10pm	10pm to 7am	7am to 6pm	6pm to 10pm	10pm to 7am
$L_{Aeq,\ adj,\ 15\ mins}$	CV = 55 AV = 10	CV = 50 AV = 10	CV = 45 AV = 5	CV = 50 AV = 10	CV = 45 AV = 10	CV = 40 AV = 5

NOTE:

CV = Critical Value
AV = Adjustment Value
bg = background noise level (LA90, adj, 15 mins) measured over 3-5 days at the nearest sensitive receptor

To calculate noise limits in Table D1:

If bg ≤ (CV – AV):
Noise limit = bg + AV
If (CV – AV) < bg ≤ CV:
Noise limit = CV
If bg > CV:
Noise limit = bg + 0

In the event that measured bg (LA90, adj, 15 mins) is less than 30 dB(A), then 30 dB(A) can be substituted for the measured background level.

If the project is unable to meet the noise limits as calculated above alternative limits may be calculated using the processes outlined in the "Planning for Noise Control" guideline.

D-B3	Noise monitoring and recording must include the following descriptor characteristics and matters: (a) $L_{AN,T}$ (where N equals the statistical levels of 1, 10 and 90 and T = 15 mins); (b) background noise L_{A90}; (c) the level and frequency of occurrence of impulsive or tonal noise and any adjustment and penalties to statistical levels; (d) atmospheric conditions including temperature, relative humidity and wind speed and directions; (e) effects due to any extraneous factors such as traffic noise; (f) location, date and time of monitoring; and (g) if the complaint concerns low frequency noise, Max Lp and one third octave band measurements in dB(LIN) for centre frequencies in the 10 – 200 Hz range.
D-B4	**Vibration nuisance** When requested by the administering authority, vibration monitoring must be undertaken within a reasonable and practicable timeframe nominated by the administering authority to investigate any complaint (which is neither frivolous or 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 **10 business days** to the administering authority following completion of monitoring.
D-B5	Vibration is not considered an environmental nuisance under condition **D-B1** if monitoring shows that vibration does not exceed the limits specified in **Table D-B2 – Blasting noise limits.**
D-B6	**Airblast overpressure nuisance** If the holder of this environmental authority can provide evidence through monitoring that the limits defined in **Table D-B2 – Blasting noise limits**, are not being exceeded then the holder is not in breach of condition **D-B1**. Monitoring must include: (a) peak particle velocity (mm/s); (b) airblast overpressure level (dB linear peak); (c) location of the blast/s within the mining area (including which bench level); (d) atmospheric conditions including temperature, relative humidity and wind speed and direction; and (e) location, date and time of recording.
D-B7	If monitoring conducted under **condition D-B4** and **D-B6** indicates exceedance of the limits in **Table D-B2 – Blasting noise limits**, then the environmental authority holder must: (a) address the complaint including the use of appropriate dispute resolution if required; and (b) immediately implement noise abatement measures so that emissions of noise from the activity do not result in further environmental nuisance.

Table D-B2 – Blasting noise limits

Blasting noise limits	**Sensitive or commercial place limits**	
	7am to 6pm	6pm to 7am
Airblast overpressure	115 dB (linear) peak for 9 out of 10 consecutive blasts initiated and not greater than 120 dB (linear) Peal at any time	No blasting
Ground vibration peak particle velocity	5mm/second peak particle velocity for 9 out of 10 consecutive blasts and not greater than 10 mm/ second peak particle velocity at any time.	No blasting

Schedule E: Groundwater	
Condition number	**Condition**
E-B1	The holder of this environmental authority must not release contaminants to groundwater.
E-B2	The holder of the environmental authority must implement an Underground Water Monitoring Program prior to exercising any underground water right. The Underground Water Monitoring Program must: (a) identify potential sources of contamination to underground water from the mining activity; (b) identify the environmental values that need to be protected; (c) ensure that all potential underground water impacts due to the activity are identified, mitigated and monitored; (d) document sampling and monitoring methodology; (e) ensure that the parameters being monitored are appropriate for use; (f) ensure that monitoring bores are representative of the target aquifer and chemically comparable; (g) ensure that adequate underground water monitoring and data analysis is undertaken to achieve the following objectives: (i) detect any impacts to underground water levels due to the activity; (ii) detect any impacts to underground water quality due to the activity; (iii) determine compliance with condition E1; and (iv) determine trends in underground water quality; (h) include an appropriate quality assurance and quality control program; (i) include a conceptual underground water model; and (j) include a review process to identify required improvements to the program and address any comments provided by the administering authority.
E-B3	**Groundwater quality** Groundwater quality and standing water levels must be monitored by an appropriately qualified person at the locations and frequencies described in **Table E-B1 – Groundwater monitoring locations and frequency** for the parameters identified in **Table E-B2 – Groundwater quality trigger levels**.
E-B4	Monitoring from monitoring point MB2 as described in **Table E-B1 – Groundwater Monitoring Locations and Frequency**, must continue until the replacement monitoring point MB13 is installed and operational.
E-B5	The holder of this environmental authority must provide to the administering authority updated coordinates and depth data in **Table E-B1 – Groundwater Monitoring Locations and Frequency** by the 31 January 2021.

Table E-B1 – Groundwater monitoring locations and frequency

Monitoring point	Location		Monitoring frequency	Depth (mbgl)	Target aquifer
	Latitude	Longitude			
MB2	-22.2910	148.1893	D/Q*	12.0	DLL Coal Seam
MB3	-22.2861	148.1907	D/Q*	33.8	DLL Coal Seam
MB5	-22.2872	148.1839	D/Q*	40.9	MAT Coal Seam
MB13	-22.29849	148.19340	D/Q*	35	MAT Coal Seam

NOTE:

D = Daily monitoring frequency using automatic logger. (Parameters include: water level, temperature, EC)

Q = Quarterly monitoring frequency (i.e. dipped and sampled). (Parameters include: pH, EC, Ca, SO_4, Al, As, Fe, Hg, Mo, Se, Sb, Ag)

*D/Q = Daily monitoring frequency using automatic logger and manually dipped and sampled on a quarterly basis.

DLL = Dysart Lower Lower coal seam

MAT = Matilda coal seam

Mbgl = meters below ground level

Table E-B2 – Groundwater quality trigger levels

Parameter	Units	Interim Trigger Level	Comments
Electrical conductivity	µS/cm	MB2: 17,820 MB3: 17,820 MB5: 3,179 MB13: 2,950	*Trigger set at max +10% rounded to nearest 10µS/cm*
pH	pH units	5.0 minimum 8.5 maximum	*Trigger set at min rounded down to nearest 0.5 pH unit; max rounded up to nearest 0.5 pH unit*
Calcium (Ca)	mg/L	450	*Trigger set at max +10% rounded to nearest 5mg*
Sulfate (SO_4)	mg/L	2,800	*Trigger set at max +10% rounded to nearest 100mg*
Iron (dissolved)	mg/L	185	*Trigger set at max +10% rounded to nearest mg*
Aluminium (dissolved)	µg/L	45	*Trigger set at max +10% rounded to nearest 5µg*
Antimony (dissolved)	µg/L	3	*Trigger set at max +10% rounded up to nearest 1µg*
Arsenic (dissolved)	µg/L	10	*Trigger set at max +10% rounded up to nearest 1µg*
Mercury (dissolved)	µg/L	2	*Trigger set at max +10% rounded up to nearest 1µg*
Molybdenum (dissolved)	µg/L	8	*Trigger set at max +10% rounded up to nearest 1µg*
Selenium (dissolved)	µg/L	10	Trigger set at LOR
Silver (dissolved)	µg/L	1	Trigger set at LOR
Total petroleum hydrocarbons C6 - C10	µg/L	20	Trigger set at LOR
Total petroleum hydrocarbons C10 - C40	µg/L	100	Trigger set at LOR

NOTE:

*LOR – The limit of reporting (LOR) is the lowest concentration detected.

E-B6	Groundwater contaminant trigger levels as per **Table E-B2: Groundwater quality triggers levels** must be reviewed by **30 June 2021** to: (a) evaluate whether the groundwater monitoring network is fit for purpose; (b) adequately determine water quality characteristics and trigger values for inclusion in this environmental authority; (c) identify and interpret any trends in the groundwater network monitoring data; (d) provide recommendations for the future development of the groundwater monitoring network; and (e) be in a report submitted to the administering authority by **30 June 2021**.
E-B7	**Exceedance Investigation** If underground water measured at any monitoring bore specified in **Table E-B1 – Groundwater monitoring locations and frequency** exceeds the corresponding interim trigger levels in **Table E-B2 – Groundwater triggers and limits,** the holder of this environmental authority must resample the underground water at the monitoring bore for all exceeding parameters within **10 business days** of receipt of the result. Whether the results of the resampling event exceeds for the same parameter or not, a further resample is not required for that sampling occasion.
E-B8	If the quality characteristics of groundwater from monitoring bores identified in **Table E-B1 – Groundwater monitoring locations and frequency** during a resampling event made under condition E6 exceeded the interim trigger levels stated in **Table E-B2 – Groundwater triggers and limits**, the holder of this environmental authority must: (a) notify the administering authority via WaTERS of exceedances of any parameter trigger level within **10 business days** of receiving the result; (b) within **three** (**3) months** of receiving the result, complete, and submit via WaTERS, an investigation undertaken by a suitably qualified person outlining: (i) details of the investigations carried out; and (ii) whether the result is directly associated with mining activities, and, if so: o whether environmental harm has occurred; and o any action required to mitigate environmental harm.
E-B9	If drawdown of groundwater exceeds **two metres** from one quarterly sampling period to the next, the holder of the environmental authority must: (a) notify the administering authority within **24 hours**; (b) conduct an investigation into the cause of the exceedance within **10 business days**; and (c) if the mining activities are identified as a potential cause or contributor to the drawdown, the holder of this environmental authority must take immediate action to ensure compliance with the conditions of this authority.

E-B10	**Bore construction and maintenance and decommissioning** The construction maintenance, management and decommissioning 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.

Schedule F: Water	
Condition number	**Condition**
F-B1	Contaminants that will or have the potential to cause environmental harm must not be released directly or indirectly to any waters, unless otherwise permitted under the conditions of this environmental authority.
F-B2	**Water Management Plan** A Water Management Plan must be developed by an appropriately qualified person and implemented for all stages of the mining activities on the site. The Water Management Plan must be submitted to the administering authority for review and comment by **30 November 2020**.
F-B3	The Water Management Plan required by condition **F-B2** must: (a) provide for effective water management of actual and potential environmental impacts resulting from water management associated with the mining activities carried out under this environmental authority; and (b) be developed in accordance with the administering authority's most recent version of the guideline for "Preparation of water management plans for mining activities" or any updates that become available from time to time; and (c) must include at least the following components: (i) a study of the source on contaminants; (ii) a water balance model for the site; (iii) a map showing the water management system for the site; (iv) measures to manage and prevent saline drainage; (v) measures to manage and prevent acid rock drainage; and (vi) contingency procedures for incidents and emergencies.
F-B4	The release of mine affected water to internal water management infrastructure that is installed and operated in accordance with a Water Management Plan that complies with condition **F-B3** is permitted.
F-B5	**Erosion and Sediment Control Plan** An Erosion and Sediment Control Plan must be developed by an appropriately qualified person and implemented for all stages of the mining activities on the site to minimise erosion and the release of sediment to receiving waters and contamination of stormwater.

F-B6	The Erosion and Sediment Control (ESC) Plan must: (a) demonstrate how ESC control measures adequately minimise the release of sediment to receiving waters and must include at least the following: (i) assessment of all catchment areas; (ii) assessment of soil types, including sodic dispersive soils; and (iii) specify design criteria for ESC structures; (b) detail the locations and descriptions of all ESC measures; and (c) provide an audit schedule to ensure ESC controls are being maintained.
F-B7	A review of the Erosion and Sediment Control Plan must be undertaken by **1 August** for each calendar year, for the life of the project. The review must: (a) include a statement that the Erosion and Sediment Control Plan has been prepared by an appropriately qualified person; (b) assess the plan against the requirements under condition **F-B6**; (c) include recommended actions to ensure actual and potential environmental impacts are effectively managed; (d) provide details and timelines of the actions to be taken; and (e) identify any amendments made to the Erosion and Sediment Control Plan.
F-B8	A copy of the Erosion and Sediment Control Plan must be provided to the administering authority on request.
F-B9	**Release to receiving waters** Unless otherwise permitted under the conditions of this environmental authority, releases must only occur from the release points and from the water sources and to the receiving waters specified in **Table F-B1 – Authorised water release points and depicted in Appendix 2-B. Authorised Water Release Points**.
F-B10	Prior to any release of water from the release points detailed in **Table F-B1 – Authorised surface runoff water release points**, all coordinates are to be provided to the administering authority for inclusion in **Table F-B1 – Authorised water release points**.

Table F-B1 – Authorised surface runoff water release points

Release Point	Water Source and type	Latitude (decimal degree GDA 94)	Longitude (decimal degree GDA 94)	Receiving waters description
RP1	Surface water runoff releases from SD1	Refer to Appendix 2*	Refer to Appendix 2*	North Creek
RP2	Surface runoff water releases from SD2	Refer to Appendix 2*	Refer to Appendix 2*	North Creek
RP3	Surface runoff water releases from SD4	Refer to Appendix 2*	Refer to Appendix 2*	North Creek
RP4	Surface runoff water releases from SD5	Refer to Appendix 2*	Refer to Appendix 2*	North Creek
RP5	Surface runoff water releases from SD6	Refer to Appendix 2*	Refer to Appendix 2*	North Creek (via minor drainage line)
RP6	Diverted runoff water releases from MWD4	Refer to Appendix 2*	Refer to Appendix 2*	North Creek

Note:

*coordinates are to be provided as per condition F10

F-B11	The release of Surface runoff water to waters from the release points specified in condition **F-B9** must be monitored at the locations specified in **Table F-B2 – Receiving water upstream and downstream monitoring points** for each quality characteristic and at the frequency specified in **Table F-B3 – Receiving waters contaminant trigger levels for Electrical Conductivity** and in **Table F-B4 – Receiving waters contaminant trigger levels for other water quality characteristics**. **NOTE:** The administering authority will take into consideration any extenuating circumstances prior to determining an appropriate enforcement response in the event condition **F9** is contravened due to a temporary lack of safe or practical access. The administering authority expects the environmental authority holder to take all reasonable and practicable measures to maintain safe and practical access to designated monitoring locations. When there no temporary safe or practical access to the monitoring point, a representative alternative site or monitoring point can be used.
F-B12	Before **31 June 2021** the holder must provide to the administering authority: (a) information on monitoring point VSWX to replace all TBA values in **Table F-B2 – Receiving water upstream and downstream monitoring points**; and (b) site-specific values to replace interim trigger values in **Table F-B3 – Receiving waters compliance limits levels for Electrical Conductivity** and **Table F-B4 – Receiving waters contaminant compliance limits for other water quality characteristics**.

Table F-B2 – Receiving water upstream and downstream monitoring points

Monitoring points	Receiving waters location description	Latitude (decimal degree GDA 94)	Longitude (decimal degree GDA 94)
Upstream background monitoring points			
VSW1	Diversion bund approximately 3.1km upstream of North Creek and upstream of downstream monitoring point VSW2	-22.276605	148.174505
VSWX	TBA	TBA	TBA
Downstream monitoring points			
VSW2	North Creek located upstream of the railway	-22.301059	148.195230
VSW8	Minor drainage line upstream of the railway	-22.278613	148.187818

Table F-B3 – Receiving waters compliance limits levels for Electrical Conductivity

Quality Characteristic	Unit	Receiving water flow recording frequency	Flow	Receiving Waters Compliance Limit ^	Monitoring Frequency
Electrical Conductivity	µS/cm	Continuous during release (minimum daily)	Low Flow Less than 0.5 m^3/s	720 µS/cm	Commencement of release and thereafter weekly during release
			Medium Flow (>0.5 – 5.0 m^3/s)	500 µS/cm	
			High Flow >5.0 m^3/s where 10 m^3/s is the maximum release rate in a high flow event.	250 µS/cm	

Table F-B4 – Receiving waters contaminant compliance limits for other water quality characteristics

Quality Characteristic	Unit	Receiving Waters Compliance Limit	Monitoring Frequency
pH	pH Unit	6.5 minimum 9.0 maximum	Commencement of release and thereafter weekly during release
Turbidity	NTU	50^	
Sulfate (SO_4^{2-})	mg/L	770*	

NOTE:

*Trigger level based on 95% species protection from Dunlop et al. 2016. Toxicity guideline values for sulfate in hard waters. *Australasian Bulletin of Ecotoxicology & Environmental Chemistry*, Vol. 3, 2016, pp. 1-10.

F-B13	If quality characteristics of the receiving water at the downstream monitoring points exceed any of the trigger levels specified in **Table F-B3 – Receiving waters contaminant trigger levels for Electrical Conductivity** and in **Table F-B4 – Receiving waters contaminant trigger levels for other water quality characteristics** during a release event the holder of this environmental authority must compare the downstream results to the upstream results in the receiving waters and: (a) where the downstream result is the same or a lower value than the upstream value recorded at VSW1 for the quality characteristic then no action is to be taken; or (b) where the downstream result exceeds the upstream results recorded at VSW1, complete an investigation into the potential for environmental harm and provide a written report to the administering authority within **90 days** of receiving the result, 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 **F14(b)**, no further reporting is required for subsequent trigger events for that quality characteristic.
F-B14	If an exceedance in accordance with condition **F-B13 (b)** is identified, the holder of the authority must notify the administering authority within **14 days** of becoming aware of the exceedance.
F-B15	**Pipeline Design** The pipeline depicted in **Appendix 1-B. Project Layout – Authorised Disturbance Areas** must be designed by and constructed under the supervision of a suitably qualified and experienced person.
F-B16	**Hydrostatic Testing of the Pipeline** Hydrostatic Testing of the pipeline after construction must not be completed using mine affected water.

F-B17	**Pipeline Inspection** During pumping activities, the holder must inspect the pipeline daily for leaks and hazards with the potential to cause leaks

Schedule G: Land	
Condition number	**Condition**
G-B1	No more than **75 ha** can be disturbed at any given time.
G-B2	**Topsoil** The holder of the environmental authority must ensure that: (d) topsoil is removed and stockpiled prior to carrying out any mining activity; and (e) measures are implemented to ensure that the mixing and erosion of topsoil and overburden stockpiles is prevented. **NOTE**: To separate topsoil and overburden and to prevent or minimise the erosion of these stockpiles the following measures or similar measures can be used: • identify topsoil and overburden layers before stripping topsoil; • store topsoil and overburden in separate stockpiles; • install silt fences or bunding around the stockpiles; • where practicable reuse topsoil stockpiles within 12 months; • establish and maintain a temporary cover crop on stockpiles; and • limit the height of topsoil stockpiles to 2 metres.
G-B3	**Infrastructure** The holder of the environmental authority must consult with the underlying landowner prior to establishing any new roads and tracks. **NOTE**: • repair all damage to existing private roads and tracks resulting from mining activities, so that they are as trafficable as they were prior to any damage.

G-B4	When constructing new roads and tracks, the holder of the environmental authority must ensure that the area and duration of disturbance to land, vegetation and watercourses is minimised. **NOTE**: • when planning and constructing new roads and tracks the following measures or similar measures can be used to minimise the area and duration of disturbance of land, vegetation and watercourses: • wherever possible use or upgrade existing roads and tracks; • construct roads and tracks along natural grades; • minimise the width of roads and tracks; • minimise the number of crossings in riverine areas; • construct crossings in riverine areas in a stable section of the bed; • avoid constructing roads or tracks that run straight down the bank to the crossing; • do not disadvantage other users of existing public roads & tracks; • construct a bed level causeway, a culvert or a bridge where natural bed conditions within a watercourse will not carry the intended traffic load or where crossing of the bed will generate a significant increase in turbidity; • minimise the number of cuts and fills in riverine areas; • position cuts and fills in riverine areas to minimise risk of erosion from subsequent flood events; • position crossings to prevent flow being directed towards the banks and provide erosion resistance to the bed and banks downstream of a crossing for a distance equal to the width of the normal flow channel; • do not create any downstream or upstream drops at the lip of culverts or causeways; • regularly clean out culverts, bridges and causeways to prevent flow being impeded or redirected; and • construct in-stream crossings outside of main fish migration periods.
G-B5	All infrastructure constructed by or for the holder of the environmental authority during the licensed activities including water storage structures, must be removed from the site prior to surrender, except where agreed in writing by the post-mining landowner / holder
G-B6	**Chemicals and flammable or combustible liquids** The holder of the environmental authority must ensure that: (a) all chemical, fuel and oil storage facilities of more than 10,000L, must be bunded to contain at least one hundred percent of the volume of the largest container, plus twenty-five percent of the storage capacity of the largest container up to a maximum of 10,000L, together with ten percent of the storage capacity beyond 10,000L; and (b) the facility must be operated and maintained in accordance with the Australian Standard 1940 – "The Storage and Handling of flammable and combustible liquids".
G-B7	The holder of the environmental authority must ensure that spills of hazardous contaminants are cleaned up as quickly as practicable. Such spillage must not be cleaned up by hosing, sweeping or otherwise releasing such contaminants to any watercourse, waterway, groundwater, wetland or lake.
G-B8	**Spill Kit** An appropriate spill kit, personal protective equipment and relevant operator instructions/emergency procedure guides for the management of wastes, chemicals and flammable and combustible liquids associated with the activity must be kept at the site.
G-B9	Anyone operating with wastes, chemicals or flammable and combustible liquids under this approval must be trained in the use of the spill kit.

G-B10	The holder of the environmental authority must not carry out activities within **100m** of a Historical, Archaeological or Ethnographic site. **NOTE**: Refer to the Aboriginal Cultural Heritage Register established under the *Aboriginal Cultural Heritage Act 2003* and the *Queensland Heritage Act 1992*. Prior to carrying out any activities on the mining tenement, the holder of the environmental authority should consult with the administrating authority if a site has the potential to be designated as a historical, archaeological or ethnographic site.
G-B11	Land disturbed by mining must be rehabilitated in accordance with **Table G-B1 – Rehabilitation Requirements**.

Table G-B1 – Rehabilitation Requirements

Mine Domain	Mine Feature Name	Rehabilitation Goal	Rehabilitation Objective	Completion Criteria
Active Mine Area	Test Pit	1. Safe	Safe for humans and animals on decommissioning and into the foreseeable future.	Test pit fully backfilled. Slopes to allow egress of livestock and wildlife for a post-mining land use of low intensity cattle grazing.
		2. Stable	Vegetation cover equivalent to the surrounding environment. Low probability of erosion.	Evidence that the percentage of ground cover of the rehabilitated areas is similar to the surrounding undisturbed environment and evidence that the appropriate control measures are in place to minimise erosion.
		3. Non-polluting	Not a source of environmental harm to the surrounding environment.	Minimal evidence of erosion. No environmental harm caused by run-off from final landform. No significant water retention – Final Landform is free draining.
		4. Self-Sustaining	Capable of supporting low intensity grazing. Species diversity and multiple canopy layers – ground, middle and upper.	Evidence that the vegetation species richness/composition and vegetation cover/density of the rehabilitated areas is similar to the surrounding undisturbed environment and is self-sustaining over time.
Overburden	West Out of Pit Dump, Topsoil Areas	1. Safe	Ensure quality levels of topsoil are adequate for application.	Remaining area graded to a landform similar to the surrounding undisturbed landform. Topsoil to be utilised wherever necessary to support revegetation of land for the post mining land use of low intensity cattle grazing.
		2. Stable	Vegetation cover equivalent to the surrounding environment. Low probability of erosion.	Evidence that the percentage of ground cover of the rehabilitated areas is similar to the surrounding undisturbed environment and evidence that the appropriate control measures are in place to minimise erosion. Minimal slumping or gullying.

		3. Non-polluting	Not a source of environmental harm to the surrounding environment.	Minimal evidence of erosion. No environmental harm caused by run-off from final landform.
		4. Self-Sustaining	Capable of supporting low intensity grazing. Species diversity and multiple canopy layers – ground, middle and upper.	Evidence that the vegetation species richness/composition and vegetation cover/density of the rehabilitated areas is similar to the surrounding undisturbed environment and is self-sustaining over time.
Infrastructure	Buildings, roads, tracks, Sorterra and pad, hardstand, ROM stockpiles, product stockpile areas, dams and pipeline infrastructure	1. Safe	Safe for humans and animals on decommissioning and into the foreseeable future.	Infrastructure within the disturbance footprint to be removed at decommissioning and not be retained post-mining.
		2. Stable	Vegetation cover equivalent to the surrounding environment. Low probability of erosion	Evidence that the percentage of ground cover of the rehabilitated areas is similar to the surrounding undisturbed environment and evidence that the appropriate control measures are in place to minimise erosion.
		3. Non-polluting	Contaminated land site investigation to ensure any hazardous material is adequately managed, presenting a low risk of environmental harm.	No contaminated land area identified. Water quality meets the Australian and New Zealand Guidelines for Fresh and Marine Water Quality (ANZECC 2000) for stock drinking water or structure removed.
		4. Self - Sustaining	Capable of supporting low intensity grazing.	Evidence that the vegetation species richness/composition on banks of water dams and vegetation cover/density of the rehabilitated areas is similar to the surrounding undisturbed environment and is self-sustaining over time.

Definitions

Key terms and/or phrases bolded in this environmental authority 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.

Administering authority is the agency 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).

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

Archaeological site refers to a site that has physical evidence of the past, which has the potential to increase our knowledge of earlier human occupation, activities and events.

Banks means the feature which confines major flows within a watercourse. They are steeper than a terrace and are generally of a slope greater than 1:1 on outer bends.

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.

Bund means:

(a) an earth mound or similar structure (e.g. a concrete block wall), whether impervious or not, constructed to contain spilled material (e.g. petrol, diesel, oil etc.); or

(b) a structure to prevent or reduce soil erosion.

Contaminant is defined in section 11 of the *Environmental Protection Act 1994* as:

(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;

(e) a combination of contaminants.

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

Construction or constructed in relation to watercourse diversions, is the process of building, or modifying an existing diversion, but does not include investigations and testing necessary for the purpose of preparing a design plan.

Contaminated land register means the register kept by the administrating authority under section 541 of the *Environmental Protection Act 1994*.

Culvert refers to a covered channel or a pipe of large diameter conveying water below ground level. Also applies to a tunnel through which water is pumped or permitted to flow.

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

Designated service area refers to a nominated site, selected and managed to minimise contamination of land or water, where the majority of services or maintenance of machinery or plant is to be conducted.

Disturbed includes 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 includes:

(a) compacting, removing, covering, exposing or stockpiling of earth

(b) removal or destruction of vegetation or topsoil or both to an extent where the land has been made susceptible to erosion

(c) carrying out mining within a watercourse, waterway, wetland or lake

(d) the submersion of areas by tailings or hazardous contaminant storage and dam/structure walls

(e) temporary infrastructure, including any infrastructure (roads, tracks, bridges, culverts, dam/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.

Environmental has the meaning in section 7 of the *Environmental Offsets Act 2014*.

Environmental authority means a licence or approval issued by the administrating authority under the *Environmental Protection Act 1994*.

Environmental management register means the register kept by the administrating authority under section 541 of the *Environmental Protection Act 1994*.

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

Ethnographic site means an archaeological site of particular importance to the study of a cultural group.

Final rehabilitation report means a final rehabilitation report prepared under section 264 of the *Environmental Protection Act 1994*. The report assesses the extent to which the standard environmental conditions and any additional conditions of the environmental authority have been met.

General waste is defined 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.

Hazardous contaminant is defined in schedule 4 of the *Environmental Protection Act 1994*, and defines a hazardous contaminant as "a contaminant that, if improperly treated, stored, disposed of or otherwise managed, is likely to cause serious or material environmental harm because of:

(a) its quantity, concentration, acute or chronic toxic effects, carcinogenicity, teratogenicity, mutagenicity, corrosiveness, explosiveness, radioactivity, flammability; or

(b) its physical, chemical or infectious characteristics (e.g.: spills of mercury, cyanide, petrol, diesel or oil)".

Historical site refers to a site containing objects from the past that allows the study of the way people lived and worked at that place in the past.

Holder of a mining tenement means a holder of the tenement under the *Mineral Resources Act 1989*, and the holder of the associated environmental authority under the *Environmental Protection Act 1994*.

Infrastructure means water storage dams, levees, roads and tracks, buildings and other structures built for the purpose of the mining activity.

Lake means a natural or artificial body of water, either permanent or intermittent.

Land in the 'land schedule' of this document means land excluding waters and the atmosphere, that is, the term has a different meaning from the term as defined in the *Environmental Protection Act 1994*. For the purposes of the *Acts Interpretation Act 1954*, it is expressly noted that the term 'land' in this environmental authority relates to physical land and not to interests in land.

Landowner is defined in schedule 4 of the *Environmental Protection Act 1994*, and defines the owner of the land as -

(a) The "owner" of land is-

i. for freehold land-the person recorded in the freehold land register as the person entitled to the fee simple interest in the land; or

ii. for land held under a lease, licence or permit under an Act-the person who holds the lease, licence or permit; or

iii. for trust land under the *Land Act 1994*-the trustees of the land; or

iv. for Aboriginal land under the Aboriginal Land Act 1991-the persons to whom the land has been transferred or granted; or

v. for Torres Strait Islander land under the *Torres Strait Islander Land Act 1991*-the persons to whom the land has been transferred or granted; or

vi. for land for which there is a native title holder under the *Native Title Act 1993* (Cwlth) -each registered native title party in relation to the land.

(b) Also, a mortgagee of land is the owner of the land if-

i. the mortgagee is acting as a mortgagee in possession of the land and has the exclusive management and control of the land; or

ii. the mortgagee, or a person appointed by the mortgagee, is in possession of the land and has the exclusive management and control of the land.

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

Leachate means a liquid that has passed through or emerged from, or is likely to have passed through or emerged from, a material stored, processed or disposed of at the operational land which contains soluble, suspended or miscible contaminants likely to have been derived from the said material.

Licensed general waste disposal facility refers to a site authorised by the administrating authority to receive general waste or limited regulated waste (e.g. a rubbish dump).

m means metres.

Material environmental harm is defined in section 16 of the *Environmental Protection Act 1994*, and defines material environmental harm as:

(a) material environmental harm is environmental harm (other than environmental nuisance)-

i. that is not trivial or negligible in nature, extent or context; or

ii. that causes actual or potential loss or damage to property of an amount of, or amounts totalling, more than the threshold amount but less than the maximum amount; or

iii. that results in costs of more than the threshold amount but less than the maximum amount being incurred in taking appropriate action to -

1. prevent or minimise the harm; and

2. rehabilitate or restore the environment to its condition before the harm.

In this section -

"maximum amount" means the threshold amount for serious environmental harm.

"threshold amount" means $5 000 or, if a greater amount is prescribed by regulation, the greater amount.

Measures includes any activities or infrastructure to prevent or minimise environmental impacts of the mining activity such as bunds, silt fences, diversion drains, capping, and containment systems.

Mine affected water

(a) means the following types of water:

i. pit water, tailings dam water, processing plant water

ii. water contaminated by a mining activity 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 activity

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:

1. areas that have been capped and have monitoring data demonstrating hazardous material adequately contained with the site
2. 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.

Minimise means to reduce to the smallest possible amount or degree.

NATA means National Association of Testing Authorities, Australia.

Non-polluting means having no adverse impacts upon the receiving environment.

Normal flow channel is represented in RA004, Figure 1 - 'Cross Section Through a Watercourse' and Figure 2 - 'Plan View of a Watercourse' in Eligibility criteria and standard conditions for exploration and mineral development projects—Version 2.

Notice of election has the meaning in section 18(2) *Environmental Offsets Act 2014*.

Overburden refers to material overlying a mineral ore deposit, up to but not including the topsoil.

Peak particle velocity (ppv) means a measure of ground vibration magnitude which is the maximum rate of change of ground displacement with time, usually measured in millimetres/second (mm/s).

Permanent watercourse diversion is a man-made structure that incorporates the geomorphologic, hydraulic, hydrologic and ecological components of a local watercourse and is designed, constructed, operated and maintained according to an engineering standard that ultimately achieves a self-sustaining watercourse able to function without features or characteristics that rely on ongoing maintenance or that impose a financial or other burden on the proponent, government or the community.

Receiving waters means the waters into which this environmental authority authorises releases surface runoff water.

Regulated waste is defined in schedule 19 of the Environmental Protection Regulation 2019 and defines regulated waste as “waste that is a commercial waste or industrial waste; and is a type, or contains a constituent of a type, mentioned in schedule 9, part 1, column 1 of the Environmental Protection Regulation 2019.”

Rehabilitation means the process of reshaping and revegetating land to restore it to a stable landform.

Release event means water discharge from mine affected water storages or contaminated areas on the licensed place.

Representative means a sample set which covers the variance in monitoring or other data either due to natural changes or operational phases of the mining activities.

Riverine area refers to the land adjoining and associated with watercourses, including the bed, banks, adjoining terraced land and riparian vegetation. Refer to RA004, Figure 1 "Cross Section Through a Watercourse" in Eligibility criteria and standard conditions for exploration and mineral development projects—Version 2.

Sediment pond means a bunded or excavated structure used to contain and settle waterborne sediment running off disturbed areas.

Sediment trap means a device used to filter waterborne sediment running off disturbed areas. May include silt fences, hay bales or grassed strips.

Self-sustaining means not requiring on-going intervention and maintenance to maintain functional processes and characteristics.

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 Environmental Protection Policy (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.

A mining camp (i.e., accommodation and ancillary facilities for mine employees or contractors or both, associated with the mine the subject of the environmental authority) is not a sensitive place for that mine or mining project, whether or not the mining camp is located within a mining tenement that is part of the mining project the subject of the environmental authority. For example, the mining camp 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.

Accommodation for mine employees or contractors is a sensitive place if the land is held by a mining company or related company, and if occupation is restricted to the employees, contractors and their families for the particular mine or mines which are held by the same company or a related company. For example, 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.

Significantly disturbed land means land that:

(a) is contaminated land; or

(b) has been disturbed and human intervention is needed to rehabilitate it.

Significantly disturbed land includes:

(a) areas where soil has been compacted, removed, covered, exposed or stockpiled;

(b) areas where vegetation has been removed or destroyed to an extent where the land has been made susceptible to erosion; (vegetation & topsoil)

(c) areas where land use suitability or capability has been diminished;

(d) areas within a watercourse, waterway, wetland or lake where mining project activities occur;

(e) areas submerged by tailings or hazardous contaminant storage and dam walls in all cases;

(f) areas under temporary infrastructure. Temporary infrastructure includes any infrastructure (roads, tracks, bridges, culverts, dams, bores, buildings, fixed machinery, hardstand areas, airstrips, helipads etc.), which is to be removed after mining has ceased; or

(g) areas where land has been contaminated.

However, the following areas are not included:

(a) areas off lease (e.g. roads or tracks which provide access to the mining lease);

(b) areas previously significantly disturbed which have achieved the rehabilitation outcomes;

(c) by agreement with the EPA, areas previously significantly disturbed which have not achieved the rehabilitation objectives 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, dams, bores, buildings, fixed machinery, hardstand areas, airstrips, helipads etc.) which is to be left by agreement with the landowner. The agreement to leave permanent infrastructure must be recorded in the Landowner Agreement and lodged with the administering authority;

(e) disturbances that pre-existed the grant of the tenure unless those areas are disturbed during the term of the tenure.

Site management plan refers to a site management plan approved under Chapter 7, part 8 of the *Environmental Protection Act 1994*.

Strategic environmental area has the meaning in section 11(1) of the *Regional Planning Interests Act 2014*.

Suitably qualified and experienced person means a person who is a Registered Professional Engineer of Queensland under the provisions of the *Professional Engineers Act 2002*, who has an appropriate level of expertise in the structures, geomechanics, hydrology, hydraulics and environmental impact of watercourse diversions.

An appropriate level of expertise includes:

(a) demonstrable competency, experience and expertise in:

i. investigation, design or construction of watercourses diversions

ii. operation and maintenance of watercourse diversions

iii. geomechanics with particular emphasis on channel equilibrium, geology and geochemistry

iv. hydrology with particular reference to flooding, estimation of extreme storms, water management or meteorology

v. hydraulics with particular reference to sediment transport and deposition and erosion control

vi. hydrogeology with particular reference to seepage and groundwater

vii. solute transport processes and monitoring thereof, or

(b) sufficient knowledge and experience to certify that where the suitably qualified and experienced person has relied on advice and information provided by other persons with relevant expertise*:

i. they consider it reasonable to rely on that advice and information

ii. the expert providing the advice and information has knowledge, competency, suitable experience and demonstrated expertise in the matters related to watercourse diversions.

*Persons with relevant expertise include:

(a) Geomorphologist: person who has demonstrated competency and relevant experience in stream geomorphology and watercourse diversions.

(b) Geotechnical Expert: person who has demonstrated competency and relevant experience in geotechnical assessment of soil characteristics suitable for watercourse diversions.

(c) Vegetation Expert: person who has demonstrated competency and relevant experience in the identification, role and function of vegetation with watercourses and adjoining floodplains, and has demonstrated competency and relevant experience in revegetation of watercourse diversions and adjoining floodplains.

(d) Groundwater Expert: person who has demonstrated competency and relevant experience in groundwater systems.

(e) Surface Water Expert: person who has demonstrated competency and relevant experience in hydrology.

(f) Engineer: person who is a Registered Professional Engineer of Queensland (RPEQ) under the provisions of the *Professional Persons Act 2002* or has similar qualifications under a respected professional registration association, and has demonstrated competency and relevant experience in design and construction of watercourse diversions.

(g) Soils Expert: person who has demonstrated competency and relevant experience in soil classification including the physical, chemical and hydrologic analysis of soil.

Suitability statement. The *Environmental Protection Act 1994* defines a **s**uitability statement as: for land, means a statement about the uses and activities for which the land is suitable.

Surface runoff water is water from areas that are disturbed by mining operations (including out-of-pit dumps and haul roads). This runoff may contain high sediment loads, but would not contain contaminated material or high total dissolved solids (TDS).

Tailings dam means a dam used to collect the solid residues resulting from mineral ore processing.

Technical guidelines means guidelines that indicate best practice environmental management.

Temporary watercourse diversion is a man-made structure that may incorporate geomorphologic, hydraulic, hydrologic and ecological components of a local watercourse and is designed, constructed, operated and maintained to an engineering standard that ensures the diversion does not compromise the equilibrium and performance of the diversion and adjoining watercourses. A temporary diversion is replaced by a permanent diversion, or the re-establishment of the pre-existing watercourse, within the timeframe specified in the design plan.

The Act means the *Environmental Protection Act 1994*.

The project area consists of the project infrastructure and mine area defined in Appendix 1: Figure 1 Project Infrastructure Layout – Mine Area.

Topsoil refers to the surface layer of a soil profile, which is usually more fertile, darker in colour, better structured and supports greater biological activity than underlying layers. The surface layer may vary in depth depending on soil forming factors, including parent material, location and slope, but generally is not greater than about 300mm in depth from natural surface.

Water is defined under Schedule 4 of the *Water Act 2000*.

Watercourse is defined in the *Water Act 2000*.

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

WaTERS means Water Tracking and Electronic Reporting System or subsequent updated system, used to submit monitoring data and notify the Queensland Government. [https://waters.ehp.qld.gov.au/] or psd.help@qld.gov.au.

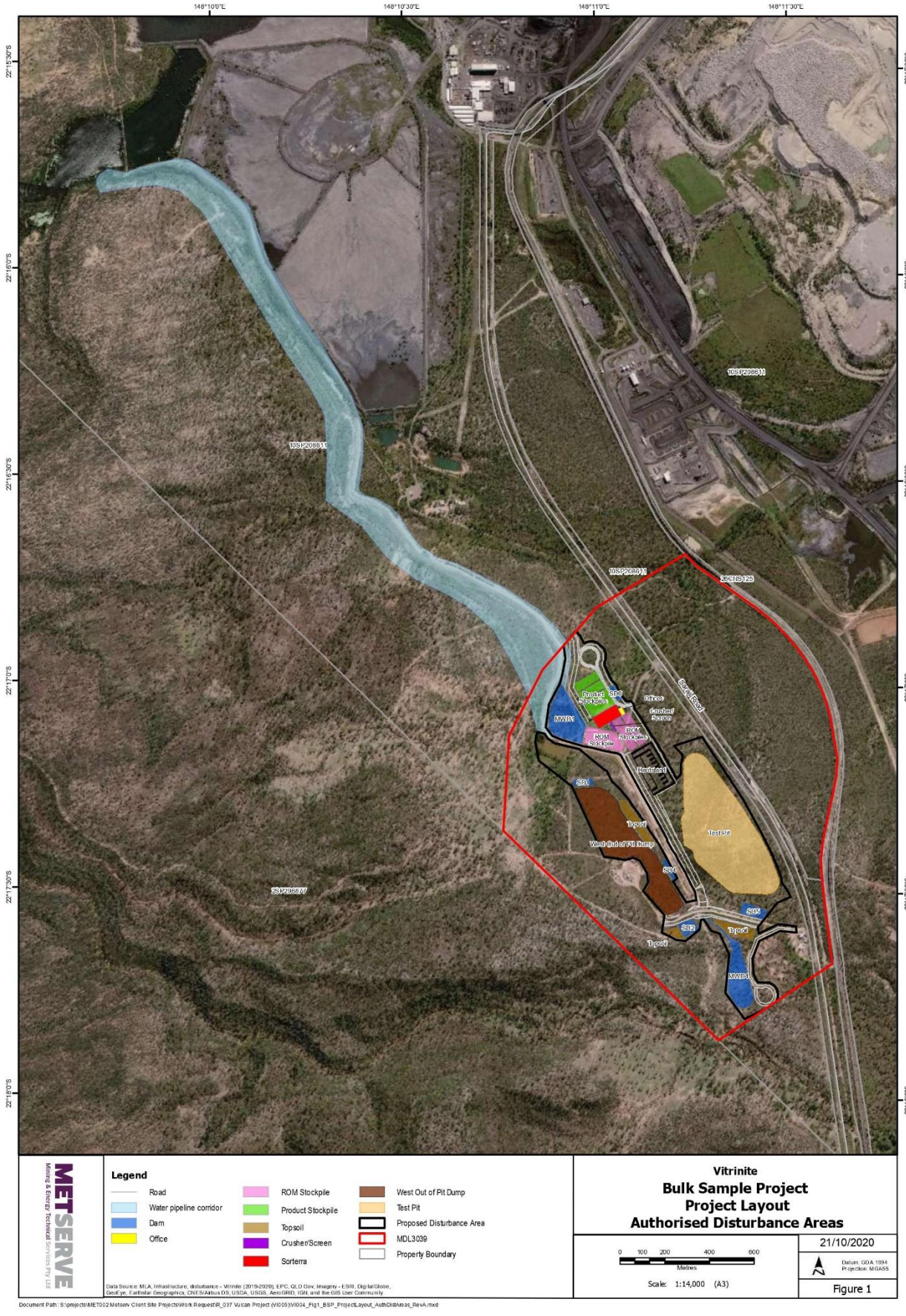
Waterway means a naturally occurring feature where surface water runoff normally collects, such as a clearly defined swale or gully, but only flows in response to a local rainfall event.

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

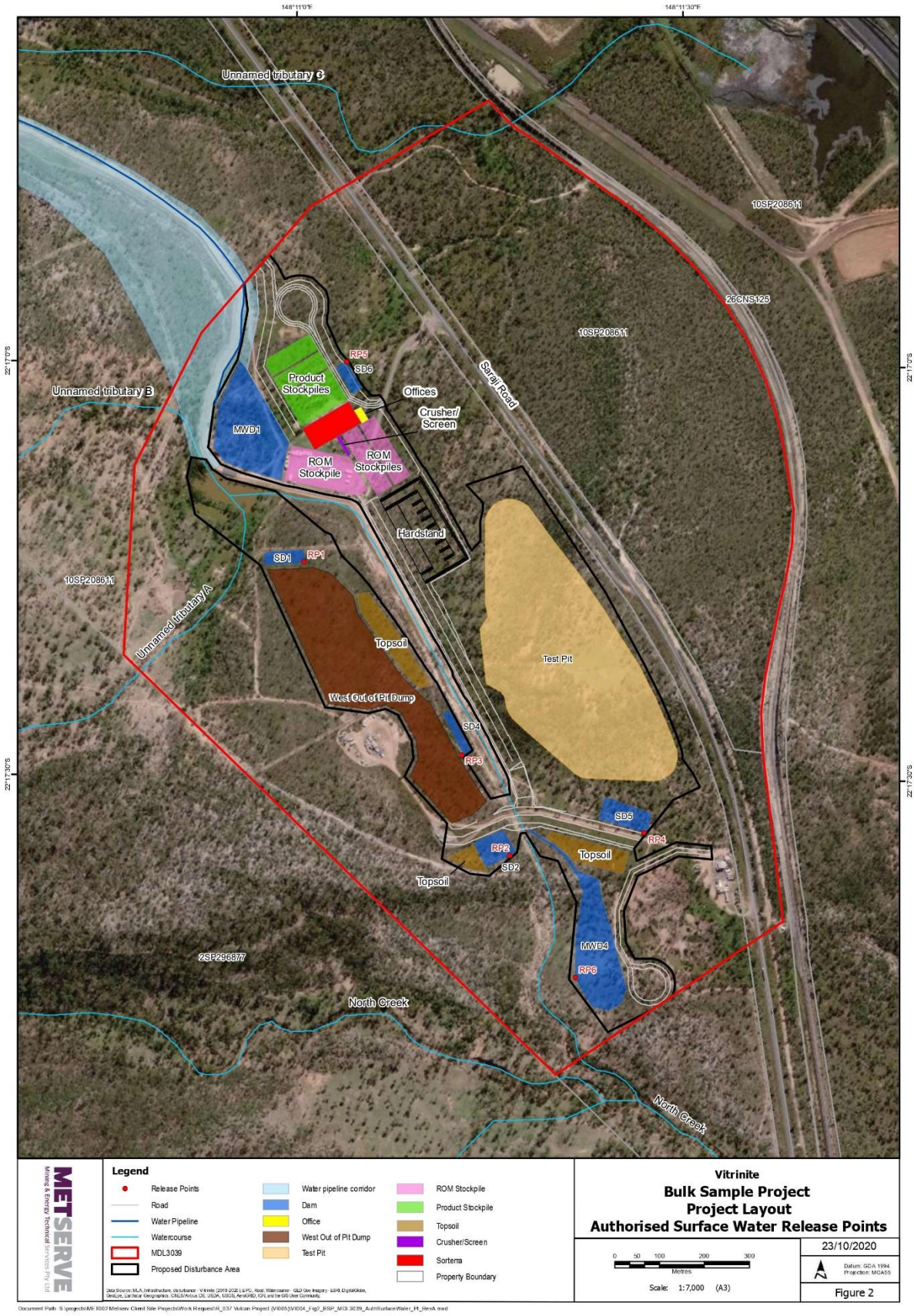
Wetland refers to an area of permanent or periodic/intermittent inundation, whether natural or artificial, with water that is static or flowing, fresh, brackish or salt, including areas of marine water the depth of which at low tide does not exceed 6m. Wetlands typically include areas such as lakes, swamps, marshes, estuaries or mudflats.

Wet Season in Queensland refers to the period of November to April each year.

Appendix 1-B. Project Layout – Authorised Disturbance Areas



Appendix 2-B. Authorised Water Release Points



END OF ENVIRONMENTAL AUTHORITY