

Permit

Environmental Protection Act 1994

Environmental Authority EPML00738813 – Moranbah North Coal Mine

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

Environmental authority number: EPML00738813

Environmental authority takes effect on 18 August 2026.

Environmental authority holder(s)

Name(s)	Registered address
Shinsho Moranbah Coal Pty Ltd	Level 12, 124 Walker Street NORTH SYDNEY NSW 2060
JFEMA Moranbah North Pty Ltd	Suite 3B Level 33, 52 Martin Place SYDNEY NSW 2000
NS Moranbah North Pty Ltd	Level 5, 20 Hunter St SYDNEY NSW 2000
Mitsui Moranbah North Investment Pty Ltd	Level 24, 480 Queen Street BRISBANE CITY QLD 4000
NS Coal (Moranbah North) Pty Ltd	Level 9, 10 Market Street BRISBANE CITY QLD 4000
Moranbah North Coal Pty Ltd	Level 11, 201 Charlotte Street BRISBANE QLD 4000

Environmentally relevant activity and location details

Environmentally relevant activity/activities	Location(s)
Resource Activity, Schedule 3, 13: Mining black coal	ML70108 ML700042 PPL191
Ancillary 08 – Chemical Storage, 1: Storing a total of 50t or more of chemicals of dangerous goods class 1 or class 2, division 2.3 under subsection (1)(a)	ML70108 ML700042 PPL191
Ancillary 08 – Chemical Storage, 3: Storing more than 500 cubic metres of chemicals of class C1 or C2 combustible liquids under AS 1940 or dangerous goods class 3 under subsection (1)l	ML70108 ML700042 PPL191
Ancillary 10 – Gas Producing, Manufacturing, processing or reforming 200t or more of hydrocarbon gas in a year	ML70108 ML700042 PPL191

Environmentally relevant activity/activities	Location(s)
Ancillary 31 – Mineral processing, 2: Processing, in a year, the following quantities of mineral products, other than coke, (b) more than 100,000t	ML70108 PPL191
Ancillary 33 – Crushing, milling, grinding or screening, Crushing, grinding, milling or screening more than 5000t of material in a year	ML70108 PPL191
Ancillary 53 – Organic material processing, processing more than 200t of organic material in a year, (a) by composting the organic material	ML70108 PPL191
Ancillary 54 – Mechanical waste reprocessing 1: operating a facility for receiving and mechanically reprocessing, in a year, more than 5,000t of inert, non-putrescible waste or green waste only	ML70108 PPL191
Ancillary 54 – Mechanical waste reprocessing 2: operating a facility for receiving and mechanically reprocessing, in a year, the following quantity of general waste, (c) more than 10,000t	ML70108 PPL191
Ancillary 54 – Mechanical waste reprocessing 3: operating a facility for receiving and mechanically reprocessing, in a year, the following quantity of category 2 regulated waste, (c) more than 10,000t	ML70108 PPL191
Ancillary 54 – Mechanical waste reprocessing 4: operating a facility for receiving and mechanically reprocessing, in a year, the following quantity of category 1 regulated waste, (c) more than 10,000t	ML70108 PPL191
Ancillary 55 – Other waste reprocessing or treatment 1: operating a facility for receiving and either reprocessing or treating, in a year, the following quantity of general waste, (c) more than 10,000t	ML70108 PPL191
Ancillary 55 – Other waste reprocessing or treatment 2: operating a facility for receiving and either reprocessing or treating, in a year, the following quantity of category 2 regulated waste, (c) more than 10,000t	ML70108 PPL191
Ancillary 55 – Other waste reprocessing or treatment 3: operating a facility for receiving and either reprocessing or treating, in a year, the following quantity of category 1 regulated waste, (c) more than 10,000t	ML70108 PPL191
Ancillary 60 – Waste disposal 1: Operating a facility for disposing of, in a year, the following quantity of waste mentioned in subsection (1)(a) (b) (d) more than 200,000t	ML70108 PPL191
Ancillary 62 – Resource recovery and transfer facility operation 1: Operating a facility for receiving and sorting, dismantling, baling or temporarily storing (b) general waste	ML70108 ML700042 PPL191
Ancillary 62 – Resource recovery and transfer facility operation 1: Operating a facility for receiving and sorting, dismantling, baling or temporarily storing- (d) category 1 regulated waste	ML70108 ML700042 PPL191
Ancillary 62 – Resource recovery and transfer facility operation 1: Operating a facility for receiving and sorting, dismantling, baling or temporarily storing- (c) category 2 regulated waste	ML70108 ML700042 PPL191
Ancillary 63 – Sewage Treatment, 1: Operating sewage treatment works, other than no release works, with a total daily peak design capacity of, (b) more than 100 but not more than 1500EP, (ii) otherwise.	ML70108 PPL191

Additional information for applicants

Environmentally relevant activities

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

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

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

Mobile and temporary activities

If you operate a mobile and temporary ERA, other than regulated waste transport, you are required to maintain a work diary. You must:

- use the approved form for a work diary (ESR/2015/1696);
- keep the work diary records for 2 years after the last entry;
- inform the administering authority within 7 days of the work diary being lost or stolen;
- record the information required in the work diary for each location within 1 day of leaving the location.

Contaminated land

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

- the presence of, or happening of an event involving, a hazardous contaminant on the land that is causing, or is reasonably likely to cause, serious or material environmental harm (notice must be given within 24 hours); or
- if the land is contaminated land – a change in the condition of the land that is causing, or is reasonably likely to cause, serious or material environmental harm (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 land (notice must be given within 20 business days).

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(1) of the EP Act, an EA has effect:

- (a) if the authority is for a prescribed ERA and it states that it takes effect on the day nominated by the holder of the authority in a written notice given to the administering authority—on the nominated day; or
- (b) if the authority states a day or an event for it to take effect—on the stated day or when the stated event happens; or
- (c) otherwise—on the day the authority is issued.

However, in accordance with section 200(2) of the EP Act, the day that the EA takes effect may not be before:

- (a) if the authority is for a resource activity—the day the relevant tenure is granted to the applicant; or
- (b) if a development permit for a material change of use of premises under the *Planning Act 2016* is necessary for carrying out an activity that related to the authority—the day the development permit takes effect; or

(c) if an SDA Approval under the *State Development and Public Works Organisation Act 1971* is necessary for carrying out an activity that relates to the authority—the day the approval takes effect.

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

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



Signature

18 August 2026

Date

Dr. Alison Cummings

Department of the Environment, Tourism, Science and Innovation

Delegate of the administering authority

*Environmental Protection Act 1994***Enquiries:**

Business Centre Coal

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Obligations under the *Environmental Protection Act 1994*

In addition to the requirements found in the conditions of this EA, 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 restore the environment (section 319C)
- 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 EP Act. 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 and Federal Government agencies prior to commencing any activity at the site. For example, this may include permits or 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 and Mines, Manufacturing, and Regional and Rural Development (to clear vegetation), and the Department of Primary Industries (to clear marine plants or to obtain a quarry material allocation).

Obligations under the *Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act)*

Matters of national environmental significance (MNES) are regulated under the Commonwealth EPBC Act rather than under state legislation. You may need to submit a referral if your project potentially impacts any matters protected under the EPBC Act. For more information on self-assessments, and referral and assessment processes, please visit the Australian Government Department of Climate Change, Energy, the Environment and Water's website at www.dcceew.gov.au/environment/epbc/advice.

Obligations under the *Aboriginal Cultural Heritage Act 2003* and *Torres Strait Islander Cultural Heritage Act 2003* (the Cultural Heritage Acts)

The Cultural Heritage Acts require anyone who carries out a land-use activity to exercise a duty of care. This 'duty of care' means land users must take all reasonable and practicable measures to ensure their activity does not harm Aboriginal or Torres Strait Islander cultural heritage, and applies to any activity where Aboriginal or Torres Strait Islander cultural heritage is located. For more information on your obligations under this legislation, please visit the Department of Women, Aboriginal and Torres Strait Islander Partnerships and Multiculturalism webpage at, www.dwatsipm.qld.gov.au.

Conditions of environmental authority

The environmentally relevant activities conducted at the locations as described above must be conducted in accordance with the following site-specific conditions of approval. This environmental authority consists of the following Schedules:

- Schedule A: General
- Schedule B: Air
- Schedule C: Noise and Vibration
- Schedule D: Waste
- Schedule E: Land
- Schedule F: Water
- Schedule G: Structures
- Schedule H: Sewage Treatment
- Schedule I: Groundwater
- Schedule J: Biodiversity
- Schedule K: Stimulation Activities
- Definitions
- Attachments

Schedule A: General	
Condition number	Condition
A1	This environmental authority authorises environmental harm referred to in the conditions. Where there is no condition or this environmental authority is silent on a matter, the lack of a condition or silence does not authorise environmental harm.
A2	Prevent and/or minimise likelihood of environmental harm In the carrying out of the environmentally relevant activities, the environmental authority holder must take all reasonable and practicable measures to prevent and/or minimise the likelihood of environmental harm caused. Any environmentally relevant activity that, if carried out incompetently, or negligently, may cause environmental harm, in a manner that could have been prevented, shall be carried out in a proper manner in accordance with the conditions of this environmental authority.
A3	Storage and handling of chemicals and flammable or combustible liquids Chemicals and flammable or combustible liquids must be stored and handled in accordance with any applicable Australian Standard. Where no applicable Australian Standard exists, the chemicals or liquids must be stored and handled within a containment system designed and maintained to contain spills and leaks and prevent the release of contaminants to the environment (land, waters and air).
A4	Authorised disturbance Disturbance is authorised as shown in Appendix 1 – Authorised Disturbance Areas, including: (a) Surface disturbance within areas marked as “Approved Surface Disturbance”; and (b) Underground mining disturbance within areas marked “Approved Underground Mining Disturbance”.
A5	Any disturbance outside of the areas marked in Appendix 1 – Authorised Disturbance Areas: (a) is only authorised to the extent reasonably necessary for exploration and activities ancillary to the mining activity conducted under EPML00738813, including but not limited to roads, fences, underground services, telecommunications facilities, pipelines, electrical infrastructure, storage depots, laydown or shutdown pads, monitoring stations and bores, vent shafts and gas drainage, and disturbance for rehabilitation activities; and (b) must comply with conditions J1 to J3.
A6	Coal extraction and processing The environmental authority holder is approved for a coal extraction rate of up to 13.5 million tonnes per annum (mtpa) of run-of-mine (ROM) coal in accordance with this environmental authority. The environmental authority holder is approved for the processing of up to 24 mtpa of ROM coal including any ROM coal imported from other mining activities.

A7	Maintenance of measures, plant and equipment The environmental authority holder must ensure that: (a) all measures, plant and equipment required to comply with the conditions of this environmental authority are installed, operated and maintained; and (b) all instruments and devices used for monitoring or measuring a parameter required by this environmental authority are calibrated, and maintained in accordance with the manufacturer's specifications.
A8	Monitoring and records The environmental authority holder must retain all monitoring records and reports required by this environmental authority for at least 5 years and make them available to an authorized person upon request.
A9	Monitoring and determinations required under any condition of this environmental authority must be conducted by an appropriately qualified person(s).
A10	Upon request from the administering authority, copies of monitoring results, records, registers, management plans and reports required by the conditions of this environmental authority must be made available and provided to the administering authority within 10 business days or an alternative timeframe agreed between the administering authority and the environmental authority holder
A11	Notification of emergencies, incidents and exceptions The environmental authority holder must notify the administering authority by written notification within 24 hours of becoming aware of any emergency or incident that results in, or is reasonably likely to result in, the release of contaminants contrary to the conditions of this environmental authority. The notification must include, to the extent known at the time, the nature of the emergency or incident, its location, any actual or potential environmental impacts, and actions taken to prevent or minimise environmental harm.
A12	Within 20 business days following the initial notification under condition A11, or the receipt of monitoring results associated with the notification made under condition A11, whichever is the latter, the environmental authority holder must provide further written advice to the administering authority, including: (a) potential circumstances and actions that may have contributed to the emergency or incident; (b) results and interpretation of any samples taken and analysed; (c) outcomes of actions taken at the time to prevent or minimise unlawful environmental harm; and (d) proposed actions to prevent a recurrence of the emergency or incident and the timeframes to complete the actions.

A13	Complaints The environmental authority holder must keep a record of all environmental complaints received about the mining activities, including: (a) complainant's name, address and contact number; (b) time and date of complaint; (c) reasons for the complaint; (d) investigations undertaken; (e) conclusions formed; (f) any actions taken to resolve the complaint, including the use of appropriate dispute resolution if required; (g) any abatement measures implemented or proposed and the timeframes to implement the abatement measures; (h) person responsible for resolving the complaint.
A14	Register of alternative arrangements A register of alternative arrangements must be established and maintained by the environmental authority holder. The register must include: (a) the location to which the alternative arrangement applies; (b) the period of the alternative arrangement; (c) details about the particular environmental nuisance impact/s the arrangement is for; and (d) details about the mitigation measures, where relevant.
A15	Monitoring on request When requested by the administering authority, the environmental authority holder must investigate any nuisance, or contaminant release, or environmental harm, or complaint that is neither frivolous nor vexatious in the opinion of the authorised person, by: (a) undertaking the monitoring specified by the administering authority; (b) undertaking the monitoring in the timeframe nominated or agreed to by the administering authority; (c) completing an analysis and interpretation of the monitoring results; and (d) implementing abatement measures, where required.
A16	The results of the investigation undertaken in accordance with condition A15 must be provided to the administering authority within 20 business days of completion of the monitoring timeframe in accordance with condition A15(b), unless otherwise agreed by the administering authority.

A17	Standards, policies and guidelines Where a condition of this environmental authority requires compliance with a standard, policy or guideline published externally to this environmental authority, the environmental authority holder must: (a) comply with the amended or changed standard, policy or guidelines within 2 years of the amendment or change being made, unless: (i) a different period is specified in the amended standard or relevant legislation, or (ii) the period specified in condition G36, where the amendment or change relates specifically to existing regulated structures; and (b) until compliance with the amended or changed standard, policy or guidelines is achieved, continue to remain in compliance with the corresponding provision that was current immediately prior to the relevant amendment or change.
A18	Risk management The environmental authority holder must develop and implement a risk management system for mining activities which mirrors the content requirement of the <i>Standard for Risk Management (ISO31000:2009)</i>, or the latest edition of an Australian standard for risk management, to the extent relevant to environmental management.
A19	Third-party reporting The environmental authority holder must: (a) by 1 September 2027 and every 3 years thereafter, obtain from an appropriately qualified person a report on compliance with the conditions of this environmental authority; and (b) provide each report to the administering authority within 90 days of its completion.
A20	Laboratory analysis of potential contaminants The EA holder must: (a) Undertake NATA accredited laboratory analysis that attains a limit of reporting (LOR) value that is at or below the following ANZG (2018) default SMD guideline values: (i) Copper: 1.4µg/L; (ii) Mercury: 0.06µg/L; (iii) Selenium: 5.0µg/L; (iv) Silver: 0.05µg/L; (v) Uranium: 0.5µg/L; and (vi) Vanadium: 6.0µg/L. (b) Submit a report and all supporting surface water data to the department by 17 December 2027 to confirm trigger levels in Table F3 – Release Contaminant Trigger Investigation Levels for the analytes listed in condition A20(a). (c) Submit a report and all supporting groundwater data to the department by 19 December 2028 to confirm trigger levels in Table I3 – Groundwater Investigation Trigger Values for the analytes listed in condition A20(a).

A21	Review of ANZG 2018 default guidelines The EA holder must: (a) Undertake a review of existing surface water data against the following ANZG (2018) default SMD guideline values: (i) Aluminium: 55µg/L (ii) Boron: 940µg/L; (iii) Cobalt: 1.4µg/L; (iv) Iron: 280µg/L; (v) Lead: 3.4µg/L; (vi) Ammonia: 720µg/L; and (vii) Nitrate: 1.1mg/L. (b) Submit a brief report and all supporting surface water data to the department by 31 October 2026 to confirm trigger levels in Table F3 – Release Contaminant Trigger Investigation or the analytes listed in condition A21(a).
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Schedule B: Air	
Condition number	Condition
B1	Odour nuisance The release of noxious or offensive odour or any other noxious or offensive airborne contaminant resulting from the mining activities must not cause an environmental nuisance, at any sensitive place or commercial place.
B2	If the administering authority determines odour released from the mining activities to constitute an environmental nuisance, the environmental authority holder must immediately implement abatement measures so that emissions from the mining activities do not result in further environmental nuisance.
B3	Air quality objective Dust and/or particulate matter resulting from the mining activities must not cause an Air Quality Exceedance at a sensitive place or commercial place. An Air Quality Exceedance occurs when monitoring in accordance with condition A15 indicates exceedance of the air quality objective stated in Table B1 – Air Quality Monitoring Requirements. Note: Exceedances due to events that cannot be managed by the environmental authority holder, such as bushfires, fuel reduction burning for fire management purposes or dust storms, would not be considered to be in breach of condition B3 if the environmental authority holder can demonstrate that the exceedance was caused by such events.
B4	If an Air Quality Exceedance occurs at a sensitive place or commercial place, the environmental authority holder must: (a) notify the administering authority in accordance with condition A11; and (b) provide further written advice to the administering authority in accordance with condition A12, including: (i) the air quality and meteorological data, collected in accordance with condition A15, relevant to the time of the exceedance; (ii) if available, any air quality and meteorological data collected upwind of the mining activities; (iii) measures taken to reduce dust and/or particulate matter generated by the mining activities; and (iv) the contribution of the mining activities to the PM₁₀ concentration at the sensitive or commercial place.

B5	Air Emissions Management Plan An Air Emissions Management Plan must be developed by an appropriately qualified person and implemented for all stages of the mining activity. The Air Emissions Management Plan must incorporate a program for continuous improvement for the management of dust and particulate matter resulting from the mining activities with respect to, but not limited to: (a) when required in accordance with condition A15, the collection of air quality and meteorological data using the monitoring methods described in Table B1 – Air Quality Monitoring Requirements; (b) a system to identify adverse meteorological conditions likely to produce elevated levels of dust in exceedance of the Air Quality Objective identified in Table B1 – Air Quality Monitoring Requirements at a sensitive place or commercial place due to the mining activities; and (c) a dust and particulate matter control strategy which activates a timely implementation of management control actions.
B6	The Air Emissions Management Plan required by condition B5 must be reviewed by 30 September every 2 years by an appropriately qualified person and any recommendations incorporated into the Air Emissions Management Plan.
B7	Transitional arrangements The Air Emissions Management Plan required by condition B5 must be developed by 30 March 2027.

Table B1 – Air Quality Monitoring Requirements

Parameter	Monitoring Frequency	Air Quality Objective	Monitoring Method
PM ₁₀	Continuous ^[A]	50µg/m ³ (24-hour average)	AS/NZS 3580.9.6:2015 AS/NZS 3580.9.7:2009 AS 3580.9.8:2022 AS 3580.9.9:2017 AS/NZS 3580.9.11:2022
TSP	Continuous ^[A]	90µg/m ³ (annual average)	AS/NZS 3580.9.3:2015 An alternative method of monitoring TSP agreed to by the administering authority.
Dust deposition – Insoluble Solids	Monthly	120mg/m ² /day	AS/NZS 3580.10.1:2003
Wind speed and direction, Temperature, Precipitation, Relative Humidity	Continuous	N/A	AS/NZS 3850.14:2014

Note: ^[A] Monitoring conducted using AS/NZS 3580.9.3:2015 or AS/NZS 3580.9.6:2015 is carried out for one 24 hour period each week.

Schedule C: Noise and Vibration	
Condition number	Condition
C1	Noise limits Subject to condition C2 , noise from the mining activities must not exceed the limits in Table C1 – Noise Limits , at any sensitive place or commercial place.
C2	Noise monitoring Noise monitoring, undertaken in accordance with condition A15 , must: (a) comply with the most recent version of the administering authority's <i>Noise Measurement Manual</i> (ESR/2016/2195), the relevant Australian Standard, and the <i>Environmental Protection Regulation 2019</i> (Chapter 5, Part 4); and (b) be undertaken using a class 1 sound level meter as classified under <i>Australian Standard AS IEC 61672</i>; and (c) assess compliance with the conditions of this environmental authority.
C3	If monitoring undertaken in accordance with condition C2 indicates exceedance of the relevant limits in Table C1 – Noise Limits , the environmental authority holder must immediately implement abatement measures so that emissions from the mining activities do not result in further environmental nuisance.

Table C1 – Noise Limits

Noise Level dB(A)	Monday to Sunday (including Public Holidays)		
	Day (7am to 6pm)	Evening (6pm to 10pm)	Night (10pm to 7am)
Sensitive Place			
LA10, adj, 10 mins	B/g + 5	B/g + 5	B/g + 0
LA1, adj, 10 mins	B/g + 10	B/g + 10	B/g + 5
Commercial Place			
LA10, adj, 10 mins	B/g + 10	B/g + 10	B/g + 5
LA1, adj, 10 mins	B/g + 15	B/g + 15	B/g + 10

Note: B/g means background noise level

C4	Vibration limits Vibration from the mining activities must not exceed the limits in Table C2 – Vibration Limits , at any sensitive place or commercial place.
C5	Airblast overpressure limits Airblast overpressure from the mining activities must not exceed the limits specified in Table C3 – Airblast Overpressure Limits , at any sensitive place or commercial place.
C6	Vibration and/or airblast overpressure monitoring Vibration and/or airblast overpressure monitoring, undertaken in accordance with condition A15 , must comply with the most recent version of the administering authority's <i>Noise Measurement Manual</i> , and 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 and wind speed and direction; and (c) location, date and time of recording.
C7	If monitoring, undertaken in accordance with condition C6 , indicates exceedance of the relevant limits in Table C2 – Vibration Limits or Table C3 – Airblast Overpressure Limits , the environmental authority holder must immediately implement abatement measures so that emissions from the mining activities do not result in further environmental nuisance.

Table C2 – Vibration Limits

Location	Vibration Measured
Sensitive place or commercial place	5 mm/s peak particle velocity for nine (9) out of ten (10) consecutive blasts and not greater than 10 mm/s peak particle velocity at any time.

Table C3 – Airblast Overpressure Limits

Location	Airblast Overpressure Measured
Sensitive place or commercial place	115 dB (Linear peak) for nine (9) out of ten (10) consecutive blasts and not greater than 120 dB (Linear peak) at any time.

Schedule D: Waste	
Condition number	Condition
D1	Waste management A Waste Management Plan must be developed by an appropriately qualified person and implemented for all mining activities. The Waste Management Plan must include, but is not limited to: (a) a description of the mining activities that may generate waste; (b) the location/s of where all waste activities are, or have been, carried out, including: (i) the type of waste disposed of, treated, or reprocessed; and (ii) the expected maximum volume of waste disposed of, treated, or reprocessed; (c) identification of the potential risks to the environment from all waste activities carried out; (d) control measures to be implemented to minimise the potential for environmental harm associated with carrying out of the waste activities, including but not limited to: (i) segregation of the wastes; (ii) storage of the wastes; (iii) transport of the wastes; (iv) disposal of waste including leachate management; and (v) monitoring and reporting matters concerning the wastes; (e) how the waste will be managed in accordance with the waste management hierarchy (that is, avoid, reuse, recycling, energy recovery, disposal); (f) the hazardous characteristics of the wastes generated including disposal procedures for hazardous wastes; (g) procedures for reprocessing waste in accordance with condition D4; (h) procedures for managing accidents, spills and other incidents; (i) the indicators or other criteria on which the performance of the waste management plan will be assessed; (j) staff training; (k) a system for regular review; and (l) be updated at intervals no greater than 5 years.
D2	The environmental authority holder must review and update the Waste Management Plan required by condition D1 and submit to the administering authority prior to commencing a new process, or varying an existing process, for reprocessing any waste and/or at intervals of no greater than 5 years.

D3	Waste receipt The only waste permitted to be received is: (a) the types of waste specified in conditions D4 to D7 (inclusive); and (b) sewage and sludge for treatment in accordance with Schedule H: Sewage Treatment; and (c) from an Anglo American site within Queensland; and (d) from the Evap Pond at the Power Plant on ML70108 authorised under EPPR00191513*. Note: * the Evap Pond at the Power Plant on ML70108 receives rainfall runoff and condensate from the gas supply pipeline prior to the gas entering the electricity generation process.
D4	Waste reprocessing The only waste permitted to be reprocessed is: (a) spoil or overburden; (b) vegetation; (c) water or sediment containing hydrocarbons; (d) fuels, oils, lubricants and coolants; (e) bulk rubber; (f) inert waste; (g) poly-pipe and other plastic; (h) fibreglass; (i) treated and untreated timber; and (j) asphalt.
D5	Waste disposal Unless otherwise specified in conditions D6 to D7 (inclusive), waste, other than spoil or overburden or vegetation removed as part of the mining activity, must not be disposed of within the mining leases listed on this environmental authority and must be taken to a facility that is lawfully allowed to accept such waste under the provisions of the <i>Environmental Protection Act 1994</i>.
D6	Mineral waste disposal The following types of waste are permitted to be disposed of within the specified features for the waste type: (a) rejects and sediment containing hydrocarbons: (i) in underground stopes; and (ii) in regulated structures in accordance with Schedule G: Structures of this environmental authority. (b) tailings and water or sediment containing hydrocarbons: (i) in regulated structures in accordance with Schedule G: Structures of this environmental authority.

D7	Non-mineral waste disposal The following types of waste are permitted to be disposed of within the mining leases listed on this environmental authority: (a) bulk rubber; (b) inert waste; (c) poly-pipe and other plastic; (d) fibreglass; (e) treated and untreated timber; (f) asphalt; (g) asbestos; and (h) underground mining waste. These types of waste may be disposed of: (i) in underground mine workings; (ii) underground stopes; (iii) shafts; and (iv) left in situ below ground level.
D8	Mineral Waste Geochemical Analysis The environmental authority holder must collect quarterly samples from tailings and rejects and conduct geochemical analysis in accordance with Table D1 – Mineral Waste Geochemical Analysis.

Table D1 – Mineral Waste Geochemical Analysis

Parameters	Analysis Method
Total Sulfur	LECO/combustion analysis
ANC	Sobek method (Sobek et al., 1978)
pH1:2 and EC1:2	1:2 soil-water extract method
Net Acid Generation Test (Single Addition)	Single addition NAG test (AMIRA, 2002)

Notes:

- LECO Corporation. *Determination of Total Carbon and Sulfur by High Temperature Combustion Using LECO Instrumentation*. LECO Corporation, St Joseph, Michigan.
- Sobek, A.A., Schuller, W.A., Freeman, J.R. & Smith, R.M. (1978). *Field and Laboratory Methods Applicable to Overburdens and Minesoils*. EPA-600/2-78-054. United States Environmental Protection Agency, Cincinnati, Ohio.
- AMIRA International Ltd. (2002). *ARD Test Handbook: Project P387A Prediction and Kinetic Control of Acid Mine Drainage*. AMIRA International, Melbourne, Victoria.

Schedule E: Land	
Condition number	Condition
E1	Topsoil Topsoil must be strategically stripped ahead of mining in accordance with a Topsoil Management Plan.
E2	Topsoil and subsoils must be managed to ensure stability and minimise the release of contaminants. Measures must include: (a) vegetating stockpiles; (b) minimising the height of stockpiles; and (c) re-using stockpiles as soon as possible.
E3	Preventing Contaminant Release to Land Contaminants must not be released to land in a manner which constitutes nuisance, material or serious environmental harm unless otherwise authorised under this environmental authority.
E4	Subsidence The environmental authority holder must maintain and implement a Subsidence Management Plan that will address the following matters: (a) the changes in the surface relief and drainage due to underground mining at the site; (b) subsidence modelling (predictions) ahead of mining; (c) the management of erosion arising from subsidence; (d) the implementation of remedial drainage works on ML700042 to prevent residual ponding of surface water on lands overlying mining activities and establishment of a stable, free draining post mining landform on ML700042; (e) the monitoring of stream bank and bed erosion rates pre and post subsidence; (f) the management and works required for maintaining the physical and ecological integrity of the Isaac River; and (g) rehabilitation methods and timeframes.
E5	The Subsidence Management Plan must be reviewed each calendar year and a report prepared by an appropriately qualified person. The report must include: (a) an assessment of the plan against the requirements under condition E4; (b) recommended actions and reasonable timeframes to ensure actual and potential environmental impacts are effectively managed; and (c) identify any amendments made to the Subsidence Management Plan following the review.
E6	The recommended actions detailed for condition E5(b) must be completed within the associated timeframes detailed for condition E5(b) unless the administering authority has approved otherwise.
E7	Subsidence must not result in the creation of residual ponds on lands overlying mining activities on ML700042.

E8	Petroleum Pipeline Pipeline operations and maintenance must be in accordance, to the greatest practical extent, with the relevant section of the <i>APGA Code of Environmental Practice: Onshore Pipelines (2022)</i> as amended and/or <i>Australian Standard AS2885.3.2012 Pipelines – Gas and Liquid Petroleum, Part 3 Operation and Maintenance</i> .
E9	Written procedures must be developed prior to operation, to ensure operations and maintenance of the pipeline complies with the conditions of the environmental authority.
E10	Trench water, hydrostatic testing water, flush water or water used for pressure testing of this pipeline must be managed in accordance with conditions F1 to F16 inclusive and condition F22 of the environmental authority.

Schedule F: Water	
Condition number	Condition
F1	Contaminant Release Contaminants that will, or have the potential, to cause environmental harm must not be released directly or indirectly to any waters as a result of the mining activities carried out under this environmental authority, except as permitted under the conditions of this environmental authority.
F2	Unless otherwise permitted under the conditions of this environmental authority, the release of mine affected water to waters must only occur from the release points specified in Table F1 – Mine Affected Water Release Points , as shown in Appendix 2 – Water Release Points and Monitoring Points .
F3	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 conditions F26 to F27 is permitted.
F4	The release of mine affected water to waters in accordance with condition F2 must not exceed the release limits stated in Table F2 – Mine Affected Water Release Limits when measured at the monitoring points specified in Table F1 – Mine Affected Water Release Points for each quality characteristic.
F5	The release of mine affected water to waters from the release points must be monitored at the locations specified in Table F1 – Mine Affected Water Release Points for each quality characteristics and at the frequency specified in Table F2 – Mine Affected Water Release Limits and Table F3 – Release Contaminant Trigger Levels . Note: The administering authority will take into consideration any extenuating circumstances prior to determining an appropriate enforcement response in the event condition F5 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.

Table F1 – Mine Affected Water Release Points

Release point (RP)	Latitude (GDA2020)	Longitude (GDA 2020)	Mine affected water source and location	Monitoring point	Receiving waters description
RP1 *	-21.8736075	147.96792136	Environment Dam	Crossing at base of spillway	Isaac River
RP2	-21.901905	147.972648	RCS Dam	Crossing at the base of spillway	Isaac River

Note: * Releases can occur via either the spillway or pipe to RP1.

Table F2 – Mine Affected Water Release Limits

Quality characteristic	Release limits	Monitoring frequency
Electrical conductivity ($\mu\text{S}/\text{cm}$)	10,000	Daily during release (the first sample must be taken within 2 hours of commencement of release)
pH (pH unit)	6.5 (minimum) 9.0 (maximum)	
Suspended solids (mg/L)	550	
Sulfate (SO_4^{2-}) (mg/L)	5,000	Weekly during release (the first sample must be taken within 2 hours of commencement of release).

F6	If quality characteristics of the release exceed any of the trigger levels specified in Table F3 – Release Contaminant Trigger Investigation Levels during a release event, the environmental authority holder must compare the downstream results in the receiving waters to the trigger values specified in Table F3 – Release Contaminant Trigger Investigation Levels and: (a) where the trigger values are not exceeded then no action is to be taken; or (b) where the monitoring point results exceed the trigger values specified Table F3 – Release Contaminant Trigger Investigation Levels for any quality characteristic, compare the results of the downstream monitoring to upstream monitoring data in the receiving waters and: (i) where a result is the same or less than the upstream monitoring site data, then no action is to be taken; or (ii) where a result is greater than the upstream monitoring site data, complete an investigation into the potential for environmental harm and provide a written report to the administering authority via WaTers within 28 days of receiving the report, outlining: 1) details of the investigations carried out; and 2) actions taken to prevent environmental harm. Note: Where an exceedance of a trigger level has occurred and is being investigated, in accordance with F6(b)(ii) of this condition, no further reporting is required for subsequent trigger events for that quality characteristic.
F7	If an exceedance in accordance with condition F6(b)(ii) is identified, the environmental authority holder must notify the administering authority within 14 days of receiving the result.

Table F3 – Release Contaminant Trigger Investigation Levels

Quality characteristic	Trigger levels	Unit	Comment on trigger level	Monitoring frequency
Aluminium	100	µg/L	Interim trigger level pending review required by condition A21 .	Commencement of release and thereafter weekly during release
Arsenic	13	µg/L	For aquatic ecosystem protection, based on SMD guideline	
Cadmium	0.2	µg/L		
Chromium	1	µg/L		
Copper	2	µg/L	Interim trigger level. The EA holder must undertake analysis of copper with a LOR less than or equal to the ANZG default guideline value of 1.4µg/L in accordance with EA condition A20 .	
Iron	300	µg/L	Interim trigger level pending review required by condition A21 .	
Lead	10	µg/L		
Mercury	0.2	µg/L	Interim trigger level. The EA holder must undertake analysis of mercury with a LOR less than or equal to the ANZG default guideline value of 0.06µg/L in accordance with EA condition A20 .	
Nickel	11	µg/L	For aquatic ecosystem protection, based on SMD guideline	
Zinc	8	µg/L		
Boron	370	µg/L	Interim trigger level pending review required by condition A21 .	
Cobalt	90	µg/L		
Manganese	1,900	µg/L	For aquatic ecosystem protection, based on SMD guideline	
Molybdenum	34	µg/L	For aquatic ecosystem protection, based on low reliability guideline	
Selenium (total)	10	µg/L	Interim trigger level. The EA holder must undertake analysis of selenium with a LOR less than or equal to the ANZG default guideline value of 5µg/L in accordance with EA condition A20 .	
Silver	1	µg/L	Interim trigger level. The EA holder must undertake analysis of silver with a LOR less than or equal to the ANZG default guideline value of 0.05µg/L in accordance with EA condition A20 .	
Uranium	1	µg/L	Interim trigger level. The EA holder must undertake analysis of uranium with a LOR less than or equal to the ANZG default guideline value of 0.5µg/L in accordance with EA condition A20 .	
Vanadium	10	µg/L	Interim trigger level. The EA holder must undertake analysis of vanadium with a LOR less than or equal to the ANZG default guideline value of 6µg/L in accordance with EA condition A20 .	
Ammonia	900	µg/L	Interim trigger level pending review required by condition A21 .	
Nitrate	1.1	mg/L	Interim trigger level pending review required by condition A21 .	
TRH C6 – C9	20	µg/L	For aquatic ecosystem protection, based on LOR for GCMS	
TRH C10 – C36	100	µg/L	For aquatic ecosystem protection, based on LOR for GCMS	
Fluoride (total)	2000	µg/L	ANZECC protection of livestock drinking water and short term irrigation guideline	

Notes:

1. All metals and metalloids must be measured as total (unfiltered) and dissolved (filtered). Trigger levels for metal/metalloids apply if dissolved results exceed trigger, unless the total fraction is stated, e.g. selenium and fluoride.
2. SMD – slightly moderately disturbed level of protection, guideline refers ANZG 2018.
3. LOR – typical reporting limit for method stated. ICPMS/CV FIMS/GCMS – analytical method required to achieve LOR.
4. ICPMS – inductively coupled plasma mass spectroscopy.
5. CV FIMS – cold vapour flow injection mercury system.
6. TRH - Total Recoverable Hydrocarbons
7. GCMS – Gas chromatography mass spectrometry

F8	Mine Affected Water Release Events The environmental authority holder must ensure a stream flow gauging station(s) is installed, operated and maintained to determine and record stream flows at the locations and flow recording frequency specified in Table F4 – Mine Affected Water Release During Flow Events.
F9	Notwithstanding any other condition of this environmental authority, the release of mine affected water to waters in accordance with condition F2 must only take place during periods of natural flow events in accordance with the receiving water flow criteria for discharge specified in Table F4 – Mine Affected Water Release During Flow Events for the release point(s) specified in Table F1 – Mine Affected Water Release Points.
F10	The daily quantity of mine affected water released from each release point must be measured and recorded at the monitoring points in Table F1 – Mine Affected Water Release Points
F11	Releases to waters must be undertaken so as not to cause erosion of the bed and banks of the receiving waters or cause a material build-up of sediment in such waters.
F12	Notification of Release Event The environmental authority holder must notify the administering authority via WaTERS as soon as practicable and no later than 24 hours after commencing to release mine affected water to the receiving environment. The release commencement notification must include the submission of written advice to the administering authority of the following information: (a) release commencement date/time; (b) expected release cessation date and time; (c) release point(s); (d) release rate; (e) receiving water(s) including the natural flow rate; and (f) any details (including available data) regarding likely impacts on the receiving water(s)
F13	The environmental authority holder must notify the administering authority via WaTERS as soon as practicable and no later than 24 hours after the cessation of a release notified under condition F12. The release cessation notification must include the submission of written advice to the administering authority of the following information: (a) release cessation date/time; (b) receiving water(s) including the natural flow rate; (c) volume of water released; and (d) all in situ monitoring results. Note: Successive or intermittent releases occurring within 24 hours of the cessation of any individual release can be considered part of a single release event and do not require individual notification for the purpose of compliance with conditions F12, F13, F14, F15 and F16, provided the relevant details of the release are included within the notification provided in accordance with conditions F12, F13, F14, F15 and F16.

F14	Within 28 days of notification under condition F13, the environmental authority holder must provide the administering authority via WaTERS the following information in writing: (a) all laboratory results from water quality monitoring; (b) details regarding the compliance of the release with the conditions of Schedule F: Water of this environmental authority (i.e. contamination limits, natural flow, discharge volume); and (c) any other matter(s) pertinent to the water release event.
F15	Notification of Release Event Exceedance If the release limits defined in Table F2 – Mine Affected Water Release Limits are exceeded, the environmental authority holder must notify the administering authority via WaTERS within 24 hours of receiving the results.
F16	The environmental authority holder must, within 28 days of the notification provided in accordance with condition F15, provide a report to the administering authority via WaTERS detailing: (a) the reason for the release; (b) the location of the release; (c) the total volume of the release and which (if any) part of this volume was non-compliant; (d) the total duration of the release and which (if any) part of this period was non-compliant; (e) all water quality monitoring results; (f) any general observations; (g) all calculations; and (h) any other matters pertinent to the water release event.
F17	Receiving Environment Monitoring and Contaminant Trigger Levels The quality of the receiving waters must be monitored for each quality characteristic and at the monitoring frequency stated in Table F5 – Receiving Waters Contaminant Trigger Levels at the locations specified in Table F6 – Receiving Water Upstream Background Sites and Downstream Monitoring Points as shown in Appendix 2 – Water Release Points and Monitoring Points.

Table F4 – Mine Affected Water Release during Flow Events

Receiving waters	Release Point (RP)	Gauging Station	Latitude (GDA2020)	Longitude (GDA2020)	Receiving Water Flow Criteria for discharge (m ³ /s)	Receiving Water Flow Recording Frequency
Isaac River	RP1	Monitoring point 1 (Upstream AWS)	-21.870424	147.97056	2 ^[A]	Continuous (minimum hourly)

Note: ^[A] When the downstream flow gauge falls below the minimum flow trigger, the 6-week tail flow period commences. Tail flow restricted by trigger limits in receiving waters (**Table F5**).

Table F5 – Receiving Waters Contaminant Trigger Levels

Quality characteristic	Trigger level	Monitoring frequency
pH	6.5 – 9.0	Daily during the release
Electrical conductivity ($\mu\text{S}/\text{cm}$)	2,000	
Suspended solids (mg/L)	1,000	
Sulfate (SO_4^{2-})(mg/L)	250	
Sodium (mg/L)	180	

Note: Grab samples shall be taken only when safe to do so and in day light hours.

Table F6 – Receiving Water Upstream Background Sites and Downstream Monitoring Points

Monitoring points	Receiving waters location description	Latitude (GDA 2020)	Longitude (GDA 2020)
Upstream background monitoring point			
MP1	North of upstream automated water station (sensor location)	-21.86815194	147.9716192
Downstream monitoring point¹			
MP3	South of downstream automated water station (sensor location)	-21.91902679	148.018305

Note: ¹ If monitoring point 3 is inaccessible, the downstream sample will be taken at MP2 Les' Crossing.

F18	If quality characteristics of the receiving water at the downstream monitoring point exceeds any of the trigger levels specified in Table F5 – Receiving Waters Contaminant Trigger Levels during a release event the environmental authority holder must compare the downstream results to the upstream results in the receiving waters and: (a) where the downstream result is the same or a lower value than the upstream value for the quality characteristic then no action is to be taken; or (b) where the downstream results exceed the upstream results complete an investigation into the potential for environmental harm and provide a written report to the administering authority via WaTERS within 28 days of receiving the report, 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 F18(b) of this condition, no further reporting is required for subsequent trigger events for that quality characteristic.
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F19	Receiving Environment Monitoring Program (REMP) The environmental authority holder must develop and implement a Receiving Environment Monitoring Program (REMP) to monitor, identify and describe any adverse impacts to surface water environmental values, quality and flows due to the mining activities carried out under this environmental authority. This must include monitoring the effects of the mine on the receiving environment periodically (under natural flow conditions) and while mine affected water is being discharged from the site. For the purposes of the REMP, the receiving environment is the waters of the Isaac River and connected or surrounding waterways within 10km downstream of the release. The REMP should encompass any sensitive receiving waters or environmental values downstream of the mining activities carried out under this environmental authority that will potentially be directly affected by an authorised release of mine affected water.
F20	The Receiving Environment Monitoring Program (REMP) must: (a) assess the condition or state of receiving waters, including upstream conditions, spatially within the REMP area, considering background water quality characteristics based on accurate and reliable monitoring data that takes into consideration temporal variation (e.g. seasonality); (b) be designed to facilitate assessment against water quality objectives for the relevant environmental values that need to be protected; (c) include monitoring from background reference sites (e.g. upstream or background) and downstream sites from the release (as a minimum, the locations specified in Table F6 – Receiving Water Upstream Background Sites and Downstream Monitoring Points; (d) specify the frequency and timing of sampling required in order to reliably assess ambient conditions and to provide sufficient data to derive site specific background reference values in accordance with the <i>Queensland Water Quality Guidelines</i> (DEHP, 2009). 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 F2 – Mine Affected Water Release Limits during flow events and Table F3 – Receiving Waters Contaminant Trigger Levels; (f) include, where appropriate, monitoring of metals/metalloids in sediments (in accordance with ANZG 2018, Simpson & Batley 2016 and/or the most recent version of <i>Australian Standard AS5667.1 Guidance on Sampling of Bottom Sediments</i>); (g) include, where appropriate, monitoring of macroinvertebrates in accordance with the AusRivas methodology; (h) apply procedures and/or guidelines from ANZG 2018 and other relevant guideline documents; (i) describe sampling and analysis methods and quality assurance and control; and (j) incorporate stream flow and hydrological information in the interpretations of water quality and biological data.
F21	A report outlining the findings of the Receiving Environment Monitoring Program (REMP), including all monitoring results and interpretations in accordance with conditions F19 and F20 must be prepared annually. This report must include the following: (a) an assessment of background reference water quality; (b) the condition of downstream water quality compared against water quality objectives; and (c) the suitability of current discharge limits to protect downstream environmental values.

F22	Water Reuse Mine affected water may be piped or trucked or transferred by some other means that does not contravene the conditions of this environmental authority and deposited into artificial water storage structures, such as farm dams or tanks, or used directly at properties owned by the environmental authority holder or a third party (with the written consent of the third party with agreed water quality limits).
F23	Water General All determinations of water quality and biological monitoring must be: (a) performed by a person or body possessing appropriate experience and qualifications to perform the required measurements; (b) made in accordance with methods prescribed in the latest edition of the administering authority's <i>Monitoring and Sampling Manual</i>; (c) collected from the monitoring locations identified within this environmental authority, within ten hours of each other where possible; (d) carried out on representative samples; and (e) analysed at a laboratory accredited (e.g. NATA) for the method of analysis being used. Note: Condition F23 requires the Monitoring and Sampling Manual to be followed and where it is not followed because of exceptional circumstances this should be explained and reported with the results.
F24	The release of any contaminants as permitted by this environmental authority, directly or indirectly to waters, other than internal water management infrastructure that is installed and operated in accordance with a Water Management Plan that complies with conditions F26 to F27 inclusive: (a) must not produce any visible discolouration of receiving waters; and (b) must not produce any slick or other visible or odorous evidence of oil, grease or petrochemicals nor contain visible floating oil, grease, scum, litter or other objectionable matter.
F25	Annual Water Monitoring Reporting The following information must be recorded in relation to all water monitoring required for releases under the conditions of this environmental authority and be submitted to the administering authority in the specified format with each annual return: (a) the date on which the sample was taken; (b) the time at which the sample was taken; (c) the monitoring point at which the sample was taken; (d) the measured or estimated daily quantity of mine affected water released from all release points; (e) the release flow rate at the time of sampling for each release point; (f) the results of all monitoring and details of any exceedances of the conditions of this environmental authority; and (g) water quality monitoring data must be provided to the administering authority via WaTERS in the specified electronic format.

F26	Water Management Plan A Water Management Plan must be developed by an appropriately qualified person(s) and implemented for all mining activities. The Water Management Plan must address, as a minimum, the following: (a) provide for effective management of actual and potential environmental impacts resulting from water management associated with the mining activity carried out under this environmental authority; and (b) include: (i) a study of the source of contaminants; (ii) a water balance model for the site; (iii) a water management system for the site; (iv) measures to manage and prevent saline drainage; (v) measures to manage and prevent acid rock drainage; (vi) contingency procedures for emergencies; and (vii) a program for monitoring and review of the effectiveness of the Water Management Plan.
F27	The Water Management Plan must be reviewed each calendar year by an appropriately qualified person(s).
F28	Temporary Interference with Waterways Destroying native vegetation, excavating, or placing fill in a watercourse, lake or spring necessary for and associated with mining operations must be undertaken in accordance with the most recent edition of the Department of Regional Development, Manufacturing and Water's (or its successor's) guideline <i>Riverine protection permit exemption requirements</i> (WSS/2013/726).
F29	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.
F30	Acid rock drainage The environmental authority holder must ensure proper and effective measures are taken to avoid or otherwise minimise the generation and/or release of acid rock drainage.
F31	Stormwater and Water sediment controls An Erosion and Sediment Control Plan must be developed by an appropriately qualified person and be 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.
F32	Stormwater, other than mine affected water, is permitted to be released to waters from: (a) erosion and sediment control structures that are installed and operated in accordance with the Erosion and Sediment Control Plan required by condition F31; and (b) water management infrastructure that is installed and operated in accordance with a Water Management Plan that complies with conditions F26 and F27, for the purpose of ensuring water does not become mine affected water.
RR1	Conditions F19 to F21 do not apply if the environmental authority holder is a participant of the FRREMP.

RR2	The environmental authority holder must notify the administering authority in a written statement within 20 business days of ceasing to be a participant of the FRREMP. The written statement must detail how the environmental authority holder is going to fulfil the requirements of conditions F19 to F21 .
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Schedule G: Regulated Structures	
Condition number	Condition
G1	Assessment of consequence category The consequence category of any structure must be assessed by a suitably qualified and experienced person in accordance with <i>the latest version of the administering authority's Manual for assessing consequence categories and hydraulic performance of structures</i> (ESR/2016/1933) at the following times: (a) prior to the design and construction of the structure, if it is not an existing structure; or (b) prior to any change in its purpose or the nature of its stored contents.
G2	A consequence assessment report and certification must be prepared for each structure assessed and the report may include a consequence assessment for more than one structure.
G3	Certification must be provided by the suitably qualified and experienced person who undertook the assessment, in the form set out in the <i>Manual for assessing consequence categories and hydraulic performance of structures</i> (ESR/2016/1933).
G4	Design and construction of a regulated structure Conditions G5 to G9 inclusive do not apply to existing structures. Note: Construction of a dam includes modification of an existing dam – see definitions.
G5	All regulated structures must be designed by, and constructed under the supervision of, a suitably qualified and experienced person in accordance with the requirements of the <i>Manual for assessing consequence categories and hydraulic performance of structures</i> (ESR/2016/1933). Note: Certification of design and construction may be undertaken by different persons.
G6	Construction of a regulated structure is prohibited unless the environmental authority holder has submitted to the administering authority: (a) a consequence category assessment report, design and design plan that has been certified by a suitably qualified and experienced person; and (b) operational plans for the structure.
G7	Certification must be provided by the suitably qualified and experienced person who oversees the preparation of the design plan in the form set out in the <i>Manual for assessing consequence categories and hydraulic performance of structures</i> (ESR/2016/1933) and must be recorded in the Register of Regulated Structures.
G8	Regulated structures must: (a) be designed and constructed in compliance with the <i>Manual for assessing consequence categories and hydraulic performance of structures</i> (ESR/2016/1933); (b) be designed and constructed with due consideration given to ensuring that the design integrity would not be compromised on account of: (i) floodwaters from entering the regulated dam from any watercourse or drainage line; and (ii) wall failure due to erosion by floodwaters arising from any watercourse or drainage line.

G9	Certification by the suitably qualified and experienced person who supervises the construction must be submitted to the administering authority on the completion of construction of the regulated structure, and state that: (a) the 'as constructed' drawings and specifications meet the original intent of the design plan for that regulated structure; and (b) construction of the regulated structure is in accordance with the design plan.
G10	Operation of a regulated structure (a) Operation of a regulated structure, except for an existing structure, is prohibited unless the environmental authority holder has submitted to the administering authority: one electronic copy of the design plan and certification of the 'design plan' in accordance with condition G6; (b) a set of 'as constructed' drawings and specifications; (c) certification of the 'as constructed drawings and specifications' in accordance with (d) condition G9; (e) where the regulated structure is to be managed as part of an integrated containment system for the purpose of sharing the DSA volume across the system, a copy of the certified system design plan; (f) the requirements of this environmental authority relating to the construction of the regulated structure have been met; (g) the environmental authority holder has entered the details required under this environmental authority, into a Register of Regulated Structures; and (h) there is a current operational plan for the regulated structures.
G11	For existing structures that are regulated structures: (a) where the existing structure that is a regulated structure is to be managed as part of an integrated containment system for the purpose of sharing the DSA volume across the system, the environmental authority holder must submit to the administering authority within 12 months of the commencement of this condition a copy of the certified system design plan including that structure; and (b) there must be a current operational plan for the existing structures.
G12	Each regulated structure must be maintained and operated, for the duration of its operational life until decommissioned and rehabilitated, in a manner that is consistent with the current operational plan and, if applicable, the current design plan and associated certified 'as constructed' drawings.
G13	Mandatory reporting level Conditions G14 to G15 inclusive only apply to Regulated Structures which have not been certified as low consequence category for 'failure to contain – overtopping'.
G14	The Mandatory Reporting Level (the MRL) must be marked on a regulated dam in such a way that during routine inspections of that dam, it is clearly observable.
G15	The environmental authority holder must, as soon as practicable but within 48 hours of becoming aware, notify the administering authority when the level of the contents of a regulated dam reaches the MRL.

G16	The environmental authority holder must, immediately on becoming aware that the MRL has been reached, act to prevent the occurrence of any unauthorised discharge from the regulated dam.
G17	The environmental authority holder must record any changes to the MRL in the Register of Regulated Structures.
G18	Design storage allowance The environmental authority holder must assess the performance of each regulated dam or linked containment system over the preceding November to May period based on actual observations of the available storage in each regulated dam or linked containment system taken prior to 1 July of each year.
G19	By 1 November of each year, storage capacity must be available in each regulated dam (or network of linked containment systems with a shared DSA volume), to meet the Design Storage Allowance (DSA) volume for the dam (or network of linked containment systems).
G20	The environmental authority holder must, as soon as practicable but within 48 hours of becoming aware that the regulated dam (or network of linked containment systems) will not have the available storage to meet the DSA volume on 1 November of any year, notify the administering authority.
G21	The environmental authority holder must, immediately on becoming aware that a regulated dam (or network of linked containment systems) will not have the available storage to meet the DSA volume on 1 November of any year, act to prevent the occurrence of any unauthorised discharge from the regulated dam or linked containment systems.
G22	Annual inspection report Each regulated structure must be inspected each calendar year by a suitably qualified and experienced person.
G23	At each annual inspection, the condition and adequacy of all components of the regulated structure must be assessed and a suitably qualified and experienced person must prepare an annual inspection report containing details of the assessment and include recommended actions to ensure integrity of the regulated structure.
G24	The suitably qualified and experienced person who prepared the annual inspection report must certify the report in accordance with the <i>Manual for assessing consequence categories and hydraulic performance of structures</i> (ESR/2016/1933).
G25	The environmental authority holder must within 20 business days of receipt of the annual inspection report, provide to the administering authority: (a) the recommendations section of the annual inspection report; and (b) if applicable, any actions being taken in response to those recommendations; and if, following receipt of the recommendations and (if applicable) recommended actions, the administering authority requests a copy of the annual inspection report from the environmental authority holder, provide this to the administering authority within 10 business days of receipt of the request.
G26	Transfer arrangements The environmental authority holder must provide a copy of any reports, documentation and certifications prepared under this environmental authority, including but not limited to any Register of Regulated Structures, consequence assessment, design plan and other supporting documentation, to a new holder on transfer of this environmental authority.

G27	Register of Regulated Structures A Register of Regulated Structures must be established and maintained by the environmental authority holder for each regulated structure.
G28	The environmental authority holder must provisionally enter the required information in the Register of Regulated Structures when a design plan for a regulated dam is submitted to the administering authority.
G29	The environmental authority holder must make a final entry of the required information in the Register of Regulated Structures once compliance with conditions G11 and G12 have been achieved.
G30	The environmental authority holder must ensure that the information contained in the Register of Regulated Structures is current and complete on any given day.
G31	All entries in the Register of Regulated Structures must be approved by the chief executive officer for the environmental authority holder, or their delegate, as being accurate and correct.
G32	The environmental authority holder must supply a copy of the records contained in the Register of Regulated Structures, in the electronic format required, upon request from the administering authority.
G33	Notification of affected persons All affected persons must be provided with a copy of the emergency action plan in place: (a) for existing structures that are regulated structures, within 10 business days of this condition taking effect; (b) prior to the operation of the new regulated structure; and (c) if the emergency action plan is amended, within 5 business days of it being amended.
G34	Transitional arrangements All existing structures that have not been assessed in accordance with either the Manual or the former Manual for Assessing Hazard Categories and Hydraulic Performance of Dams must be assessed and certified in accordance with the Manual within 6 months of amendment of the authority adopting this schedule.
G35	All existing structures must subsequently comply with the timetable for any further assessments in accordance with the Manual specified in Table G1 – Transitional hydraulic performance requirements for existing structures depending on the consequence category for each existing structure assessed in the most recent previous certification for that structure.
G36	Table G1 – Transitional hydraulic performance requirements for existing structures ceases to apply for a structure once any of the following events has occurred: (a) it has been brought into compliance with the hydraulic performance criteria applicable to the structure under the Manual; or (b) it has been decommissioned; or (c) it has been certified as no longer being assessed as a regulated structure.
G37	Certification of the transitional assessment required by G34 and G35 (as applicable) must be provided to the administering authority within 6 months of amendment of the authority adopting this schedule.

Table G1 – Transitional hydraulic performance requirements for existing structures

Transition period required for existing structures to achieve the requirements of the <i>Manual for Assessing Consequence Categories and Hydraulic Performance of Dams</i>			
Compliance with criteria	High consequence	Significant consequence	Low consequence
>90% and a history of good compliance performance in last 5 years	No transition required	No transition required	No transitional conditions apply. Review consequence assessment by 30 July 2025 and by 30 July every 7 years thereafter.
>70%-≤90%	By 30 July 2025 , unless otherwise agreed with the administering authority, based on no history of unauthorised releases.	By 30 July 2033 , unless otherwise agreed with the administering authority, based on no history of unauthorised releases.	No transitional conditions apply. Review consequence assessment by 30 July 2025 and by 30 July every 7 years thereafter.
>50-≤70%	By 30 July 2023 unless otherwise agreed with the administering authority, based on no history of unauthorised releases.	By 30 July 2025 unless otherwise agreed with the administering authority, based on no history of unauthorised releases.	Review consequence assessment by 30 July 2025 and by 30 July every 7 years thereafter.
≤50%	By 30 July 2023 or as per compliance requirements (e.g. TEP timing).	By 30 July 2023 or as per compliance requirements (e.g. TEP timing).	Review consequence assessment by 30 July 2023 and by 30 July every 5 years thereafter.
Regulated levee designed to prevent the ingress of clean flood water <100% compliant.	By 30 July 2023 years unless otherwise agreed with the administering authority.		

Schedule H: Sewage Treatment	
Condition number	Condition
H1	Treated sewage effluent The cumulative total daily peak design capacity of the sewage treatment plant/s must not exceed 1500 equivalent persons (EP). Small package plants and/or septic systems, each with a daily peak design capacity less than 21EP, are not included in the cumulative total daily peak design capacity.
H2	Treated sewage effluent must not be directly released from the sewage treatment plant/s to any waters. Note: 'waters' does not include structures associated with the mine affected water management system.
H3	Treated sewage effluent may be: (a) released to the mine affected water management system for mixing with other mine affected water; (b) released to land via a sub-surface infiltration trench; (c) irrigated; (d) sprayed for dust suppression or firefighting or evaporation; or (e) removed as waste.
H4	Treated sewage effluent that is released in accordance with condition H3(a) and has mixed with other mine affected water must be managed as mine affected water in accordance with the conditions of this environmental authority.
H5	Treated sewage effluent that is released in accordance with condition H3(b) or H3(c) must: (a) not damage vegetation; (b) not result in surface ponding of effluent; (c) not result in run-off of treated sewage effluent to waters; and (d) for any sewage treatment plant that has a daily peak design capacity of greater than 21EP, must not occur outside the area indicated in Table H1 – STP Sub-Surface Infiltration and Irrigation Areas.
H6	Treated sewage effluent released in accordance with condition H3(a) or H3(b) or H3(c) or H3(d) from any sewage treatment plant that has a daily peak design capacity of greater than 21EP must be monitored: (a) from the sewage treatment plant/s; (b) for the quality characteristics specified in Table H2 – Treated Sewage Effluent Monitoring Requirements; and (c) at the frequency specified in Table H2 – Treated Sewage Effluent Monitoring Requirements.

Table H1 – STP Sub-Surface Infiltration and Irrigation Areas

Authorised Discharge Points	Location	Latitude (GDA 2020)	Longitude (GDA 2020)
Effluent Discharge Point	Effluent irrigation area	X1: 147.9668945	Y1: -21.88102803
		X2: 147.9667246	Y2: -21.88175118
		X3: 147.9680123	Y3: -21.88206595
		X4: 147.9680203	Y4: -21.88017108
		X5: 147.9672124	Y5: -21.88005161
		X6: 147.9671108	Y6: -21.88102288

Table H2 – Treated Sewage Effluent Monitoring Requirements

Quality Characteristic	Units	Monitoring Frequency
5-day Biochemical Oxygen Demand (uninhibited)	mg/L	Monthly
Faecal Coliform (FC)	cfu/100mL	Monthly
Suspended solids	mg/L	Monthly
Electrical conductivity	µS/cm	Monthly
pH	pH units	Monthly
Free Chlorine Residual	mg/L	Monthly
Total nitrogen	mg/L	Monthly
Total phosphorous	mg/L	Monthly
Oil and Grease	mg/L	Monthly

H7	If treated sewage effluent is being released in accordance with condition H3(b) and/or H3(c): (a) the results of monitoring in accordance with condition H6 must not exceed the release limits specified in Table H3 – Treated Sewage Effluent Contaminant Release Limits; and (b) the release must not cause spray drift or over spray to any sensitive place or commercial place; and (c) the daily volume of treated effluent irrigated must be measured and records kept.
H8	If the release limits specified in Table H3 – Treated Sewage Effluent Contaminant Release Limits are exceeded in accordance with condition H7(a), the environmental authority holder must notify the administering authority in accordance with conditions A11 and A12.

Table H3 – Treated Sewage Effluent Contaminant Release Limits

Quality Characteristic	Release Limit	Units	Limit Type
5-day Biochemical Oxygen Demand (uninhibited)	50	mg/L	Maximum
Faecal Coliform (FC)	1000	cfu/100mL	Median
Suspended solids	30	mg/L	Maximum
Electrical conductivity	1600	µS/cm	Median
pH	6.5 to 8.5	pH units	Range
Free Chlorine Residual	10	mg/L	Maximum
Total nitrogen	40	mg/L	Maximum
Total phosphorus	8	mg/L	Maximum
Oil and Grease	10	mg/L	Maximum

Schedule I: Groundwater	
Condition number	Condition
I1	Contaminants that will, or have the potential to, cause environmental harm must not be released directly or indirectly to any groundwaters as a result of the mining activities carried out under this environmental authority, except as permitted under the conditions of this environmental authority.
I2	Groundwater monitoring and management program The environmental authority holder must implement and maintain a groundwater monitoring and management program. The program must: (a) ensure adequate groundwater monitoring and data analysis is undertaken to achieve the following objectives: (i) detect any impacts to groundwater quality due to the activities authorised under this environmental authority; (ii) detect any changes to groundwater level due to the activities authorised under this environmental authority; (iii) determine compliance with condition I12; (iv) determine trends in groundwater quality; and (v) determine any interaction or impact from groundwater on surface water (groundwater monitoring locations should align with receiving environment surface water quality monitoring locations, if appropriate); (b) document groundwater management and monitoring methodologies undertaken for the duration of all the activities authorised under this environmental authority; (c) document background groundwater quality in hydraulically isolated background bore(s) that have not been affected by the mining activities carried out under this environmental authority; (d) provide sufficient information to allow the environmental authority holder to determine predicted seasonal fluctuations of groundwater levels; (e) provide an appropriate quality assurance and quality control program; (f) include a review process to identify improvements to the program that includes addressing any comments provided by the administering authority; and (g) include contingency procedures for emergencies.
I3	Groundwater monitoring bores The environmental authority holder must install all new and replacement bores as identified in Table I1 – Groundwater monitoring locations and frequencies, prior to 11 August 2023.
I4	The new and replacement bores required by condition I3 must be capable of targeting the aquifer specified in Table I1 – Groundwater monitoring locations and frequencies and be suitable to monitor for the parameters identified in Table I2 – Groundwater Quality Monitoring .
I5	Monitoring bores RDH754 and MNM MB006 must each be replaced, as per condition I3 with one tertiary sediment bore and one tertiary basalt bore.

I6	The groundwater quality of monitoring bores, identified in Table I1 – Groundwater monitoring locations and frequencies as 'New', 'Review' or 'Replacement' bores, must be compared with limits detailed in Table I3 – Groundwater Investigation Trigger Values for the sufficiency of the limit to ensure detection of a significant change to groundwater quality values due to mining activities carried out under this environmental authority.
I7	A report detailing the findings of condition I6 must be developed and provided to the administering authority by 1 January 2024 .
I8	Groundwater Monitoring and Management Program (GMMP) Review From 2 August 2022, the GMMP required by condition I2, must be reviewed every 2 years by an appropriately qualified person. The review must include: (a) an assessment of groundwater levels and groundwater quality value data collected in relation to a condition of this environmental authority; (b) an assessment of the suitability of the monitoring network; (c) an assessment the program against the requirements under condition I2; (d) recommended actions and reasonable timeframes for these actions to ensure actual and potential environmental impacts are effectively identified and managed; and (e) identify any amendments to the groundwater monitoring and management program following the review.
I9	Annual Groundwater Monitoring Report From 2 August 2022, an Annual Groundwater Monitoring Report (AGMR) must be completed each year and submitted to the administering authority via WaTERS within 28 days of receiving the AGMR.
I10	The AGMR required by condition I9 must include: (a) a review of all the groundwater quality and standing water level (SWL) data of all groundwater bores listed within Table I1 – Groundwater monitoring locations and frequencies; (b) an assessment of groundwater quality and SWL trends for all data from all groundwater bores listed in Table I1 – Groundwater monitoring locations and frequencies; (c) an assessment of any impacts on groundwater level due to the mining activities; (d) comparison with receiving environment surface water quality monitoring results to determine any interaction or impact from groundwater on surface water; and (e) actions taken to minimise impacts or potential impacts on groundwater resources by mining activities carried out under this environmental authority.
I11	Groundwater Quality Monitoring Groundwater quality must be monitored: (a) at the locations specified in Table I1 – Groundwater monitoring locations and frequencies, as illustrated in Appendix 4 – Groundwater Monitoring Bore Locations; (b) at the frequencies specified in Table I1 – Groundwater monitoring locations and frequencies; and (c) for the quality characteristics listed in Table I2 – Groundwater Investigation Trigger Values.

Table I1 – Groundwater Monitoring Locations and Frequencies

Monitoring Points	Longitude (Decimal Degree, AGD84)	Latitude (Decimal Degree, AGD84)	Frequency
Alluvium			
MNM MB001 [#]	147.9673	-21.8697	Monthly
MNM MB002 [#]	148.0439	-21.9147	Monthly
Tertiary Sediments above Basalt			
RDH745 [§]	147.9729	-21.8732	Monthly
RDH747 [§]	147.9689	-21.8708	Monthly
RDH751 [§]	147.9625	-21.8671	Monthly
RDH752 [§]	147.9660	-21.8695	Monthly
RDH754 [*]	147.9414	-21.8860	Monthly
MNM MB006 [*]	147.9414	-21.8860	Monthly
MNM MB004 [*]	147.9407	-21.8670	Monthly
SO155 [§]	147.9989	-21.8938	Quarterly
SO156 [§]	147.9961	-21.8942	Quarterly
SO157 [§]	147.9970	-21.8924	Quarterly
RDH753 [§]	147.9661	-21.8695	Monthly
MNM MB003 [#]	148.0208	-21.9294	Monthly
DDH773 [^]	147.9467	-21.8963	Monthly
RDH681 [§]	147.9406	-21.8779	Monthly
RDH870 [§]	147.9566	-21.8668	Monthly
RDH877 [^]	147.9496	-21.8670	Monthly
RDH896 [^]	147.9659	-21.8676	Monthly
MNM MB005 [#]	147.9673	-21.8697	Monthly
RDH891 [~]	147.9583	21.8923	Monthly
RDH892 [~]	147.9577	21.8838	Monthly
RDH893 [~]	147.9646	21.8812	Monthly
Tertiary Basalt			
RDH513 [§]	147.9673	-21.8856	Quarterly
RDH746 [§]	147.9689	-21.8708	Monthly
RDH748 [§]	147.9624	-21.8671	Monthly
MNM MB007 [*]	147.9407	-21.8671	Monthly
RDH808 [§]	147.9710	-21.8720	Monthly
TWM17010B [§]	148.0611	-21.8374	Quarterly
TWM17004 [§]	148.0365	-21.8890	Quarterly
DDH663 [§]	147.9565	-21.8668	Monthly
DDH664 [§]	147.9496	-21.8671	Monthly
DDH732 [^]	147.9660	-21.8677	Monthly
DDH727 [~]	147.9583	-21.8923	Monthly
DDH728 [~]	147.9577	-21.8838	Monthly
DDH729 [~]	147.9646	-21.8812	Monthly
RDH744 [§]	147.9728	-21.8732	Monthly
RDH933 [^]	147.9688	-21.8903	Monthly
MNM MB009 [#]	147.9944	-21.9300	Monthly
MNM MB008 [#]	147.9511	-21.8963	Monthly
MNM MB010 [#]	147.9735	-21.8787	Monthly

Notes:[#] New bore[^] Review bore: recently drilled bores or bores with inadequate water quality data.^{*} Replacement bore[~] Interpretation bore for the purpose of condition I2(a)(iv)[§] Existing compliance bore.

I12	Subject to the requirements of condition I11, if a limit defined in Table I3 – Groundwater Investigation Trigger Values is exceeded on 3 consecutive monitoring occasions, an investigation must be completed within 28 days of detection to determine if the exceedance is a result of: (a) mining activities authorised under this environmental authority; (b) natural variation; or (c) neighbouring land use resulting in groundwater impacts; and (d) if the exceedance is due to I12(a), determine whether environmental harm has occurred or may occur.
I13	The holder of this environmental authority must notify the administering authority via WaTERS and provide a report of the investigation to the administering authority within 14 days of completion of the investigation under condition I12.
I14	Groundwater level monitoring Groundwater levels must be monitored: (a) at the locations specified in Table I4 – Groundwater level monitoring locations, frequency and triggers, as illustrated in Appendix 4 – Groundwater Monitoring Bore Locations; and (b) at the frequencies specified in Table I4 – Groundwater level monitoring locations, frequency and triggers.

Table I2 – Groundwater Quality Monitoring

Parameter	Unit	Trigger type	Limit Type
pH	pH Units	As per Table I3	Minimum/Maximum
Electrical Conductivity (EC)	µS/cm		Maximum
Sulfate (SO ₄ ²⁻)	mg/L		Maximum
Dissolved Aluminium (Al)	mg/L		Maximum
Dissolved Arsenic (As)	mg/L		Maximum
Dissolved Iron (Fe)	mg/L		Maximum
Dissolved Molybdenum (Mo)	mg/L		Maximum
Dissolved Selenium (Se)	mg/L		Maximum
Total Recoverable Hydrocarbons (TRH) C6 – C9 Fraction	µg/L		Maximum
Total Recoverable Hydrocarbons (TRH) C10 – C36 Fraction	µg/L		Maximum
Sodium (Na)	mg/L	Interpretative purposes only	
Magnesium (Mg)	mg/L		
Calcium (Ca)	mg/L		
Potassium (K)	mg/L		
Chloride (Cl)	mg/L		
Bicarbonate Alkalinity as CaCO ₃	mg/L		

Table I3 – Groundwater Investigation Trigger Values

Monitoring Point	pH	EC	SO ₄	Al	As	Fe	Mo	Se	TRH	
									C6-C9	C10-C36
	pH units	µS/cm	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	µg/L	µg/L
Alluvium										
MNM MB001# MNM MB002#	<6.5 or >8.5	8,910	318	0.055	0.013	0.14	0.034	0.005	20	100
Tertiary Sediments above Basalt										
MNM MB005# MNM MB003#	<6.5 or >8.5	8,910	318	0.055	0.013	0.14	0.034	0.005	20	100
SO155		5,600	55	0.055	0.013	0.14	0.034	0.005	20	100
DDH773		8,910	318	0.055	0.013	0.14	0.034	0.005	20	100
RDH681		8,910	318	0.055	0.013	0.14	0.034	0.005	20	100
RDH744		19,000	606	0.090	0.004	0.33	0.005	0.009	20	100
RDH745		22,700	741	0.070	0.009	5.3	0.006	0.010	20	100
RDH747		22,000	1,600	0.090	0.004	0.08	0.004	0.009	20	100
RDH751		25,000	1,300	0.120	0.003	0.61	0.002	0.010	20	100
RDH753		23,000	1,100	0.090	0.003	0.05	0.002	0.011	20	100
RDH754*		8,910	318	0.055	0.013	0.14	0.034	0.005	20	100
MNM MB006*		8,910	318	0.055	0.013	0.14	0.034	0.005	20	100
MNM MB004*		14,000	660	0.030	0.002	0.005	0.002	0.006	20	100
RDH870		14,550	320	0.070	0.007	0.93	0.005	0.005	20	100
RDH877		8,910	318	0.055	0.013	0.14	0.034	0.005	20	100
RDH896		8,910	318	0.055	0.013	0.14	0.034	0.005	20	100
Tertiary Basalt										
TWM17010B (East-TB-1)	<6.5 or >8.5	20,545	759	0.055	0.012	1.68	0.003	0.005	20	100
TWM17004 (East-TB-2)		10,690	217	0.029	0.016	3.26	0.012	0.005	20	100
RDH933		16,000	398	0.055	0.013	0.14	0.034	0.005	20	100
MNM MB009#		16,000	398	0.055	0.013	0.246	0.034	0.005	20	100
DDH663		2,255	181	0.013	0.004	0.11	0.006	0.005	20	100
DDH664		3,320	116	0.010	0.003	0.06	0.006	0.005	20	100
DDH732		16,000	398	0.055	0.013	0.14	0.034	0.005	20	100
RDH513		23,225	614	0.055	0.007	0.14	0.005	0.005	20	100
RDH746		2,100	32	0.030	0.007	0.04	0.002	0.005	20	100
RDH748		3,265	50	0.020	0.007	0.025	0.002	0.005	20	100
RDH752		4,700	45	0.026	0.003	0.025	0.004	0.005	20	100
MNM MB007*		6,900	90	3.2	0.002	0.19	0.002	0.005	20	100
RDH808		7,900	100	0.030	0.004	0.20	0.002	0.005	20	100
MNM MB008#		8,910	318	0.055	0.013	0.14	0.034	0.005	20	100
MNM MB010#		8,910	318	0.055	0.013	0.14	0.034	0.005	20	100

Notes:

Bore to be drilled as per condition I5.

* Replacement bore as confirmed by condition I5.

I15	In the event that groundwater level fluctuations in excess of 2m per year beyond predictable seasonal fluctuations as determined by condition I2(d) are detected at the groundwater monitoring locations nominated in Table I4 Groundwater level monitoring locations, frequency and triggers, an investigation must be undertaken within 14 days of detection to determine if the groundwater level fluctuations are a result of: (a) the mining activities carried out under this environmental authority; or (b) pumping from licensed bores; or (c) seasonal variation.
I16	If the results of the investigation conducted under condition I15 identify that the groundwater level fluctuations are a result of the mining activities carried out under this environmental authority, the holder of the environmental authority must notify the administering authority via WaTERS and provide a copy of a report detailing the findings and outcomes of the investigation within 7 days of receiving the result.
I17	The environmental authority holder must implement and maintain groundwater level trigger thresholds for the monitoring bores listed in Table I4 – Groundwater monitoring locations, frequency, and triggers. Trigger thresholds exceedances must be managed in accordance with conditions I13 to I16 of this environmental authority. The groundwater level trigger thresholds specified in Table I4 – Groundwater monitoring locations, frequency, and triggers are derived from the Moranbah North Coal Mine Groundwater and Management Plan, version 1.0, submitted to the administering authority on 22 December 2023.
I18	Groundwater sampling The following information must be recorded in relation to all groundwater water sampling: (a) the date on which the sample was taken; (b) the time at which the sample was taken; (c) the monitoring point at which the sample was taken; and (d) the results of all monitoring.
I19	The method of groundwater sampling required by this environmental authority must comply with that set out in the latest edition of the administering authority's "<i>Monitoring and Sampling Manual</i>" as amended from time to time and consider the methodology and matters stated in administering authority's (or its successor's) guideline "<i>Using monitoring data to assess groundwater quality and potential environmental impacts</i>", February 2021 as amended from time to time.
I20	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 results.

Table I4 – Groundwater level monitoring locations, frequency, and triggers

Monitoring Points	Longitude (decimal degree) (AGD84)	Latitude (decimal degree) (AGD84)	Surface RL (mAHD) ¹	Frequency ²	Pre-mining baseline water level (mAHD) ¹	Level Trigger Threshold (mAHD) ¹
Alluvium						
TWM17008A	148.0653744	-21.8612064	245.85	M	As per condition D18	
Tertiary Sediments above Basalt						
PZ002 *	147.9591	-21.8825	251.95	M	As per condition D18	
PZ004	147.9619	-21.8779	249.75	M	As per condition D18	
RDH744	147.9728	-21.8732	241.30	M	As per condition D18	
RDH745	147.9729	-21.8732	241.18	M	As per condition D18	
RDH747	147.9689	-21.8708	239.46	M	As per condition D18	
RDH751	147.9625	-21.8671	242.72	M	As per condition D18	
RDH752	147.9660	-21.8695	241.17	M	As per condition D18	
RDH754	147.9414	-21.8860	263.16	M	As per condition D18	
MNM MB006	147.9414	-21.8860	263.28	M	As per condition D18	
MNM MB004	147.9407	-21.8670	258.14	M	As per condition D18	
SO155	147.9989	-21.8938	232.75	M	As per condition D18	
SO156	147.9961	-21.8942	234.06	M	As per condition D18	
SO157	147.9970	-21.8924	233.08	M	As per condition D18	
TWM17007A	148.060175	-21.8595236	261.00	M	As per condition D18	
Tertiary Basalt						
PZ001*	147.9591	-21.8825	251.93	M	As per condition D18	
PZ003	147.9620	-21.8779	249.71	M	As per condition D18	
RDH513	147.9673	-21.8856	252.70	M	As per condition D18	
RDH933	147.9688	-21.8903	259.28	M	As per condition D18	
RDH746	147.9689	-21.8708	239.43	M	As per condition D18	
RDH748	147.9624	-21.8671	242.94	M	As per condition D18	
RDH753	147.9660	-21.8695	241.23	M	As per condition D18	
MNM MB007	147.9407	-21.8671	258.03	M	As per condition D18	
RDH808	147.9710	-21.8720	240.89	M	As per condition D18	
TWM17010B	148.0611	-21.8375	298.69	M	As per condition D18	
Permian Coal Measures						
DDH072	147.9831	-21.9214	265.10	M	As per condition D18	
RDH287	148.0020	-21.9081	233.80	M	As per condition D18	
RDH121	147.9761	-21.9080	255.40	M	As per condition D18	
TWM17008B	148.0654	-21.8611	250.57	M	As per condition D18	

Notes:¹ mAHD denotes metres above Australia Height Datum.² M - monthly monitoring

* or replacement bore

Schedule J: Biodiversity	
Condition number	Condition
J1	Offsets for ML700042 Conditions J2 to J8 apply only to the area of disturbance associated with ML700042.
J2	Significant residual impacts to prescribed environmental matters on ML700042 are not authorised under this environmental authority unless the impacts are specified in Table J1 – Significant residual impacts to prescribed environmental matters within ML700042 .
J3	An environmental offset made in accordance with the <i>Environmental Offsets Act 2014</i> and Queensland Environmental Offset Policy, must be undertaken for the maximum extent of impact to each prescribed environmental matter authorised in Table J1 – Significant residual impacts to prescribed environmental matters within ML700042 and shown in Appendix 3 – ML700042 Regulated Vegetation , unless a lesser extent of the impact has been approved in accordance with condition J6 or the same or substantially the same impact has been assessed under the EPBC Act.
J4	Staged Impacts The significant residual impacts to a prescribed environmental matter authorised in condition J2 for which an environmental offset is required by condition J3 may be carried out in stages. An environmental offset can be delivered for each stage of the impacts to prescribed environmental matters.
J5	Prior to the commencement of each stage, a report completed by an appropriately qualified person, that includes an analysis of the following must be provided to the administering authority: (a) for the forthcoming stage—the estimated significant residual impacts to each prescribed environmental matter; and (b) for the previous stage, if applicable—the actual significant residual impacts to each prescribed environmental matter, to date.
J6	The report required by condition J5 must be accepted by the administering authority before a notice of election for the forthcoming stage, if applicable, is given to the administering authority.
J7	A notice of election for the staged environmental offset referred to in condition J6 , if applicable, must be provided to the administering authority no less than 3 months before the proposed commencement of that stage, unless a lesser timeframe has been agreed to by the administering authority.
J8	Within 6 months from the completion of the final stage of the project, a report completed by an appropriately qualified person, that includes the following matters must be provided to the administering authority: (a) an analysis of the actual impacts on prescribed environmental matters resulting from the final stage; and (b) if applicable, a notice of election to address any outstanding offset debits for the authorised impacts.

Table J1 – Significant residual impacts to prescribed environmental matters within ML700042

Prescribed environmental matter		Maximum Extent of impact (ha)	Offset requirement
REGULATED VEGETATION			
Of concern ecosystem regional	RE11.3.2 – <i>Eucalyptus populnea</i> woodland on alluvial plains*	10.1	Yes
Regional ecosystems within the defined distance from the defining banks of a relevant watercourse on the vegetation management watercourse map	RE11.3.2 – <i>Eucalyptus populnea</i> woodland on alluvial plains	1.9	No
	RE 11.5.3 and BVG 17a – <i>Eucalyptus populnea</i> and/or <i>Eucalyptus melanophloia</i> and/or <i>Corymbia clarksoniana</i> woodland on Cainozoic sand plains*	6.2	Yes
	RE 11.5.9c and BVG 18b - <i>Eucalyptus crebra</i> and other <i>Eucalyptus</i> spp. and <i>Corymbia</i> spp. woodland on Cainozoic sand plains	8.9	Yes
	RE 11.7.2 and BVG 24a – <i>Acacia</i> spp. woodland on Cainozoic lateritic duricrust	5.9	Yes
	RE 11.7.3 – <i>Eucalyptus persistens</i> , <i>Triodia mitchellii</i> open woodland on stripped margins of Cainozoic lateritic duricrust	1.9	No
	RE 11.3.25 – <i>Eucalyptus tereticornis</i> or <i>Eucalyptus camaldulensis</i> woodland fringing drainage lines	1.5	No
Connectivity	Remnant vegetation	532.7	No
THREATENED SPECIES (listed under the Nature Conservation Act 1992)			
Special Least Concern species	Short-beaked Echidna (<i>Tachyglossus aculeatus</i>)	534.2	No
MATTERS OF NATIONAL ENVIRONMENTAL SIGNIFICANCE			
Endangered regional ecosystem	Brigalow TEC	5.4	No
Protected Habitat Wildlife	Vulnerable Squatter Pigeon (Southern) (<i>Geophaps scripta scripta</i>) breeding habitat	265	Yes*
	Squatter Pigeon (Southern) (<i>Geophaps scripta scripta</i>) foraging habitat	270	Yes*
	Vulnerable Koala	530	Yes*
	Vulnerable Australian Painted Snipe	12.3	No
	Vulnerable Greater Glider	530	Yes*
	Vulnerable Ornamental Snake	41	Yes*

Notes: *These matters will be offset under the Environment Protection and Biodiversity Conservation Act 1999 (EPBC) approval conditions (EPBC2018/8338).

Schedule K: Stimulation Activities	
Condition number	Condition
K1	Stimulation activities must not cause the connection of the target gas producing formation and another aquifer.
K2	Practices and procedures must be in place to detect, as soon as practicable, any fractures that cause the connection of a target gas producing formation and another aquifer.
K3	The use of restricted stimulation fluids (as defined in the <i>Environmental Protection Act 1994</i>) is prohibited.
K4	Polycyclic aromatic hydrocarbons or products that contain polycyclic aromatic hydrocarbons must not be used in stimulation fluids in concentrations above the reporting limit.
K5	Stimulation activities must not negatively affect water quality, other than that within the stimulation impact zone of the target gas producing formation.
K6	The internal and external mechanical integrity of the well system prior to and during stimulation must be ensured such that there is: (a) no significant leakage in the casing, tubing, or packer; and (b) there is no significant fluid movement into another aquifer through vertical channels adjacent to the well bore hole.
K7	Stimulation Risk Assessment Prior to undertaking stimulation activities, a risk assessment must be developed to ensure that stimulation activities are managed to prevent environmental harm.
K8	The stimulation risk assessment must be carried out for every well to be stimulated prior to stimulation being carried out at that well and address issues at a relevant geospatial scale such that changes to features and attributes are adequately described and must include, but not necessarily be limited to: (a) a process description of the stimulation activity to be applied, including equipment and a comparison to best international practice; (b) provide details of where, when and how often stimulation is to be undertaken on the tenures covered by this environmental authority; (c) a geological model of the field to be stimulated including geological names, descriptions and depths of the target gas producing formation(s); (d) naturally occurring geological faults; (e) seismic history of the region (e.g. earth tremors, earthquakes); (f) proximity of overlying and underlying aquifers; (g) description of the depths that aquifers with environmental values occur, both above and below the target gas producing formation; (h) identification and proximity of landholder' active groundwater bores in the area where stimulation activities are to be carried out; (i) the environmental values of groundwater in the area; (j) an assessment of the appropriate limits of reporting for all water quality indicators relevant to

	stimulation monitoring in order to accurately assess the risks to environmental values of groundwater; (k) description of overlying and underlying formations in respect of porosity, permeability, hydraulic conductivity, faulting and fracture propensity; (l) consideration of barriers or known direct connections between the target gas producing formation and the overlying and underlying aquifers; (m) a description of the well mechanical integrity testing program; (n) process control and assessment techniques to be applied for determining extent of stimulation activities (e.g. micro seismic measurements, modelling etc.); (o) practices and procedures to ensure that the stimulation activities are designed to be contained within the target gas producing formation; (p) groundwater transmissivity, flow rate, hydraulic conductivity and direction(s) of flow; (q) a description of the chemical compounds used in stimulation activities (including estimated total mass, estimated composition, chemical abstract service numbers and properties), their mixtures and the resultant compounds that are formed after stimulation; (r) a mass balance estimating the concentrations and absolute masses of chemical compounds that will be reacted, returned to the surface or left in the target gas producing formation subsequent to stimulation; (s) an environmental hazard assessment of the chemicals used, including their mixtures and the resultant chemicals that are formed after stimulation including: (i) toxicological and ecotoxicological information of chemical compounds used; (ii) information on the persistence and bioaccumulation potential of the chemical compounds used; and (iii) identification of the chemicals of potential concern in stimulation fluids derived from the risk assessment. (t) an environmental hazard assessment of use, formation of, and detection of polycyclic aromatic hydrocarbons in stimulation activities; (u) identification and an environmental hazard assessment of using radioactive tracer beads in stimulation activities; (v) an environmental hazard assessment of leaving chemical compounds in stimulation fluids in the target gas producing formation for extended periods subsequent to stimulation; (w) human health exposure pathways to operators and the regional population; (x) risk characterisation of environmental impacts based on the environmental hazard assessment; (y) potential impacts to active landholder bores as a result of stimulation activities; (z) an assessment of cumulative underground impacts, spatially and temporally of the stimulation activities to be carried out on the tenures covered by this environmental authority; and (aa) potential environmental or health impacts which may result from stimulation activities including but not limited to water quality, air quality (including suppression of dust and other airborne contaminants), noise and vibration.
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K9	Water quality baseline monitoring Prior to undertaking any stimulation activity, a baseline bore assessment must be undertaken of the water quality of: (a) all landholder's active groundwater bores (subject to access being permitted by the landholder) that are spatially located within a 2km horizontal radius from the location of the stimulation initiation point within the target gas producing formation; and (b) all landholders' active groundwater bores (subject to access being permitted by the landholder) in any aquifer that is within 200m above or below the target gas producing formation and is spatially located with a 2km radius from the location of the stimulation initiation point; and (c) any other bore that could potentially be adversely impacted by the stimulation activities in accordance with the findings of the risk assessment required by conditions K7 and K8.
K10	Prior to undertaking stimulation activities at a well, there must be sufficient water quality data to accurately represent the water quality in the well to be stimulated. The data must include as a minimum the results of analyses for the parameters in condition K11.
K11	Baseline bore assessments required by condition K9 and well assessments required by condition K10 must include relevant analytes and physico-chemical parameters to be monitored in order to establish baseline water quality and must include, but not necessarily be limited to: (a) pH; (b) electrical conductivity [$\mu\text{S/m}$]; (c) turbidity [NTU]; (d) total dissolved solids [mg/L]; (e) temperature [$^{\circ}\text{C}$]; (f) dissolved oxygen [mg/L]; (g) dissolved gases (methane, chlorine, carbon dioxide, hydrogen sulfide) [mg/L]; (h) alkalinity (bicarbonate, carbonate, hydroxide and total alkalinity as CaCO_3) [mg/L]; (i) sodium adsorption ratio (SAR); (j) anions (bicarbonate, carbonate, hydroxide, chloride, sulfate) [mg/L]; (k) cations (calcium, magnesium, potassium, sodium) [mg/L]; (l) dissolved and total metals and metalloids (including but not necessarily being limited to: aluminium, arsenic, barium, borate (boron), cadmium, total chromium, copper, iron, fluoride, lead, manganese, mercury, nickel, selenium, silver, strontium, tin and zinc) [$\mu\text{g/L}$]; (m) total petroleum hydrocarbons [$\mu\text{g/L}$]; (n) BTEX (as benzene, toluene, ethylbenzene, ortho-xylene, para- and meta-xylene, and total xylene) [$\mu\text{g/L}$]; (o) polycyclic aromatic hydrocarbons (including but not necessarily being limited to: naphthalene, phenanthrene, benzo[a]pyrene) [$\mu\text{g/L}$]; (p) sodium hypochlorite [mg/L]; (q) sodium hydroxide [mg/L];

	(r) formaldehyde [mg/L]; (s) ethanol [mg/L]; and (t) gross alpha + gross beta or radionuclides by gamma spectroscopy [Bq/L].
K12	Stimulation Impact Monitoring Program A Stimulation Impact Monitoring Program must be developed prior to the carrying out of stimulation activities which must be able to detect adverse impacts to water quality from stimulation activities and must consider the findings of the risk assessment required by conditions K7 and K8 that relate to stimulation activities and must include, as a minimum, monitoring of: (a) the stimulation fluids to be used in stimulation activities at sufficient frequency and which sufficiently represents the quantity and quality of the fluids used; (b) flow back waters from stimulation activities at sufficient frequency and which sufficiently represents the quality of that flow back water; (c) flow back waters from stimulation activities at sufficient frequency and accuracy to demonstrate that: (i) 150% of the volume used in stimulation activities has been extracted from the stimulated well; or (ii) all additives used in stimulation activities have been removed; and (iii) all bores in accordance with condition K9.
K13	The Stimulation Impact Monitoring Program must provide for monitoring of: (a) analytes and physico-chemical parameters relevant to baseline bore and well assessments to enable data referencing and comparison including, but not necessarily being limited to the analytes and physicochemical parameters in condition K11; and (b) any other analyte or physico-chemical parameters that will enable detection of adverse water quality impacts and the inter-connection with a non-target aquifer as a result of stimulation activities including chemical compounds that are actually or potentially formed by chemical reactions with each other or coal seam materials during stimulation activities.
K14	The Stimulation Impact Monitoring Program must provide for monitoring of the bores in condition K12 (d) at the following minimum frequency: (a) monthly for the first 6 months subsequent to stimulation activities being undertaken; then, (b) annually for the first 5 years subsequent to stimulation being undertaken or until analytes and physico-chemical parameters listed in conditions K11(a) to K11(t) inclusive, are not detected in concentrations above baseline bore monitoring data on 2 consecutive monitoring occasions, or up until the stimulation well is mined through due to longwall activities and is no longer accessible.
K15	The results of the Stimulation Impact Monitoring Program must be made available to any potentially affected landholder upon request by that landholder.

K16	In addition to the requirements under Chapter 7, Part 1, Division 2 of the <i>Environmental Protection Act 1994</i>, the administering authority must be notified through the Pollution Hotline and in writing, as soon as possible, but within 48 hours of becoming aware of any of the following events: (a) unauthorised releases of volumes of contaminants, in any mixture, to land greater than: (i) 200L of stimulation additives; or (ii) 500L of stimulation fluids. (b) the use of restricted stimulation fluids (as defined in the <i>Environmental Protection Act 1994</i>); and (c) groundwater monitoring results from a landholder's active groundwater bore monitored under the Stimulation Impact Monitoring Program which is a 10% or greater increase from a previous baseline value for that bore and which renders the water unfit for its intended use.
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Definitions

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

acid rock drainage means any contaminated discharge emanating from a mining activity formed through a series of chemical and biological reactions, when geological strata is disturbed and exposed to oxygen and moisture as a result of mining activity.

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

affected person is someone whose drinking water can potentially be impacted as a result of discharges from a dam or their life or property can be put at risk due to dwellings or workplaces being in the path of a dam break flood.

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).

Alternative arrangement in relation to a sensitive place or a commercial place, means:

- (a) A written agreement:
 - (i) between the environmental authority holder and a third party;
 - (ii) that identifies a particular type(s) of environmental nuisance;
 - (iii) about the way in which the particular environmental nuisance impact(s) will be dealt with;
 - (iv) at a particular location; and
 - (v) for a defined period of time.
- (b) An alternative arrangement must make clear to the third party that by entering in to the agreement that:
 - (i) their place will be excluded as a sensitive place or commercial place; and
 - (ii) the consequences of exclusion as a sensitive place or commercial place.

Note: An alternative arrangement may include, but is not limited to, details of the nuisance abatement measures to be implemented, provision of alternative accommodation, or agreement between the parties that the location will not be considered a sensitive place or commercial place for the purposes of the Environmental Authority, for the duration of the alternative arrangement. The written agreement may be in any form, with some examples being a lease, or an agistment, or a conduct and compensation agreement under the *Mineral Resources Act 1989*.

Anglo American site in Queensland means any tenure for coal under section 6D of the *Mineral Resources Act 1989* that is held by one or more of the environmental authority holders, or a related company.

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

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

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

containment systems);

- (g) for evidence of conformance with the current operational plan.

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

ANZG means the *Australian and New Zealand Guidelines for Fresh and Marine Water Quality*, as published under the *National Water Quality Management Strategy* and first released in 2018, as amended or updated from time to time.

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.

assess, assessed or assessment by a suitably qualified and experienced person in relation to a hazard assessment of a dam, means that a statutory declaration has been made by that person and, when taken together with any attached or appended documents referenced in that declaration, all of the following aspects are addressed and are sufficient to allow an independent audit at any time:

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

associated works in relation to a dam, means:

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

authority or **environmental authority** means environmental authority (resource activities) under Chapter 5 of the *Environmental Protection Act 1994*.

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

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.

bulk rubber means tyres, conveyor belt, and other similar rubber waste.

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

certifying, certify or **certified** have a corresponding meaning to 'certification'.

chemical means –

- (a) an agricultural chemical product or veterinary chemical product within the meaning of the *Agricultural and Veterinary Chemicals Code Act 1994* (Commonwealth); or
- (b) a dangerous good under the dangerous goods code; or
- (c) a lead hazardous substance within the meaning of the *Workplace Health and Safety Regulation 2008*; or
- (d) a drug or poison in the Standard for the Uniform Scheduling of Drugs and Poisons prepared by the
- (e) Australian Health Ministers' Advisory Council and published by the Commonwealth; or

- (f) any substance used as, or intended for use as –
 - (i) a pesticide, insecticide, fungicide, herbicide, rodenticide, nematocide, miticide, fumigant or related product; or
 - (ii) a surface active agent, including, for example, soap or related detergent; or
 - (iii) a paint solvent, pigment, dye, printing ink, industrial polish, adhesive, sealant, food additive, bleach, sanitiser, disinfectant, or biocide; or
 - (iv) a fertiliser for agricultural, horticultural or garden use; or
- (g) a substance used for, or intended for use for –
 - (i) mineral processing or treatment of metal, pulp and paper, textile, timber, water or wastewater; or
 - (ii) manufacture of plastic or synthetic rubber.

commercial place means:

- (a) A work place that is used as:
 - (i) an office; or
 - (ii) a place of business; or
 - (iii) a place used for commercial purposes.
- (b) Despite paragraph (a), the following places are not commercial places:
 - (i) subject to paragraph (c), a place that is the subject of an alternative arrangement; or
 - (ii) places that are part of the mining activity; or
 - (iii) employees accommodation or public roads; or
 - (iv) a property owned or leased by one or more of the environmental authority holders, or a related company, whether or not it is subject to an alternative arrangement; or

A place that is the subject of a current alternative arrangement in relation to a particular type(s) of environmental nuisance, is not a commercial place for the purposes of that type(s) of environmental nuisance, however remains a commercial place for the purpose of other types of environmental nuisances.

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

consequence category means a category, either low, significant or high, into which a dam is assessed as a result of the application of tables and other criteria in the *Manual for Assessing Consequence Categories and Hydraulic Performance of Structures (Version 4, 10 April 2014) (EM635)*.

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

contaminate means to render impure by contact or mixture.

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

contaminant can be

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

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

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

dam crest volume means the volume of material (liquids and/or solids) that could be within the walls of a dam at any time when the upper level of that material is at the crest level of that dam. That is, the instantaneous maximum volume within the walls, without regard to flows entering or leaving (for example, via spillway).

design plan is a document setting out how all identified consequence scenarios are addressed in the planned design and operation of a regulated structure.

Design Storage Allowance or DSA means an available volume, estimated in accordance with the *Manual for Assessing Hazard Categories and Hydraulic Performance of Dams* published by the Department of Environment and Resource Management, that must be provided in a dam as at 1 November each year in order to prevent a discharge from that dam to an annual exceedance probability (AEP) specified in that Manual.

designer for the purposes of a regulated dam, means the certifier of the design plan for the regulated dam.

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; and
- (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; and
- (e) disturbance that pre-existed the grant of the tenure.

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

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

effluent means treated waste water discharged from sewage treatment plants.

emergency action plan means documentation forming part of the operational plan held by the environmental authority holder or a nominated responsible officer, that identifies emergency conditions that sets out procedures and actions that will be followed and taken by the dam owner and operating personnel in the event of an emergency. The actions are to minimise the risk and consequences of failure, and ensure timely warning to affected persons and the implementation of protection measures. The plan must require dam owners to annually review and update contact information where required.

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

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

Environmental authority holder means the holder of this environmental authority.

Existing structure means a structure that was in existence prior to 22 October 2014.

exploration activities means mining activities conducted to assess the geological structure, define the resource and support mine planning.

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

flowable substance means matter or a mixture of materials which can flow under any conditions potentially affecting that substance. Constituents of a flowable substance can include water, other liquids fluids or solids, or a mixture that includes water and any other liquids, fluids or solids either in solution or suspension.

FRREMP means the Fitzroy Basin Receiving Environment Monitoring Program for the region in which the EA is located, that has been endorsed in writing by the administering authority.

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

hydraulic performance means the capacity of a regulated dam to contain or safely pass flowable substances based on the design criteria specified for the relevant consequence category in the *Manual for assessing consequence categories and hydraulic performance of structures* (ESR/2016/1933).

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

L_{A10, adj, 10 mins} means the A-weighted sound pressure level, (adjusted for tonal character and impulsiveness of the sound) exceeded for 10% of any 10-minute measurement period, using Fast response.

L_{A1, adj, 10 mins} means the A-weighted sound pressure level, (adjusted for tonal character and impulsiveness of the sound) exceeded for 1% of any 10-minute measurement period, using Fast response.

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

Lake includes:

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

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

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

levee” means an embankment that only provides for the containment and diversion of stormwater or flood flows from a contributing catchment, or containment and diversion of flowable materials resulting from releases from other works, during the progress of those stormwater or flood flows or those releases; and does not store any significant volume of **water** or **flowable substances** at any other times.

LOR means typical reporting for method stated in ICPMS/CV FIMS – analytical method required to achieve LOR.

mandatory reporting level or **MRL** means a warning and reporting level determined in accordance with the criteria in the *Manual for assessing consequence categories and hydraulic performance of structures* (ESR/2016/1933) published by the administering authority.

Manual means the *Manual for Assessing Consequence Categories and Hydraulic Performance of Structures (Version 4, 10 April 2014)* (EM635) published by the administering authority.

Matters of state environmental significance or **MSES** has the meaning in schedule 2 of the *Environmental Offsets Regulation 2014*.

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

mg/L means milligrams per litre.

Mechanically reprocessing waste includes mechanically crushing, milling, grinding, shredding or sorting waste, whether or not for the purpose of recycling the waste.

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 2008* 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 runoff containing sediment only, provided that this water has not been mixed with pit water, tailings dam water, processing plant water or workshop water;
 - (iv) groundwater which has been in contact with any areas disturbed by mining activities which have not yet been rehabilitated;
 - (v) groundwater from the mine's dewatering activities;
 - (vi) a mix of mine affected water (under any of paragraphs i)-v) and other water.
- (b) does not include surface water runoff which, to the extent that it has been in contact with areas disturbed by mining activities that have not yet been completely rehabilitated, has only been in contact with:
 - (i) land that has been rehabilitated to a stable landform and either capped or revegetated in accordance with the acceptance criteria set out in the environmental authority but only still awaiting maintenance and monitoring of the rehabilitation over a specified period of time to demonstrate rehabilitation success, or
 - (ii) land that has partially been rehabilitated and monitoring demonstrates the relevant part of the landform with which the water has been in contact does not cause environmental harm to waters or groundwater, for example:
 - a. areas that have been capped and are monitoring data demonstrating hazardous material adequately contained with the site;
 - b. evidence provided through monitoring that the relevant surface water would have met the water quality parameters for mine affected water release limits in this environmental authority; if those parameters had been applicable to the surface water

runoff, or

c. both.

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

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

But does not include:

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

Mining activities means the activities:

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

Modification or modifying (see definition of 'construction').

NATA means National Association of Testing Authorities, Australia.

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

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

Noxious means harmful or injurious to health or physical wellbeing.

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

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

"operational plan" includes:

- (a) normal operating procedures and rules (including clear documentation and definition of process inputs in the DSA);

- (b) contingency and emergency action plans including operating procedures designed to avoid and/or minimise environmental impacts including threats to human life resulting from any overtopping or loss of structural integrity of the regulated structure.

Participant of the FRREMP means an environmental authority holder that is identified as a current participant by the organisation carrying out the Regional REMP.

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

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

Potentially affected stakeholders includes (but should not be limited to):

- (a) the administering authority; and
- (b) a local landholder whose property is riparian, downstream of the release point specified in Table F1 of the environmental authority and is determined by the environmental authority holder to be potentially impacted by mine affected water releases; and
- (c) other party nominated by the administering authority; and
- (d) the relevant local government authority; and
- (e) a Resource Operations Licence (ROL) holder or other water entitlement holder under the Water Act 2000 located between the nearest compliance point listed in Table 1 of the operational policy and the release point specified in Table F1 of the environmental authority; and
- (f) does not include a landholder or other party who by written agreement with the environment authority holder has declined to be notified for the purpose of this condition.

prescribed environmental matters has the meaning in section 10 of the *Environmental Offsets Act 2014*, limited to the matters of State environmental significance listed in Schedule 2 of the *Environmental Offsets Regulation 2014*.

protected area means:

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

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

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

register of regulated structures includes:

- (a) Date of entry in the register;
- (b) Name of the structure, its purpose and intended/actual contents;
- (c) The consequence category of the dam as assessed using the Manual for assessing consequence categories and hydraulic performance of structures (ESR/2016/1933);
- (d) Dates, names, and reference for the design plan plus dates, names, and reference numbers of all document(s) lodged as part of a design plan for the dam;
- (e) Name and qualifications of the suitably qualified and experienced person who certified the design plan and 'as constructed' drawings;
- (f) For the regulated dam, other than in relation to any levees –
 - (i) The dimensions (metres) and surface area (hectares) of the dam measured at the footprint of the dam;

- (ii) Coordinates (latitude and longitude in GDA94) within five metres at any point from the outside of the dam including its storage area
- (iii) Dam crest volume (megalitres);
- (iv) Spillway crest level (metres AHD).
- (v) Maximum operating level (metres AHD);
- (vi) Storage rating table of stored volume versus level (metres AHD);
- (vii) Design storage allowance (megalitres) and associated level of the dam (metres AHD);
- (viii) Mandatory reporting level (metres AHD);
- (g) The design plan title and reference relevant to the dam;
- (h) The date that construction was certified as compliant with the design plan;
- (i) The name and details of the suitably qualified and experienced person who certified that the constructed dam was compliant with the design plan;
- (j) Details of the composition and construction of any liner;
- (k) The system for the detection of any leakage through the floor and sides of the dam;
- (l) Dates when the regulated dam underwent an annual inspection for structural and operational adequacy, and to ascertain the available storage volume for 1 November of any year;
- (m) Dates when recommendations and actions arising from the annual inspection were provided to the administering authority;
- (n) Dam water quality as obtained from any monitoring required under this environmental authority as at 1 November of each year.

regulated structure means any structure in the significant or high consequence category as assessed using the Manual for assessing consequence categories and hydraulic performance of structures (ESR/2016/1933) published by the administering authority. A regulated structure does not include:

- (a) a fabricated or manufactured tank or container, designed and constructed to an Australian Standard that deals with strength and structural integrity of that tank or container;
- (b) a sump or earthen pit used to store residual drilling material and drilling fluid only for the duration of drilling and well completion activities;
- (c) a flare pit.

Regulated waste is defined in the *Environmental Protection Regulation 2008*.

Rejects means:

- (a) breaker rejects; or
- (b) coarse rejects; or
- (c) mid/fine size rejects; or
- (d) tailings that have been dewatered; or
- (e) any combination of rejects (under any of paragraphs a to d).

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.

Reprocessing includes:

- (a) recycling; or
- (b) mechanical treatment; or
- (c) thermal treatment; or
- (d) biological treatment; or
- (e) chemical treatment.

residual void means an open pit resulting from the removal of ore and/or waste rock which will remain following the cessation of all mining activities and completion of rehabilitation processes.

residual pond means subsidence ponds with a continuous presence of ponded water for 90 or more consecutive days per year for 50% or more modelled years to be sampled in wet season following rainfall events.

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

Sensitive place means:

- (a) Any of the following:
 - (i) a dwelling, residential allotment, mobile home or caravan park, residential marina or other residential premises; or
 - (ii) a motel, hotel or hostel; or
 - (iii) an educational institution; or
 - (iv) a medical centre or hospital; or
 - (v) a protected area; or
 - (vi) a public park or gardens.
- (b) Despite paragraph (a), the following places are not sensitive places:
 - (i) subject to paragraph (c), a place that is the subject of an alternative arrangement; or
 - (ii) 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), 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 environmental authority holders for the mining project, or a related company; or
 - (iii) a property owned or leased by one or more of the environmental authority holders, or a related company, whether or not it is subject to an alternative arrangement.

A place that is the subject of a current alternative arrangement in relation to a particular type(s) of environmental nuisance, is not a sensitive place for the purposes of that type(s) of environmental nuisance, however, remains a sensitive place for the purpose of other types of environmental nuisances.

Sewage means the used water of persons to be treated at a sewage treatment plant.

significant residual impact has the meaning in section 8 of the *Environmental Offsets Act 2014*.

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

suitably qualified and experienced person means a person who possesses professional qualifications, training, skills, knowledge and experience relevant to the matter being assessed, designed, certified, monitored, reviewed or reported on, and who is competent to provide authoritative assessment, advice or certification in relation to that matter.

Where engineering certification is required under this environmental authority, the person must be a Registered Professional Engineer of Queensland (RPEQ) with relevant expertise.

The person must have demonstrated experience in the relevant discipline, which may include, but is not limited to:

- (a) regulated structures and dam engineering;
- (b) hydrology and hydraulics;
- (c) hydrogeology and groundwater management;
- (d) surface water management;

- (e) geochemistry and contamination assessment;
- (f) air quality assessment;
- (g) noise and vibration assessment;
- (h) ecology and rehabilitation; or
- (i) another discipline relevant to the requirement of the condition.

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
- (e) systems.
- (f) Surface Water Expert: person who has demonstrated competency and relevant experience in hydrology.
- (g) 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.
- (h) Soils Expert: person who has demonstrated competency and relevant experience in soil classification
- (i) including the physical, chemical and hydrologic analysis of soil.

Surface Disturbance is any disturbance of the land but does not include Underground Mining Disturbance.

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

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

The Act means the *Environmental Protection Act 1994*.

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

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

Underground Mining Disturbance is the subsidence of the land associated with underground mining and includes surface disturbance from any ancillary activity associated with underground mining.

Underground Mining Waste means materials associated with structural support, gas management, water management and ventilation, including but not limited to unsalvageable equipment and material, pipes, roof mesh, roof bolts and Rocsil.

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

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

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

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

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

waters includes –

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

WaTERs means the Water Tracking and Electronic Reporting System

µg/L means micrograms per litre

µS/cm means microsiemens per centimetre

Appendices

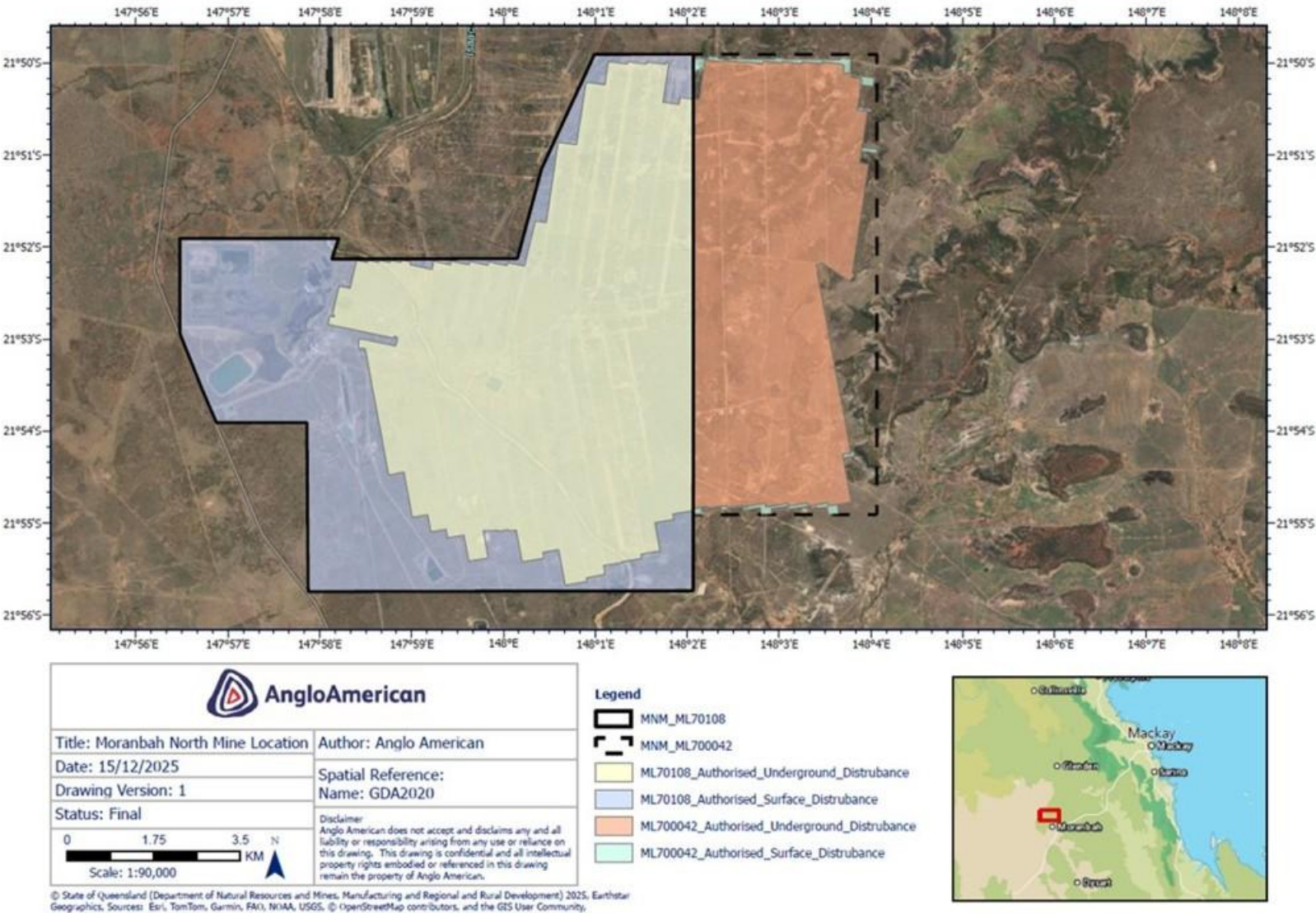
Appendix 1 – Authorised Disturbance Areas

Appendix 2 – Water Release Points and Monitoring Points

Appendix 3 – ML700042 Regulated Vegetation

Appendix 4 – Groundwater Bores Monitoring Location

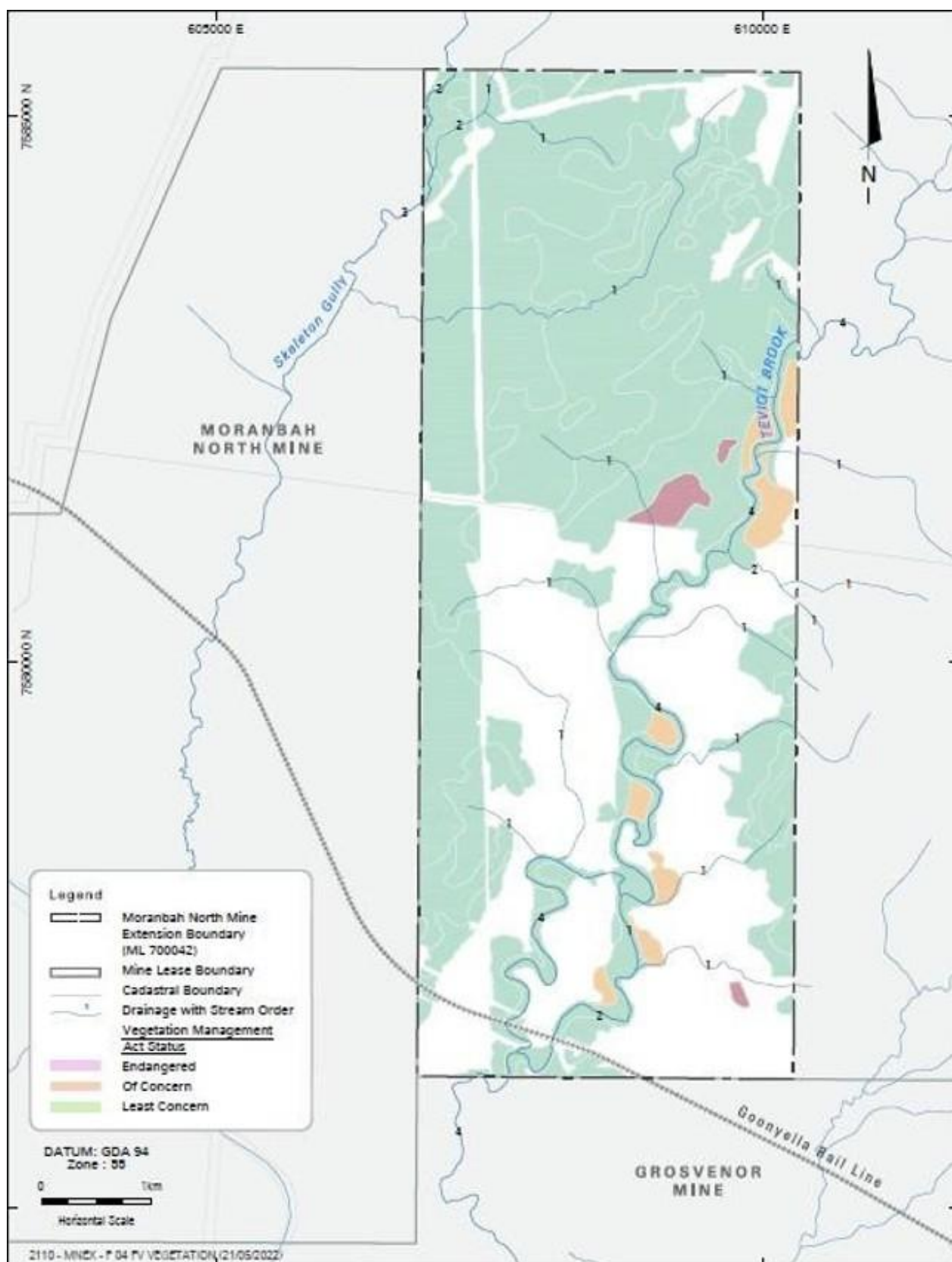
Appendix 1 – Authorised Disturbance Areas



Appendix 2 – Water Release Points and Monitoring Points

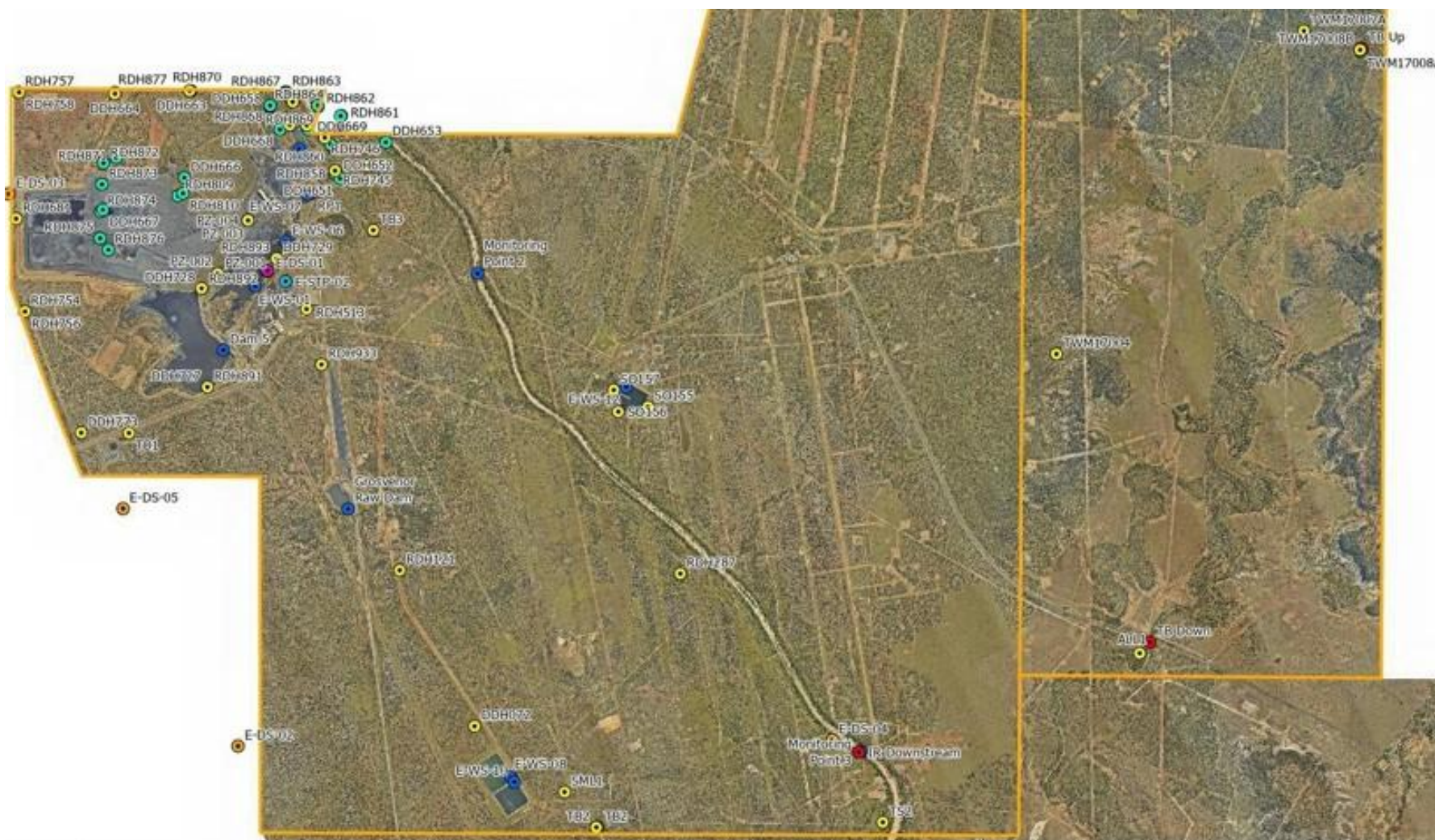


Appendix 3 – ML700042 Regulated Vegetation



MORANBAH NORTH MINE
Amended Moranbah North Mine EA Appendix 5
- Groundtruthed Regional Ecosystems

Appendix 4 – Groundwater Monitoring Bore Locations



END OF ENVIRONMENTAL AUTHORITY